



2013

## Website: 2013 Colby College Undergraduate Research Symposium

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## Colby Undergraduate Research Symposium

### 2013 Program »

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### Celebration of the 14th Anniversary of the Colby Undergraduate Research Symposium

**Wednesday, May 1, 2013**  
**Research Posters - 6:30 PM**  
**Keynote Presentations - 7:30 PM**



Adrianna Paliyenko



Charles Conover



John Turner

The keynote speakers will be **Professors Adrianna Paliyenko** (French and Italian), **Charles Conover** (Physics and Astronomy), and **John Turner** (History) who will share their insights and experiences as teacher-scholars working closely with students in their research. The address, on **Wednesday, May 1st**, will begin at **7:30 pm** in **Ostrove Auditorium**, preceded by a reception and poster presentations by selected faculty, invited by the Dean of the Faculty, and their students at 6:30 pm in the atrium of the Diamond Building.

#### Keynote Presentations:

<b>Adrianna M. Paliyenko</b>	The Seeds of <i>Genius Envy</i> : Inspiring Collaboration
<b>Charles Conover</b>	Quantum Mechanics and Extremely Cold Atoms
<b>John Turner</b>	History, Memory and the Liberal Arts

#### Invited Research Poster Presentations:

<b>Emily Arsenault '14 and Russell Cole</b>	Influence of Shoreline Development on Riparian Habitats in the Belgrade Lakes
<b>Katie Curran '14 and Lynn Hannum</b>	Responses of Zebrafish Phagocytic Cells to Opsonized Bacteria
<b>Pamela DuPre '16 and Charles Conover</b>	Measuring the number of ultracold atoms in a magneto-optical trap
<b>Lisa Kaplan '13 and John Turner</b>	Talking Heads and the War on Islam
<b>Marissa Kaplan '12 and Adrianna Paliyenko</b>	Lost & Found in French Literary History: Ten Poetic Legacies Brought (Back) to Light.
<b>Virginia Keesler '13 and Philip Nyhus</b>	Conservation easement policies across New England
<b>Jayeon Kim '13 and Cheryl Townsend Gilkes</b>	We Came! We Stripped! We Conquered? Sextremist Feminism in Ukraine
<b>Eoin McCarron '13 and James Fleming</b>	Electromagnetic Pulses: History and Public Policy
<b>Kelsey Park '14 and Erin Sheets</b>	"Like" it or not: Associations of Facebook use with emotion regulation and awareness

<b>William Qualey '16 and Arne Koch</b>	Feline Cultural Studies
<b>Adam Spierer '13 and Julie Millard</b>	Mechanisms of cytotoxicity of bifunctional epoxide cross-linking agents
<b>Lily Stoelting '16, Jacob Wall '16 and Steven Saunders</b>	The Sonatas for Flute Solo with Basso Continuo (Rome, 1710) - performance
<b>Molly Susla '13 and Herb Wilson</b>	Maine's Rockweed Harvest: How a Seaweed Builds Community and Supports a Livelihood
<b>Miia-Liisa Termonen '14 and Jen Coane</b>	Deriving "dog" from wolf and fox, or leash and bark? False memory in categorical and associative word lists
<b>John Tully '13 and Joseph Reisert</b>	Testing Tocqueville: Does Increasing Centralization Diminish Freedom?



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### Colby Undergraduate Research Symposium 2013

May 1 - May 3, Colby College, Waterville, Maine

#### Research Presentations

#### Wednesday, May 1

##### SESSION I: General Session VII 11:00 - 12:00

**Hurd**  
Session Chair: James Sloat

11:00 am

**Eliza Larson** ('13), English

The Value of Truth: The Elijah Parish Lovejoy Story and an Examination of the Idea of 'Truth' in Journalism

11:15 am

**Mary Rogers** ('13), English

Gender, Nature, and the Fairytale Structure in the Works of Robin McKinley

11:30 am

**Julia de Guzman** ('13), English

The Tessa Trevesani Project

##### SESSION II: EAST ASIAN STUDIES Redefine Old Age and Eldercare in Contemporary Urban China 11:00 - 12:00

**Whitney Room**  
Session Chair: Hong Zhang

11:00 am

**Petya Andreeva** ('13), East-Asian Studies

Community-Based Services for the Elderly in Urban China

11:20 am

**Jennifer Tsang** ('13), East-Asian Studies

Aging and Eldercare in Elder Homes in China

11:40 am

**Eliza Laamoon** ('13), East-Asian Studies

Active and Peer Aging in Urban Parks of China

##### SESSION III: ENVIRONMENTAL STUDIES Environmental Studies Honors and Independent Studies 1:00 - 4:10

**Hurd**  
Session Chair: Russ Cole

1:00 pm

**Lisa Hoopes** ('13), **Kimberly Cunningham** ('13) and **Theresa Petesch** ('13), Environmental Studies

Sustainability Report: LEAP Organics

1:25 pm

**Virginia Keesler** ('13), Environmental Studies

Conservation Easement Policies Across New England

1:50 pm

**Larissa Lee** ('13), Environmental Studies

Factors Influencing National Park Establishment: Case Studies to Inform the Maine Woods

2:15 pm

**Sarah Holmes** ('13), Environmental Studies

Managing the Global Marine Aquarium Trade

2:40 pm

**Jillian Blouin** ('13), Environmental Studies

How Do We Find the Next BPA? - An Overview of Emerging Science and the Developing Policy

3:05 pm

**Kaitlyn Bernard** ('13), Environmental Studies

	Metallic Mineral Mining in Maine
3:30 pm	<b>Michael Stephens ('13)</b> , Environmental Studies Climate Change and Epizootic Shell Disease in American Lobsters: Is Maine's Most Valuable Fishery Doomed?
3:55 pm	<b>Matthew LaPine ('13)</b> , Environmental Studies Golden on Great Pond: Changing the Way We Monitor Lakes
<b>SESSION IV: WGSS</b> <b>WGSS Senior Seminar</b> 1:00 - 5:00	
	<b>Smith</b> <b>Session Chair: Lisa Arellano</b>
1:00 pm	<b>Laura Duff ('13)</b> , Women, Gender, Sexuality A Curriculum to Promote the Health and Success of Our Female High School Athletes
1:15 pm	<b>Camilla Ostrow ('13)</b> , Women, Gender, Sexuality Rihanna and Chris Brown: Rethinking the Way We Look at Domestic Violence
1:30 pm	<b>Thomas Letourneau ('13)</b> , Women, Gender, Sexuality 'Stop Calling': Gender, Violence, and the Validity of Pop Music
1:45 pm	<b>Lindsay Roberts ('13)</b> , Women, Gender, Sexuality There's no money in virginity: Body Politics and Feminism in AMC's Mad Men
2:00 pm	<b>Courtney Laird ('13)</b> , Women, Gender, Sexuality Some Think That We Can't Flow: The Intersections of Black Womanhood, Feminism and Hip-Hop as seen through Beyoncé and Queen Latifah
2:15 pm	<b>Rosalie Wennberg ('13)</b> , Women, Gender, Sexuality Sexual Education Re-Imagined: Using Foucault's The History of Sexuality to Inform the Future
2:30 pm	<b>Jayde Bennett ('13)</b> , Women, Gender, Sexuality Where Do We Stand: A 21st Century Examination of Family Policy in the U.S. and it's Affect On LGBT Families
3:00 pm	<b>Jessica Vilella ('13)</b> , Women, Gender, Sexuality Women Who Kill: Female Violence and The State
3:15 pm	<b>Claudia Camerino ('13)</b> , Women, Gender, Sexuality Gendered Politics: Woman of Hamas in the Gaza Strip
3:30 pm	<b>Kara Constine ('13)</b> , Women, Gender, Sexuality The Growth and Development of Misogyny and Homophobia in the Hip Hop Community
3:45 pm	<b>Olivia Crowley Gottlieb ('13)</b> , Women, Gender, Sexuality The Erotic Potential Of The Queer Disabled Body Through The Photographic Work Of Ashley Savage
4:00 pm	<b>Kathryn Laxson ('13)</b> , Women, Gender, Sexuality Revealing the Complexities of Postfeminist Chick-Lit Television Through a Reparative Reading of Girls
4:15 pm	<b>Ismael Perez ('13)</b> , Women, Gender, Sexuality From Disco to Beyoncé: Gay Male Consumption of African American Divas
4:30 pm	<b>Shireen Smalley ('13)</b> , Women, Gender, Sexuality Conforming to (Western) Desire: Homonationalism and Refugee Law in Iranian Gay and Lesbian Asylum Cases
<b>SESSION V: GERMAN</b> <b>German Studies Panel</b> 1:15 - 3:30	
	<b>Whitney Room</b> <b>Session Chair: Cyrus Shahan</b>
1:15 pm	<b>Thomas Chippendale ('13)</b> , German/Russian The Frankfurter School and the Theory of Alienation: Finding Karl Marx in the Works of Theodor Adorno and Alexander Kluge
1:37 pm	<b>Carter Stevens ('13)</b> , German/Russian War: The Dehumanization of the Human Race
1:59 pm	<b>Benjamin Hill ('13)</b> , German/Russian The Subject under Fire: 20th Century Responses to the Enlightenment and the Establishment of a New Ontology
2:21 pm	<b>Emma Brown ('16)</b> , German/Russian Material Immateriality: Dust and Disorder in W.G. Sebald
2:43 pm	<b>Christine Wamsley ('15)</b> , German/Russian

	Lessing's Conservative Ideas about Public Freedom during the Enlightenment in Minna von Barnhelm	
3:05 pm	<u>Katherine MacNamee</u> ('14), German/Russian Hidden Truths and Questioning Authority: An investigation into the use of comedy as a social critique in Heinrich von Kleist's 'Der Zerbrochne Krug'	
<b>SESSION VI: General Session II</b> 4:20 - 5:15		<b>Hurd</b> <b>Session Chair: Suzi Cole</b>
4:15 pm	<u>Noah Teachey</u> ('13), Music Beethoven's Anthropocentrism	
4:40 pm	<u>Patrick Blinkhorn</u> ('13), Music Mixing Things up with the DJ: The Ontology of DJing	
<b>SESSION VII: General Session I</b> 3:40 - 4:30		<b>Whitney Room</b> <b>Session Chair: Lydia Moland &amp; Paul Greenwood</b>
3:40 pm	<u>Sara LoTempio</u> ('16), Philosophy From Scumbag Steve to LL Bean Boyfriend: Memes, Humor, and the Internet.	
4:05 pm	<u>Cassie Clemmer</u> ('15), Women, Gender, Sexuality Reporting Identity-Based Violence at Colby College	
<b>SESSION VIII: RELIGIOUS STUDIES</b> <b>RE 333 Death and Spirituality</b> 9:30 - 10:45		<b>Lovejoy 344</b> <b>Session Chair: Debra Campbell</b>
<b>SESSION IX: ECONOMICS</b> <b>Multinational Corporation</b> <b>Presentations</b> 12:30 - 2:00		<b>Diamond 341</b> <b>Session Chair: Andreas Waldkirch</b>
12:30 pm	<u>Allison Mond</u> ('13), Economics FDI and EU Membership: Analysis of Former Soviet Bloc Countries	
12:45 pm	<u>Shany Tropper</u> ('13), Economics Foreign Direct Investment and Health	
1:00 pm	<u>Tendai M'ndange-Pfupfu</u> ('13), Economics FDI and Violent Conflict	
1:15 pm	<u>Maid Strasevic</u> ('13), Economics	
1:45 pm	<u>Matthew Mantikas</u> ('13), Economics Modern Automotive Manufacturing and the Effect of FDI on an Increasingly Globalized Industry	
2:15 pm	<u>My Le</u> ('13), Economics TBA	
2:30 pm	<u>Kimberly Cunningham</u> ('13), Economics Foreign Direct Investment Case Study: Nestlé	
2:45 pm	<u>Theresa Petesch</u> ('13), Economics An examination of the pollution haven hypothesis: How does environmental regulatory stringency effect foreign direct investment into the mining industry?	
3:15 pm	<u>Mariel Lambrukos</u> ('13), Economics Business Climate and Country-Level Effects of Pharmaceutical FDI Growth in Emerging Economies	
3:30 pm	<u>Charles Davis</u> ('13), Economics Determinants of Foreign Direct Investment Location Choice: An Analysis of the Private Equity Industry	
3:45 pm	<u>Freddy Cabrera</u> ('13), Economics The Effects of Complexity of Communication & Skill labor Endowment on FDI	
4:00 pm	<u>Philip Amato</u> ('13), Economics The OLI Paradigm: It's Application Through a Case Study of IMAX Corporation	

**SESSION X: CINEMA STUDIES**  
**Cinema Studies Panel**  
 4:00 - 6:30

**Diamond 145**  
**Session Chair: Steve Wurtzler**

- 4:00 pm** **Luke Bowe** ('13), English  
 Not Safe: The Horrors of Domesticity through Sight and Sound
- 4:30 pm** **Chelsea Tyler** ('13), English  
 Cinematic Psychology in Modern American Poetry
- 5:00 pm** **Jacob Marx** ('13), English  
 Why the Boondock Saints is a Western, and Why it Matters
- 5:30 pm** **Michael Perreault** ('13), Independent Studies  
 Affect and Authorship: Or, How I Learned to Stop Worrying and Love the [Sign]
- 6:00 pm** **Daniel Kissinger** ('14), English  
 On the Road to Nowhere: David Lynch and the Failure of Desire

**SESSION XI: GLOBAL STUDIES**  
**Global Studies Honors Presentations**  
 4:00 - 6:00

**Diamond 343**  
**Session Chair: Jennifer Yoder**

- 4:00 pm** **Claire Dunn** ('13), Global Studies  
 Aiding or Abetting?: An Analysis of Medical Humanitarian Aid in Complex Humanitarian Emergencies
- 4:30 pm** **Georgina Hurst** ('13), Global Studies  
 Economic Relations between China and Senegal: Selfish or Selfless?
- 5:00 pm** **Hillary Sapanski** ('13), Global Studies  
 Through the Eyes of Urban Students: Educational Inequality and Socioeconomic Disparities in Santiago, Chile
- 5:30 pm** **Grace Schlesinger** ('13), Global Studies  
 Overcrowding the Education System? The Argentine Example of a Conditional Cash Transfer Program

**SESSION XI: ENVIRONMENTAL STUDIES**  
**Advanced and Applied Ecology Research Presentations**  
 9:00 - 9:50 am

**Olin 234**  
**Session Chair: Russell Cole**

- Mackenzie Nichols** ('14) and **Ben Timm** ('14)  
 What Effect Does Charisma Have on How Much Money a Species' Conservation Efforts Receive?
- What Effect Does Charisma Have on How Much Money a Species' Conservation Efforts Receive?**  
**Mackenzie Nichols** ('14) and **Ben Timm** ('14)  
 What Effect Does Charisma Have on How Much Money a Species' Conservation Efforts Receive?

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### Colby Undergraduate Research Symposium 2013

May 1 - May 3, Colby College, Waterville, Maine

#### Research Presentations

Thursday, May 2

**SESSION XII: PSYCHOLOGY**  
**Brave New Brains: Exploring the Neuroscience of Behavior**  
 10:00 - 12:00

**Hurd Room**  
**Session Chair: Melissa Glenn**

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|----------|--|
| 10:00 am | <b><u>Shamika Murray</u></b> ('14), Psychology<br>Oh How Cute: How the Perception of Cuteness Changes the Nucleus Accubens       |
| 10:12 am | <b><u>Czarina Evangelista</u></b> ('14), Psychology<br>From Club Drug to Antidepressant? The Possible Therapeutic Utility of LSD |
| 10:24 am | <b><u>Katherine MacNamee</u></b> ('14), Psychology<br>Are You Talkin' to Me?   |
| 10:36 am | <b><u>Mariah Smith</u></b> ('13), Psychology<br>Brain Porn: How It Affects Our Scientific Literacy                               |
| 11:00 am | <b><u>Arvia Sutandi</u></b> ('13), Psychology<br>Tracing the Fingerprints of Bipolar Disorder                                    |
| 11:12 am | <b><u>Julie Levine</u></b> ('13), Psychology<br>Smart Food   |
| 11:36 am | <b><u>Eileen McGuire</u></b> ('13), Psychology<br>Got Stress? The Pros and Cons of Stress on the Teenage Brain                   |

**SESSION XIII: HISTORY**  
**History Research Projects**  
 9:30 - 10:45

**Smith**  
**Session Chair: Elizabeth Leonard**

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|----------|--|
| 9:30 am  | <b><u>Thomas Chippendale</u></b> ('13), History<br>The American Media and Misconceptions About the Nazi Economic Miracle     |
| 10:00 am | <b><u>Jasmine Phillips</u></b> ('14), History<br>Reconnecting the Past with the Present: The Search for (My) Black Ancestors |

**SESSION XIV: AMERICAN STUDIES**  
**American Studies Presentations**  
 9:40 - 3:00

**Whitney Room**  
**Session Chair: Benjamin Lisle**

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|----------|---|
| 9:40 am  | <b><u>David Bendit</u></b> ('13), American Studies<br>The House Always Wins: How Casinos Legally Stack the Deck   |
| 10:00 am | <b><u>Benjamin Brauer</u></b> ('13), American Studies<br>Seaverns Field at Harold Alfond Stadium: The Liberal Arts Experience through a Universal Space |
| 10:20 am | <b><u>Miles de Klerk</u></b> ('13), American Studies<br>Local Gaming Stores: Alternative Culture, Masculinity and Magic                                 |
| 10:40 am | <b><u>Elizabeth Malone</u></b> ('13), American Studies<br>A Cultural Reading of L.L.Bean  |



11:00 am	<b>Patrick Harper ('13)</b> , American Studies Civic Improvement: South Union Station's Economic and Societal Impact
11:20 am	<b>Emily Karr ('13)</b> , American Studies Black Masculinity in Television's Friday Night Lights
11:40 am	<b>Jemarley McFarlane ('13)</b> , American Studies Black Masculinity Varied Through The Wire
1:00 pm	<b>Evangeline Condakes ('13)</b> , American Studies Gender, Racial and Socioeconomic Politics in the Contemporary American Nail Salon
1:40 pm	<b>James Kim ('14)</b> , American Studies Sa-Rang Community Church: Fostering Ethnic Solidarity and Forging a Hybrid American Identity
2:00 pm	<b>Laura Duff ('13)</b> , Women, Gender, Sexuality The Embodiment of Endurance Running: Female Athletes and Disordered Eating
2:20 pm	<b>Brittany Thomas ('13)</b> , American Studies True Blood and the Vampire in Contemporary American Culture
2:40 pm	<b>Berol Dewdney ('13)</b> , Women's, Gender, and Sexuality Studies Breaking the Silence: Body Image and Disordered Eating at Colby

**SESSION XV: HISTORY**  
**French Studies Honors Theses**  
11:00 - 12:00

**Smith**  
**Session Chair: Artie Greenspan and Valerie Dionne**

11:00 am	<b>Deborah Amato ('13)</b> , French and Italian Forgotten Fairy Tales: Vision of a More Equal World
11:30 am	<b>Brita Midness ('13)</b> , French and Italian Montaigne and the Other: Toward a Tolerant Vision of our Perceptions

**SESSION XVI: ENGLISH**  
**ON WITH THE STORY: Readings**  
**from EN 478 Advanced Projects**  
**in Prose**  
1:00 - 2:30

**Hurd**  
**Session Chair: Jennifer Boylan**

1:00 pm	<b>Andrew Bekenstein ('14)</b> , English On with the story: Readings from EN478
1:12 pm	<b>Lauren Fisher ('13)</b> , English On with the story: Readings from EN478
1:24 pm	<b>Kayla Gross ('13)</b> , English On with the story: Readings from EN478
1:36 pm	<b>Michael Langley ('13)</b> , English On with the story: Readings from EN478
1:48 pm	<b>Katherine McCarrick ('13)</b> , English On with the story: Readings from EN478
2:00 pm	<b>Dana Merk-Wynne ('14)</b> , English On with the story: Readings from EN478
2:12 pm	<b>Alexandra Murry ('13)</b> , English On with the story: Readings from EN478

**SESSION XVII: SOCIOLOGY**  
**Renewing an Analysis of**  
**America: W. E.B. Du Bois and His**  
**Work**  
1:00 - 3:20

**Smith Room**  
**Session Chair: Cheryl Townsend Gilkes**

tb:a	<b>Isadora Alteen ('14)</b> , Sociology The Sociology of W.E.B. Du Bois and Black Feminist/Womanist Thought
tb:a	<b>Deborah Amato ('13)</b> , Sociology Du Bois's Reflections on Education
tb:a	<b>Sloan Cargill ('15)</b> , Sociology Blacks, W.E.B. Du Bois, and the Religion That Enslaved and Freed
tb:a	<b>Andrew Dagres ('14)</b> , Sociology The Niagara Movement
tb:a	<b>Berol Dewdney ('13)</b> , Sociology The Niagara Movement

	Du Bois on Education
tb:a	<b><u>Sean Hatton</u></b> ('14), Sociology W. E. B. Du Bois and the Liberal Arts Education
tb:a	<b><u>Luke Henneberger</u></b> ('14), Sociology Black on the Silver Screen: The Image of African Americans in Contemporary Cinema
tb:a	<b><u>Iris Kim</u></b> ('14), Sociology A Sociology for Asian Americans? Reading Du Bois with Universal Purposes
tb:a	<b><u>Lauren Lacy</u></b> ('14), Sociology Re-imagining Du Bois: Gender and Sexuality in African Critical Studies
tb:a	<b><u>Brian Levinson</u></b> ('15), Sociology Du Bois's Effects on Economics
tb:a	<b><u>Stefan Merriam</u></b> ('13), Sociology New Deal Programs and W. E. B. Du Bois
tb:a	<b><u>Olisadumbi Okoh</u></b> ('13), Sociology Du Bois, Hip-Hop, and Poetic Justice
tb:a	<b><u>Cameron Poole</u></b> ('14), Sociology W. E. B. Du Bois and the Liberal Arts College
tb:a	<b><u>Randall Person</u></b> ('15), Sociology Following the Trend: W. E. B. Du Bois and His Ethnographic Studies
tb:a	<b><u>Oliver Ponce</u></b> ('15), Sociology Crime as a Social Phenomenon: Criminal Activity Through a Du Boisian Lense
tb:a	<b><u>Sean Ripoll</u></b> ('13), Sociology W.E.B. Du Bois's Perceptions of the Harlem Renaissance
tb:a	<b><u>Angela Sepulveda</u></b> ('14), Sociology Du Bois's Artistic Side
tb:a	<b><u>Louw Scheepers</u></b> ('15), Sociology The American Political System Through the Eyes of Du Bois
tb:a	<b><u>Kayla Turner</u></b> ('15), Sociology W.E.B. Du Bois: Examining Class, Race, and Education, Past and Present

**SESSION XVIII:  
General Session III**  
2:40 - 3:55

**Hurd**  
**Session Chair: Suzi Cole**

2:40 pm	<b><u>Kevin Bennett</u></b> ('13), Biology Analysis of Bird Migration Arrival Dates to Determine Effects of Global Warming
2:55 pm	<b><u>Kody Spencer</u></b> ('14), Geology Variation in Snowpack Instabilities at Different Aspects on Burnt Mountain
3:10 pm	<b><u>Justin Sperry</u></b> ('14), Geology Investigation of Constriction In Shear Zones with Complex Boundary Conditions Using Numerical Modeling
3:25 pm	<b><u>Ethan Crockett</u></b> ('13), Physics and Astronomy Studies of Ultra-cold Neutral Plasmas

**SESSION XIX: FRENCH &  
ITALIAN**  
**French News and Media**  
3:30 - 5:00

**Whitney Room**  
**Session Chair: Aurore Mroz**

3:30 pm	<b><u>Pamela Alakai</u></b> ('14), <b><u>Allison Hess</u></b> ('13), <b><u>Madison Louis</u></b> ('13), <b><u>Sarah Fensore</u></b> ('13), <b><u>Shannon Kooser</u></b> ('14) and <b><u>Solon Arquello</u></b> ('15), French/Italian Francophone Europe in 2013: A Pictorial and Critical Exploration of What Made the News on the Other Side of the Ocean
3:30 pm	<b><u>Colin McLaughlin</u></b> ('14), <b><u>Brita Midness</u></b> ('13) and <b><u>Mary Rogers</u></b> ('13), French/Italian Francophone Europe in 2013: a pictorial and critical exploration of what made the news on the other side of the ocean

**SESSION XX: ENGLISH  
Shakespeare Session**  
4:00 - 5:15

**Hurd**  
**Session Chair: Laurie Osborne**

- 4:00 pm** **Camilla Ostrow** ('13), English  
From the Slums of Shaolin to the Bard of Avon: The Homosocial Bond in Shakespeare and Hip-Hop Music
- 4:25 pm** **Claire Cannon** ('13), English  
'Violent Delights' in Cinematic Shakespeare: Adapting Shakespearean Violence for the Contemporary Audience

**SESSION XXI: HISTORY**  
**History Honors Research I**  
3:35 - 5:05

**Smith**  
**Session Chair: Elizabeth Leonard**

- 3:35 pm** **Alexandre Caillot** ('13), History  
The Rifled Musket: Tactical Revolution or Technological Redundancy?
- 4:05 pm** **Lindsay Peterson** ('13), History  
Kill the Indian, Save the Man: Americanization through Education: Richard Henry Pratt's Legacy
- 4:35 pm** **Audrey Lomax** ('13), History  
The Success of Airborne Battalions in World War Two: Why Did the Army Excel and the Marines Fail?

**SESSION XXII:**  
**Computer Science I**  
9:00 - 10:45

**Roberts 221**  
**Session Chair: Bruce Maxwell**

- 9:00 am** **Zachary Cecere** ('13), Computer Science  
Locking In: How Coupled Oscillators Modulate Input Signals to Improve Synchrony
- 9:30 am** **Mary Fletcher** ('13), **Roxana Gheorghe** ('15) and **Olivia Lang** ('15), Computer Science  
The Importance of Activator-Repressor Balance in Various Models of Repression in Circadian Clocks
- 10:00 am** **Zhanar Seitmagzimova** ('13), Computer Science  
Predicting Stock Market Movement Based on Textual Analysis Of News Articles
- 10:20 am** **Mary Fletcher** ('13), Computer Science  
Using Eye-Tracking To Inform Automated Object Recognition

**SESSION XXIII: EDUCATION**  
**Senior Seminar in Education and Human Development**  
1:00 - 2:15

**Ostrove**  
**Session Chair: Mark Tappan**

**SESSION XXIV: LATIN AMERICAN STUDIES**  
**Latin American Studies Session**  
3:30 - 5:00

**Diamond 146**  
**Session Chair: Louis Millones**

- 3:30 pm** **Abbott Matthews** ('13), Latin American Studies  
When the Walls Talk: Political Graffiti at la Universidad Nacional in Bogotá, Colombia
- 4:00 pm** **Marguerite Paterson** ('13), Latin American Studies  
Teacher Hiring Practices in Schools in the Metropolitan Region of Santiago, Chile: Survey and Recommendations

**SESSION XXV: COMPUTER SCIENCE**  
**Computer Science II**  
5:00 - 6:30

**Roberts 221**  
**Session Chair: Bruce Maxwell**

- 5:00 pm** **Zachary Simon** ('13), Computer Science  
Algo-Trader
- 5:30 pm** **Nicholas Balsbaugh** ('13), Computer Science  
Objektiviz: GTD for the Gaming Generation
- 6:00 pm** **Joseph Harwood** ('14), Computer Science  
Elemental Tower Defense

**SESSION XXVI: ECONOMICS**

**Empirical and Case Studies of Auctions**

4:00 - 8:00

**Diamond 343**  
**Session Chair: Timothy Hubbard**

- 4:00 pm** **Makayla Brown** ('13), Economics  
Wine Auctions
- 4:15 pm** **Benjamin Browne** ('13), Economics  
Secondary Ticket Resale Market
- 4:30 pm** **David Cain** ('13), Economics  
Reputation Effects in the Online Marketplace: Contrasting bidder behavior in 'Buy it Now' and standard ascending auctions
- 4:45 pm** **Kai Chen** ('13), Economics  
Analysis on U.S. Oil and Gas Lease Auction (1954-1979)
- 5:00 pm** **Aaron Halpine** ('14), Economics  
The Effect of Market Structure on New England Energy Auctions
- 5:30 pm** **Weiming Huang** ('13), Economics  
The Effect of Economics Scale on OCS Auction
- 5:45 pm** **Peter Jones** ('13), Economics  
Gender Effects in First Price Sealed Bid Auctions: Experimental Evidence
- 6:00 pm** **Kareem Kalil** ('13), Economics  
Unrestricted vs Restricted: Analyzing Variation in NBA Free Agency Bidding
- 6:15 pm** **Michael Linskey** ('13), Economics  
Evaluating the Buyer's Option: Testing the Effect of the Buyer's Option on Seller's Revenue in Wine Auctions
- 6:30 pm** **Charlotte Peck** ('13), Economics  
Thoroughbred Racehorse Auctions
- 7:00 pm** **Zachary Simon** ('13), Economics  
Dutch Auction IPO's
- 7:15 pm** **Paul Spada** ('13), Economics  
Discriminatory vs. Uniform Pricing in Multi-Unit Online Auctions
- 7:30 pm** **Richard Wiederhold** ('13), Economics  
The FCC Spectrum Auctions: An Examination of Collusion

**SESSION XLII: SOCIOLOGY**  
**Sociology Honors Presentations**

4:00 - 6:00

**Diamond 221**  
**Session Chair: Cheryl Townsend Gilkes**

- 4:00 pm** **Jayeon Kim** ('13), Sociology  
We came! We stripped! We conquered? Sextemist feminists of FEMEN
- 5:00 pm** **Samantha Eddy** ('13), Sociology  
Activism, Identity and Equality Maine

**SESSION XLII: ENVIRONMENTAL STUDIES****Tropical Forests and Rural Livelihoods Presentations**

9:30-10:45 am

**Diamond 223**  
**Session Chair: Travis Reynolds**

- Angela Cross** ('15)  
Cocoa Value Chains in Belize
- Nicolette Kim** ('13)  
Forests and Environmental Justice: the Penan People of Borneo
- Lydia Ball** ('13)  
Costs and Benefits of Sacred Forest Clearing for Agriculture in Debresena, Ethiopia
- Nick Papanastassiou** ('13)  
From the Forest to the Shelf: Natural Latex Value Chains in Asia

**SESSION XLII: ECONOMICS**  
**Economics of Education Research Presentations**

9:30 - 10:45 am

**Diamond 341**  
**Session Chair: Finley Edwards**

- Rebecca Berren** ('13)

Best Prevention Methods of Bullying

**John Jennings** ('13)

Charter Schools and their Effect on Student Achievement

**Michael Kellar** ('13)

The Effect of Charter Schools Based on Students, Teachers, and Parents Perspectives

**Colleen O'Donnell** ('13)

Parental Involvement in Education: How does parental participation in a student's education impact long term educational achievement?

## **SESSION XLII: ENVIRONMENTAL**

### **STUDIES**

#### **Global Food Policy Presentations**

**Diamond 141**

**Session Chair: Travis Reynolds**

11:00 am - 12:15 pm

**Beck, Garrison** ('13)

Agro-ecology and Intercropping as Coping Mechanisms for Climate Change in Africa

**Chizinski, Tara** ('14)

Livestock Production Systems in Ethiopia

**Cummings, Colin** ('14)

Improving Soil Quality in the Peanut Basin of Western Senegal

**Hegde, Siya** ('13)

Lentil Production Systems in India and Canada

**Kim, Nicolette** ('13)

Supporting Mango Self-Sufficiency in Mainland Tanzania

**Love, Keith** ('13)

Oil Palm's Impacts on Biodiversity in Indonesia

**Powley, Leah** ('15)

Land Grabs in East Africa

**Rana, Devki** ('15)

Social Impacts of the Globalization of Rice

**Riessen, Dylan** ('13)

Egypt's Food Security

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### Colby Undergraduate Research Symposium 2013

May 1 - May 3, Colby College, Waterville, Maine

#### Research Presentations

#### Friday, May 3

**SESSION XXVII:  
General Session IV**  
11:00 - 12:00

**Whitney  
Session Chair: Paul Greenwood**

11:00 am

**Rose Solomon ('13) and Carly Hallowell ('13)**, Mathematics  
Estimating the Prevalence and Incidence of Suspected Concussions Among the Colby College Football and Rugby Players

11:30 am

**Gareth Cleveland ('13)**, Mathematics and Statistics  
A Monte Carlo Simulation Study of the Performance of Hypothesis Tests Under Assumption Violations

**SESSION XXVIII: SPANISH  
Spanish Session**  
11:00 - 12:15

**Hurd Room  
Session Chair: Dean Allbritton**

11:00 am

**Melissa Anderson ('14)**, Spanish  
La Comedia: una Herramienta para Subvertir la Censura

11:20 am

**Riley Wagner ('13)**, Spanish  
El travestismo, la fluidez del género y el amor homosexual en obras de Marisa de Zayas y Ana Caro

11:40 am

**Alexander Morris ('14)**, Spanish  
'Desvistiendo la censura:' an analysis of the use of clothing to subvert censorship in Spanish cinema

**SESSION XXIX: PSYCHOLOGY  
Psychology Honors Research**  
12:00 - 3:00

**Smith  
Session Chair: Jen Coane**

12:00 pm

**Hillary Keach ('13)**, Psychology  
The Sunk-Time Effect and Personal Responsibility in Romantic Relationships and Education

12:25 pm

**Kayleigh Monahan ('13) and Miia-Liisa Termonen ('14)**, Psychology  
Hunts, Heinz, and Fries Priming ♦ Ketchup: ♦ The Effects of Lexicality On Brand Name Memory and Product Associations

12:50 pm

**Constance Jangro ('13)**, Psychology  
The Effect of the Learning Styles Hypothesis on Students' Academic Performance

1:25 pm

**Adam Thompson ('13)**, Psychology  
Exploring the Neuroprotective Potential of Dietary Choline in a Rat Model of Posttraumatic Stress Disorder

2:00 pm

**Adam LaViolet ('13)**, Psychology  
Political priming: The Effect of External Factors on Word Recognition and Recall

2:00 pm

**Adam LaViolet ('13)**, Psychology  
Political Priming: The Effect of External Factors on Word Recognition and Recall

2:20 pm

**Sean Padungtin ('13)**, Psychology

2:40 pm

The Hippocampus &amp; Stress: A Possible Functional Divergence

Meghan Tedoldi ('13), Psychology

Mood and Memory as a Function of Reproductive Status

**SESSION XXX: ENGLISH**  
**\*\*CANCELLED ON WITH THE**  
**STORY: Readings from EN 478**  
**Advanced Projects in Prose**  
 1:00 - 2:30

**Whitney**  
**Session Chair: Jennifer Boylan**

1:00 pm

John Nivison ('14), English

On with the story: Readings from EN478

1:12 pm

Nicholas Nowak ('13), English

On with the story: Readings from EN478

1:24 pm

Tyler Parrott ('13), English

On with the story: Readings from EN478

1:36 pm

Michaela Pembroke ('13), English

On with the story: Readings from EN478

1:48 pm

Lindsay Roberts ('13), English

On with the story: Readings from EN478

2:00 pm

Diana Sunder ('13), English

On with the story: Readings from EN478

2:12 pm

Julia de Guzman ('13), English

On with the story: Readings from EN478

**SESSION XXXI:**  
**General Session VIII**  
 1:00 - 3:00

**Hurd**  
**Session Chair: James Sloat**

1:00 pm

Brian Russo ('13), Religious Studies

Scripture and Fiction: An Aesthetic Approach to the Little Pilgrim

1:20 pm

Israelle Kidson ('13), Religious Studies

The Historical Role of Women in Tantric Yoga and Sexual Ritual

1:35 pm

Emma Mayville ('13), Religious Studies

Sectarian Violence through the Lens of the Coptic Question in Egypt

1:50 pm

John Holman ('13), Religious Studies

The Wanderer's Journey

2:15 pm

Carter Stevens ('13), Government

'A Shrimp Behind the Stone:' Understanding Political Violence in Indonesia

2:40 pm

Delaney McDonough ('13), Theater and Dance

The Aesthetic of Failure: Authenticity, Effort, and Imperfection in American Contemporary Dance

**SESSION XXXII: FRENCH AND**  
**ITALIAN**  
**The Other French Empire: Exploring**  
**the Colonial Legacy**  
 2:30 - 4:15

**Whitney Room**  
**Session Chair: Adrianna M. Paliyenko**

2:30 pm

Emma Levin ('13), French/Italian

The Abolitions of French Slavery: Discourses of Emancipation

2:50 pm

Madison Louis ('13), French/Italian

The 'Hottentot Venus,' Then and Now

3:10 pm

Sarah Braselton ('13), French/Italian

Paul Gauguin: Colonial Discourse in Late 19th-Century French Primitive Art

3:30 pm

Mary Rogers ('13), French/Italian

A French Woman's Encounter with Africans (1892-1893)

3:50 pm

Brita Midness ('13), French/Italian

Modern Slavery: The Restaveks in Haiti

**SESSION XXXIII: DEPARTMENT OF**  
**FRENCH AND ITALIAN**  
**Minority Issues and Social Change**  
**in Quebec and North America**  
 4:20 - 5:20

**Whitney Room**  
**Session Chair: Benedicte Mauguier**

- 4:20 pm** **Pamela Alakai** ('14), French/Italian  
A comparative study of Oral literature in francophone North America and West Africa
- 4:35 pm** **Sarah Fensore** ('13), French/Italian  
First Contact: A Study of the First Encounters Between Jacques Cartier and the Native Americans
- 4:50 pm** **Madeleine Bruce** ('14), French/Italian  
Emily Carr and the construction of the Indian Imaginary?

**SESSION XXXIV: HISTORY**  
**History Honors Research II**  
3:30 - 5:00

**Smith**  
**Session Chair: Elizabeth Leonard**

- 3:30 pm** **Eoin McCarron** ('13), History  
"You have been in Afghanistan I Perceive": A portrait of the Second Afghan War and the Irish who were there
- 4:00 pm** **Carter Stevens** ('13), History  
When the Confederates Terrorized Maine: The Battle of Portland Harbor
- 4:30 pm** **Charlotte Wiesenber** ('13), History  
The New Promised Land: Maine's Summer Camps for Jewish Youth in the Mid-Twentieth Century

**SESSION XXXV:**  
**General Session V**  
3:15 - 4:00

**Hurd**  
**Session Chair: Marilyn Pukkila**

- 3:15 pm** **Shireen Smalley** ('13), Independent Studies  
Gendered Geographies and Coded Spaces in Tehran
- 3:30 pm** **Rachel Haines** ('13), Anthropology  
The Farnham Writers' Center as a Cultural Space
- 3:45 pm** **Andrew Pepper-Anderson** ('13), Government  
An Analysis of Super PAC Behavior in the 2012 Election

**SESSION XXXVI: BIOLOGY**  
**Biology Honors Presentations**  
1:00 - 2:30

**Olin 1**  
**Session Chair: Catherine Bevier**

- 1:00 pm** **Adam Spierer** ('13), Biology  
Relationship of Cross-Linking Potential to Mechanism of Cell Death
- 1:20 pm** **Chelsea Nickerson** ('13), Biology  
Prenatal Choline Supplementation and MK-801 Toxicity: Protecting Memory and Preventing Neurodegeneration
- 1:40 pm** **Elise Begin** ('13), Biology  
The Effects of Island Size and Geographic Distance on the Genetic Diversity of Blue Flag Irises (*Iris versicolor* in the Bay of Fundy)
- 2:00 pm** **Sarah Nalven** ('13), Biology  
Characterizing the Epibiotic Community of Green Frogs and Their Role in Host Immunity

**SESSION XXXVII: EDUCATION**  
**Education Program Student Research Symposium**  
1:00 - 4:00

**Diamond 122**  
**Session Chair: Mark Tappan**

- 1:00 pm** **Priscilla McCelvey** ('13), **Margaret Meyer** ('13) and **Ethan Meigs** ('13), Education and Human Development  
The Impact of CCAK on Current Mentees
- 1:15 pm** **Anna Caron** ('13), **Holly Mawn** ('13) and **Andrew Hedberg** ('13), Education and Human Development  
The Long Term Effects of the CCAK Program: A Narrative Evaluation
- 1:30 pm** **Lucy Gerrity** ('13), **Courtney Erskine** ('13), **Kate O'Callaghan** ('13) and **John Williams** ('13), Education and Human Development  
The Affect of Mentoring on Mentors, Past and Present
- 1:45 pm** **Cordelia Roberts** ('13), **Hillary Sapanski** ('13) and **Emme Arnzen** ('13), Education and Human Development  
An Evaluation of the Effectiveness of the CCAK Mentor-Mentee Relationship



2:00 pm	<b><u>Madeleine Cohen</u></b> ('13), <b><u>Constance Jangro</u></b> ('13) and <b><u>Katherine Pistel</u></b> ('13), Education and Human Development The Effects of CCAK on the Greater Waterville Community
2:15 pm	<b><u>Molly Nash</u></b> ('15) and <b><u>Jasmine Bazinet-Phillips</u></b> ('15), Education and Human Development The Belonging Project: A Colby Campus Climate Assessment
2:30 pm	<b><u>Jasmine Phillips</u></b> ('14) and <b><u>Justin Deckert</u></b> ('15), Education and Human Development Peer Mentoring Program: The Transition from High School to College
3:00 pm	<b><u>Daria Jones</u></b> ('13), Education and Human Development The Disconnected and Dissatisfied Generation: Solving the Mysteries of Loneliness, Human Connection and Identity within the Lives of Colby's Class of 2013
3:15 pm	<b><u>Abigail Fontaine</u></b> ('15), Education and Human Development Technology and Special Education: How iPads Continue to Change the World
3:30 pm	<b><u>Marguerite Paterson</u></b> ('13), <b><u>Anna Leschen-Lindell</u></b> ('13), <b><u>Emme Arnzen</u></b> ('13) and <b><u>John Williams</u></b> ('13), Education and Human Development Searching for Key Elements for Learning in 21st Century Higher Education: Colby College as a Case Study

**SESSION XXXVII: ANTHROPOLOGY**  
**Anthropology Honors Presentations**  
 1:00 - 3:00

**Diamond 145**  
**Session Chair: Mary Beth Mills**

1:00 pm	<b><u>Jessica Pires</u></b> ('13), Anthropology Uphams Corner and 'Other' Spaces: Explorations of Youth Identities in Boston's Cape Verdean Community
1:40 pm	<b><u>Ellicott Dandy</u></b> ('13), Anthropology Remapping Nature: Motherhood, Autonomy, and Anti-mining Activism in Ontag, Ecuador
2:20 pm	<b><u>Rachel Rosenbaum</u></b> ('13), Anthropology Finite to Fail, Infinite to Venture: Interactivism and Relational Ethics

**SESSION XXXIX: RELIGIOUS STUDIES**  
**Spanish Session**  
 9:30 - 10:45

**Lovejoy 344**  
**Session Chair: Debra Campbell**

**SESSION XL: RUSSIAN**  
**CBB Symposium: Russian Literature and Culture**  
 2:00 - 5:00

**Lovejoy 215**  
**Session Chair: Elena Monastireva-Ansdell**

2:00 pm	<b><u>Jayeon Kim</u></b> ('13), German/Russian Gendered images in Boris Pasternak's Doctor Zhivago
2:20 pm	<b><u>Katarina Sirka</u></b> ('13), German/Russian Comparison of Larissa Fyodorovna and Antonina Alexandrovna's Characters in Boris Pasternak's Novel 'Doctor Zhivago'
2:40 pm	<b><u>Alina Nakos</u></b> ('13), German/Russian The Evolution of Yuri Zhivago in Pasternak's Novel, 'Doctor Zhivago'
3:00 pm	<b><u>Tendai M'ndange-Pfupfu</u></b> ('13), German/Russian The Role and Imagery of Nature in Boris Pasternak's Doctor Zhivago.
3:20 pm	<b><u>Quinn Ziegler</u></b> ('14), German/Russian The Role of Art and the Artist in Boris Pasternak's Doctor Zhivago
3:40 pm	, German/Russian Ethnic Assimilation and Separation in Chukotka.

**SESSION XLI: ECONOMICS**  
**Economics Honors Research Presentations**  
 2:00 - 4:00

**Diamond 341**  
**Session Chair: Debra Barbezat**

2:00 pm	<b><u>Justine Seraganian</u></b> ('13), Economics First Year Collegiate Academic Achievement: Do Athletes Perform at the Same Level as Their Peers?
2:15 pm	<b><u>Daniel Garin</u></b> ('13), Economics The Effects of Political Signals on the Federal Reserve
2:30 pm	<b><u>Peter Jones</u></b> ('13), Economics Senior Honors Thesis: Classroom Peer Effects in Higher Education: Evidence for Colby College
2:45 pm	<b><u>Marcus Josefsson</u></b> ('13), Economics The Macroeconomic Effect of Currency Union Dissolution Evidence from the Narrative
3:00 pm	<b><u>Rebecca Newman</u></b> ('13), Economics The Post-Crisis Relevance of Inflation Targeting
3:15 pm	<b><u>Thomas Abe</u></b> ('13), Economics Can The Stock Market Predict FDA Approvals for New Drug Applications?
3:30 pm	<b><u>Qi Sun</u></b> ('13), Economics The Influence of Central Bank Independence on Inflation: Evidence Based on A Narrative Approach
3:45 pm	<b><u>Siyang Xu</u></b> ('13), Economics Does Exchange Market React to Central Bank Governor Replacements: Evidence from a New Dataset using Narrative Approach

**SESSION XLI: ENVIRONMENTAL STUDIES**  
**Advanced and Applied Ecology Research Presentations**  
 9:00 - 9:50 am

**Olin 234**  
**Session Chair: Russell Cole**

**What Coral Reef Destination Have the Most Effective and Sustainable Ecotourism Programs?**  
**Tierney Dodge** ('14) and **Eliza Phillips** ('14)  
 What Coral Reef Destination Have the Most Effective and Sustainable Ecotourism Programs?

**SESSION XLI: CHEMISTRY**  
**Chemistry Senior Presentations**  
 11:00 - 11:50 am

**Diamond 141**  
**Session Chair: Julie Millard**

**Thomas Williams** ('13)  
 The Kinetics of Iron Exchange between Desferrioxamine B and Oxalic Acid  
**Claire Herbig** ('13)  
 Design of Experiments Exploring the Effects of Process Parameters on Particle Size Due to Sonocrystallization  
**Lloyd Liang** ('13)  
 The Synthesis and Conformational Studies of Para-linked Hetera[14]cyclophanes

**SESSION XLI: CHEMISTRY**  
**Chemistry Senior Presentations**  
 3:00 - 3:50 pm

**Keyes 105**  
**Session Chair: Julie Millard**

**Rachel Guerra** ('13)  
 Investigating the Interaction of Zinc-finger Peptides and Nicked DNA Using Phage Display  
**Jamie Shaum** ('13)  
 The Feud in the Fjord  
**John Gilboy** ('13)  
 Optimizing the Expression and Purification of DNA Ligase III  
**Carly Hallowell** ('13)  
 Life on the Edge: Biotic and Abiotic Production of Hydrogen Production Along the Chemical Gradient

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### Colby Undergraduate Research Symposium 2013

**May 1 - May 3, Colby College, Waterville, Maine Poster Sessions - Robins Room, Roberts**

**PLEASE NOTE** - Posters will be set up before 12 noon on the day assigned and taken down between 5 and 6 PM on the same day. They will be on display for one day only. Posters will be attended by the authors from 12 noon to 2:00 p.m.

Wednesday - No. 1	<b><u>Mimi Smith</u> ('13), Theater and Dance</b> Texture and Illusion in Scenic Art: A Practical Exploration of Scene Painting Techniques
Wednesday - No. 2	<b><u>Samantha Eddy</u> ('13), Sociology</b> EqualityMaine and the Struggle for Same-Sex Marriage
Wednesday - No. 3	<b><u>Lauren Fisher</u> ('13), Government</b> Oy Gavult! Jewish Violent Extremism in the West Bank
Wednesday - No. 4	<b><u>Patrick Martin</u> ('13), Government</b> Filling the Gap of Governance: Communal Violence in India and the Naxalite Insurgency
Wednesday - No. 5	<b><u>Lindsay Peterson</u> ('13), Government</b> A Fight to the Death for the Homeland: The Tamil Tigers Political Violence in Sri Lanka
Wednesday - No. 6	<b><u>Meagan Hennessey</u> ('14), Economics</b> Maine's Rockweed Harvest: Tomorrow's Promise or a Crisis in the Making?
Wednesday - No. 7	<b><u>Kellie Walsh</u> ('15) and <u>Sara Miller</u> ('15), Environmental Studies</b> What's Fish Got To Do with It? How Methylmercury effects Children Neurological Development
Wednesday - No. 8	<b><u>Virginia Keesler</u> ('13), Environmental Studies</b> Conservation Easement Policies Across New England
Wednesday - No. 9	<b><u>Kevin Bennett</u> ('13) and <u>Wesley Richardson</u> ('13), Environmental Studies</b> The Spread of Dengue Fever and Climate Change
Wednesday - No. 10	<b><u>Julia de Guzman</u> ('13) and <u>Madeline Strachota</u> ('13), Environmental Studies</b> Effects of Global Climate Change on the Distribution of Incidence of Vector-Borne Diseases in Africa
Wednesday - No. 11	<b><u>Omari Matthew</u> ('14), Geology</b> Learning Curve: Analyzing Changes in Predatory Techniques of the Stone Crab <i>Menippe mercenaria</i> on whelks
Wednesday - No. 12	<b><u>Dhokela Yzeiraj</u> ('13), Geology</b> Not the Most Glamorous of Topics: Waste Management at Colby

- Wednesday -  
No. 13 **Eoin McCarron ('13), Science, Technology, and Society**  
Electromagnetic Pulses from Natural and Nuclear Sources: History and Public Policy
- Wednesday -  
No. 14 **Caroline Wade ('13), Mathematics**  
The Ability of a Smartphone to Detect Changes in Balance Performance
- Wednesday -  
No. 15 **Chiran Bhandari ('13) and Arjumand Masood ('13), Mathematics**  
New Techniques for Animating Experimental and Theoretical Motion Perception
- Wednesday -  
No. 16 **Chiran Bhandari ('13) and Arjumand Masood ('13), Mathematics**  
Mathematical Modelling of Disorientation due to Head-Movements during Rotation in a Centrifuge
- Wednesday -  
No. 17 **Beatrice Nakiryowa ('13), Chemistry**  
Flash Vacuum Pyrolysis Routes to [4]Helicenes
- Wednesday -  
No. 18 **Stephen Nodder ('13), Chemistry**  
A One Pot Synthesis of Acetylene-Substituted Oxacalix[4]arenes
- Wednesday -  
No. 19 **Paul Macklis ('15) and Kaitlin Curran ('14), Biology**  
The Impact of Acute Ethanol Exposure on the Innate Immune System of Zebrafish
- Wednesday -  
No. 20 **Laura Crowley ('13), Biology**  
Exploring Novel Delivery Methods for Systemic Gene Knockdown By RNA Interference In The Milkweed Bug, *Oncopeltus fasciatus*
- Wednesday -  
No. 21 **Laura Crowley ('13) and Maxwell Hogue ('13), Biology**  
Allelic Diversity In Appendage-Patterning Genes Among Phenotypically Divergent Populations of The Soapberry Bug *Jadera haematoloma*
- Wednesday -  
No. 22 **Katherine Bell ('15), Melissa Preziosi ('15), Molly Hodgkins ('15) and Victoria Falcon ('15), Psychology**  
The Effect of type of Crime and Context on Blame Attribution and Memory
- Wednesday -  
No. 23 **Katherine Kimball ('15), Kyle Rogacion ('15), Matthew Willett-Jeffries ('14) and Molly Robertson ('15), Psychology**  
Self-Affirmation as a Buffer against Threats to External Control
- Wednesday -  
No. 24 **Erin Caputo ('15), Anna Doyle ('15) and Kaitlyn O'Connell ('15), Psychology**  
The Effect of Relationship Stage and Knowledge of Monetary Value on Receiver's Appreciation of Gifts
- Wednesday -  
No. 25 **Jillian Riendeau ('15), Madeleine Tight ('15), Megan MacKenzie ('15) and Nkosinophile Shongwe ('15), Psychology**  
The Effects of Viewing Nature Pictures and Music on Short and Long Term Memory
- Wednesday -  
No. 26 **Anne Epstein ('15), Alice Anamosa ('14), Anna Rabasco ('15) and Anna Thin ('15), Psychology**  
Are You Judging Me? The Effects of Moral Credentials on Prejudice toward Asian Americans
- Wednesday -  
No. 27 **Anna Caron ('13) and Miia-Liisa Termonen ('14), Psychology**  
Utilizing Physical and Mental Activity to Decrease the Rate of Cognitive Decline
- Wednesday -  
No. 28 **Cassie Clemmer ('15), Janie O'Halloran ('16), Julia Mitchell ('15) and Kyle McBrierty ('15), Psychology**  
Weight, Don't Judge Me! -- The Effect of Weight-Coded Words and Social Behavior on Judgment
- Wednesday -  
No. 29 **Abigail Fontaine ('15), Carly Taylor ('15), Margaret Hefferon ('15) and Molly Wylie ('15), Psychology**  
Why Did Frank Cross the Road?: Exploring the Effect of Emotional Context on Recall
- Wednesday -  
**Monica Li ('15), Karlyn Donovan ('15), Madeline Hunsicker ('15) and Waylin Yu ('15),**

No. 30	<b>Psychology</b> The Effect of Self Awareness on Moral Credentials
Wednesday - No. 31	<b><u>Kelsey Park ('14), Alexandra Brown ('14), Dylan Nisky ('14) and Zachary Rodriguez ('14), Psychology</u></b> The Effect of Randomness Threat on Attribution to Internal, External, or Mixed Sources of Control
Wednesday - No. 32	<b><u>Courtney Klein ('15), Jared Scharf ('15), Meredith Zakon ('15) and Samuel Poulin ('14), Psychology</u></b> How Public Commitment Influences Blame and The Ripple Effect in Memory
Wednesday - No. 33	<b><u>Katherine MacNamee ('14), Julia Blumenstyk ('14) and Rebecca Levenson ('13), Psychology</u></b> Does 'Call' Prime 'Maybe'?
Wednesday - No. 34	<b><u>Ariel Batallan Burrowes ('15), Jonathan Eichholz ('15) and Rebecca Stoutamyer ('15), Psychology</u></b> The Affect of Conflicting Color Information on the Picture Superiority Effect
Wednesday - No. 35	<b><u>Samantha Slotnick ('14), Elizabeth DiMarco ('13) and Miia-Liisa Termonen ('14), Psychology</u></b> Playing It Cool While Watching Worm Eating: Influence of Expression Strength and Congruency on Emotion Elicitation in a Pair Setting
Wednesday - No. 36	<b><u>Lori Ayanian ('14), Adam Thompson ('13), Margaret Sargent ('14) and Rhiannon Archer ('14), Psychology</u></b> Exploring the Interaction Between Emotional Priming and Framing on Political Decision Making
Wednesday - No. 37	<b><u>Czarina Evangelista ('14), Psychology</u></b> Does Adolescent Choline Supplementation Affect the Rewarding Properties of Morphine?
Wednesday - No. 38	<b><u>Alexis Jackson ('16), Psychology</u></b> Stranded in the Grasslands: Survival Processing and Categorization of Animals
Wednesday - No. 39	<b><u>Rebecca Levenson ('13), Brianne Wheeler ('14) and Shameeka Murphy ('13), Psychology</u></b> How Many Times Would You Press The Space Bar? The Influence of Emotion on Predictions in a Future Moral Dilemma
Wednesday - No. 40	<b><u>Ethan Meigs ('13), Kayleigh Monahan ('13) and Nicholas Rimsa ('13), Psychology</u></b> 💎You're fine. Wait, no you're not!💎 Source thoughtfulness and the persuasiveness of contradictory messages.
Wednesday - No. 41	<b><u>Miia-Liisa Termonen ('14), Psychology</u></b> Deriving 'Dog' from Wolf and Fox, or Leash and Bark? False Memory in Categorical and Associative Word Lists.
Wednesday - No. 42	<b><u>Astrid Moore ('15), Psychology</u></b> Memory and Anxiety in Adult Rats as a Function of Early Life Choline Levels and Exploratory Behavior
Wednesday - No. 43	<b><u>Frances Onyilagha ('14), Ariel Martin ('15) and Nicholson Warner ('14), Psychology</u></b> Just Because I'm Beautiful: The Effects of Attractiveness and Cognitive Load on Judgments of Guilt
Wednesday - No. 44	<b><u>Julia Mitchell ('15), Psychology</u></b> Neuroprotection by Postnatal Choline Supplementation in a Rat Model of Fetal Alcohol Syndrome
Wednesday - No. 45	<b><u>George Humphrey ('15), Alexander MacMillan ('15), Astrid Moore ('15) and Taysir Jama ('15), Psychology</u></b> How Conceptual and Perceptual Cues Affect Metamemory and Memory
Wednesday - No. 46	<b><u>Edward Chuang ('14), Chemistry</u></b> Amplification of human DNA for probing DEB-induced damage via a quantitative polymerase chain reaction

## polymerase chain reaction

- Thursday - No. 1 **Emily Post ('15), Theater and Dance**  
A Lighting Design of Bertolt Brecht's Galileo
- Thursday - No. 2 **Emily Berner ('15), Women, Gender, Sexuality**  
Common Understandings of Race and Gender at Colby
- Thursday - No. 3 **Cara Saunders ('13), Brittany Reardon ('14), Jacob Bratman ('15) and Lillian Liang ('15), Sociology**  
Learning by Giving: The Maine Children's Home for Little Wanderers
- Thursday - No. 4 **Kaitlyn Bernard ('13), Amanda Lavigueur ('13) and Samantha Eddy ('13), Sociology**  
'Whole Healthy Kids' A Grant to Support Health Education at YMCA Camp of Maine
- Thursday - No. 5 **Molly Colman ('13), Claire Dunn ('13) and Kelsey Cromie ('14), Sociology**  
Emergency Dental Clinic
- Thursday - No. 6 **Wayne Kim ('14), Garrison Beck ('13), Jennifer Charette ('13) and Madison Louis ('13), Sociology**  
SPACE: Supplying a Place for Action, Caring, and Education -- a Grant to Support the South End Neighborhood Association and South End Teen Center of Waterville
- Thursday - No. 7 **Rebecca Newman ('13) and Arthur Huber ('13), Economics**  
The Legalization of Marijuana and Violent Crime Rates in the United States
- Thursday - No. 8 **Josie Bazemore ('13), Biology**  
fMLP Mediates in vitro Neutrophil Chemotaxis from Harvested Zebrafish Kidneys
- Thursday - No. 9 **Sarah Lane-Reticker ('16), Biology**  
The Quest for an Enzyme-Regulating Motif in Extremophilic Microbe Bacterioopsins
- Thursday - No. 10 **Katerina Faust ('14), Biology**  
The Influence of Pathogenic Fungal Infection on Antipredator Behavior of Tadpoles
- Thursday - No. 11 **Victoria Abel ('14), Emma Donohoe ('14), Lydia Ball ('13) and Sarah Nalven ('13), Biology**  
The Role of Epibiotic Bacteria in Modulating Skin Secretion Production in the Spring Peeper, *Pseudacris crucifer*, and Woodfrog, *Lithobates sylvaticus*
- Thursday - No. 12 **Louisa Walker ('13), Biology**  
The Conjugal Transfer of Antibiotic Resistance Plasmids in Lactic Acid Bacteria During the Ripening of Cheese
- Thursday - No. 13 **Molly Susla ('13), Biology**  
Maine's Rockweed Harvest and the Future of the Seaweed at Stake
- Thursday - No. 14 **Kelly Bourgon ('14), Biology**  
Expression of the Circadian Rhythm Protein CRYPTOCHROME in Eyestalks of *Uca pugnator*
- Thursday - No. 15 **Rachel Guerra ('13), Dylan Plaskon ('15), Emily Sher ('13) and Kayla Gross ('13), Chemistry**  
A Selection Strategy for the Design of Small Proteins that Can Recognize DNA Repair Intermediates
- Thursday - No. 16 **Katarina Sirka ('13), Chemistry**  
Structural Characterization of the Major DNA-DNA Cross-Link Formed by Epichlorohydrin
- Thursday - No. 17 **David Cain ('13) and James Staley ('13), Computer Science**  
Mapping Circadian Features to Velocity Response

- Thursday - No. 18 **Arran Dindorf ('13) and Daniel Covert ('13), Geology**  
Spatial Variability in the Wasatch Range
- Thursday - No. 19 **Benjamin Hannon ('13), Science, Technology, and Society**  
Development of a Standard and Functional Tactical Emergency Medical Support Training Program
- Thursday - No. 20 **Nickolas Kondiles ('13), Science, Technology, and Society**  
License and Regulation, Please: New Standards for the Practice of In Vitro Fertilization
- Thursday - No. 21 **Charles Spatz ('13), Science, Technology, and Society**  
Building with Waste: Fly Ash in the 20th and 21st Centuries
- Thursday - No. 22 **Georgina Hurst ('13), Global Studies**  
A Trojan Horse in Senegal: Exploring the Economic Implications of Chinese Merchants in Dakar, Senegal
- Thursday - No. 23 **Eliza Phillips ('14), Environmental Studies**  
Atlas of Maine: Ambulance Headquarters
- Thursday - No. 24 **Caleb Harris ('15), Environmental Studies**  
Atlas of Maine: County Annual Crime Rate per 1000 Residents and Correctional Facilities
- Thursday - No. 25 **Savannah Judge ('15), Environmental Studies**  
Atlas of Maine: Cellular Towers and Population
- Thursday - No. 26 **Elizabeth Schell ('14), Environmental Studies**  
Atlas of Maine: Inland Waterfowl and Wader Habitat
- Thursday - No. 27 **Sarah Madronal ('14), Environmental Studies**  
Atlas of Maine: Surface Water Features
- Thursday - No. 28 **Lucy O'Keeffe ('14), Environmental Studies**  
Atlas of Maine: Distribution of Food Deserts in Maine
- Thursday - No. 29 **Victoria Abel ('14), Environmental Studies**  
Atlas of Maine: Deer Wintering Areas and Forest Fragmentation
- Thursday - No. 30 **Ryan Newell ('14), Environmental Studies**  
Atlas of Maine: Population and Population Change from 1950 to 2010
- Thursday - No. 31 **Meagan Hennessey ('14), Environmental Studies**  
Shipbuilding and Health: What's the Connection?
- Thursday - No. 32 **Kaitlin Zdechlik ('13) and Caroline Chessare ('13), Environmental Studies**  
How Might Food Quality Affect the Incidence of Mycotoxins?
- Thursday - No. 33 **Catherine Powell ('15), Environmental Studies**  
Analysis of Potential Correlation Between POP and PBT Emissions From U.S.-Mexican Border Maquila Factories and Negative Human Health Effects
- Thursday - No. 34 **Monica Davis ('13) and Max Pollinger ('14), Environmental Studies**  
The Impact of Neonatal Polybrominated Diphenyl Ether Exposure on Neurocognitive Development
- Thursday - No. 35 **Monica Davis ('13), Environmental Studies**  
Atlas of Maine: Wildlife Management Districts and Conservation Areas



- Thursday - No. 36 **Ethan Farina-Henry ('13), Environmental Studies**  
Atlas of Maine: Glacial Moraines and Eskers in Maine
- Thursday - No. 37 **Ethan Farina-Henry ('13), Environmental Studies**  
Households Located Within Flood Zones in the Willamette Valley
- Thursday - No. 38 **Conor Richardson ('13) and Samuel Kaplan ('13), Environmental Studies**  
Fat Chance: The Link between Prescription Antidepressants and Obesity
- Thursday - No. 39 **Eli Dupree ('13), Environmental Studies**  
Atlas of Maine: Population Density and Flood Zones in Oxford and Kennebec Counties
- Thursday - No. 40 **Laramie Maxwell ('13) and Elizabeth Anderson ('14), Environmental Studies**  
The Effects of Aspartame on Human Health
- Thursday - No. 41 **Peter Willauer ('15), Environmental Studies**  
Atlas of Maine: Atlantic Salmon Habitat And Conserved Land
- Thursday - No. 42 **Virginia Keesler ('13), Environmental Studies**  
Atlas of Maine: Median Year Structure Built Across Census Tracts
- Thursday - No. 43 **Kathleen Hamre ('13), Environmental Studies**  
Atlas of Maine: Animal Shelters and Humane Societies
- Thursday - No. 44 **Jeremy Torrisi ('13) and Sean Donahue ('13), Environmental Studies**  
Does BPA Cause Neurotoxicity? An Examination into BPA's Effect on the Developing Brain
- Thursday - No. 45 **Andrew Meador ('14), Environmental Studies**  
Atlas of Maine: Forest Stand Age
- Friday - No. 1 **Emily Doyle ('16), Danielle Anderson ('16) and Gabriela Cortez ('16), Women, Gender, Sexuality**  
Exploring Details Behind Gender Judgements
- Friday - No. 2 **Kimberly Bourne ('16), Women, Gender, Sexuality**  
Who is Allowed to Compete: Gender, Intersexed Individuals, and College Sports
- Friday - No. 3 **Alexander Rasmussen ('13), Mathematics and Statistics**  
Studying Unknotting Number for Connected Sums of Knots Using Sutured Manifold Theory
- Friday - No. 4 **Sara George ('15) and Clara Bicher ('14), Geology**  
From the Depths of Great Pond (Maine): Anthropogenic and Natural Influences on Bottom Sediments and their Impact on Local Sustainability
- Friday - No. 5 **Tyler Parrott ('13), Laura Crowley ('13) and Matthew Wilson ('15), Biology**  
The Functions Of Appendage-Patterning Genes During Development Of The Soapberry Bug, *Jadera haematoloma*
- Friday - No. 6 **Caitlin Curcuruto ('13) and Emily Arsenault ('14), Biology**  
The Effects of Modern Agricultural Methods on Colony Collapse Disorder
- Friday - No. 7 **Clea Harrelson ('16), History**  
Native Americans in the Revolutionary War: Massachusetts Patriots
- Friday - No. 8 **Kaitlin Curran ('14) and Paul Macklis ('15), Biology**  
Responses of Zebrafish Phagocytic Cells to Opsonized Bacteria
- Friday - No. 9 **Christine Wamsley ('15), Biology**  
Identifying the Regulatory Site of the Lycopene Elongase Enzyme in the Extremophilic Microbe *Halobacterium salinarum*
- Friday - No. 10 **Adam Snierer ('13), Biology**

- Relationship of Cross-Linking Potential to Mechanism of Cell Death
- Friday - No. 11 **Jie Liu ('14), Biology**  
Genome-wide Translational Profiling of Central and Peripheral Clock Cells in *Drosophila melanogaster*
- Friday - No. 12 **Cassie Huang ('13) and Jessie Rottersman ('14), Biology**  
Effects of Nicotine and Indole-3-carbinol Exposure in a *Drosophila* Model of Parkinson's Disease
- Friday - No. 13 **Conor Richardson ('13) and Emily Karr ('13), Biology**  
Investigation of the Role of ADAMTS-5 and Cdh3 Effector Genes in TGF- $\beta$ -induced Mammary Epithelial Cell Invasion.
- Friday - No. 14 **Ai Phuong Tong ('15), Chemistry**  
Development of a Mass Spectrometry Assay to Measure Ribonucleotide Reductase Activity in Human Cancer Cells
- Friday - No. 15 **Marianne Ferguson ('14) and Taylor Witkin ('14), Environmental Studies**  
Why Are Invasive Species Successful in Tropical Marine Ecosystems?
- Friday - No. 16 **Meagan Hennessey ('14) and Colin Cummings ('14), Environmental Studies**  
What Characteristics Lead to a Successful Corridor Project?
- Friday - No. 17 **Elizabeth Schell ('14) and Eliza Phillips ('14), Environmental Studies**  
How Smart is Lake Smart?: An Analysis
- Friday - No. 18 **Stefanie Lai ('15) and Alexa Williams ('15), Environmental Studies**  
The Effects of Chlorinated Pools on Respiratory Health
- Friday - No. 19 **Sarah Madronal ('14) and Felicia Aronson ('14), Environmental Studies**  
Current Status of Panama Reefs
- Friday - No. 20 **Ryan Newell ('14), Environmental Studies**  
Emissions Estimate for College Related Travel
- Friday - No. 21 **Lucy O'Keeffe ('14) and Victoria Abel ('14), Environmental Studies**  
Potential Impact of the Portland-Montreal Pipeline on Water and Land Resources in Maine
- Friday - No. 22 **Laurel Edington ('15) and Erin Bewley ('15), Environmental Studies**  
Prenatal Exposure To Air Pollution and Neurological Disorders
- Friday - No. 23 **Tierney Dodge ('14) and Eliza Phillips ('14), Environmental Studies**  
Which Coral Reef Destinations Have the Most Effective and Sustainable Ecotourism Programs?
- Friday - No. 24 **Rose Solomon ('13) and Andrew Mealor ('14), Environmental Studies**  
Climate Change and Forest Pathogens: What Will Be the Future of Maine's Forest?
- Friday - No. 25 **Caleb Harris ('15) and Savannah Judge ('15), Environmental Studies**  
Occupancy Status, Depreciation and Housing Condition in Waterville's South End
- Friday - No. 26 **Mackenzie Nichols ('14) and Benjamin Timm ('14), Environmental Studies**  
Questioning Allocation of Funding in the Endangered Species Act
- Friday - No. 27 **Rumbidzai Gondo ('14) and Nomawethu Moyo ('15), Environmental Studies**  
The Impact of Global Climate Change on the Transportation, Assimilation, and Accumulation of Mercury.
- Friday - No. 28 **Cody Eaton ('14) and Julio Suastegui ('13), Environmental Studies**  
How Might Dioxin and Furan-Producing Waste Incineration Alter Cancer Rates?
- Friday - No. 29 **Monique Kelly ('14) and Madison Louis ('13), Environmental Studies**  
Frack Attack: How Hydraulic Fracturing for Natural Gas Threatens Human Health
- Friday - No. 30 **Emma Klein ('13) and Laura Duff ('13), Environmental Studies**  
Endocrine Disrupting Effects of Phthalates on Female Health
- Friday - No. 31 **Monica Davis ('13) and Kathleen Hamre ('13), Environmental Studies**  
Prediction of Milfoil Distribution in the Belgrade Lakes
- Friday - No. 32 **Brittany Colford ('13) and Sydney Morison ('15), Environmental Studies**  
Are Offshore or Terrestrial Wind Turbines Safer for Wildlife?

- Friday - No. 33 **Amanda Rosa Di Sant ('14) and Elizabeth Cochrane ('13), Environmental Studies**  
The Impact of Pesticide Exposure on Parkinson's Disease Onset
- Friday - No. 34 **Anna Rabasco ('15) and Erica Talamo ('15), Environmental Studies**  
The Effects of PCB on Incidence of ADHD in Children
- Friday - No. 35 **Peter Willauer ('15), Environmental Studies**  
Gulf Stream Sea Surface Temperature Shifts
- Friday - No. 36 **Lydia Ball ('13) and Kathleen Hamre ('13), Environmental Studies**  
Insect Abundance and Richness in Ethiopian Church Forests
- Friday - No. 37 **Theresa Petzoldt ('14), Environmental Studies**  
Nutrient Limitation in the Inflow and Outflow Streams of Great Pond
- Friday - No. 38 **Olivia Avidan ('15), Environmental Studies**  
Do Phytoestrogens, a Substance Found in Soy Products, Cause Negative Effects to the Endocrine System?
- Friday - No. 39 **Virginia Keesler ('13), Environmental Studies**  
Ecological and Social Implications of Conservation Easement Location Across New England
- Friday - No. 40 **Elizabeth Hughes ('13) and Cassie Huang ('13), Environmental Studies**  
Environmental Obesogens: How they Alter Cellular Adipogenesis Mechanisms and May Contribute to the Obesity Epidemic
- Friday - No. 41 **Sarah Holmes ('13), Environmental Studies**  
The Role of the Ethiopian Orthodox Church in Forest Preservation in the South Gondar Region of Ethiopia
- Friday - No. 42 **Natalie Thompson ('15), Environmental Studies**  
'Food Safety': The Dangers of Meat Processing
- Friday - No. 43 **Carol Walker ('15) and Meredith Braun ('15), Environmental Studies**  
The Toxic Effects of Bisphenol-S
- Friday - No. 44 **Andrew Mealor ('14), Environmental Studies**  
Hemlock Woolly Adelgid Range Expansion

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## Colby Undergraduate Research Symposium

### 2013 Program »

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### Colby Undergraduate Research Symposium 2013

May 1 - May 3, Colby College, Waterville, Maine

#### Associated Sessions

Tuesday, December 4, 2012

**ECONOMICS**  
**Natural Resource Economics**  
**Presentations**  
2:30 - 3:45 pm

**Diamond 341**  
**Session Chair: Sahan Dissanayake**

- |  |   |
|--|---|
| <b>Meagan Hennessey ('14)</b>  | Rockweed Harvesting: Tomorrow's Promise or a Crisis in the Making?                        |
| <b>Bishu Khanal ('14)</b>  | Deforestation in Nepal  |
| <b>Amanda Laviguer ('13)</b>   | Harvesting Wood in Kennebec County: Modeling Land Use Change                              |
| <b>Lucy O'Keeffe</b>   | Using Public Preferences to Inform Wind Energy Policy in the U.S.                         |
| <b>Max Pollinger ('14)</b>   | The Ecological and Economic Impacts of Environmental Change on the Maine Lobster Industry |
| <b>Archibald Adams ('13), Tuckerman Crater ('13) and John Vanasse ('14), Economics</b><br>Lobster in Maine |   |

Thursday, December 6, 2012

**ECONOMICS**  
**Natural Resource Economics**  
**Presentations**  
2:30 - 3:45 pm

**Diamond 341**  
**Session Chair: Sahan Dissanayake**

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|--|---|
| <b>Kimberly Cunningham ('13)</b>   | Efficiency of Green Marketing Campaigns   |
| <b>Theresa Petesch ('13)</b>   | Impact of Hydraulic Fracturing on Housing Prices in the Marcellus Shale: Evidence from Bradford, PA |
| <b>Amara Weiss ('14)</b>   | Organic Farm Initiatives in Maine as Indicators of Local Economic Activity                          |
| <b>Charles Davis ('13), Saboor Sheerazi ('13) and Zayn Lohit ('14), Economics</b><br>Analysis of the Economic and Environmental Impact of Soybean Rust on United States Soybean Production |   |
| <b>Amila Emso ('14), Mduduzi Langwenya ('14) and Nicholas Papanastassiou ('13), Economics</b><br>Deforestation in Developing Countries: What can a STELLA Model Tell Us?                   |   |
| <b>Nicholas Merrill ('14), Carlton Reed ('14) and Zachary Simon ('13), Economics</b><br>To Catch A Predator: A STELLA Model of the Predator Prey Interaction for the Tuna Fishery          |   |

Friday, March 8

**EAST ASIAN STUDIES**  
**East Asian Studies Presentations**  
5:00 - 6:30 pm

**Robins Room, Roberts**  
**Session Chair: Ankeney Weitz**

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|-----------------------------|--|
| <b>Patva Andreeva ('13)</b> | Mysteries of the Immortal Lands: Daoist Deity Ma Gu in a |
|-----------------------------|--|

	Rare Yuan Painting
<b>Anne Marie Burke ('13)</b>	Embracing Two Cultures: Shanghai and Its Architecture 1900-1940
<b>Eliza Lamoon</b>	The Blame Game: A Media Studies Approach to the Chinese Government's Relationship with the Uyghur Minority
<b>Anthony Shimamoto ('13)</b>	A Nation's Opinion of Immigration: A Study of Media Opinion and Government Action Towards Japan's Immigrants and Immigration Policy
<b>Jen Tsang ('13)</b>	Shōjo Manga in the Context of Taiwanese Adolescent Girls: a Space for Reflexivity

**Wednesday, April 17**

**EAST ASIAN STUDIES**  
**East Asian Studies Presentations**  
 5:00 - 6:30 pm

**Whitney Room, Roberts**  
**Session Chair: Ankeney Weitz**

<b>Eleni Choephel ('13)</b>	Omona: Cross Dressing in South Korean Dramas
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**Friday, April 19**

**CHEMISTRY**  
**Chemistry Senior Presentations**  
 11:00 - 11:50 am

**Diamond 141**  
**Session Chair: Julie Millard**

<b>Carson Brown ('13)</b>	Structure Activity Relationships in the Development of a T3SS Anti-Virulence Drug
<b>Jesus Vidaurri-Martinez ('13)</b>	Benzylidenecarbene-phenylacetylene Rearrangement
<b>Stephen Nodder ('13)</b>	The Synthesis of Aryl Electrophiles and Oxacalix[4]arenes

**Tuesday, April 23**

**BIOLOGY**  
**Evolutionary Analysis Presentations**  
 8:00 - 9:15 am

**Diamond 242**  
**Session Chair: Judy Stone**

<b>Andrew Beauchesne ('14)</b>	Genetic Changes in Carbohydrate Metabolism Associated with Agriculture
<b>Kevin Bennett ('13)</b>	Effects of Migration and Genetic Diversity on Recovery of Two Threatened West Australian Marsupials
<b>Sarah Brockett ('14)</b>	Environmentally-acquired Gut Flora and Protection Against Celiac Disease
<b>Caitlin Curcuruto ('13)</b>	Heritability of Rhythmic Musical Ability in Humans
<b>Kaitlin Curran ('14)</b>	Artificial Selection Via Pathogen Pressure and Molecular Evolution of MHC Class II Genes in Zebrafish
<b>Eli Dupree ('13)</b>	Somatic Mosaicism and the Evolution of Heavy-metal Tolerance in Plants
<b>Mary Furth ('15)</b>	Predicting Movement and Status of Weevil Pest Populations
<b>Travis Gomez-Phillips ('14)</b>	Heritability of Tolerance to Sedimentation in Marine Bivalves
<b>Danielle Levine ('15)</b>	A Relationship Between Genetically-modified Foods and Inflammatory Bowel Disease?

**Thursday, April 25**

**BIOLOGY**  
**Evolutionary Analysis Presentations**  
 8:00 - 9:15 am

**Diamond 242**  
**Session Chair: Judy Stone**

<b>Matthew Lipman ('15)</b>	The Selective Pressure of Bt Corn on Pest Resistance Speciation and Niche Specialization in Bornean <i>Nepenthes Pitcher Plants</i>
<b>James Lucas ('15)</b>	Functional Significance of Behaviors in <i>Aetobatus narinari</i> , the <i>Spotted Eagle Ray</i>
<b>Audrey Lyman ('14)</b>	Change in Vertebrate Assemblages in the American Midwest as Assessed by Geohistorical Records
<b>Omari Matthew ('14)</b>	Tolerance to Environmental Stressors in Temperate and Tropical Corals
<b>Haley Oleynik ('15)</b>	

<b>Wes Richardson ('13)</b>	Genetic Epidemiology of Anthrax ( <i>Bacillus anthracis</i> )
<b>Olivia Rivera ('15)</b>	The Effects of Ocean Acidification on Marine Calcifying Organisms
<b>Adam Spierer ('13)</b>	Pleiotropic Effects of Selection by ROS in <i>Drosophila</i>
<b>Ben Timm ('14)</b>	Epigenetic Effects on Feralization of Pigs

**Friday, April 26**

**CHEMISTRY**  
**Chemistry Senior Presentations**  
 11:00 - 11:50 am

**Diamond 141**  
**Session Chair: Julie Millard**

<b>Stefan Davatz ('13)</b>	Studying the Possible Ring Flip of Calix[4]arenes Using Steric Immobilization with Alkylation
<b>Charlie Frank ('13)</b>	Effects of NFATc3 and NFATc4 Knockouts on Bladder Wall Remodeling: A Translational Pilot Study in Mice
<b>Garth Franklin ('13)</b>	Small Molecule Screen to Stabilize Mutant SOD1, A Protein Known to Cause ALS

**CHEMISTRY**  
**Chemistry Senior Presentations**  
 3:00 - 3:50 pm

**Keyes 105**  
**Session Chair: Julie Millard**

<b>Byung Kim ('13)</b>	Development of a Field Portable Fe(III) Sensor
<b>Katarina Sirka ('13)</b>	Structural Characterization of the Major DNA-DNA Cross-Link Formed by Epichlorohydrin
<b>Beatrice Nakiryowa ('13)</b>	Synthesis of Single, Double and Triple [4]-Helicenes by Flash Vacuum Pyrolysis

**Monday, April 29**

**ENVIRONMENTAL STUDIES**  
**Advanced and Applied Ecology Research Presentations**  
 9:00 - 9:50 am

**Olin 234**  
**Session Chair: Russell Cole**

<b>Sydney Morison ('15) and Brittany Colford ('13)</b>	Are Offshore or Terrestrial Wind Turbines Safer for Wildlife?
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**ENVIRONMENTAL STUDIES**  
**Advanced and Applied Ecology Research Presentations**  
 4:00 - 4:50 pm

**Olin 229**  
**Session Chair: Russell Cole**

<b>Andrew Mealar ('14) and Rose Solomon ('13)</b>	Climate Change and Forest Pathogens: What Will Be the Future of Maine's Forest?
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**SCIENCE, TECHNOLOGY, AND SOCIETY**  
**STS Senior Poster Session**  
 4:00 - 5:30 pm

**Parker Reed, SSW**  
**Session Chair: Jim Fleming**

<b>Victoria Feng ('13)</b>	Architecture and Behavior at Colby: How Our Built Environment Affects the Way We Learn and Socialize
<b>Ben Hannon ('13)</b>	Development of a Standardized and Functional Tactical Emergency Medical Support Training Program
<b>Dan Hussey ('13)</b>	What Is High Fructose Corn Syrup and What Does It Do? It Depends on whom You Ask.
<b>Kelly Kneeland ('13)</b>	Controlling the Maine Environment: Three Attempts to Alter the Natural World
<b>Nick Kondiles ('13)</b>	License and Regulation, Please: New Standards for the Practice of in Vitro Fertilization
<b>Neal Kopser ('13)</b>	G.S. Callendar's Following
<b>Matt Lapine</b>	Water Quality Monitoring Technology in Maine Communities: Where Human Understanding Meets Ecological Change
<b>Eoin McCarron ('13)</b>	Electromagnetic Disturbances from Natural and Nuclear Sources: History and Public Policy
<b>Charlie Spatz ('13)</b>	Building with Waste: Fly Ash in the 20th and 21st Centuries
<b>Sarah Large ('14)</b>	Clouds: Myth, History, and Science

**Tuesday, April 30**

**ECONOMICS**  
**Economics of Education Research**  
**Presentations**  
 9:30 - 10:45 am

**Diamond 341**  
**Session Chair: Finley Edwards**

- |                                 |  |
|---------------------------------|--|
| <b>Anne Marie Burke ('13)</b>   | The Impact of Immersion and Non-Immersion Education on Test Scores                       |
| <b>Marc Massie ('13)</b>        | Effects of School Violence on College Participation                                      |
| <b>Ian McDonnell ('13)</b>      | The Effects of High School Laptop Provision on Student Performance in Standardized Tests |
| <b>Justine Seraganian ('13)</b> | Education in Maine: County Income and Test Scores  |

**ANTHROPOLOGY**  
**Global Mobilities, Modernities,**  
**Citizenships Presentations**  
 1:00 - 3:30 pm

**Diamond 323**  
**Session Chair: Mary Beth Mills**

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|-------------------------------------|--|
| <b>Sarah Rich ('13)</b>             | The Marginalization of Sufferers of Rare Health Problems   |
| <b>Andrew Fabricant ('13)</b>       | A Home Away from Home: How Governments, Philanthropists, and NGOs Shape Citizenship Within Diasporic Communities                 |
| <b>Julia Knoeff ('13)</b>           | Muslim Integration into Amsterdam: Investigating Mobility, Modernity, and Citizenship among Muslims and Non-Muslims in Amsterdam |
| <b>Brett Depper Goldstein ('13)</b> | The Power of Fashion: Differentiation, Imitation, and Symbolism  |
| <b>Emily Varni ('13)</b>            | Access to Hygieneic Modernity: the Privatization of Public Goods and the Role of Humanitarian Organizations                      |
| <b>Katherine Fecteau ('13)</b>      | Living the Past in the Present: A Study of Historical Reenactors in the United States  |
| <b>Emily Czotter ('13)</b>          | The Politics of Identity and Belonging in Transnational Adoption   |
| <b>Claudia Camerino ('13)</b>       | Belonging through Exclusion: Indian National Identity in the Wake of Partition   |
| <b>Emma Klein ('13)</b>             | Constructing Citizenship and Belonging in the United States Among Individuals with Social and Behavioral Disorders               |

**CREATIVE WRITING**  
**Senior Poetry Reading**  
 6:00 pm

**Robinson Room, Miller Library**  
**Session Chair: Adrian Blevins**

**Lester Batiste ('13), Melanie Brown ('13), Alexandra DeConti ('13), Michaelina Deneka ('13), Mariel Lambrukos ('13), Priscilla McCelevey, Andrew Meisel ('13) and Leah Walpuck ('13)**  
 this business I waste my heart on: senior poetry reading 2013

**Wednesday, May 1**

**ENVIRONMENTAL STUDIES**  
**Advanced and Applied Ecology Research**  
**Presentations**  
 9:00 - 9:50 am

**Olin 234**  
**Session Chair: Russell Cole**

- Mackenzie Nichols ('14) and Ben Timm ('14)**  
 What Effect Does Charisma Have on How Much Money a Species' Conservation Efforts Receive?

**Thursday, May 2**

**ENVIRONMENTAL STUDIES**  
**Tropical Forests and Rural Livelihoods**  
**Presentations**  
 9:30-10:45 am

**Diamond 223**  
**Session Chair: Travis Reynolds**

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|----------------------------------|---|
| <b>Angela Cross ('15)</b>        | Cocoa Value Chains in Belize  |
| <b>Nicolette Kim ('13)</b>       | Forests and Environmental Justice: the Penan People of Borneo                       |
| <b>Lydia Ball ('13)</b>          | Costs and Benefits of Sacred Forest Clearing for Agriculture in Debresena, Ethiopia |
| <b>Nick Papanastassiou ('13)</b> | From the Forest to the Shelf: Natural Latex Value Chains in Asia                    |

**ECONOMICS**  
**Economics of Education Research**

**Diamond 341**

**Economics of Education Research  
Presentations**

9:30 - 10:45 am

**Session Chair: Finley Edwards****Rebecca Berren ('13)****John Jennings ('13)****Michael Kellar ('13)****Colleen O'Donnell ('13)**

Best Prevention Methods of Bullying

Charter Schools and their Effect on Student Achievement

The Effect of Charter Schools Based on Students, Teachers, and Parents Perspectives

Parental Involvement in Education: How does parental participation in a student's education impact long term educational achievement?

**ENVIRONMENTAL STUDIES  
Global Food Policy Presentations**

11:00 am - 12:15 pm

**Diamond 141****Session Chair: Travis Reynolds****Beck, Garrison ('13)****Chizinski, Tara ('14)****Cummings, Colin ('14)****Hegde, Siya ('13)****Kim, Nicolette ('13)****Love, Keith ('13)****Powley, Leah ('15)****Rana, Devki ('15)****Riessen, Dylan ('13)**

Agro-ecology and Intercropping as Coping Mechanisms for Climate Change in Africa

Livestock Production Systems in Ethiopia

Improving Soil Quality in the Peanut Basin of Western Senegal

Lentil Production Systems in India and Canada

Supporting Mango Self-Sufficiency in Mainland Tanzania

Oil Palm's Impacts on Biodiversity in Indonesia

Land Grabs in East Africa

Social Impacts of the Globalization of Rice

Egypt's Food Security

**Friday, May 3****ENVIRONMENTAL STUDIES  
Advanced and Applied Ecology Research  
Presentations**

9:00 - 9:50 am

**Olin 234****Session Chair: Russell Cole****Tierney Dodge ('14) and Eliza Phillips ('14)**

What Coral Reef Destination Have the Most Effective and Sustainable Ecotourism Programs?

**CHEMISTRY  
Chemistry Senior Presentations**

11:00 - 11:50 am

**Diamond 141****Session Chair: Julie Millard****Thomas Williams ('13)****Claire Herbig ('13)****Lloyd Liang ('13)**

The Kinetics of Iron Exchange between Desferrioxamine B and Oxalic Acid

Design of Experiments Exploring the Effects of Process Parameters on Particle Size Due to Sonocrystallization

The Synthesis and Conformational Studies of Para-linked Hetera[14]cyclophanes

**CHEMISTRY  
Chemistry Senior Presentations**

3:00 - 3:50 pm

**Keyes 105****Session Chair: Julie Millard****Rachel Guerra ('13)****Jamie Shaum ('13)****John Gilboy ('13)****Carly Hallowell ('13)**

Investigating the Interaction of Zinc-finger Peptides and Nicked DNA Using Phage Display

The Feud in the Fjord

Optimizing the Expression and Purification of DNA Ligase III

Life on the Edge: Biotic and Abiotic Production of Hydrogen Production Along the Chemical Gradient

**Monday, May 6****ENVIRONMENTAL STUDIES  
Advanced and Applied Ecology Research  
Presentations**

9:00 - 9:50 am

**Olin 234****Session Chair: Russell Cole****Colin Cummings ('14) and Meagan Hennessey ('14)**

What Characteristics Lead to a Successful Corridor Project?

**ENVIRONMENTAL STUDIES****Diamond 122**



**International Environmental Policy  
Presentations**

9:00 - 9:50 am

**Session Chair: Travis Reynolds**

<b>Hawley, Ruth C. ('15)</b>	Women and Climate Change
<b>Smith, Cassandra R. ('15)</b>	Polar Bears or People? The Human Face of Climate Change
<b>Hatch, Nina P. ('15)</b>	The Belo Monte Dam in Brazil
<b>Schweitzer, Andrea J. ('13)</b>	HidroAysén's Hydroelectric Dams in Patagonia, Chile
<b>Broadbent, Jackson M. ('14)</b>	Renewable Energy Policy in Chile
<b>Whitley, Connor D. ('16)</b>	Using Renewable Energies for Rural Electrification
<b>Johnson, Madeleine P. ('15)</b>	Rising Global Aquaculture
<b>Lovell, Samantha C. ('15)</b>	Invasion of the Lionfish
<b>Garrard, Lindsay E. ('15)</b>	Organic and Fair Trade Coffee in Mexico
<b>Meltzer, Jeffrey C. ('15)</b>	A Strong Organic Food Sector Requires a Strong Governmental Role
<b>Lee, Larissa N. ('13)</b>	Decreasing the Illegal Timber Trade
<b>Lukach, Jake J. ('13)</b>	Controlling Deforestation in the Amazon
<b>Beck, Garrison L. ('13)</b>	Using Tourism Revenue Sharing to Promote Conservation
<b>Teachey, Noah J. ('13)</b>	Environmental Consequences of Ecotourism in the Developing World

**ENVIRONMENTAL STUDIES  
Aquatic Ecology Research Presentations**

10:00 - 10:50 am

**Keyes 103****Session Chair: Denise Bruesewitz**

<b>Caroline Keaveney ('15)</b>	Impacts of Aquaculture on Surrounding Aquatic Ecosystems
<b>Lea Korsmeyer ('13)</b>	Impacts of Fracking on Aquatic Ecosystems
<b>Gian Perani ('14)</b>	Northern Pike in Cold Water Fisheries

**ENVIRONMENTAL STUDIES  
Environment and Society Research  
Presentations**

10:00 - 10:50 am

**Ostrove Auditorium, Diamond  
Session Chair: Philip Nyhus**

<b>Wyatt McLean ('14), Emily Reif ('16), Billy Polk ('16) and Morgan Gallager</b>	Determinants of a Popular Zoo
<b>Sarah M. Bailey ('16), Emily M. Berry ('16), Clea A. Harrelson ('16) and Nomawethu Moyo ('15)</b>	What are the Factors that Determine Effective Water Conservation/Usage in Eastern US Cities?
<b>Thomas Abare ('15), Alexa Junker ('16), Hannah Twombly ('16) and Vera Zhou ('16)</b>	Which Socioeconomic and Political Factors Determine the Success of Wind Power Projects in Different Countries

**ENVIRONMENTAL STUDIES  
Marine Fisheries Presentations**

11:00 - 11:50 am

**Diamond 223  
Session Chair: Loren McClenachan**

<b>Elise Begin ('13), Matt LaPine ('13), Kallie Leschen-Lindell ('14), Cassie Raker ('13), Katherine Rizk ('15) and Alex Wilsterman ('15)</b>	Perspectives on the Gulf of Maine Cod
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**HISTORY  
Introduction to History Presentations**

1:00 - 3:30 pm

**Miller 257  
Session Chair: Jim Webb**

<b>Jack Bjorn ('16)</b>	A Fresh Start: An Analysis of Bjorn Immigration to the United States
<b>Gordon Fischer ('13)</b>	Go Seek and Find: The Search for My Middle Name
<b>David Giesel ('15)</b>	From the Black Forest to the Bluegrass: An Immigrant's Tale
<b>Travis Gomez-Phillips ('14)</b>	La Desperación de la Esperanza: A Story of Trujillo-Time Migration from the Dominican Republic
<b>Dujia Guo ('15)</b>	Migrations of Hui Merchants in the Early Republican Era
<b>Kristy Park ('16)</b>	One People, Two Lands: The Pain of Migration Behind the Korean War
<b>William Qualey ('16)</b>	Martin Qualey: A Story of Immigration from Pre-Famine Ireland
<b>Julia Rogers ('16)</b>	Legends and Truths: An Exploration into Nineteenth-Century Irish Immigration

Conor Schlosser ('15)

Elena Schreiner ('15)

Kevin Scott ('15)

Bertrand Teirlinck ('14)

Laura Tierney ('16)

Monica Valentin ('15)

Century Irish Immigration

A Mormon Pioneer: A Struggle to Cross America

New Beginnings: An Italian Experience of Twentieth-Century Immigration to America

The Immigration of the Alexander Family from Kishinev to Philadelphia

La France, Terre d'Accueil: A Story of Migration in the Early Twentieth Century

From Potatoes to Paper Mills: Peter Tyre and the Irish Migration

From the Dominican: A Journey from the Dominican Republic to New York

Tuesday, May 7

**ENVIRONMENTAL STUDIES**  
**Tropical Forests and Rural Livelihoods**  
**Presentations**  
 9:30-10:45 am

**Diamond 223**  
**Session Chair: Travis Reynolds**

Sarah Madronal ('14)

Liz McCormack ('15)

Anne Schechner ('15)

Theresa Petzoldt ('14)

Snydey Morison ('15)

Ari Porter ('15)

Ecotourism in Costa Rica for Forest and Livelihood Benefits

Pharmaceuticals in Madagascar: The Path from Forest Plants to Mass-Produced Drugs

Opportunities for Smallholder Honey Producers in Argentina

The Effects of Western Media on Indigenous Livelihoods in the Brazilian Amazon

The Indian Tea Supply Chain's Effects on Biodiversity

From Forest to Furniture: Purple Heart Wood and the Effects of Consumption

**ECONOMICS**  
**Economics of Education Research**  
**Presentations**  
 9:30 - 10:45 am

**Diamond 341**  
**Session Chair: Finley Edwards**

Amanda Lavigueur ('13)

Woody Huber ('13)

Allison Polchinski ('13)

James Rooney ('13)

Estimating the Effect of Financial Aid Availability on Graduation Rates at Public U.S. Universities.

The Effect of the Maine Lobster Fishing Industry on High School Completion Rates

The Effect of School Resources and Resource Allocation on Student Achievement in Connecticut

The Relationship Between Athletics and Academic Achievement

**HISTORY**  
**Debating the Nazi Past Presentations**  
 9:30 - 10:45 am

**Miller 257**  
**Session Chair: Raffael Scheck**

Tom Chippendale ('13)

Beth Fleming ('13)

Eoin MacCarron

The Revival of the Nazi Economy, 1933-35

Nazi Persecution of Catholic Abbots: Motives, Methods, and Consequences

Can Science be Apolitical? The Controversial Legacy of Wernher von Braun

**ENVIRONMENTAL STUDIES**  
**Global Food Policy Presentations**  
 11:00 am - 12:15 pm

**Diamond 141**  
**Session Chair: Travis Reynolds**

Anderson, Lizzie ('14)

Curcuroto, Caitlin ('13)

Garrard, Lindsay ('13)

Hatch, Nina ('13)

Lee, Kathryn ('13)

Leschen-Lindell, Anna ('13)

Rizk, Katherine ('15)

Scheer, Maddie ('15)

Schweitzer, AJ ('14)

Advantages and Disadvantages to Globalization and Commoditization: The Case of Quinoa in Bolivia

The Inadvertent CAFOization of Argentinian Beef

Global Impacts of Coffee Markets on the Livelihoods of Smallholder Coffee Producers in Mexico

Alternatives to Fair Trade in Latin America

Sugarcane Production in Brazil

The Human Impacts of NAFTA

Beef Production in the Amazon

Banana Production and Trade Systems in Ecuador and the United States

NAFTA and Mexican Maize Production

**BIOCHEMISTRY**  
**Chemical Basis of Metabolism**  
**Presentations**  
 12:30 - 4:30 pm

**Olin Atrium**  
**Session Chair: Julie Millard**

**Ali Smith ('15) and Andrew Beauchesne ('14), Biochemistry**

Gaucher's Disease

**Daniel Forsman ('14) and Eddie Chuang ('14), Biochemistry**  
 Gunther Disease

**Chris Greenlee ('14) and Max Hogue ('13), Biochemistry**  
 Human Mitochondrial Complex I Deficiency

**Mackenzie Milne ('14) and Justin Owumi ('14), Biochemistry**  
 Lesch-Nyhan Disease

**Katie Coe ('14) and Jesus Vidaurri-Martinez ('13), Biochemistry**  
 Niemann-Pick Disease

**Katarina Sirka ('13) and Madelyn Renzetti ('14), Biochemistry**  
 Tarui Disease

**Kristen Robinson ('14) and Claire Herbig ('13), Biochemistry**  
 Transaldolase Deficiency

**ANTHROPOLOGY**  
**Global Mobilities, Modernities,**  
**Citizenships Presentations**  
 1:00 - 3:30 pm

**Diamond 323**  
**Session Chair: Mary Beth Mills**

**Ellicott Dandy ('13)**

Fighting for a Departing Future: Anti-Mining Activism and Outmigration in Intag, Ecuador

**Jalene Regassa ('13)**

Ethiopian Immigrants: Negotiating Cultural Citizenship

**Rachel Rosenbaum ('13)**

Re-mapping Space, Mobility, and Belonging on Post-conflict Lebanon

**Jessica Pires ('13)**

Emerging Markets of Desire: The Proliferation of Malls in Southern Africa

**Jen Tsang ('13)**

'Asians' in the Media: Issues of (Re)Production

**Katie Hallett ('13)**

The Consumption of Modernity: Identity Construction within the US Local Food Movement

**Wednesday, May 8**

**ENVIRONMENTAL STUDIES**  
**Advanced and Applied Ecology Research**  
**Presentations**  
 9:00 - 9:50 am

**Olin 234**  
**Session Chair: Russell Cole**

**Taylor Witkin ('14) and Marianne Ferguson ('14)**

Why are Invasive Species Successful in Tropical Marine Ecosystems?

**ENVIRONMENTAL STUDIES**  
**International Environmental Policy**  
**Presentations**  
 9:00 - 9:50 am

**Diamond 122**  
**Session Chair: Travis Reynolds**

**Levere, Julia S. ('13)**

The World Bank's Role in Global Warming

**O'Keeffe, Lucy G. ('15)**

Why the EU ETS Won't Work without US

**Clemens, Maravilla D. ('16)**

Coral Reef Degradation in the Caribbean

**Griffin, Erin N. ('13)**

Coral Reef Degradation in Australia

**Bennett, Carolyn J. ('13)**

Soy Production in Argentina

**Thompson, Natalie G. ('15)**

Green Agriculture? Industrial Food Production in the Developing World

**Frederich, Joy E. ('15)**

Deforestation in Haiti

**Vargas, Mark O. ('14)**

Cutting Back on Cutting Down: Deforestation and the Mexican Spotted Owl

**Bernard, M. Kaitlyn ('13)**

Shift Towards Electric Vehicles

**McDonough, Alanna M. ('14)**

Electronic Waste Policy in the European Union

**Aronsohn, Carla B. ('13)**

Population Control in a Global Context

**Maxwell, Laramie L. ('13)**

Environmental Refugees

**Coulter, Casey M. ('14)**

The Threat of Mercury to Native Indigenous Populations of Canada and the United States

**Rizk, Katherine C. ('15)**

Solid Waste Management on the Island of Nevis

**RELIGIOUS STUDIES**  
**Death and Spirituality**  
 9:30 - 10:45 am

**Lovejoy 344**  
**Session Chair: Debra Campbell**

**Jimmy O'Leary ('15)**

Present Afterlife: The Consequences of Accepting But Not Receiving Death

**Elise Ozarowski ('15)**

How Belief or Nonbelief in the Afterlife Detracts from or Adds to Fear of Death

**ENVIRONMENTAL STUDIES**  
**Aquatic Ecology Research Presentations**  
 10:00 - 10:50 am

**Keyres 103**  
**Session Chair: Denise Bruesewitz**

**Tara Chizinski ('14)**

Impacts of Mountain Top Removal Coal Mining on Aquatic Ecosystems

**Cassie Raker ('13)**

Acid Rain and Its Long Term Effects on Freshwater Ecosystems

**Molly Susla ('13)**

Impacts of Urbanized Streams and Increasing Denitrification on Nutrients

**ENVIRONMENTAL STUDIES**  
**Environment and Society Research Presentations**  
 10:00 - 10:50 am

**Ostrove Auditorium, Diamond**  
**Session Chair: Philip Nyhus**

**Harriet Rothschild ('16), Christopher Kennedy ('16), Madeleine Johnson ('16) and Lidia Henderson ('16)**

A Critical Analysis of the Factors Influencing Supermarket's Sale of Sustainable Seafood

**Jacob Wall ('16), Alex Rutan ('16), Hannah Corderman ('16) and Danielle Anderson**

**('16)**

What Factors Determine Whether or Not a State Has Greenhouse Gas Emission Targets

**Xuan Du ('16), Jesse R. Juntura ('16), Megan R. MacKenzie ('15) and Emma Q. Wood ('16)**

What factors contribute to colleges and universities establishing successful green initiatives?

**ENVIRONMENTAL STUDIES**  
**Marine Fisheries Presentations**  
 11:00 - 11:50 am

**Diamond 223**  
**Session Chair: Loren McClenachan**

**Marie Abrahms, Heather Cronin ('13), Colin Cummings ('14), Marianne Ferguson ('14), Sarah Madronal ('14) and Mark Vargas ('15)**

Perspectives on the Gulf of Maine Lobster

**BIOCHEMISTRY**  
**Molecular Biology Presentations**  
 1:15 - 3:15 pm

**Olin 335**  
**Session Chair: Russell Johnson**

**Dylan Plaskon ('15) and Justin Lutian ('15), Biochemistry**

Effects of Duration of Heat Exposure on HSP70 Expression in *Arabidopsis thaliana*

**Cassie Huang ('13) and Kayla Gross ('13), Biochemistry**

Expression of RD29B Increases in a Time-dependent Manner in *Arabidopsis thaliana*

**Justin Owumi ('14) and Tyler Parrott ('13), Biochemistry**

Light and Drought Conditions Affect RBCS-3B Expression in *Arabidopsis thaliana*

**Sam Lessard ('13) and Mackenzie Milne ('14), Biochemistry**

The Effects of CO<sub>2</sub> Exposure on PAL2

**Andrew Beauchesne ('14) and Chris Eden ('14), Biochemistry**

The Effects of Drought and Light on LCR70 Gene Expression in *Arabidopsis thaliana*

**Alison Smith ('14) and Adam Spierer ('13), Biochemistry**

The Rainbow/Rubisco Connection: the Effect of Varying Wavelengths on RBCS-3B Expression in *Arabidopsis thaliana*

**Thursday, May 9**

**ECONOMICS**  
**Economics of Education Research Presentations**  
 9:30 - 10:45 am

**Diamond 341**  
**Session Chair: Finley Edwards**

**Hilary Barr ('13)**

The Role of Institutional Characteristics in Predicting Return on Investment for Higher Education

**Derrick Beasley ('13)**

Estimating the Payoff to Immigrating to the United States on Educational Attainment: An Examination of Hispanic Student Achievement

**Michael Lahiff ('13)**

Estimating the Effect of High School Athletics on Test Scores

**HISTORY****Debating the Nazi Past Presentations**

9:30 -- 10:45 am

**Miller 257****Session Chair: Raffael Scheck****Samuel Schmidt ('13)**

The Rosenstrasse and Witten Protests: Latitude for Public Opposition in Nazi Germany?

**Kathy Shei ('13)**

The Complicity of the American Press in United States and Vatican Compliance in Protecting Nazis between 1945-1965

**ENVIRONMENTAL STUDIES****Tropical Forests and Rural Livelihoods Presentations**

9:30-10:45 am

**Diamond 223****Session Chair: Travis Reynolds****Mark Vargas ('15)**

Global Solution or Local Problem? A Critical Look at Ecotourism

**Amy Kao ('16)**

The Potential of Biochar for Carbon Sequestration and Soil Fertility

**Maravilla Clemens ('16)**

When Western Culture threatens Tradition: the Chachi People of Ecuador

**Tess Petesch ('13)**

Soy in the Rainforest: Agriculture and the Environment in Brazil

**Andrew Newcomb ('15)**

The Multiple Prices of Progress: A Value Chain Analysis of Hydroelectric Dams in Tropical Forests

**ENVIRONMENTAL STUDIES****Global Food Policy Presentations**

11:00 am - 12:15 pm

**Diamond 141****Session Chair: Travis Reynolds****Abrahams, Marie ('14)**

A More Productive Dairy: The Environmental Benefits of rBST Milk

**Hennessey, Meagan ('14)**On the Rocks: *Ascophyllum nodosum* Harvesting in Canada and Maine**Murphy, David ('14)**

Sustainable Livestock Husbandry in the United States

**Scholz, Chelsea ('13)**

The Immokalee Workers' Fight for Worker's Rights on Florida Tomato Plantations

**Susla, Molly ('13)**

Where Money is Spent: How Food Seems to Fall Short on Our List of Necessary Items

**VandenBerg, Erika ('13)**

Industrial Agriculture's Threats to Bees

**Wells, Lindley ('13)**

Synthetic Colorant Regulation in the EU and the US

**Witkin, Taylor ('14)**

The Global Effects of Inputs to the Tuna Ranching Industry

**ENVIRONMENTAL STUDIES****Environment and Society Research Presentations**

7:00 - 8:30 pm

**Ostrove Auditorium, Diamond****Session Chair: Philip Nyhus****Amos Shinkle ('16), Connor O'Neil ('15), Stephen O'Grady ('16) and Paul Dougherty ('16)**

Factors Leading to Successful Maine Fisheries

**Laurel Whitney ('16), Molly Cox ('15) and Parwana Mohammad ('16)**

Factors That Affect the Availability of Microloans in Developing Countries

**Karasapan, Altinay K. ('16), Nyquist, Carla J. ('16), Vaz, Jeffrey J., II ('16) and Walsh, Kellie E. ('16)**

Hubs of Sustainability: Does the Presence of a College/University make a Town/City Sustainable?

**Max Cushner ('14), Jefferson Tucker ('16), Casey Ballin ('16) and Robin Lewis ('16)**

Public Stance Towards Wind Turbines in New England Communities

**Ethan Johnson ('16), Taylor Schlichting ('16), Catherine McClure ('16) and Lauren McCarthy ('16)**

What Determines Whether or Not a Country Has a High Proportion of Protected Land?

**Cameron T. Barner ('16), Peter H. Craig ('16), Janice E. Liang ('16) and Samuel S. Wasserman ('16)**

What factors influence the recovery of endangered species in the United States?

**Friday, May 10****ENVIRONMENTAL STUDIES****Advanced and Applied Ecology Research Presentations**

9:00 - 9:50 am

**Olin 234****Session Chair: Russell Cole**

**Caitlin Curcuruto ('13) and Emily Arsenault ('14)**

The Effects of Modern Agricultural Methods on Colony Collapse Disorder

**ENVIRONMENTAL STUDIES****International Environmental Policy Presentations**

9:00 - 9:50 am

**Diamond 122****Session Chair: Travis Reynolds**

<b>McLean, Wyatt ('14)</b>	Global Policy Initiatives to Halt Tropical Deforestation
<b>Wells, Lindley E. ('15)</b>	Still Wild Still Threatened: Protecting Tasmania's Forests
<b>Holmes, Sarah A. ('13)</b>	Global Population Policies
<b>Miller, Sara D. ('16)</b>	Population and Kenya's Vision 2030
<b>Gondo, Rumbidzai ('14)</b>	Water Scarcity in the Middle East and North Africa
<b>Kneeland, Kelly E. ('15)</b>	Sand Mining in India
<b>Keaveney, Caroline E. ('15)</b>	Thailand and the African Ivory Trade
<b>Lavigueur, Amanda L. ('13)</b>	When CITES Fails to Protect: The Case of the Asian Pangolin
<b>Keesler, Virginia A. ('13)</b>	Redevelopment of Slums in Mumbai
<b>Rana, Devki ('15)</b>	Effects of New Delhi's Lack of Waste Disposal
<b>Braun, Meredith P. ('15)</b>	The Future of the International Whaling Commission
<b>Oleynik, Shannon B. ('13)</b>	The Effects of Human Activities on Whale Populations
<b>Powley, Leah E. ('15)</b>	A World Without Whales

**RELIGIOUS STUDIES****Death and Spirituality**

9:30 - 10:45 am

**Lovejoy 344****Session Chair: Debra Campbell**

<b>Melissa Anderson ('14)</b>	Spiritualism in the United States: How Two Young Girls Opened the Door to a New Realm
<b>Jordan J. Lorenz ('15)</b>	The Persistence of American Martyrdom Rhetoric: Martyrdom as a Rhetorical Tool in U.S Politics

**ENVIRONMENTAL STUDIES****Aquatic Ecology Research Presentations**

10:00 - 10:50 am

**Keyes 103****Session Chair: Denise Bruesewitz**

<b>Kathleen Hamre ('13)</b>	Cyanobacterial Toxin BMAA: Potential Biological Function and Ecological Impacts
<b>Dominique Kone ('13)</b>	Community Impact of Asian Carp as an Invasive Species.
<b>Maeve McGovern ('14)</b>	The Impacts of a Thawing Permafrost on Arctic Lakes

**ENVIRONMENTAL STUDIES****Environment and Society Research Presentations**

10:00 - 10:50 am

**Ostrove Auditorium, Diamond****Session Chair: Philip Nyhus**

<b>Serena M. Haver ('16), Jenna E. Hill ('16) and Elizabeth G. Sull ('16)</b>	Trash Troubles: Determinants of Solid Waste Reduction in the United States
<b>Kevin Walls ('16), Natan Johnson Lennon ('16), Bayley McMillan ('16) and Alexandra Heisler ('16)</b>	Who Controls the Heat: Newspaper Coverage of Climate Change in America
<b>Sophie Samuels ('16), Armando Pascual ('16) and Bri Guillory ('16)</b>	Why Are Some Cities in the United States More Toxic Than Others?

**CHEMISTRY****Chemistry Senior Presentations**

11:00 - 11:50 am

**Diamond 141****Session Chair: Julie Millard**

<b>Kayla Gross ('13)</b>	Investigating the Effects of BAG3 Knockdown on Laromustine Cytotoxicity Via shRNA Transfection
<b>Thando Diamini</b>	The Synthesis of 3,6-dibromo-2,7-dichloro-1,8-naphthyridine
<b>Sam Lessard ('13)</b>	Spiropentanes as Sources of Cyclic Allenes

**ENVIRONMENTAL STUDIES****Marine Fisheries Presentations**

11:00 - 11:50 am

**Diamond 223****Session Chair: Loren McClenachan**

<b>Tierney Dodge ('14), Bjorn Knutson ('13), Laramie Maxwell ('13), Devki Rana ('15) and Michael Stephens ('13)</b>	Perspectives on the Gulf of Maine Herring
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## Colby Undergraduate Research Symposium

2013 Program »

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### Colby Undergraduate Research Symposium 2013

May 1 - May 3, Colby College, Waterville, Maine

#### Abstracts - Research Symposium

#### CAN THE STOCK MARKET PREDICT FDA APPROVALS FOR NEW DRUG APPLICATIONS?

**Thomas Abe** ('13), Economics

The scope of investment managers has increased to include many niche strategies such as predicting drug development outcomes. Pharmaceutical firms must submit a New Drug Application to the U.S. Food and Drug Administration after the completion of their clinical trials in order to get the final regulatory approval before they can market the drug. In this paper, I search for the stock markets ability to accurately predict designations before the actual announcement for 116 PDUFA dates. I find that the market is able to predict approval designations by the FDA and that this predictive power is stronger for smaller capitalization firms.

#### ATLAS OF MAINE: DEER WINTERING AREAS AND FOREST FRAGMENTATION

**Victoria Abel** ('14), Environmental Studies

This map contrasts deer wintering sites with areas of human-induced forest fragmentation and conserved lands in Maine. Fragmentation is represented as the percentage of remaining forest cover. The forest layer is clipped from a national dataset from the National Atlas website (nationalatlas.gov), while the data for roads, conserved lands, and deer wintering areas are from the Maine Office of GIS. All data is projected using NAD 1983 UTM Zone 19N.

#### THE ROLE OF EPIBIOTIC BACTERIA IN MODULATING SKIN SECRETION PRODUCTION IN THE SPRING PEEPER, *PSEUDACRIS CRUCIFER*, AND WOODFROG, *LITHOBATES SYLVATICUS*

**Victoria Abel** ('14), **Lydia Ball** ('13), **Emma Donohoe** ('14) and **Sarah Nalven** ('13), Biology

Amphibian skin glands synthesize and secrete many compounds important for protection against pathogenic bacteria and fungi. The mechanisms of how these are produced and their composition

remains unclear. We tested the hypothesis that a frog's exposure to just one bacterial strain, after being maintained in a sterile environment, is sufficient to stimulate the production of potentially protective skin secretions in the spring peeper, *Pseudacris crucifer*, and woodfrog, *Lithobates sylvaticus*. Using sterile techniques, control and treatment frogs were collected in the field and swabbed to sample and culture resident microbes. At each phase, we also collected skin secretions using mild electrical stimulation and quantified the protein content. After five recovery days, treatment frogs were sampled for bacteria again, depleted of skin secretions, treated with antibiotics to sterilize the skin surface, then exposed to a culture of the bacterium, *Aeromonas hydrophila*. *A. hydrophila* is commonly found in natural aquatic habitats and causes red-leg disease in frogs. Results suggest that maintaining a sterile environment is effective in minimizing resident bacteria during experimental treatment, and that skin secretion production is upregulated by exposure to bacteria. Epibiotic bacteria play an important role in the immune response in frogs, and secretion production may be induced by exposure to a transient pathogen.

#### A COMPARATIVE STUDY OF ORAL LITERATURE IN FRANCOPHONE NORTH AMERICA AND WEST AFRICA

**Pamela Alakai** ('14), French/Italian

In the course Minority issues in Quebec and North America, we analyzed the events and social change that have shaped francophone ethnic groups and communities in North America. This study led to an understanding of the various struggles that these communities went through to protect their cultures and identities from amnesia. Quebec, for example, is a province that fought hard to preserve its language, its religion and its culture. Despite the censorship in place during la Grande Noirceur from the aftermath of the second world war to 1960, a period during which religious institution discouraged any literature that was not based on religion and on the past, Quebecs oral literature remained a privileged means to share stories, and to preserve the cultures and traditions. In my presentation, I will share with you the values that were transmitted through music, short story telling, and oral poems; and identify the similarities with West African oral literature.

#### FRANCOPHONE EUROPE IN 2013: A PICTORIAL AND CRITICAL EXPLORATION OF WHAT MADE THE NEWS ON THE OTHER SIDE OF THE OCEAN



**THE NEWS ON THE OTHER SIDE OF THE OCEAN**

**Pamela Alakai ('14), Solon Arguello ('15), Sarah Fensore ('13), Allison Hess ('13), Shannon Kooser ('14) and Madison Louis ('13), French/Italian**

Whether public opinion is shaped by the medias representations of events, or the other way around, the way media and news are used to present information affects the way history and culture are understood. This research panel will focus on the culminating research projects conducted by nine FR343 students who aimed at understanding how images work to convey information that is culturally embedded. Based on an in-depth exploration of Francophone news and media in 2013 and a critical decoding of their deliberate stylistic and editorial choices, this presentation will focus on political cartoons and media photos, as they were found to offer a more subjective view of contemporary issues. More precisely, this panel will focus on influential figures including Hugo Chavez, Pope Benedict, Nicolas Sarkozy and Bashar al-Assad, and current events such as the fiscal crisis in Cyprus, the debate over gay marriage, and the introduction of free birth control for minors in France. This collaborative examination led to shed light onto underlying cultural perspectives of the Francophone world by demonstrating the biases and cultural contexts influencing media portrayal of events and their relevance to the audiences interpretation of the news.

**FORGOTTEN FAIRY TALES: VISION OF A MORE EQUAL WORLD**

**Deborah Amato ('13), French and Italian**

Charles Perrault has long been credited as the father of the French literary fairy tale. However, the conte de fées was born in the Parisian salons of the 17th century, which were run by women known as the précieuses. While Mme d'Aulnoy, Mme de Murat, Mlle de La Force, and Mlle de L'Héritier are among the women who initiated this genre, their tales have largely been forgotten, arguably due to their subversive and feminist content. These contes de fées show a remarkable modernity in the way they establish equality between men and women, especially through role reversals that place women in positions of power. These texts are also marked by their realism. In contrast to the fairy tales with which we are familiar today, these contes de fées of the précieuses tend to include characters who are more nuanced than stereotyped, and thus more believable and human. The presence of realism in a world of fantasy leads the readers to approach the text as a mirror of their own world and to reconsider such ideas as gender equality.

**LA COMEDIA: UNA HERRAMIENTA PARA SUBVERTIR LA CENSURA**

**Melissa Anderson ('14), Spanish**

La comedia y la censura son temas prevalentes en el cine español durante la dictadura de Franco. En la película Bienvenido Mister Marshal (1953) el director, Luis García Berlanga, usa la comedia para destacar algunos elementos controversiales de la dictadura. Aunque García Berlanga no debilita directamente la dictadura, todavía había una parte de la película que era censurada. Pero, en general, la comedia puede funcionar como una herramienta para subvertir el control de la dictadura.

**COMMUNITY-BASED SERVICES FOR THE ELDERLY IN URBAN CHINA**

**Petya Andreeva ('13), East-Asian Studies**

Our Colby College research team spent three weeks in China during the summer of 2012, researching changing eldercare patterns in China. While in China, we visited two major cities (Beijing and Shanghai), and a rural village (Hebei Botou). Collectively, we visited seven community centers, six parks, six eldercare facilities, four NGOs, and one village. Our research focused on changing eldercare patterns in China, and we collected our information through interviewing elders and those who provide elders with care and services. While this project heavily emphasized collaborative work, each student had a specific area focus. The categories are as follows: community centers adapting to meet the specific needs of the growing aging population; public parks as a hub for retiree social networking; differences in aging experiences between rural and urban elderly; the roles that NGOs are gaining in addressing China's increasingly gray population; and the reasons behind changing attitudes toward eldercare facilities.

**DO PHYTOESTROGENS, A SUBSTANCE FOUND IN SOY PRODUCTS, CAUSE NEGATIVE EFFECTS TO THE ENDOCRINE SYSTEM?**

**Olivia Avidan ('15), Environmental Studies**

Phytoestrogens has been observed to have detrimental effects to human growth and development due to their endocrine disrupting ability. Phytoestrogens are often found in soy products, such as tofu. Additional studies find that the mechanism of phytoestrogens may mimic those of widely known endocrine disruptors such as diethylstilbestrol (DES) and bisphenol A (BPA). Though government health agencies express concern for the detrimental effects of phytoestrogens, a lack of evidence has barred any legislature or regulation. This study will conclude that the results from toxicological and epidemiological studies support that phytoestrogens pose a threat to human health.

**EXPLORING THE INTERACTION BETWEEN EMOTIONAL PRIMING AND FRAMING ON POLITICAL DECISION MAKING**

**Lori Ayanian ('14), Rhiannon Archer ('14), Margaret Sargent ('14) and Adam Thompson ('13), Psychology**

The present study looks at the interaction between emotional priming and framing of political issues and their effect on how people make decisions regarding the issue of mandatory minimum sentencing. Previous research has shown a relationship between the way political information is presented (either thematically or episodically) and how people feel about the issue. Thematically framed information is less emotionally biased and concentrates on the presentation of factual information. Episodically framed information uses more of an emotional appeal. Previous studies have shown that thematically framed information is more effective than episodically framed information. Additional studies have looked at the effects of emotional priming on decision making. This study looks at the effects of priming by showing participants different video clips designed to produce various emotions. A video with a series of commercials induced positive emotions. A video of September 11 footage induced negative emotions.

commercials induced positive emotions. A video of September 11 footage induced negative emotions. The present study also controls for optimism and anxiety as traits and political beliefs/prior knowledge. This study analyzes the interaction between emotional priming and framing to determine the effect on decision making, specifically in regard to political issues. The results may have far reaching implications that could affect political strategies.

### **INSECT ABUNDANCE AND RICHNESS IN ETHIOPIAN CHURCH FORESTS**

**Lydia Ball ('13) and Kathleen Hamre ('13), Environmental Studies**

Less than 5% of Ethiopia's original Afromontane forests remain. Many of the forest fragments still in existence in northern Ethiopia today have survived only due to conservation efforts by priests and followers of the Ethiopian Orthodox Tewahido church, which has a tradition of retaining patches of native trees around church sites. These sacred groves (or church forests) range in size from a single hectare to over 300 hectares, and some of the churches within them date back to as early as 300 AD. Although access to church forests by outsiders (including scientists) has been very limited in the past which in part explains how these stands of native trees have survived in spite of widespread deforestation today there is growing concern among church leaders that the church forests are disappearing, shrinking under steady pressures from livestock grazing, agricultural expansion, and illicit harvesting of firewood. In this context the clergy has permitted us to conduct preliminary biodiversity assessments to develop an understanding of what is being lost with the disappearance of the church forests, and to ultimately make links with international biodiversity-related funding to support forest conservation. In this study we examined insect biodiversity in two church forests, using five different sampling protocols to examine insect abundance and diversity inside church forests, on the edge of church forests, and outside church forests (on adjacent agricultural land). Findings suggest significant differences in both the abundance and diversity of insect life present, supporting the hypothesis that Ethiopian sacred groves harbor significant biodiversity, and that the loss of these church forests represents a loss of valuable and potentially irreplaceable biodiversity.

### **OBJEKTIVIZR: GTD FOR THE GAMING GENERATION**

**Nicholas Balsbaugh ('13), Computer Science**

As the percentage of gamers in the general populace increases, an increasing number of online services, sites and apps are built with this demographic in mind. Points, leaderboards, and friend lists have all worked their way into many popular services for the purposes of both cooperative collaboration and competition. As such, I present Objektvizr (pr. 'Objectivizer'), a new web service which uses this implementation philosophy to provide a way to transform one's daily to-do list into sets of organized mission objectives. Users may apply a point-based system to their tasks in order to track their progress and determine whether or not they have met productivity goals across various time intervals. All in all, Objektvizr seeks to escape the dullness of traditional task management by providing a refreshing GTD experience in line with concepts familiar to the gaming generation.

### **THE AFFECT OF CONFLICTING COLOR INFORMATION ON THE PICTURE SUPERIORITY EFFECT**

**Ariel Batallan Burrowes ('15), Jonathan Eichholz ('15) and Rebecca Stoutamyer ('15), Psychology**

The Picture Superiority Effect describes the pattern in which pictures are remembered better than words, which can be explained via the Dual Code Theory. The effect that conflicting color information has on this effect, however, has not been explored. Forty Colby College students were shown slideshows containing typical and conflicting colored images and words (e.g. a picture of a yellow banana vs. a red banana) and were asked to rate their pleasantness on a 7-point Likert scale. After seeing the slideshow they were told to recall as many of the shown items that they could. It was expected that pictures would be remembered better than words and the conflicting pictures would have a higher recall. One possibility was that conflicting colored pictures would be recalled more often due to the increased amount of processing necessary to encode the stimulus and use of cognitive resources. Alternatively, typically colored pictures would be remembered better than conflicting colored pictures since the typical representation matches the schema. Overall, it was expected that the pleasantness of the conflicting color would yield lower ratings than the other stimuli. However upon analyzing the collected data it was found that there was no effect of item type but that there was an effect of typicality.

### **FMLP MEDIATES IN VITRO NEUTROPHIL CHEMOTAXIS FROM HARVESTED ZEBRAFISH KIDNEYS**

**Josie Bazemore ('13), Biology**

Neutrophils are the most abundant type of white blood cell circulating in the body and form a crucial component of the innate immune system. During an infection the neutrophils respond to chemical distress signals sent by infected cells in the body and use chemotaxis to migrate out of the blood and toward the distressed cells at the site of the infection. Zebrafish are becoming popular subjects for in vivo neutrophil chemotaxis studies because of their small size, transparent embryos, and similarity to the human innate immune system. Studies on neutrophil chemotaxis in vitro are less abundant. The dearth of in vitro studies has rendered little information on observed and measured migratory activity both in the presence and absence of the chemotactic stimuli, as well as this activity at different times of the day and under different conditions. In this study, we have optimized an in vitro chemotaxis assay for use with neutrophils from the mpx:GFP transgenic zebrafish line, using commercially available chemotaxis migration assay plates.

### **THE EFFECT OF TYPE OF CRIME AND CONTEXT ON BLAME ATTRIBUTION AND MEMORY**

**Katherine Bell ('15), Victoria Falcon ('15), Molly Hodgkins ('15) and Melissa Preziosi ('15), Psychology**

The present study explored the effect of stereotypes on memory and blame attribution; specifically, stereotypes regarding socio-economic status and types of crime. Context was manipulated to see if attribution of blame varied across different stereotypes. It was hypothesized that memory is dependent on context leading individuals to fill memory gaps using schemas activated by certain stereotypes. To test this, crime and context were manipulated to foster different stereotypes. It was expected that

participants would blame the agent more heavily when the context matched the crime. It was also expected that participants would remember less information when the context matched crime, because expectations would cloud memory leading to false recall.

#### **THE HOUSE ALWAYS WINS: HOW CASINOS LEGALLY STACK THE DECK**

**David Bendit** ('13), American Studies

This study has developed a method of reading a casino space through the lens of the inanimate objects that a person sees and interacts with (physical, material environment), the representational aspects of how people talk and imagine the casino (perceptions), and the ways in which casinos play into innate human tendencies towards gambling, desire for luxury, and relaxation (behavioral). By analyzing the casino space through these different methods, the study seeks to determine how Casinos successfully get patrons to willingly take part in games and activities that have terrible odds and are meant to be predatory. Through onsite observations of the Sands Casino in Bethlehem, PA and the Oxford Casino in Oxford, ME, the study will demonstrate various elements of their layouts and designs that encourage customers to stay and spend their money. By employing design aspects that are reminiscent of the new modern standard for luxury and style with remnants of its lived past (as demonstrated at the Sands), casinos create a space where people can lose themselves in a fantasyland. This fantasyland not only

encourages people to relax and forget about their every day life, but it also makes them feel more comfortable and confident in themselves, which only leads to more gambling and spending.

#### **ANALYSIS OF BIRD MIGRATION ARRIVAL DATES TO DETERMINE EFFECTS OF GLOBAL WARMING**

**Kevin Bennett** ('13), Biology

[Will be updated later] I analyzed multiple years of bird migration arrival data in Maine in order to determine if climate change has effected migration patterns. Certain species seem to be arriving earlier, while others have not been effected.

#### **THE SPREAD OF DENGUE FEVER AND CLIMATE CHANGE**

**Kevin Bennett** ('13) and **Wesley Richardson** ('13), Environmental Studies

[Will be updated later] We studied the current state of the dengue fever problem in Asia and South America and how the disease may spread as a result of global climate change.

#### **'WHOLE HEALTHY KIDS' A GRANT TO SUPPORT HEALTH EDUCATION AT YMCA CAMP OF MAINE**

**Kaitlyn Bernard** ('13), **Samantha Eddy** ('13) and **Amanda Lavigueur** ('13), Sociology

We are requesting grant funding from the Learning By Giving Foundation to support the YMCA Camp of Maine's innovative new program, Whole Healthy Kids. The YMCA Camp of Maine operates an overnight camp for boys and girls ages 8-16 on Cobbosseecontee Lake, Winthrop, Maine. The camp is a 501(c)3 organization founded in 1915 on the values of honesty, responsibility, respect, and caring. The tradition has continued over the last nearly 100 years, having served 60,000 children since its inception. Whole Healthy Kids is a pilot program that addresses the childhood obesity epidemic in Maine. Nearly 40% of the children in the state who are at or below the Federal poverty level are overweight. Specifically, the program aims to increase fitness, promote relaxation, instill nutritious eating habits, and build the confidence of campers. In this way, kids learn to make healthy lifestyle choices that have the potential to have a lasting impact on their lives.

#### **METALLIC MINERAL MINING IN MAINE**

**Kaitlyn Bernard** ('13), Environmental Studies

In 2012 the Maine State Legislature passed a bill directing the Maine Department of Environmental Protection (DEP) to rewrite the regulations governing metallic mineral mining in Maine. The bill aimed to streamline the regulatory framework around mining operations and encourage mineral development throughout the state. The 2012 Maine Metallic Mineral Mining Act shifts regulatory authority solely to the DEP and updates Maine's 1991 mining law. This study examines the economic, environmental, social and political implications of changes to mining regulations and increased mineral development. Similar mining projects in other states are examined as case studies to provide insight into the actual impacts of open-pit mining.

#### **COMMON UNDERSTANDINGS OF RACE AND GENDER AT COLBY**

**Emily Berner** ('15), Women, Gender, Sexuality

Feminist research in the past decade has reformulated how we think about sex, gender, sexuality, and race. Binaries such as male-female, man-woman, straight-gay, and white-black, just to name a few, have been fractured by the experiences of individuals who fail to fit neatly into one category or the other. Despite the progress that is indicated by the crumbling of the binary system, feminist scholars are left with more questions than answers when attempting to define what exactly sex, gender, sexuality, and race mean. Additionally, ideas of these categories in American society and popular discourse range widely. Each individual's conception of sex, gender, sexuality, and race is influenced by personal experience. This study explores understandings of race and gender in Colby students and faculty. Specifically, the study seeks to investigate whether affiliation with a particular academic discipline correlates with conceptions of race and gender. In doing so, the study investigates not only these particular academic connections, but also the general climate of Colby in regards to common understandings of race and gender.

#### **MATHEMATICAL MODELLING OF DISORIENTATION DUE TO HEAD-MOVEMENTS DURING ROTATION IN A CENTRIFUGE**

**Chiran Bhandari** ('13) and **Arjumand Masood** ('13), Mathematics

The vestibular coriolis (or 'cross coupling') effect is an illusory perceptual disturbance of a potentially hazardous nature. Traditional theories do not explain the differences in perceptual disturbance under different acceleration conditions. We use a model (created by Jan E. Holly) that incorporates linear and angular accelerations (and their interaction) in all three spatial dimensions and aims to provide a theoretical explanation even where the traditional model fails. We are analyzing experimental results related to the coriolis effect from eight scientific papers with predictions from computational simulations of the experiments. The model (implemented using MATLAB) allows us to predict a total angular (Twist) and linear (Stretch) deviation of a computed perception as compared to the actual movement of the head. The Twist and Stretch factors allow us to compare results reported in experiments with our theory.

#### **NEW TECHNIQUES FOR ANIMATING EXPERIMENTAL AND THEORETICAL MOTION PERCEPTION**

##### **Chiran Bhandari ('13) and Arjumand Masood ('13), Mathematics**

An issue of fundamental importance in the field of perceptual disturbance is the method in which perceptual sensations are communicated. Jan E. Holly's research group has been using animated cartoon videos to facilitate the process of communication between subject and researcher, as well as between researcher and audience. We present the latest iteration of techniques aimed to bridge the gap in actual sensations during motion and how they are communicated. One of the techniques presented here is aimed at improving communication with patients of Benign Paroxysmal Positional Vertigo (BPPV). The other two techniques presented are aimed at enhancing communication of perceptual disturbance during motion in a centrifuge. We used ray tracing computer graphics program POV-Ray in conjunction with MATLAB for developing these techniques.

#### **MIXING THINGS UP WITH THE DJ: THE ONTOLOGY OF DJING**

##### **Patrick Blinkhorn ('13), Music**

Ever since DJs began to spin records, they have been denigrated as not being true musicians. In the eyes of many conventional musicians and the layman, the DJ is no musician; rather, the DJ is simply someone who plays prerecorded music. Even more, the very musicality of the sonic event that the DJ creates is not generally acknowledged. My paper examines the ontology of the DJ and their 'performances' in three sections: (a) an explanation of the techniques used to DJ, (b) a demonstration of proper vs. improper DJing, and (c) an exploration of ontology of both the DJ and the DJs work product. This talk will explain the ontological status of DJs and the sonic events they create. I will suggest that DJs are musical performers of a particular type, and that the sonic events they create are ontologically similar to improvisations.

#### **EXPRESSION OF THE CIRCADIAN RHYTHM PROTEIN CRYPTOCHROME IN EYESTALKS OF *UCA PUGILATOR***

##### **Kelly Bourgon ('14), Biology**

Circadian rhythms are endogenously driven cycles that regulate biological processes in a 24 hour period. These rhythms are driven by transcription, translation, and negative feedback of circadian rhythm

proteins. The protein of interest in this study is CRYPTOCHROME. It is a photo-receptive protein that allows animals to adjust to changing day lengths by entraining the system to light. CRYPTOCHROME is conserved in a diverse range of organisms, but little is known about it in crustaceans. This experiment aims to track the expression of CRYPTOCHROME in the eyestalk of *Uca pugilator* (fiddler crab). Immunohistochemistry with fluorescent antibodies was used to evaluate protein expression in the nervous tissue and retina of the eyestalk. Because of the highly conserved nature of CRYPTOCHROME, it is expected that the expression will follow a similar pattern to *Drosophila melanogaster*, whose circadian rhythms have been extensively studied.

#### **WHO IS ALLOWED TO COMPETE: GENDER, INTERSEXED INDIVIDUALS, AND COLLEGE SPORTS**

##### **Kimberly Bourne ('16), Women, Gender, Sexuality**

Recently there have been new developments in the IAAF (International Association of Athletics Federations) and the IOCs (International Olympic Committee) policies regarding who can compete in women's athletics. These new policies now based on levels of testosterone, affect any athlete who wants to participate in women's sports. These controversial policies are mostly used to stop any male from competing, but also limit intersex athletes who would like to compete in the women's field. These limitations and new policies on who is able to compete, brings the question of gender and advantage to athletics. Women and men compete separately because men are said to have an advantage. So then do intersex athletes have an advantage over women? Is it fair to let women play sports in men's events? A focus group of Colby's student athletes will be used to bring ideas surrounding intersex athletes, gender testing, and gender in sports to discussion along with stereotypes of the two genders and what it means to be a male or female and an athlete.

#### **NOT SAFE: THE HORRORS OF DOMESTICITY THROUGH SIGHT AND SOUND**

##### **Luke Bowe ('13), English**

Horror films are intended to shock, frighten, and haunt their audience long after the final credits roll. Such is the case in Todd Haynes' *Safe*, a 1995 drama that explores the life of Carol White, a homemaker haunted by an unexplainable illness. Haynes borrows heavily from cinematic techniques of the horror genre in his film. Shooting in long-take close-ups and static shots in deep focus, Haynes recreates the visual suspense integral to horror films. The eerie, non-diegetic sounds and uncomfortably emphasized diegetic background noises of the soundtrack further construct *Safe* as a horror movie. However, while this film abides by many of the classic tropes of that genre, it is the application of those devices that so unnerves the audience, transforming the most mundane events into seemingly life threatening situations. This paper analyzes how *Safe* both perpetuates and deconstructs traditional conventions of horror films, from female victimization to voyeurism, through its domestic setting and concerns. Through his manipulation of sight and sound, Haynes creates a world so eerily similar to our own, but haunted with a shapeless malice that seems to spring from modern existence itself.

**PAUL GAUGUIN: COLONIAL DISCOURSE IN LATE 19TH-CENTURY FRENCH PRIMITIVE ART****Sarah Braselton ('13), French/Italian**

In light of the civilizing mission proclaimed by the French Third Republic in 1885, France further extended its sphere of influence, geographically, ideologically and artistically. Key to understanding the evolution of the French colonial discourse that promulgated Western superiority is the primitive art developed by Paul Gauguin on the basis of his experiences in French Polynesia in the 1890s. Favoring flat shapes, bright colors and bold lines, Gauguin's primitive art provided a subjugating view of Tahitian natives and their inferior culture. Using primitive art to examine the social and moral agenda of the late 19th-century French colonial project, this presentation will focus on the life and art of Gauguin in relationship to Swiss linguist Ferdinand de Saussure's reflections on the notion of origins. Historical and philosophical context will accompany a visual gallery in a dynamic exploration of the intellectual climate purporting French cultural superiority at the end of the 19th century.

**SEAVERNS FIELD AT HAROLD ALFOND STADIUM: THE LIBERAL ARTS EXPERIENCE THROUGH A UNIVERSAL SPACE****Benjamin Brauer ('13), American Studies**

Athletics plays a huge part in the community at Colby; however, little research has been done to analyze the effect that athletic spaces have in creating community on campus. This study explores Harold Alfond Stadium's link to the Colby community and the community at-large. The study will conclude that throughout the development of the campus on Mayflower Hill, the role of the football stadium has changed. However, it has always tried to foster a sense of community on campus, raise school spirit, and allow students to further their liberal arts education through participation in athletics. Looking at student, coach, and administrators' views of game-day experiences and their perception of the role in athletics at the college, the stadium plays a role in everyone's life in the community, for better or worse. As a space, Alfond stadium serves the athletic mission of the college while also providing a place for students and the community to enjoy recreation and to socialize.

**MATERIAL IMMATERIALITY: DUST AND DISORDER IN W.G. SEBALD****Emma Brown ('16), German/Russian**

The intersections of memory, time, and loss in W.G. Sebald's oeuvre are alternately narrative, personal, and aesthetic. Though much has been made of the photographic nature of Sebald's work through photography and the physical traces images of the past leave on the present, the authors' affinity for dust and its presence throughout his work remains unexamined. This paper argues that dust—the physical particles typically ignored or seen as something to be wiped away—forms the core of Sebald's metaphor for and practical experience of history. As his characters struggle to reconcile their pasts with the exodus of German Jewry, dust is the in-between. It is the manifestation of a homeland that is a paradoxical shadow, one simultaneously material and immaterial, of what it once was and men whose identities are bound to its phantasmagoric present. Via Max Ferber of *The Emigrants*, but extending to *The Rings of Saturn* and *Austerlitz*, this essay examines the relationship between memory, perception, and time through dust particles, drawing a sharp contrast between physical migration and mental progression.

**EMILY CARR AND THE CONSTRUCTION OF THE INDIAN IMAGINARY?****Madeleine Bruce ('14), French/Italian**

Emily Carr is a late 19th and early 20th century Canadian artist and writer best known for her paintings. She was one of the first artists to attempt to capture the spirit of Canada in a modern style. Previously, Canadian painting was mostly portraits and landscapes copied from European art. The main themes in her works were indigenous peoples and nature. She was one of the only artists of her time documenting native images and as a result received very little support. Her ability to capture the beauty and spirituality of the landscape solidified her position as a founding figure in Canadian art. Carr brought modernism to the west coast, and the following generations are indebted to her for creating an image of British Columbia related to the spirituality of the wilderness, one that artists continue to use it as a framework of reference. Much of Emily Carr's work represented and relied on traditional carvings of First Nations, and she was celebrated for her deep understanding of the vanishing Aboriginal world. But is she, even if it is unconscious, exploiting a heritage and perpetuating stereotypes? Her representation of abandoned and ruined totems, and villages increasingly devoid of human life transmitted the impression of a dying culture. From the perspective of today, this well-intentioned but naive approach of documenting the negative impact of colonialism is problematic, playing a role in the 'construction of the imaginary Indian' and is subject to the same criticism directed to any of her contemporaries who engage in cultural appropriation as a component of their artistic practice.

**THE RIFLED MUSKET: TACTICAL REVOLUTION OR TECHNOLOGICAL REDUNDANCY?****Alexandre Caillot ('13), History**

The American Civil War has long been the focus of academic interest. The bloodiest war in U.S. history, many scholars also view it as the first modern conflict. However, does it truly deserve this title? While the mid-19th century saw the introduction of many new technologies (railroad, telegraph, etc.), Civil War battlefields did not necessarily reflect this same degree of innovation. In order to determine the nature of period combat - and whether it was groundbreaking or traditional - this presentation will assess the impact of small arms technology and the fighting experience in terms of two battles: First Bull Run (1861) and Cold Harbor (1864). The rifled musket, so long considered a key factor in the devastating casualties that resulted from Civil War fighting, will be analyzed from multiple perspectives. Rather than focusing exclusively on its wartime use, this thesis sets the stage for battlefield analysis by exploring the development of the new weapon technology. The data, derived from both European and American sources, facilitates a more thorough investigation of how the rifled musket did - or did not - contribute to the transformation of America's battlefields.

**MAPPING CIRCADIAN FEATURES TO VELOCITY RESPONSE****David Cohn ('16) and James Gorman ('16), Computer Science**

**David Cain ('13) and James Staley ('13), Computer Science**

Circadian clocks in mammals are comprised of a network of less complex clocks that respond to a variety of signals. We seek to understand how the differences in each simple clock contribute to the overall behavior of the circadian system. One of the most important ways a cell contributes to the behavior of the overall clock is how it responds to signals. The velocity response curve (VRC) is an excellent measure of this response. VRCs describe the effect a particular signal will have on the phase velocity (i.e. speed) of a circadian clock at a given time during that circadian cycle. Our goal is to detect patterns relating the characteristics of the cell to the response of a given signal. For example, VRCs have been used to show that cells with smaller amplitude oscillations are more easily shifted by a VIP signal (Webb, Taylor et al. 2012). We're interested in evaluating how common that relationship is (i.e. is it true for most signals, or just VIP signals?) as well as seeking out new patterns.

**REPUTATION EFFECTS IN THE ONLINE MARKETPLACE: CONTRASTING BIDDER BEHAVIOR IN 'BUY IT NOW' AND STANDARD ASCENDING AUCTIONS****David Cain ('13), Economics**

eBay introduced the Buy It Now feature in 2000, allowing participants in its online auctions to optionally purchase the item at a price set by the seller, ending the auction and awarding them the item. Wang, et. al posit that imposing a maximum bidding level might limit seller revenue, but they also demonstrate that under certain conditions sellers can increase revenue with Buy It Now (BIN) pricing. I've authored a sophisticated web scraping utility to gather data on completed listings within the used electronics market. With a selection of Buy It Now and standard ascending auction listings, I first investigate if seller revenues align with the conclusions of published research. McDonald and Slawson (2002) demonstrate positive correlation between seller reputation and item price in peer-to-peer auctions. I expand upon their findings by exploring the differing effects of seller reputation in BIN and standard ascending auctions.

**'VIOLENT DELIGHTS' IN CINEMATIC SHAKESPEARE: ADAPTING SHAKESPEAREAN VIOLENCE FOR THE CONTEMPORARY AUDIENCE****Claire Cannon ('13), English**

\*I am presenting in the Shakespeare session Spectacles of brutality in William Shakespeares plays and the cinematic adaptations they inspire are the products of cultures captivated by violence. Many of Shakespeares dramas include both excessive and exciting violence meant to enthrall a Renaissance audience that found entertainment in viewing public executions, watching bloody political rivalries, and reading pamphlets about gruesome murders. Cinematic interpretations of these plays feature gory gun violence and horrific carnage written for modern audiences that are just as bloodthirsty as their 16th-century counterparts. The seven films I will analyze are Franco Zeffirelli's Romeo and Juliet (1968), Baz Luhrmann's William Shakespeare's Romeo + Juliet (1996), Oliver Parker's Othello (1995), Tim Blake Nelson's 'O' (2001), Geoffrey Sax's Othello (2001), Julie Taymor's Titus (1999) and Ralph Fiennes' Coriolanus (2011). Each of these films simultaneously condemn and glorify violence, exploiting the audience's hunger for horror while conveying stories of tragedy and loss.

**THE EFFECT OF RELATIONSHIP STAGE AND KNOWLEDGE OF MONETARY VALUE ON RECEIVER'S APPRECIATION OF GIFTS****Erin Caputo ('15), Anna Doyle ('15) and Kaitlyn O'Connell ('15), Psychology**

A great deal of research has been done in regards to gift giving; asymmetries between givers and receivers, gifts as symbols and gift reciprocation. Yet, no experimental study to date has specifically combined gift price with relationship length. This study explores the effects of relationship length and price of gift on appreciation of gift and satisfaction with a romantic partner. This research examined a new area of gift giving. We looked more deeply into the asymmetries of givers and receivers, the effects of relationship and monetary value on the appreciation of gifts, and whether or not feelings of appreciation are driven solely by gift price. Gift giving represents a willingness to invest in a relationship and conveys meanings about the givers tastes or their beliefs about the receiver (Camerer, 1988). Our research explored the findings of Camerer a little further; we examined whether the length of the relationship with a partner and the knowledge of gift price will affect the receivers appreciation of the gift they receive. The study found that the perceived monetary value of gifts did not impact appreciation, gratitude, or satisfaction, but it did impact how much the gift receiver would reciprocate in the future. Higher priced gifts resulted in higher future reciprocity. The study also found an interesting difference between genders; upon receiving the same priced gift, males reciprocated significantly more than females.

**UTILIZING PHYSICAL AND MENTAL ACTIVITY TO DECREASE THE RATE OF COGNITIVE DECLINE****Anna Caron ('13) and Miia-Liisa Termonen ('14), Psychology**

As the baby-boom generation approaches retirement age, the social and personal burdens associated with reduced independence and various forms of dementia are expected to increase. Healthy cognitive functioning (e.g., attention, language, memory, decision making) is essential for remaining independent in old age. Thus, maintaining health across the lifespan is an increasingly pressing concern. A key issue is whether there are activities and behaviors in which older adults can engage to slow the rate of cognitive decline. The present research addresses this question by reviewing scientific findings on how physical and mental activity can mitigate cognitive decline. Aging slows us down, both physically and mentally. While some decline is perfectly normal, and partially genetically determined, keeping or getting active can help maintain cognitive ability at a high level for longer. Physical activity, especially aerobic exercise, reduces brain cell death and increases neurogenesis, thus helping to keep in check age-related cognitive decline (Kramer & Willis, 2002; Greenwood, 2010). Similarly, maintaining a high level of cognitive activity can delay onset of memory decline by as much as 20 years, especially in areas of personal expertise (Anstey, 1999; Carlson, 2011). The variety of activities and learning in new and stimulating skills are especially effective in maintaining cognitive health; for example, volunteering - which combines physical, mental, and social activation - correlates with maintenance of cognitive ability (Carlson, 2011). Taken together, these engaging at multiple levels of these lifestyle choices with a focus on proactive engagement can promote more positive outcomes for the quality of life of our aging

population.

#### **LOCKING IN: HOW COUPLED OSCILLATORS MODULATE INPUT SIGNALS TO IMPROVE SYNCHRONY**

**Zachary Cecere ('13), Computer Science**

The Suprachiasmatic Nucleus (SCN) is composed of rhythmic cells that act as oscillators. When the oscillators of the SCN agree on a common phase, they effectively communicate the time of day to the rest of the body. In order for the cells to synchronize, each cell signals to its neighbors where it is within its cycle so that they may adjust accordingly. We use computational models of the SCN to show that a signal passed from one oscillator to another is scaled relative to the amplitude of the receiving oscillator. Furthermore, we demonstrate how such input scaling improves the oscillatory networks ability to synchronize.

#### **ANALYSIS ON U.S. OIL AND GAS LEASE AUCTION (1954-1979)**

**Kai Chen ('13), Economics**

The United States federal government has been selling offshore gas and oil exploration leasing-rights to private sectors since 1954. Today, offshore oil and gas have accounted for roughly 1/3 of the Country's total production, and the leasing programs lead to a considerable revenue for the government. The paper is focusing on the firms' behaviors or strategies on the oil auctions from 1954 to 1979. In particular, it will analyze the change in firms' behaviors before and after the oil crisis of 1973: did they bid more aggressively after 1973, and did large and small firms behave differently? Furthermore, the new ruling that banned joint bids among 7 largest firms was introduced in 1975. This paper will also focus on the success of the new ruling of 1975 and answer the questions, such as did it successfully support the small firms to survive in the market; did it increase the participating rates and winning rates of the small firms; how did the winning prices change.

#### **THE AMERICAN MEDIA AND MISCONCEPTIONS ABOUT THE NAZI ECONOMIC MIRACLE**

**Thomas Chippendale ('13), History**

There is no doubt that the German economy recovered well between 1933 and 1935. In the United States, the three most widely circulated newspapers of the 1930s, The New York Times, The Washington Post, and the Wall Street Journal, all documented the Germany economy with particular interest, an interest that can only be explained by the economic similarities that existed between Germany and the United States. Although there was a wide range of viewpoints reported between 1933 and 1936, the majority of articles published during this time period propagated at least one misconception about the nature of the Germany recovery. In essence, the major American newspapers recycled the economic propaganda of the Third Reich.

#### **THE FRANKFURTER SCHOOL AND THE THEORY OF ALIENATION: FINDING KARL MARX IN THE WORKS OF THEODOR ADORNO AND ALEXANDER KLUGE**

**Thomas Chippendale ('13), German/Russian**

Following the philosophy of the Frankfurter School, the work of Theodor Adorno and Alexander Kluge has made a lasting impact on the German academic world and beyond. Their message is not only a critique of the ideals of the Enlightenment as they have been applied in the past; it is also a message of optimism. The message is that through a constant dialectical struggle to establish the guiding principles of a society, mankind has the ability to build a future that it desires. This optimism is rooted in the early philosophy of Karl Marx, who believed that a better understanding of subject and object could free humanity from its own alienation. With regard to the Enlightenment's role in the modern world, Marx remains as relevant as ever.

#### **AMPLIFICATION OF HUMAN DNA FOR PROBING DEB-INDUCED DAMAGE VIA A QUANTITATIVE POLYMERASE CHAIN REACTION**

**Edward Chuang ('14), Chemistry**

Diepoxybutane (DEB) is a bifunctional alkylating agent linked to the high incidence of certain cancers in industrial workers exposed to butadiene. DEB forms interstrand cross-links in duplex DNA, inhibiting replication and transcription. Since PCR mimics DNA replication, we can use it to assess cross-linking by measuring the amount of DNA available for amplification. Our ultimate goal is to determine whether DNA structure affects DEB reactivity in vivo by monitoring damage through a quantitative polymerase chain reaction (PCR) at regions that differ in their degree of chromatin condensation. To date, we have optimized the conditions for traditional PCR within human DNA at nuclear loci of about 10 kb in length. We have also obtained CT values, using real-time PCR with SYBR green dye. When our real-time PCR conditions are optimized, we can use the difference between amplification of control, unmodified DNA versus DNA from DEB-treated cells to determine the lesion frequency at the loci of interest. These findings are important because they will further characterize the mode of action of these compounds and thus help determine the carcinogenic risk for workers in the butadiene industry. This project was supported by grants from the National Center for Research Resources (5P20RR016463-12) and the National Institute of General Medical Sciences (8 P20 GM103423-12) from the NIH.

#### **REPORTING IDENTITY-BASED VIOLENCE AT COLBY COLLEGE**

**Cassie Clemmer ('15), Women, Gender, Sexuality**

In the past year, Colby College has implemented the Bias Incident Prevention and Response Team in order to address instances of identity-based violence (emotional, physical, verbal, behavioral, systematic, etc...) that occur on our campus in the form of bias incidents. Though this program has created a space where students are free to anonymously report instances of discrimination and discomfort at the College, most experiences still remain silenced. This research is an exploration of negative experiences that Colby students deal with surrounding identity (gender, race, sexual orientation, class, religion, culture, etc...). why they may go unreported, and how the culture of silence around such incidents leads to unsafe

campus climates.

#### **WEIGHT, DON'T JUDGE ME! -- THE EFFECT OF WEIGHT-CODED WORDS AND SOCIAL BEHAVIOR ON JUDGMENT**

**Cassie Clemmer ('15), Kyle McBrierty ('15), Julia Mitchell ('15) and Janie O'Halloran ('16), Psychology**

This study attempts to discover the effects of weight-coded words and social behavior on the judgment of a fictitious persons perceived intellectual ability and moral deserving. The study investigates how cues embedded within a written description can affect a persons judgments. Ninety undergraduate students from Colby College were used in order to investigate whether there was a difference in the measured variables based on weight and positive or negative social behavior. The participants read a packet of information about a student and were then asked to grade a sample essay on a basic academic 1-100 numeric scale. To investigate more subjective effects, the participants were asked to rate the student on a scale of 1-7 on how much they deserved a scholarship. The results show no statistically significant effects of weight-coded words or social behavior on judging a persons perceived intellectual ability, however social behavior did have an effect on scholarship deservance ratings.

#### **A MONTE CARLO SIMULATION STUDY OF THE PERFORMANCE OF HYPOTHESIS TESTS UNDER ASSUMPTION VIOLATIONS**

**Gareth Cleveland ('13), Mathematics and Statistics**

Hypothesis testing is frequently utilized in a wide range of disciplines as researchers attempt to draw inferences from data. Although most hypothesis tests theoretically require certain assumptions for their accuracy, these assumptions are often not known or simply ignored. The robustness of a test is defined as the ability of the test to withstand assumption violations with respect to its Type I error probability. This study seeks to empirically investigate the robustness of several two-sample hypothesis tests. Through Monte Carlo simulations, exact Type I error rates are calculated for five different tests under a wide range of simulation setups. Two of the five tests are parametric: Students t-test and Welchs t-test. The remaining three tests are distribution free: the Mann-Whitney U test, a bootstrap-based test, and a permutation test. Results demonstrate that Welchs t-test, the bootstrap test, and the permutation test perform reasonably well under a variety of assumption violations.

#### **ARE OFFSHORE OR TERRESTRIAL WIND TURBINES SAFER FOR WILDLIFE?**

**Brittany Colford ('13) and Sydney Morison ('15), Environmental Studies**

This project investigated whether offshore or terrestrial wind turbines are safer for wildlife. To evaluate the question, we developed criteria to be able to compare the effects of both locations. To accomplish this, we examined sources covering both classifications of turbines and performed a comparative analysis from which to draw conclusions. We consulted both primary and secondary sources. Results show that wind turbines affect many species in both locations. On shore species, especially bats and migratory birds, are subject to harsher long term effects, while off-shore species endure harsher initial effects due to construction. In both cases, migratory birds are affected greatly, while local populations seem relatively unaffected. Future research will further understandings of danger to wildlife and will help to determine proper placement and construction of facilities in the future.

#### **EMERGENCY DENTAL CLINIC**

**Molly Colman ('13), Kelsey Cromie ('14) and Claire Dunn ('13), Sociology**

In partnership with the Community Dental Center, we are composing a grant requesting 0,000 from the Munificent Mule Foundation (supported by the Sunshine Lady Foundation's Learning By Giving program) to support a weekly emergency dental clinic.

#### **GENDER, RACIAL AND SOCIOECONOMIC POLITICS IN THE CONTEMPORARY AMERICAN NAIL SALON**

**Evangeline Condakes ('13), American Studies**

Do spaces intended for relaxation dictate how one behaves in society? Do these spaces inform how gender and race are perceived? Nail salons, particularly in the New England area, are actually crucial to our understanding of how racial tensions still exist in the United States. High-end American nail salons in New England often perpetuate racism. The nail salon preserves the American ideal that immigrants are destined to do the manual labor, as Asian and Eastern European immigrants often work long hours in the beauty service industry, serving white upper-class female patrons. The Wellesley mom archetype often frequents this cultural landscape, and her privilege is reinforced by having an ethnic otherness serving her pampering needs. Furthermore, white upper-class female patrons of this salon need to feel that there is an ethnic otherness at these salons in order to truly feel pampered.

#### **STUDIES OF ULTRA-COLD NEUTRAL PLASMAS**

**Ethan Crockett ('13), Physics and Astronomy**

Ultracold neutral plasmas (UNPs) are made by photoionization of laser-cooled atoms in a magneto-optical trap (MOT). Such plasmas are interesting both theoretically and experimentally because of their relation to other strongly-coupled plasmas, for instance in stars and thermonuclear explosions. This talk describes experiments on the use of Rydberg atoms to control the electron temperature of UNPs. We find that Rydberg atoms have a strong influence on the evolution of the plasma, and that we can enhance or inhibit the rate at which electrons evaporate from the plasma.

#### **ALLELIC DIVERSITY IN APPENDAGE-PATTERNING GENES AMONG PHENOTYPICALLY DIVERGENT POPULATIONS OF THE SOAPBERRY BUG *JADERA HAEMATOLOMA***

**Laura Crowley ('13) and Maxwell Hogue ('13), Biology**

The red-shouldered soapberry bug *Jadera haematoloma* (Heteroptera: Rhopalidae) is an example of a



species undergoing rapid adaptive evolution in response to anthropogenic habitat change. This seed-feeding insect has adapted to an introduced host plant since the 1950s. Populations exist which retain

the ancestral host plant, while others have adapted to exploit the new food source. In so doing, a suite of phenotypic changes has evolved in this population, including reduced beak length. Because of the rapid evolution of beak length, we have examined allelic diversity within appendage-patterning genes in *J. haematoloma*.

#### **EXPLORING NOVEL DELIVERY METHODS FOR SYSTEMIC GENE KNOCKDOWN BY RNA INTERFERENCE IN THE MILKWEED BUG, *ONCOPELTUS FASCIATUS***

**Laura Crowley ('13), Biology**

RNA interference (RNAi) is used to silence genes through introduction of specific double-stranded RNA (dsRNA) sequences, which contribute to RNA-induced silencing complex (RISC). RISCs are known to bind to messenger RNAs (mRNAs) with complementary nucleotide sequences and block expression. Faster and easier methods of RNAi would help test gene knockdown more efficiently. New delivery methods for dsRNA were used testing the vermilion gene as a target in the milkweed bug, *Oncopeltus fasciatus*. Vermilion codes for the tryptophan 2,3-dioxygenase enzyme required for normal, brown pigment in the milkweed bug eye. Its removal causes the outer ommatidia of the eye to appear red. In separate trials, a solution of dsRNA was delivered to first instar nymphs through immersion or feeding to test if either method could be used to knock down vermilion activity, and more recently, Ultrathiorax activity. The duration of the silencing effect was also examined.

#### **THE EROTIC POTENTIAL OF THE QUEER DISABLED BODY THROUGH THE PHOTOGRAPHIC WORK OF ASHLEY SAVAGE**

**Olivia Crowley Gottlieb ('13), Women, Gender, Sexuality**

This project looks at the intersection of queer studies and disability studies and adds to the contemporary conversation queer scholars are beginning to have. Since both queer studies and disability studies theorize the body, I will be expanding upon the conversation between these two disciplines by proposing an Atomic like structure to the ways in which social forces and normative constructions dictate the ways in which we inhabit our bodies and experience our identities. I will be locating this project in the work of 'queer' photographer, Ashley Savage, as a means to measure degrees of difference in a culture that continues, on many levels, to regard that which is extreme, as deviant (Savage), all in order to crip the able body/disabled binary that compulsory heterosexuality and compulsory ablebodiedness are contingent on. I will be building upon Robert McRuer's work within the intersection of queer studies and disability studies, which builds off of Judith Butler's iconic 'Gender Trouble' model, reinterpreting it in what he calls, 'Able-Body Trouble.' I argue that the queer embodiment of Savages photographic subject lend themselves as a complication of this binary and serve as examples/models of how disabled (non-able) bodies are already being inhabited in queer and erotic ways and begin to see the liberating/erotic potential of disabled bodies.

#### **THE EFFECTS OF MODERN AGRICULTURAL METHODS ON COLONY COLLAPSE DISORDER**

**Caitlin Curcuruto ('13) and Emily Arsenault ('14), Biology**

Within the past decade, an epidemic now known as Colony Collapse Disorder (CCD) has been reported in apiaries across the United States and throughout the world. CCD is characterized by a loss of almost all adult bees from a colony with no dead bees remaining in or around the hive. Since it was first brought to the public's attention there have been many theories of what could be causing this phenomenon such as excessive pesticide use, genetically modified crops, new pathogens or parasites, and environmental stress to name a few. This study aims to address the agricultural factors that may be adding to, or the specific culprit of, the symptoms now known as CCD by comparing multiple studies that assess CCD with our own criteria. We evaluate these studies by looking at the following for each case: pesticide use in and around the farm, use of genetically modified crops, monoculture vs. polyculture, planting methods, size of farm, years of farm operation, and volume of crops produced. By looking at these case studies specifically through an agricultural lens, we concluded that, at least on a short-term scale, pesticide use and

genetically modified crops appear to have little to no effect on the health of the bee colonies that are pollinating these farms while further research efforts should be put into assessing monoculture vs. polyculture and volume of crops produced, as these factors may have a stronger influence in the problem of CCD.

#### **RESPONSES OF ZEBRAFISH PHAGOCYTIC CELLS TO OPSONIZED BACTERIA**

**Kaitlin Curran ('14) and Paul Macklis ('15), Biology**

Recent studies have shown that components of the mammalian and fish immune systems follow diurnal rhythms, or fluctuations in activity throughout the day. Light patterns influence the behavior of the organism, which informs the level of cellular activity required. Neutrophils and macrophages, specialized white blood cells, destroy cellular microbes through engulfment (phagocytosis) and degradation. The process of opsonization coats microbes with protein markers that increase recognition and phagocytosis by macrophages and neutrophils. This in vitro study utilized zebrafish (*Danio rerio*) leukocytes to quantify the number of cells engaging in phagocytosis, as well as the number of bacteria each cell engulfed, at multiple times of day. The flow cytometer separated cells that had engulfed fluorescently labeled *E. coli* as a measure of phagocytosis in this assay. Macrophages and neutrophils were definitively distinguished through the use of mpx:GFP transgenics in which neutrophils express green fluorescent protein. The experiments were performed at six times of day using both opsonized and unopsonized bacteria. Our results show that there is a daily rhythm associated with the number of bacteria engulfed by phagocytic cells and that opsonization increases the phagocytic activity of immune cells.

#### **REMAPPING NATURE: MOTHERHOOD, AUTONOMY, AND ANTI-MINING ACTIVISM IN QUINTAG, ECUADOR**

**Ellicott Dandy ('13), Anthropology**

Following the formidable threat of mining in this isolated part of the Andean Cloud Forest, local activists

started alternative development projects as part of their long-term strategy to keep the incredibly biodiverse area free of copper mining. Through their participation in these projects, local women activists have significantly altered gender dynamics in the area such that environmentalist activism now weaves in a strong feminist thread. I investigate their particular tactics as activists with special attention to how many community members integrate these ideologies into the practices of their everyday lives with the goal of contextualizing this particular case in more general discourses of development, cultural constructions of nature, feminism, and motherhood in the Andes and in the world at large. On a theoretical level, the work of feminist activists in ntage serves to undo the work of the Spanish Empire by reconstructing nature in such a way that repositions the social and the cultural within the natural.

#### **ATLAS OF MAINE: WILDLIFE MANAGEMENT DISTRICTS AND CONSERVATION AREAS**

**Monica Davis** ('13), Environmental Studies

This map shows the location of conservation lands and their placement among Wildlife Management Districts. Roads and major cities with populations greater than 15,000 are shown to help evaluate how conservation in Maine is related to population density and development. All data was compiled from Maine Office of GIS and ESRI.

#### **DETERMINANTS OF FOREIGN DIRECT INVESTMENT LOCATION CHOICE: AN ANALYSIS OF THE PRIVATE EQUITY INDUSTRY**

**Charles Davis** ('13), Economics

This paper examines foreign direct investments made by multinational corporations in the private equity industry. In particular, statistical analysis is utilized to examine the importance of several country-specific characteristics in determining private FDI location choice and dollar amount, especially after the global recession of 2008. GDP per capita and GDP growth were shown to significantly influence the likelihood and amount of FDI. More surprisingly, decreasing country total trade to GDP, increasing the debt to GDP ratio, and improving levels of investor protection were observed to be much more influential determinants of private FDI. However, these results may be affected by limitations in the dataset construction.

#### **THE IMPACT OF NEONATAL POLYBROMINATED DIPHENYL ETHER EXPOSURE ON NEUROCOGNITIVE DEVELOPMENT**

**Monica Davis** ('13) and **Max Pollinger** ('14), Environmental Studies

Our research project examines whether PBDE exposure during pregnancy can cause permanent damage to the motor behavior of the fetus.

#### **SPATIAL VARIABILITY IN THE WASATCH RANGE**

**Arran Dindorf** ('13) and **Daniel Covert** ('13), Geology

The purpose of this study is to gain knowledge and experience with the factors which cause, effect and distribute spatial variability at different scales in the snowpack of the Wasatch Mountains in Utah. Using ArcGIS and Google Earth, I have created several maps and models which describe the mountains of interest at high resolution (2m Lidar). Historic weather and snowpack conditions can be modeled and visualized in a variety of intuitive and instructive ways using this software. Applying real time weather and snowpack data into a geodatabase is the next step. Additionally, snowpack measurements will be applied to the smooth particle hydrodynamics model of avalanches. It is essential to understand characteristics of snowpack formation and metamorphism in order to create an accurate model of avalanche flows.

#### **EXPLORING DETAILS BEHIND GENDER JUDGEMENTS**

**Emily Doyle** ('16), **Danielle Anderson** ('16) and **Gabriela Cortez** ('16), Women, Gender, Sexuality

We believe that here at Colby, people put a large emphasis on the clothing that they wear and what it means for their social interactions. We wanted to hear what the rest of our community thought about the clothing culture on campus and how it affects their perception of themselves and others. We conducted interviews and sent out a survey to the entire campus in order to receive a well rounded viewpoint on this matter. We used this data to better understand the expression or oppression that results from hidden messages behind clothing choices.

#### **A CURRICULUM TO PROMOTE THE HEALTH AND SUCCESS OF OUR FEMALE HIGH SCHOOL ATHLETES**

**Laura Duff** ('13), Women, Gender, Sexuality

The field of athletics and disordered eating is relatively new, and therefore data that examines this intersection through a gendered lens is limited. In light of evidence indicating that multiple pressures can affect a female athlete's relationship between food and her body in ways that can negatively impact her health, this project proposes a possible solution for addressing and reducing disordered eating among high school female endurance running teams. The goal of the curriculum to most fully empower new, competitive female endurance runners through athletics.

#### **THE EMBODIMENT OF ENDURANCE RUNNING: FEMALE ATHLETES AND DISORDERED EATING**

**Laura Duff** ('13), Women, Gender, Sexuality

This project studied NESCAC female athletes' embodiment of endurance running to find out how this embodiment affects their relationship to disordered eating. I argue for a research approach that focuses more on the athletes' voices and opinions in order to examine the intersection between the body, femininity, athletics, and food.

#### **AIDING OR ABETTING?: AN ANALYSIS OF MEDICAL HUMANITARIAN AID IN COMPLEX HUMANITARIAN EMERGENCIES**

**Claire Dunn** ('13) Global Studies

Medical humanitarianism is a subject that, on the surface, is viewed very positively by society. Selfless humanitarians are going to war-torn, disaster-affected, or otherwise undesirable locations to provide medical care to those who are in need, but not receiving domestic help. However, when considered more carefully, it becomes clear that there are many problematic aspects of humanitarian aid. That is not to say that humanitarian aid is unnecessary, but rather that humanitarian actions are likely to have some unintended consequences or fail to live up to their potential no matter how noble the intentions. Acknowledging that medical humanitarianism is but a single component of the response to complex humanitarian emergencies and lacks the ability to end wars or change political systems, medical aid is an important consideration in how populations emerge from such emergency situations. Not all groups that engage in medical humanitarianism utilize the same strategies and as a result, I will argue, not all have the same effect. This study will examine how medical humanitarian groups operate in the context of complex humanitarian emergencies and how their varied approaches impact the effectiveness of their interventions. In order to examine this question, I will consider the unique histories and approaches of two of the most important actors on the medical humanitarian scene, the International Committee of the Red Cross (ICRC), and Mdecins Sans Frontires (MSF), and how these unique histories and approaches impacted their effectiveness in the case of the refugee crisis following the Rwandan genocide.

#### **HOW MIGHT DIOXIN AND FURAN-PRODUCING WASTE INCINERATION ALTER CANCER RATES?**

**Cody Eaton ('14) and Julio Suastegui ('13), Environmental Studies**

Waste incineration is a method of waste management by which waste products are burned for the purpose of more efficient disposal. However, much of this waste incineration poses potential hazards of chemical byproducts such as dioxins and furans. Dioxins are a family of carcinogenic environmental pollutants. In the past, dioxins and furans were produced in large amounts in many industrial manufacturing processes leading to many cancer cases but both have been reduced in recent environmental history. Solid waste incinerators still produce significant levels of both dioxins and furans. Therefore, risk of carcinogenic activity should be evaluated in the areas surrounding waste incineration facilities. The possible risk of dioxins and furans in regard to malignant neoplasms were observed in the context of waste incineration. Because of current industrial practices, dioxins leak into the soil and alter the biomass inevitably affecting the food chain. The primary medium of exposure is through food and while concrete evidence of health impacts is still being researched, associations between dioxins and health issues can be made. One of the associations researched looks at dioxin levels present in serum in relation to the vicinity of a waste incineration facility. The results showed that levels of fat in the serum are a strong variable for a high concentration of dioxin. Because of the number of variables to be considered, more studies need to be made that focus on specific levels.

#### **EQUALITYMAINE AND THE STRUGGLE FOR SAME-SEX MARRIAGE**

**Samantha Eddy ('13), Sociology**

My project explores the legacy of EqualityMaine as an organization and how its early formation affected strategies in the 2009 and 2012 campaigns for same-sex marriage. I researched this topic through archival analysis of EqualityMaine documents spanning back to the 80's including newsletters, by-laws, chronologies and minutes. I then conducted a content analysis of the 2009 and 2012 political advertisements of pro-same-sex marriage cohorts and coded for rhetorical shift. This content analysis is paired with qualitative interviews from three activists who worked in both the 2009 and 2012 campaigns. The 2009 campaign used legislative language that sought to educate others about denied civil rights and mobilize already-supportive voting blocks. In contrast, the 2012 election used rhetoric that stressed commonality and what marriage personally meant to same-sex couples and their families, working to reach an undecided voter population.

#### **PRENATAL EXPOSURE TO AIR POLLUTION AND NEUROLOGICAL DISORDERS**

**Laurel Edington ('15) and Erin Bewley ('15), Environmental Studies**

Multiple studies have researched the association between children who were diagnosed with neurological disorders and their level of prenatal exposure to air pollution. Studies performed in California identified a link between air pollution, especially traffic-related air pollution, and autism. According to other studies, children who live in highly polluted cities, for example Mexico City, Boston, and New York City, have a higher risk of cognitive developmental delays and other damage to the brain. It can be concluded that prenatal exposure to certain air pollutants increases the risk of a child developing certain cognitive delays and other neurological disorders.

#### **ARE YOU JUDGING ME? THE EFFECTS OF MORAL CREDENTIALS ON PREJUDICE TOWARD ASIAN AMERICANS**

**Anne Epstein ('15), Alice Anamosa ('14), Anna Rabasco ('15) and Anna Thin ('15), Psychology**

This study attempts to understand the role of moral credentials in prejudice towards Asian-American people. Further, this study looks at how experimenter race, either Caucasian or Asian-American, affects moral credentials and prejudice. We hypothesized when participants established moral credentials, for both African-Americans and Asian-Americans, they would later express prejudiced views, but that participants who received the Asian-American manipulation experiment from an Asian-American experimenter would not express as prejudicial of views. Our predictions for the African-American manipulation are based on Monin and Miller's previous study about establishing the role of moral credentials. Participants first received a survey, from either an Asian experimenter or a Caucasian experimenter, which asked them to agree or disagree with racist statements about either African-Americans (the control group) or Asian-Americans in order to establish moral credentials. The participants then completed a filler task about the movie industry. Finally, the participants decided whether a Caucasian-American or the member of the minority group they had established moral credentials for (Asian-American or African-American) should be chosen as the leading role for a blockbuster movie. Results have not yet been analyzed.

#### **DOES ADOLESCENT CHOLINE SUPPLEMENTATION AFFECT THE REWARDING PROPERTIES OF MORPHINE?**

**Czarina Evangelista ('14), Psychology**

Considering the high prevalence rate and burdens of drug abuse on our society, research on drug addiction is extremely relevant (NIDA, 2012). An abundance of drug research attempts to reveal the driving forces of drug-taking and -seeking behaviors. The essential nutrient choline may increase susceptibility to drug addiction (Schramm-Sapota et al., 2009) because it promotes hippocampal neurogenesis (Glenn et al., 2007; 2008). This increase in neural plasticity may aid in the neural adaptations that lead to drug dependence. The present study aimed to understand the impact of choline on the reinforcing properties of morphine. Male Sprague-Dawley rats were fed standard or supplemented levels of choline in adolescence. Morphine addiction was assessed using the conditioned place preference (CPP) paradigm. Rats were habituated to the CPP apparatus and then conditioned for 8 days to associate saline or morphine to each distinct chamber. The day after conditioning, rats had free access to the two chambers to assess morphine preference. Rats were placed in the CPP 3 days, 1 week, 2 weeks, and 1 month after conditioning to evaluate drug extinction. Rats that received choline supplementation in adolescence revealed a more robust preference for morphine than the standard-fed rats. Currently under investigation are the locomotor effects of morphine treatment on behavior during conditioning (De Vries et al., 1998; Vanderschuren et al., 1999; as mentioned in Martin et al., 2000) and the neural correlates of morphine preference with the use of delta-FosB, a neural marker expressed in the nucleus accumbens in response to addictive drugs (Nye & Nestler, 1995).

**FROM CLUB DRUG TO ANTIDEPRESSANT? THE POSSIBLE THERAPEUTIC UTILITY OF LSD****Czarina Evangelista ('14), Psychology**

Lysergic acid diethylamide, more commonly referred to as LSD, was synthesized by Albert Hoffman in 1938 for Sandoz Laboratories. Although today LSD is used only for recreational purposes, it was initially developed for medicinal use. While investigating its possible medical merits, Hoffman accidentally stumbled upon its hallucinogenic properties. Even with this realization, Sandoz continued to promote LSD to psychologists and psychiatrists as eliciting medical benefits, such as a model psychosis and an adjunct to psychotherapy. Currently, LSD is classified as a Schedule I drug in the United States, thus not recognized for medicinal use. Nevertheless, research on its medicinal properties persist to this day, especially on treating mental disorders such as depression. LSD is considered as having antidepressant-like effects because of its similarity to serotonin, a neurotransmitter or chemical that demonstrates a major role in reducing depressive symptoms, and its action on the 5-HT5a receptor (Grailhe et al., 1999). Interestingly, LSD reduced anxiety, a symptom of depression, in mice that expressed the 5-HT5a receptor but not in the mice that lacked it. That specific receptor seems to be integral in the antidepressant-like effects of LSD. Conclusive evidence revealing a medicinal use of LSD has yet to be achieved, but the progress is promising.

**THE INFLUENCE OF PATHOGENIC FUNGAL INFECTION ON ANTIPREDATOR BEHAVIOR OF TADPOLES****Katerina Faust ('14), Biology**

Batrachochytrium dendrobatidis (Bd) is a chytrid fungus that infects the skin of amphibians and can cause death if chytridiomycosis progresses. Previous studies have shown that the behavior of northern leopard frog (*Lithobates pipiens*) tadpoles is modified when infected by Bd, resulting in reduced overall tadpole activity. Infected tadpoles also experience lower mortality when exposed to an active predator when compared to their uninfected counterparts (Parris et al. 2006). Parris et al. suggest that this alteration in tadpole antipredator activity benefits the spread of Bd, as infected tadpoles could serve as a reservoir for the fungal zoospores. My study examined the effects of Bd infection on Green Frog (*Lithobates clamitans*) tadpoles, and I tested the hypothesis that tadpoles exhibit variation in antipredator behavior, depending on predator cue and infection status. Infected tadpoles should exhibit reduced activity and a lowered susceptibility to predation, especially when both visual and chemical predator cues are present. Thus far, Green Frog tadpoles do not appear to experience significant changes in behavior after infection with Bd, though infected tadpoles swam less vigorously when exposed to chemical and visual predator cues than their counterparts. The lack of behavioral changes upon infection may indicate that Green Frog tadpoles are less influenced by infection than northern leopard frog tadpoles.

**FIRST CONTACT: A STUDY OF THE FIRST ENCOUNTERS BETWEEN JACQUES CARTIER AND THE NATIVE AMERICANS****Sarah Fensore ('13), French/Italian**

An analyses based primarily on the journals kept by the French explorer Jacques Cartier during his first two voyages to the New World, this study explores the fascinating first contact between cultures. It will focus on the representation and treatment of Native American people and tribes by the French.

**WHY ARE INVASIVE SPECIES SUCCESSFUL IN TROPICAL MARINE ECOSYSTEMS?****Marianne Ferguson ('14) and Taylor Witkin ('14), Environmental Studies**

Invasive species pose serious environmental concerns, both ecologically and economically. We analyze three different marine invasive species, Lionfish, Crown of Thorns Starfish, and Black-Striped Mussels, in the tropics based on a set of criteria pertaining to their effectiveness as invaders. Our research highlights the characteristics of marine invasives that makes them successful in disrupting their habitats and ecological systems.

**OY GAVULT! JEWISH VIOLENT EXTREMISM IN THE WEST BANK****Lauren Fisher ('13), Government**

Settler violence began in the 1980s as ideologically motivated phenomenon that targeted Palestinians who rejected halachic rule. However, it devolved from pointed attacks in the name of messianic redemption to normalized aggression. The transition from one type of violence to another reflects a shift in the relationship between four primary variables: ideology, Israeli government support, diaspora support, and impunity. My research establishes a framework for understanding settler violence by analyzing the relationship between the four primary drivers from the 1980s to the present. In doing so, it

analyzing the relationship between the four primary drivers from the 1960s to the present. In doing so, it explores the political and strategic interests that make prospects for addressing political violence in the occupied Palestinian territories unlikely in the near future.

### **THE IMPORTANCE OF ACTIVATOR-REPRESSOR BALANCE IN VARIOUS MODELS OF REPRESSION IN CIRCADIAN CLOCKS**

**Mary Fletcher ('13), Roxana Gheorghe ('15) and Olivia Lang ('15), Computer Science**

To understand protein networks, scientists use mathematical models to simulate the various molecules and their interactions. These mathematical models are differential equations for the concentrations of molecules over time. When constructing a model, it is important to choose a level of abstraction that makes models as simple as possible, without losing their key robustness properties. For oscillating systems, the ability to maintain oscillations is key. In a recent publication Kim and Forger (2012) discuss the relationship between the ratio of repressor and activator proteins and the robustness of a systems oscillations and conclude that a 1:1 ratio is best. Here, we examine three additional models of circadian processes (Leloup and Goldbeter, 2003; Mirsky et al, 2009; and Ueda et al 2000) and seek to determine which model structures lead to the situation in which a 1:1 repressor to activator ratio gives rise to a more robust system. For each of the models, we modify the mode of repression using three different levels of abstraction: explicit sequestration, implicit sequestration, and direct Hill repression.

### **USING EYE-TRACKING TO INFORM AUTOMATED OBJECT RECOGNITION**

**Mary Fletcher ('13), Computer Science**

As humans, we easily recognize objects at various levels. We see a bird, and someone skilled in bird watching will recognize it not only as a bird, but also as a finch - in particular a house finch. Such skill is obtained with only moderate effort for a human, but programming a machine to perform the same task remains a challenge. For my project, I use eye-tracking data gathered from people learning to recognize bird classes and species. By considering trends in the data, I propose and evaluate several descriptors useful for discriminating between families of birds.

### **TECHNOLOGY AND SPECIAL EDUCATION: HOW IPADS CONTINUE TO CHANGE THE WORLD**

**Abigail Fontaine ('15), Education and Human Development**

With the leaps and bounds of technology over the past decade, opportunities for education have increased enormously. The Apple products are the latest additions to education tools, and they are far from disappointing. The uses and applications for each product are numerous which make them easily adaptable for education at all levels. Certain applications can do more than just teach reading, writing, or math: they can give a person a voice. These applications for Apple products have been developed to say out loud what people choose within the application. For children and adults who are unable to express with words what they want or feel, this is phenomenal. What is more amazing is that iPads and iPods are far less expensive than the traditional communication devices that are generally recommended for disabled peoples. In terms of education, disabled students can now communicate easier with people around them. Now, it is up to the government to adapt as well and support the funding for iPads in schools. The first place to start would be in special education classrooms where they are needed most and where they will brighten the futures of children with disabilities and learning differences.

### **WHY DID FRANK CROSS THE ROAD?: EXPLORING THE EFFECT OF EMOTIONAL CONTEXT ON RECALL**

**Abigail Fontaine ('15), Margaret Hefferon ('15), Carly Taylor ('15) and Molly Wylie ('15), Psychology**

Previous research has demonstrated that emotion affects memory. Some show that emotion enhances memory, while others show that it is impaired. We focused on the effect of emotional context on recall for objective details of events. We presented participants with a story about a man named Frank who found either a high (7) or low (7) amount of money. Two-thirds of our participants received either positive (happy) or negative (disgust) additional information about how Frank spent the money. The remaining participants did not receive any additional information. All participants were later assessed on emotion and recall of facts from the story. We expect that memory for events will be affected by the emotional state induced by the additional information. Specifically, we predict that disgust paired with the high amount of money will cause the most overestimation of the money found and inaccuracy in regard to details from the story. We also predict that the happy and neutral conditions will increase accuracy of recall for the actual amount of money and details.

### **FROM THE DEPTHS OF GREAT POND (MAINE): ANTHROPOGENIC AND NATURAL INFLUENCES ON BOTTOM SEDIMENTS AND THEIR IMPACT ON LOCAL SUSTAINABILITY**

**Sara George ('15) and Clara Bicher ('14), Geology**

As part of a Maine EPSCoR grant focusing on sustainability in the Belgrade Lakes watershed of central Maine, current research consists of collecting bottom sediment samples from Great Pond. Great Pond has the largest surface area (3,453 ha) of the seven lakes in the watershed. Most of its water comes from East and North Ponds via Great Meadow Stream, as well as the surrounding uplands and groundwater discharge. Lake volume and area was increased by the construction of a hydroelectric dam in 1886. To evaluate natural and anthropogenic changes in the lake environment, 67 samples were collected using an Ekman dredge and were analyzed to create a sediment map of the lake basin in regards to depth, grain-size distribution, organic content (%C), C:N ratios and phosphorus concentration. Results will aid in the understanding of the glacial formation of the lake, distribution of sediment within, and human impact on the lake. Additionally, knowing the distribution of phosphorus within the sediments may allow development of a strategy to avoid accelerated eutrophication. These results will be compared with previous research on nearby East Pond sediments. This research will add to the geologic knowledge base of lake sedimentation and chemistry and will provide data that can be used by local conservation groups for community education and advocacy for best sustainability practices in the Belgrade Lakes watershed.

### **THE IMPACT OF GLOBAL CLIMATE CHANGE ON THE TRANSPORTATION, ASSIMILATION, AND ACCUMULATION OF MERCURY**

**Rumbidzai Gondo ('14) and Nomawethu Moyo ('15), Environmental Studies**

Popular studies have and continue to emphasize the impact of climate change on ecosystems, disease distribution, and the frequency of extreme weather events. However, there has not yet been much information dispersed to the public about the impact of climate change on pollutant life cycles. It is highly probable that changes in temperature and rainfall distribution affect the way pollutants move, assimilate, or accumulate in the environment, and in turn this may exacerbate the consequence of climate change. This study will consider the impacts of climate change on the life cycle (from production to disposal) of hazardous pollutants especially considering the consequential health risks associated with these changes. By doing so, the study will conclude that as climate change impacts intensify, so will the challenges associated with the different stages of the pollutants life cycle. This study is done with the hope that awareness of these impacts will prompt more research, regulation, and monitoring of the concerned pollutants.

**A SELECTION STRATEGY FOR THE DESIGN OF SMALL PROTEINS THAT CAN RECOGNIZE DNA REPAIR INTERMEDIATES****Rachel Guerra ('13), Kayla Gross ('13), Dylan Plaskon ('15) and Emily Sher ('13), Chemistry**

Recognition of DNA damage by repair proteins is crucial for genomic stability. Several repair enzymes recognize aberrant DNA structural features, including nicks, gaps, and abasic sites, in a sequence-independent DNA manner. Reported here is a strategy to model these protein-DNA interactions using small proteins. A phage-displayed library of approximately one hundred million distinct zinc fingers was engineered at the DNA level based on the DNA binding domain of the repair protein poly(ADP-ribose) polymerase-1. Eight codons, representing amino acid residues in loop regions of the zinc finger structure, were randomized using an NNK codon scheme. The DNA cassette was cloned into a commercially obtained T7 phagemid vector. The resultant phage library was exposed to nicked DNA molecules, which were attached to magnetic beads via a biotin-streptavidin linkage. In four rounds of selection that featured negative selection against non-nicked DNA and streptavidin coated beads, viral retention on the affinity resin increased from a negligible quantity to 62%. DNA sequencing following the final round revealed near convergence to a single 39-mer peptide. This selected peptide will be generated by bacterial expression and assayed for binding activity using multiple strategies. While phage display of sequence specific DNA binding proteins is well-precedented, selection of peptides that bind specific DNA structures has not been reported. Molecules discovered by this strategy will help illuminate the structure-function relationships of proteins that recognize distinct DNA structures and may lead to new anticancer approaches.

**THE FARNHAM WRITERS' CENTER AS A CULTURAL SPACE****Rachel Haines ('13), Anthropology**

My short film will present video interviews with current Colby Farnham Writers' Center tutors to examine the 'tutor culture' of the center. The featured tutors speak about conversations and camaraderie among writing tutors, the general atmosphere of the center, and their sense of belonging to an inclusive community. Tutors also discuss details about the Writers' Center that they want Colby students in particular to know, as well as what they like most about being tutors. The goal of my project is to share a glimpse of the 'behind the scenes' of the Writers' Center in order to educate Colby students and faculty about the students who work in the Writers' Center.

**DEVELOPMENT OF A STANDARD AND FUNCTIONAL TACTICAL EMERGENCY MEDICAL SUPPORT TRAINING PROGRAM****Benjamin Hannon ('13), Science, Technology, and Society**

Tactical emergency medical support is the hybrid of law enforcement and emergency medical services to provide medical care during civilian tactical engagements. Tactical incidents often separate regular emergency medical services from patients in need. Tactical emergency medical providers operate with precision in high-threat, stressful, physically demanding, and dynamic environments such as active-shooter incidents and high-risk search warrant executions to deliver medical care. The demanding environment sets tactical emergency medical support apart from typical pre-hospital medicine and creates a need for unique training. Tactical emergency medical training must teach skills that are appropriate and feasible in hostile situations. Furthermore, instructors must create a training environment that prepares students for the physical and mental stressors of the tactical environment. In recent years, the medical, law enforcement, and military communities have produced a wealth of research on medical care in austere environments and human performance under stress. Unfortunately, the current literature has failed to deliver a functional tactical emergency medical curriculum that can be implemented in courses and texts. This project draws from research and expertise in the tactical and medical communities to create a functional tactical emergency medical training program.

**NATIVE AMERICANS IN THE REVOLUTIONARY WAR: MASSACHUSETTS PATRIOTS****Clea Harrelson ('16), History**

Typical surveys of the Revolutionary War pivot around the experiences of white Patriots and their white British counterparts. This research, illuminates the often omitted Native American involvement with the Patriot cause. Focusing on Massachusetts, it examines Indian influences on the war, and in turn, the war's influence on Indian people. This research explores Native American experiences in pre-war life, their contributions and struggles during the war, and investigates the post-war consequences for Native communities. Contrary to popular visions of popular visions of savages emerging from the wilderness to interact with colonists, many Native Americans in Massachusetts integrated into white society in hopes of gaining respect and land rights. Christian Indians proved especially likely to serve in the war. Massachusetts Indians served enthusiastically and saw combat in nearly every major campaign. This research calculates and categorizes the number of Indians who served. But once the war came to an end, efforts to remove Indians from their lands accelerated, upsetting already fragmented and destabilized communities. Sources include seldom before used resources including the Forgotten Patriots Collection of the Daughters of the American Revolution (DAR), Colin Calloway's *The American Revolution in Indian Country: Revolutionary War, Pension Statements from the National Archives*, and letters and newspapers.

country, Revolutionary War Pension statements from the National Archives, and letters and newspapers from the era.

#### **ATLAS OF MAINE: COUNTY ANNUAL CRIME RATE PER 1000 RESIDENTS AND CORRECTIONAL FACILITIES**

##### **Caleb Harris ('15), Environmental Studies**

This map shows the placement of correctional facilities in Maine as well as the county crime rates for 2011, in total crimes per 1000 people. This map compares the rate of crime in each county to the location of the incarceration facilities. It was created using ArcGIS using the NAD 83 UTM Zone 19N projection. Data were obtained from the Maine Office of GIS for the county and correctional facilities layers. The crime rate statistics were found on the Maine Department of Public Safety website and added in manually. The roads layer came from ArcGIS and was clipped by Dr. Manny Gimond.

#### **OCCUPANCY STATUS, DEPRECIATION AND HOUSING CONDITION IN WATERTOWN'S SOUTH END**

##### **Caleb Harris ('15) and Savannah Judge ('15), Environmental Studies**

The Waterville Community Land Trust is a 501c3 nonprofit organization dedicated to revitalizing the city of Waterville, particularly the South End, by promoting affordable housing and permanent residency. On behalf of the Land Trust, we performed a spatial analysis of residential properties in the South End that allowed us to examine how occupancy status may influence the value of surrounding properties.

#### **ELEMENTAL TOWER DEFENSE**

##### **Joseph Harwood ('14), Computer Science**

Video game design is an involved and intricate process. A finished product is the result of effectively combining efficient algorithms, apt data structures, and smooth user interfaces. Since my hope is to go into the game design field myself one day, I decided that the best way to prepare myself was to familiarize myself with the process. My unique spin on the tower defense genre takes an already prevalent idea of assigning elements to the towers, but expounds upon it to utilize the idea of elemental towers to their full potential.

#### **MAINE'S ROCKWEED HARVEST: TOMORROW'S PROMISE OR A CRISIS IN THE MAKING?**

##### **Meagan Hennessey ('14), Economics**

This poster discusses the harvesting of *Ascomyllum nodosum*, a high volume industry in Maine. As this macro-algae species supports over 150 others, including economically vital ones, it is a key industry to address. This poster focuses on both ecological and economic components. In addition, the implications of a current bill being pursued in the Maine Legislature are addressed.

#### **SHIPBUILDING AND HEALTH: WHAT'S THE CONNECTION?**

##### **Meagan Hennessey ('14), Environmental Studies**

This poster explores the connections between the shipbuilding industry and possible health effects for those occupationally and environmentally exposed.

#### **WHAT CHARACTERISTICS LEAD TO A SUCCESSFUL CORRIDOR PROJECT?**

##### **Meagan Hennessey ('14) and Colin Cummings ('14), Environmental Studies**

This poster examines three separate, completed corridor projects to determine what characteristics are common in 'successful' projects. The definition of success depends largely on the species in question.

#### **THE SUBJECT UNDER FIRE: 20TH CENTURY RESPONSES TO THE ENLIGHTENMENT AND THE ESTABLISHMENT OF A NEW ONTOLOGY**

##### **Benjamin Hill ('13), German/Russian**

Modern ontology has been built upon the notion of the transcendental self that goes by many names, such as the Cartesian cogito, the Freudian ego, and the Kantian subject. In the 20th century, the notion of the subject forged in the Enlightenment has been steadily threatened by the forward march of scientific progress and technological advancement. After the devastation caused by the Second World War, several German-born thinkers including Heidegger, Kluge, Marcuse, and Sloterdijk have tried to define a new place for the subject in a changing world. Ultimately, this paper investigates how technology interacts with the subject, through the work of these thinkers, and whether the former serves to support, free, destroy, or fully integrate the latter in a new ontology for our present civilization.

#### **THE WANDERER'S JOURNEY**

##### **John Holman ('13), Religious Studies**

I explore the phenomenon of the wanderer's journey in religion. I have constructed an archetypal model for the journey drawing upon the work of Huston Smith, Mircea Eliade, Joseph Campbell, and William James. The model describes how and why an individual chooses to undertake a journey. I use my model to examine the journeys of the Buddha and Guru Nanak, the founders of Buddhism and Sikhism respectively. They each journeyed away from their traditional Hinduism to found major religions. I then explore how the journey has transformed in modern times. I look specifically at the fictional works of Hermann Hesse and W. Somerset Maugham. Their protagonists embark on similar wandering journeys as the Buddha and Guru Nanak. Ultimately I examine how wanderers perceive a unification of journey and religion at the culmination of their journeys.

#### **MANAGING THE GLOBAL MARINE AQUARIUM TRADE**

##### **Sarah Holmes ('13), Environmental Studies**

The marine aquarium trade is a high-value global commercial industry that involves harvesting fish, corals and invertebrates from coral reefs for ornamental use in aquaria. Sustainability of the trade has

corals and invertebrates from coral reefs for ornamental use in aquaria. Sustainability of the trade has been questioned, as management has not kept pace with the rapid increase in international trade. This study first examines different levels of current management, both government and market-based. Next, this study uses trade data to determine whether the most commonly traded species are prone to extinction. To address this concern, this research examines international, regional and national management structures for extinction-prone species. While a relatively small number of species are extinction-prone, these species typically experience unsuccessful management. The lack of data concerning the trade is also a considerable concern. Lastly, this study assesses a proposal for the orange clownfish, *Amphiprion percula*, to be listed under the United States Endangered Species Act. This research discusses applicable precedents and potential trade outcomes of this listing.

### **THE ROLE OF THE ETHIOPIAN ORTHODOX CHURCH IN FOREST PRESERVATION IN THE SOUTH GONDAR REGION OF ETHIOPIA**

**Sarah Holmes ('13), Environmental Studies**

The landscape of the South Gondar region of Ethiopia, once covered in indigenous Afromontane forest, has fallen victim to intense deforestation, mostly due to land conversion for agriculture. The remaining natural forests are almost exclusively found encircling Ethiopian Orthodox churches. These church forests are small pockets of natural habitat for indigenous flora and fauna; they are also a source of freshwater springs used by priests and local communities. These sacred forests still face threats of illegal tree cutting for fuel and fire wood, livestock grazing, and gradual but steady agricultural expansion. Formal laws to combat these threats are few in practice, and often loosely enforced. This research examines how the Ethiopian Orthodox Church has responded to the local and global issues of deforestation, climate change and biodiversity loss, drawing on findings from surveys of priests and church community members from the South Gondar region. Priests cited a variety of spiritual and subsistence benefits provided by the forests, and most recognized the immediate need for action to better protect the church forests. Interviews of rural households surrounding two church forests suggested community members primarily valued church forests because of their religious importance, and many households were willing to assist the churches in building a protective wall or hiring a guard. Overall findings suggest the Ethiopian Orthodox Church will likely continue to play a significant role in current and future church forest preservation in the South Gondar region, both as an actor and as a source of leadership. The research concludes with a discussion of opportunities for collaboration among international preservationists, national government, church leaders, and community members.

### **SUSTAINABILITY REPORT: LEAP ORGANICS**

**Lisa Hoopes ('13), Kimberly Cunningham ('13) and Theresa Petesch ('13), Environmental Studies**

In this project, we will be reporting the sustainability efforts of the company LEAP Organics. We will report on the company's carbon emissions, through our conduction of a life cycle analysis. This includes research on the environmental impacts of the company's products, packaging, and shipping. We will also discuss the benefits of organic skincare products to human health, in comparison to conventional skincare products.

### **EFFECTS OF NICOTINE AND INDOLE-3-CARBINOL EXPOSURE IN A *DROSOPHILA* MODEL OF PARKINSON'S DISEASE**

**Cassie Huang ('13) and Jessie Rottersman ('14), Biology**

Parkinson's disease (PD) is a neurodegenerative disorder primarily affecting the dopaminergic neurons in the nigrostriatal pathway resulting in debilitating motor impairment in both familial and sporadic cases. Chronic exposure to the pesticide rotenone also selectively degenerates dopaminergic neurons and causes locomotor impairment and early mortality in a *Drosophila* model of chemically-induced PD. Nicotine, a nicotinic acetylcholine receptor agonist, produces stimulant effects on animals. It is widely consumed by humans, and substantial losses in nicotinic receptors have been found postmortem in Parkinson's disease. Previous research has shown positive results using nicotine to treat rotenone toxicity in vitro. Indole-3-carbinol (I3C) is found naturally in many cruciferous vegetables such as brussels sprouts, kale, and broccoli. It is thought to have antioxidant effects and has been targeted as a possible cancer treatment after a study showed I3C dose-related decreases in tumor susceptibility. This study investigated the effects of nicotine and indole-3-carbinol on early mortality in a rotenone-induced PD model. We show that treatment with 10 uM nicotine and 1mM indole-3 carbinol-supplemented food improve the early mortality in flies. The recovery of rotenone-induced locomotor deficits by nicotine and indole-3-carbinol is currently being explored. Furthermore, future studies will explore the antioxidant effects of these two drugs through a superoxide dismutase (SOD) assay.

### **THE EFFECT OF ECONOMICS SCALE ON OCS AUCTION**

**Weiming Huang ('13), Economics**

This paper use the data from Outer Continental Shelf (OCS) auctions during 1954 to 1979 to examine whether the economics scale affect firms behavior in auction. The OCS auction is a first price sealed bid auction on common value goods. The dataset this paper using have been used for explaining the information effects on bidders behavior by Hendercks Porter and Boudreau, but they did not include the analysis of economics scale. This paper will use a several methods to define economics return to scale to find the behavior patterns of different firms.

### **ENVIRONMENTAL OBESOGENS: HOW THEY ALTER CELLULAR ADIPOGENESIS MECHANISMS AND MAY CONTRIBUTE TO THE OBESITY EPIDEMIC**

**Elizabeth Hughes ('13) and Cassie Huang ('13), Environmental Studies**

Obesogens are environmental contaminants that alter the adipogenesis pathway and predispose the exposed individual to store excess fat. It is proposed that obesogens alter the epigenome of multipotent stromal stem cells which makes them more likely to become adipocytes instead of bone, perhaps through the upregulation of peroxisome proliferator-activated receptor gamma. As cells are preprogrammed toward an adipogenic state from this exposure, this results in a higher set point of adipocytes, which in combination with poor diet and inadequate exercise, can lead to a lifelong struggle with obesity.



**HOW CONCEPTUAL AND PERCEPTUAL CUES AFFECT METAMEMORY AND MEMORY****George Humphrey ('15), Taysir Jama ('15), Alexander MacMillan ('15) and Astrid Moore ('15), Psychology**

A host of perceptual and conceptual cues can affect both retention and the volume of information that a person believes they can recall. The latter, known as metamemory, is measured using a judgment of learning (JOL) assessment. The purpose of this investigation was to recreate known findings that high font legibility, a perceptual cue, leads a participant to report a high JOL, just as low font legibility results in a low JOL score. In an attempt to contribute to the field, we investigated the effect of source credibility on memory and metamemory. Participants were given a standardized passage attributed to either a higher-credibility source or a lower-credibility source. The passage, adapted from Wikipedia, was printed in either a highly legible form, or a less legible form. Participants were asked to make JOLs before and after they took a retention test on the passage. Our findings demonstrated that JOLs were affected by source credibility in an interaction with time of JOL. Thus, conceptual cues can affect metamemory just as perceptual cues do.

**A TROJAN HORSE IN SENEGAL: EXPLORING THE ECONOMIC IMPLICATIONS OF CHINESE MERCHANTS IN DAKAR, SENEGAL****Georgina Hurst ('13), Global Studies**

China is on the path to becoming the world's largest economy by 2021. By investing millions directly into developmental and mineral extraction projects throughout the African continent, China continues to boost its manufacturing output, and grow at exponential rates. But as economic ties strengthen, so does the presence of Chinese immigrants in Africa. Senegal is no exception. Since the 1990s, a neighborhood consisting of 300 Chinese storefronts selling cheap goods has developed in Dakar, setting the informal sector of the economy off-balance. The Chinese have adapted to the demands of Senegalese consumers, focusing their products on Islamic goods, such as prayer beads, and traditional Senegalese goods, such as wax clothing. They are able to mass-manufacture these goods in China under cheaper production costs, allowing Chinese retailers to undersell Senegalese retailers in Senegal. The literature suggests that, while democratizing consumption for low-income shoppers, the rock bottom prices Chinese merchants offer trigger competition between Chinese and Senegalese retailers that puts many Senegalese retailers out of business. Through examination of literature, statistical analysis, and field

research in Dakar, Senegal, this study explores the economic implications of an expanding Chinese presence on Senegalese retailers in the informal market of Dakar, and on Senegalese consumers of cheap goods that shop primarily in this market.

**STRANDED IN THE GRASSLANDS: SURVIVAL PROCESSING AND CATEGORIZATION OF ANIMALS****Alexis Jackson ('16), Psychology**

Processing information for survival relevance has been shown to improve memory, possibly because memory systems likely evolved to enhance an organism's survival. Experiment 1 examined whether survival relevance influences learning. Participants sorted plant-like stimuli into two groups and learned which stimuli belonged in each group through trial and feedback. Participants classified images as either A or B, edible or inedible, or edible/inedible with a survival passage. On a final test, participants correctly classified more stimuli in the edibility and survival conditions, suggesting that the edibility judgment may have activated survival processing or been more meaningful and thus easier to learn. Experiment 2 included a control condition, in which participants sorted stimuli on their nativity to the area. Participants in the edibility and survival conditions showed faster learning than those in other conditions. Thus, processing information for its survival value does promote rapid learning of novel complex stimuli. In Experiment 3, participants sorted 128 animal-like stimuli into two groups and learned which stimuli belonged in each group through trial and feedback. Depending on the condition, participants classified images as either Redorb or Norac, native or nonnative, predator or prey, or predator/prey with a survival passage. In the survival condition, participants were told to imagine that they were stranded in the grasslands of a foreign land, without any basic survival materials. Participants identified which animals they could hunt and which would kill them. On a final test, participants correctly identified more stimuli in the scientist, predator/prey, and survival conditions, suggesting that anything above a basic level of processing increased learning.

**GENDER EFFECTS IN FIRST PRICE SEALED BID AUCTIONS: EXPERIMENTAL EVIDENCE****Peter Jones ('13), Economics**

I examine gender differences in first-price sealed-bid common value auctions in a low stakes setting using experimental techniques. Unlike previous research I test not only if one's own gender affects bidding strategy and earnings, but also if knowing the gender of one's opponent influences bidding strategy and earnings. Controlling for both individual ability and risk preferences, I fail to find evidence that men and women bid differently or earn different amounts if not given information about an opponent's gender, but find evidence that males who are told that their opponent is male bid higher and earn less than others.

**SENIOR HONORS THESIS: CLASSROOM PEER EFFECTS IN HIGHER EDUCATION: EVIDENCE FOR COLBY COLLEGE****Peter Jones ('13), Economics**

Using a unique panel data set constructed from registrar and admissions data from Colby College, I examine peer effects on course grades. Employing an estimation technique that controls for student, professor and course fixed effects, I alleviate endogeneity concerns posed by non-random assignment. I analyze peer influence on academic performance by examining the composition of an individual's classmates based on SAT scores. I estimate peer effects using a nonlinear model and test for heterogeneity in response based on gender.

### **THE MACROECONOMIC EFFECT OF CURRENCY UNION DISSOLUTION EVIDENCE FROM THE NARRATIVE**

**Marcus Josefsson ('13), Economics**

The current literature contains a number of alternative and contradictory explanations for the impact of currency union dissolution. Some argue that dissolving a union removes limitations to growth, while others contend that the ensuing uncertainty drives weaker macroeconomic performance. In this paper, I present an empirical analysis of the macroeconomic effect of dissolving currency unions. I find that, on average, the dissolution of a currency union leads to significantly weaker performance in macroeconomic variables. In further investigation, I utilize a narrative approach to address asymmetries in the underlying motivations for different dissolutions. These results indicate that the type of dissolution, as classified by motivation, matters in understanding the potential impact of that dissolution. The results indicate that different theoretical explanations prevail depending on the nature of the currency union dissolution.

### **ATLAS OF MAINE: CELLULAR TOWERS AND POPULATION**

**Savannah Judge ('15), Environmental Studies**

This map of Maine shows the locations and heights of cellular towers registered by the Federal Communications Commission as of 1998. This map compares the locations of these cell towers to the population per census block provided by the U.S. Census Bureaus Master Address File/Topologically Integrated Geographic Encoding and Referencing Database (MTDB). The Maine Office of GIS defines census blocks as statistical areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and/or by nonvisible boundaries such as city, town, township, and county limits. All data for this map was published by the Maine Office of GIS and projected using the NAD83 UTM Zone 19N coordinate system.

### **THE SUNK-TIME EFFECT AND PERSONAL RESPONSIBILITY IN ROMANTIC RELATIONSHIPS AND EDUCATION**

**Hillary Keach ('13), Psychology**

People often persist in failing endeavors despite negative feedback and poor outcomes, a phenomenon termed the sunk-cost effect, which Arkes and Blumer (1985) defined as the greater tendency to continue an endeavor once an investment in money, effort, or time has been made (p. 124). While robust evidence exists for monetary decisions, evidence for temporal scenarios (sunk-time) is inconsistent. This behavior in non-monetary scenarios, such as interpersonal relationships and work tasks, could be particularly harmful and distressing. In two studies with two different samples of undergraduate participants, the sunk-time effect and the role of personal responsibility were examined within settings relevant to emerging adults: an education scenario and a romantic relationship scenario. The relationship between various personality factors and the sunk-time effect was also explored. The sunk-time effect manifested differently in an educational project versus a romantic relationship, and as a function of the level of personal responsibility felt for the failure. Additionally, the speed and impatience factor of Type A personality moderated decisions to abandon a failing romantic relationship as a function of personal responsibility felt for the relationships failure.

### **FRACK ATTACK: HOW HYDRAULIC FRACTURING FOR NATURAL GAS THREATENS HUMAN HEALTH**

**Monique Kelly ('14) and Madison Louis ('13), Environmental Studies**

According to the U.S. Energy Information Administration, the number of active-gas wells in the United States rose from 373,304 in 2001 to 514,637 in 2011, representing a 27.46% increase. As the prevalence of natural gas sites continue to rise, it has become increasingly necessary to understand the hydraulic fracturing process and the associated disease burden of natural gas extraction. While natural gas presents an alternative energy source to coal and oil and often results in temporary economic prosperity, the process of extraction is unsustainable and a serious threat to human health. Hydraulic fracturing methods contaminate ground and surface water and pollute the air. These negative effects on the environment also have serious consequences on human health including, but not limited to respiratory and neurological problems. This study will analyze federal policies, case studies, and scientific literature to educate the public on the negative public health effects of hydraulic fracturing.

### **THE HISTORICAL ROLE OF WOMEN IN TANTRIC YOGA AND SEXUAL RITUAL**

**Israelle Kidson ('13), Religious Studies**

The historic roles of women in Hindu society and in Tantric Yoga have been complex and multifarious. Women played a significant role in Tantric spirituality, and in particular in the sexual ritual of left-hand schools. However, Tantra has frequently been assumed to be a practice existing solely for male gains because of longtime gender disparity and the historical predominance of male scholarship. Because a majority of scholarship seems to suggest a conflation of female worship and female objectification within Tantra, this study seeks to demystify women's role. Through examination of the shifting role of women from pre-Vedic to medieval culture, as well as examination of the origins and development of Tantra as a current separate from ascetic yogic disciplines, it becomes clear that female subordination and objectification was perpetuated by laws and spirituality exterior to the Tantric practice. Women in fact held a revered role equal to or greater than men within specific forms of Tantric ritual.

### **SPACE: SUPPLYING A PLACE FOR ACTION, CARING, AND EDUCATION -- A GRANT TO SUPPORT THE SOUTH END NEIGHBORHOOD ASSOCIATION AND SOUTH END TEEN CENTER OF WATERVILLE**

**Wayne Kim ('14), Garrison Beck ('13), Jennifer Charette ('13) and Madison Louis ('13), Sociology**

This poster describes a grant proposal that will provide additional staffing hours and supporting materials for the South End Teen Center of Waterville. These funds will allow teens to utilize the resources provided by the Center more fully, including increased access to the Centers third floor and a greater opportunity for indoor and outdoor recreation due to more sports, crafts, and educational materials.

Increased staffing will not only afford enhanced use of the Centers facilities for its teen members, but also allow the teens to receive more individual attention from their staff role models. Moreover, funding from this grant will help improve South End Neighborhood Association events, which will strengthen the community and provide an enhanced way for teens to get involved in their community. This grant was written in conjunction with SO 332 Nonprofit Organizations and Philanthropy, a course funded by the Learning By Giving Foundation.

#### **SA-RANG COMMUNITY CHURCH: FOSTERING ETHNIC SOLIDARITY AND FORGING A HYBRID AMERICAN IDENTITY**

**James Kim** ('14), American Studies

Following the new immigration law in 1965, a vast number of Korean immigrants entered the United States. As these immigrants settled in various regions of the country, Korean churches and businesses emerged to help form robust ethnic communities. In this project, I will examine Sa-Rang Community Church (SRCC) in Anaheim, California, as a case study to explore how religious institutions serve as a distinct space of cultural preservation and identity formation for the Korean-American community.

#### **SELF-AFFIRMATION AS A BUFFER AGAINST THREATS TO EXTERNAL CONTROL**

**Katherine Kimball** ('15), **Molly Robertson** ('15), **Kyle Rogacion** ('15) and **Matthew Willett-Jeffries** ('14), Psychology

Previous research has shown that there is a hydraulic relationship between internal and external sources of control. In other words, when one source is threatened individuals compensate by defensively bolstering the other source. This study aimed to discover whether self-affirmation could attenuate this effect of compensatory behavior. In order to instigate a compensatory reaction, some participants were presented with an article threatening external control, whereas the other participants read a similar article that bolstered rather than threatened external control. To test the effect of self-affirmation, we had some participants complete a self-affirmation task, whereas others did not. Finally, we measured perceptions of

internal control for all participants. The results indicated no significant main effects or interaction for self-affirmation or threat on internal control. Discussion focuses on possible explanations for the lack of significant effects.

#### **ON THE ROAD TO NOWHERE: DAVID LYNCH AND THE FAILURE OF DESIRE**

**Daniel Kissinger** ('14), English

Exploring David Lynch's film 'Mulholland Drive' and 'Lost Highway,' this paper looks at the distinctions we as spectators make between reality and fantasy. This paper will examine how fiction and fact are distorted and toyed with in Lynch's work. Questions of the separation of dreams and reality, desire and objectivity will be raised ultimately looking at how we, as spectators, view what is 'real' as opposed to that which isn't.

#### **ENDOCRINE DISRUPTING EFFECTS OF PHTHALATES ON FEMALE HEALTH**

**Emma Klein** ('13) and **Laura Duff** ('13), Environmental Studies

This project reviews current studies that examine the endocrine disrupting properties of phthalates and the effect these products have on female health. Specifically, the project examines effects of phthalates on the reproductive system, breast cancer incidence, and the progression of puberty. While the evidence examining females and phthalates is limited in general, the available data suggest that phthalate exposure through plastics and personal care products does produce effects in all three areas we examined.

#### **HOW PUBLIC COMMITMENT INFLUENCES BLAME AND THE RIPPLE EFFECT IN MEMORY**

**Courtney Klein** ('15), **Samuel Poulin** ('14), **Jared Scharf** ('15) and **Meredith Zakon** ('15), Psychology

Previous research has found that making an attribution of blame can distort memory for an event. This phenomenon is known as the ripple effect. The present study investigated whether publicly committing to an attribution of blame would wipe out this effect. Cognitive dissonance theory suggests that when we commit to a certain judgment, we are motivated to perceive events as being consistent with that judgment. Therefore, when an individual makes a salient commitment to an attribution of blame, they are likely to maintain that commitment despite other relevant information. Participants read a brief vignette about a fictional character, Frank, who walked out on a restaurant bill. Half of these participants made a public attribution of blame prior to answering recall questions about the price of Frank's meal, whereas the other half made an attribution of blame after completing these recall questions. We expected that those who made an initial public commitment to their blame statement would overestimate the cost of the meal, and those that did not would show no difference in cost estimate, therefore wiping out the ripple effect. The results trended in the right direction, however, there were no significant main effects or interactions.

#### **LICENSE AND REGULATION, PLEASE: NEW STANDARDS FOR THE PRACTICE OF IN VITRO FERTILIZATION**

**Nickolas Kondiles** ('13), Science, Technology, and Society

This presentation will investigate the practice of in vitro fertilization and the social, moral, and legal implications that go along with it. The goal is to show that the current practice of IVF is immoral, potentially harmful to society, and needs reform on several levels. People often forget that IVF is a technology that transforms the way we see and experience reproduction. Thus, this paper will analyze IVF through a technological lens as a human manipulation of a natural process. The positive and negative aspects of IVF will be discussed to discover the best ways to reform this technology. This investigation will show that strict legal regulations must be put in place on embryo implantation and the need for a standardized licensing process to gain eligibility for IVF.

#### **GOLDEN ON GREAT POND: CHANGING THE WAY WE MONITOR LAKES**

**Matthew LaPine ('13), Environmental Studies**

Great Pond of the Belgrade Lakes is an epicenter of local activity. The lake is a source of recreation, tourism, local industry, and natural beauty. The Environmental Science program has studied Great Pond for many years, with a large amount of time being spent on determining water quality based on several parameters. This monitoring requires the correct sensory equipment, an individual with working knowledge of said equipment, and a friend with boat! Starting this spring, this method of monitoring will be supplemented with addition of 'Goldie,' Colby's new remote water quality monitoring buoy. Capable recording and directing data to Colby servers, this buoy will change the way we monitor the lake while giving us new and valuable insight on the processes of the Great Pond. This talk will cover the inception of Goldie, it's capabilities, and the challenges we've faced while getting it lake ready!

**POLITICAL PRIMING: THE EFFECT OF EXTERNAL FACTORS ON WORD RECOGNITION AND RECALL****Adam LaViolet ('13), Psychology**

The frequency of words to which people are exposed fluctuates over the course of a year, yet there is little research as to how these varying stimuli affect our cognitive abilities. Using the intense media coverage of the 2012 presidential election, this study investigated the effect of word frequency in the external environment (i.e. outside the lab) on word recognition and recall in a Lexical Decision Task. Participants identified pseudohomophonic nonwords and three types of words (political, pop culture, or unrelated) as either words or nonwords; afterwards they were told to recall as many words as possible. Because the words in each list were matched on all characteristics, any differences in reaction time or recall between the lists could be attributed to external factors. Although there was no difference in reaction times for the different word lists, recall for political cues was significantly higher than the recall for the other cues in November. The increase in recall for the political cues was due to a greater exposure to these words from the media coverage of the election. Participants tested in February had a significantly lower recall for political cues than the November group, indicating that stimuli in our external environment can affect our cognitive abilities.

**THE EFFECTS OF CHLORINATED POOLS ON RESPIRATORY HEALTH****Stefanie Lai ('15) and Alexa Williams ('15), Environmental Studies**

Studies have associated chlorination used to clean pools to respiratory issues such as asthma. This poster will explore the potential adverse health effects on respiratory health caused by swimming in chlorinated pools based on duration of exposure and various other factors. It will also posit some suggestions for alternative methods of maintaining clean pools and tips for avid pool-goers.

**SOME THINK THAT WE CAN'T FLOW: THE INTERSECTIONS OF BLACK WOMANHOOD, FEMINISM AND HIP-HOP AS SEEN THROUGH BEYONCÉ AND QUEEN LATIFAH****Courtney Laird ('13), Women, Gender, Sexuality**

In her publication *Home Girls Make Some Noise!*: Hip-Hop Feminism Anthology, Gwendolyn D. Pough contextualizes female presence in the hip-hop industry as often supplementary, submissive and sexualized. Claiming, "We must resist and counter the limited views of women in hip-hop," Pough suggests that we examine hip-hop and rap not as misogynistic industries but rather opportunities for females to narrate personal stories, construct identities and disassemble popular perceptions of black womanhood. In the following essay, I will incorporate supplemental readings about and close analyses of two prominent, modern black female artists Beyoncé and Queen Latifah to argue that both positively promote feminist agendas. Although the agendas they endorse may differ, when Beyoncé and Queen Latifah are analyzed in tandem, we are able to more clearly delineate how feminism functions within the hip-hop sphere, how black womanhood informs feminist work, and how hip-hop and rap avenues inspire both racial and gendered empowerment.

**BUSINESS CLIMATE AND COUNTRY-LEVEL EFFECTS OF PHARMACEUTICAL FDI GROWTH IN EMERGING ECONOMIES****Marcel Lambrukos ('13), Economics**

TBA

**THE QUEST FOR AN ENZYME-REGULATING MOTIF IN EXTREMOPHILIC MICROBE BACTERIOOPSINS****Sarah Lane-Reticker ('16), Biology**

Basic survival on planet Earth is highly dependent upon an organism's ability to convert available resources into energy, and to do this in the most efficient manner possible. Organisms living in extreme environments with limited resources must develop specific regulatory mechanisms to avoid unnecessary energy use. The salt-loving archaeon *Halobacterium salinarum*, produces a light-induced proton pump called bacteriorhodopsin to provide energy when oxygen levels are low. Bacteriorhodopsin (BR) is comprised of an apoprotein, bacterioopsin (BO), and a retinal cofactor. Its production begins when low oxygen levels trigger transcription of the *bop* gene, which encodes bacterioopsin. At the same time, lycopene must be converted to -carotene, which is then cleaved to produce retinal. When cells do not require BR, lycopene elongase (Lye) converts lycopene to bacterioruberins. Our lab previously determined that the presence of BO inhibits Lye activity to allow the available lycopene to be used for retinal synthesis. In this study, we describe a research approach to test truncation and point mutations to identify the portion of BO responsible for these regulatory properties.

**THE VALUE OF TRUTH: THE ELIJAH PARISH LOVEJOY STORY AND AN EXAMINATION OF THE IDEA OF 'TRUTH' IN JOURNALISM****Eliza Larson ('13), English**

Fascinated by the gap between 19th century and 21st century journalism, I decided to research the story

or Eliza Parish Lovejoy and look for some connections between his writing and journalism today. I wanted to find ways in which the past can inform the present. First, I studied Lovejoys biography to draw a causal line from his formative years to his writing career. This way, I could examine how his writings were influenced, why they received such a strong reaction from the public, and what the relationship is between the journalist and journalism personal and universal truths. I looked closely at his religious history because as I anticipated before starting this project that had the largest affect on Lovejoys beliefs. Because of my research on his religion, I was able to critically examine his career as a journalist and the ways his religion and other things influenced his writing. Then, I followed Lovejoys journey throughout the United States to pick up clues on how his perspective changed with his location. Next, I researched the First Amendment of the United States where it is stated, Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances. Since Lovejoy is hailed as a martyr for freedom of the press, I wanted to point out why. Although Congress may not make a law outlawing religions or religious teachings nor will they stop people from trying to write, speak, or gather, but that does not mean that everyone will agree to go along with these laws.

#### **REVEALING THE COMPLEXITIES OF POSTFEMINIST CHICK-LIT TELEVISION THROUGH A REPARATIVE READING OF GIRLS**

**Kathryn Laxson ('13), Women, Gender, Sexuality**

The genre of Chick-Lit television is often regarded as being strongly postfeminist. Critics and scholars of Chick-Lit television often find complexities within these postfeminist works, as the shows both engage in and distance themselves from feminism. An effect of this is that Chick-Lit television shows are often criticized for not supporting or presenting feminist ideals. One such television show is the recent phenomenon of *Girls*, which premiered in 2012 on HBO. Although *Girls* may seem to fall in line with many of the other television shows of its genre, an alternative reading of the show suggests that *Girls* is actually engaging in an important discussion that critiques postfeminism. Through a reparative reading of the show, I will argue that *Girls* and its creator, Lena Dunham, use postfeminism to critique societys overall acceptance that we are in a postfeminist society.

TBA

**My Le ('13), Economics**

TBA

#### **'STOP CALLING': GENDER, VIOLENCE, AND THE VALIDITY OF POP MUSIC**

**Thomas Letourneau ('13), Women, Gender, Sexuality**

My project seeks to understand iterations of violence in female-sung pop songs. I hope to show that seemingly innocuous pop songs actually reflect the mores of contemporary society and, further, sometimes work to undermine dominant social paradigms.

#### **HOW MANY TIMES WOULD YOU PRESS THE SPACE BAR? THE INFLUENCE OF EMOTION ON PREDICTIONS IN A FUTURE MORAL DILEMMA**

**Rebecca Levenson ('13), Shameeka Murphy ('13) and Brianne Wheeler ('14), Psychology**

Previous research has shown that people predict they will cheat more on a future math test than they do when placed in this moral dilemma. These results suggest that when one is aroused they are more accurate in their moral forecasts. We investigated whether or not a certain emotional frame may be the cause of this arousal. We manipulated participants emotions, making them feel happy or fearful. Participants then predicted how many times they, or another participant, would cheat on a future math test. We expect that the more connected a participant feels to the moral dilemma, the more accurate their predictions will be.

#### **THE ABOLITIONS OF FRENCH SLAVERY: DISCOURSES OF EMANCIPATION**

**Emma Levin ('13), French/Italian**

At the end of the eighteenth century, the abolitionist movement gained force among the French people. The French abolitionists focused on the universality of the Declaration of the Rights of Men in 1789. This declaration highlighted the importance of a government that represented its people and a constitution that focused on basic human rights. However, it took the French three attempts to abolish slavery definitively. This presentation delves into the historical context, wording, and the discourse surrounding each decree. Ultimately, this presentation will visually illustrate that unlike the abolitions of slavery in 1793 and 1794, the abolition of 1848 concentrated on equality, liberty, and fraternity. It did not ride on the coattails of a political party. The final abolition underlined the difference between abolishment and integration and in 1848, the decree attempted to integrate as French citizens.

#### **SMART FOOD**

**Julie Levine ('13), Psychology**

Every year traumatic brain injury (TBI) affects about 1.7 million people in the US according to the CDC, but not enough research has been done for doctors to effectively treat all patients. This presentation will explore nutrition and vitamin supplementation treatment options for patients suffering from traumatic brain injury. These recommended vitamin supplements and changes in diet will aim to alleviate symptoms by correcting the affected internal biology that scientists have hypothesized cause TBI symptoms such as headache and memory loss.

#### **THE EFFECT OF SELF AWARENESS ON MORAL CREDENTIALS**

**Monica Li ('15), Karlyn Donovan ('15), Madeline Hunsicker ('15) and Waylin Yu ('15), Psychology**

The Moral Credential Effect is the tendency to become more willing to express prejudice attitudes after

establishing a non-prejudiced identity. We sought to investigate whether self-awareness would eliminate this effect, and how it might also affect guilt. Accordingly, we had participants make a hiring decision in which they may favor a white candidate above a black candidate. Prior to making this decision, half of the participants were given the opportunity to establish their moral credentials, and half were not. Additionally, half of the participants were made self aware through the presence of a video camera in the lab whereas the other half were not. Finally, participants made their hiring decision and completed a self reported affect scale to assess guilt. Results showed a non significant tendency in the opposite direction, such that participants in the no awareness condition were more likely to favor the white candidate without moral credentials than with moral credentials. Moreover, among self aware participants, those who established moral credentials were more likely to favor the white candidate than those who did not establish moral credentials. Discussion is focused on possible explanations for this pattern of results.

#### **EVALUATING THE BUYER'S OPTION: TESTING THE EFFECT OF THE BUYER'S OPTION ON SELLER'S REVENUE IN WINE AUCTIONS**

**Michael Linskey ('13), Economics**

A distinctive feature of many wine auctions is the addition of the buyers option to the traditional English auction format. This option allows the winning bidder to purchase subsequent lots of wine, provided they are of the same type of wine, at their winning bid. This option adds a new dynamic to the auction. If we assume bidders are risk averse, it could increase competition in the first round of bidding if bidders are afraid the winning bidder will exercise the option and buy all available lots after the first round. By looking at data from several Sothebys wine auctions I examine the impact the option has on seller revenue and find there is no significant impact. The existence of the option does not lead to higher seller revenue on average nor does it lead to different density functions for cases when the option was exercised or not. This confirms the theories proposed by other researchers in that the option may be included in wine auctions to save time rather than to directly increase seller revenues.

#### **GENOME-WIDE TRANSLATIONAL PROFILING OF CENTRAL AND PERIPHERAL CLOCK CELLS IN *DROSOPHILA MELANOGASTER***

**Jie Liu ('14), Biology**

Most organisms have endogenous circadian clocks that limit certain behaviors and physiological processes to times of the day most favorable for their survival. Circadian behaviors and physiologies are thought to be regulated by coordinated function of a central clock and various peripheral clocks. However, the detailed molecular mechanisms by which the central and peripheral clocks interact with each other remain elusive. In *Drosophila*, the central clock and a peripheral clock residing in the prothoracic gland (PG) coordinate to regulate timing of adult fly emergence. We use this as a platform to study the relationships between the central and peripheral clocks. The goal of this study is to analyze genome-wide dynamics of gene expression in the nervous system and the PG of *Drosophila* in the time frame relevant to circadian gating of adult emergence using a genome-wide cell type-specific translational profiling technique called Translating Ribosome Affinity Purification (TRAP), combined with Next Generation Sequencing. This would also allow us to identify novel genes involved in circadian control of adult emergence. We have performed TRAP profiling of the PG clock and identified several candidate PG mRNAs that show circadian changes in translational status. Our preliminary results suggest that the PG clock controls the timing of eclosion by regulating ecdysone biosynthesis. As circadian mechanisms are conserved between *Drosophila* and humans, these studies will have considerable significance for understanding the interactions between the central and peripheral clocks in humans and the human pathophysiologies resulting from circadian dysfunction.

#### **FROM SCUMBAG STEVE TO LL BEAN BOYFRIEND: MEMES, HUMOR, AND THE INTERNET.**

**Sara LoTempio ('16), Philosophy**

In this presentation, we will be exploring how the internet has created new brands of humor and changed the way we think about humor. We will examine how classic humor theories are represented on the internet, how the internet allows us to blend many different aspects of society together to create hyper reality, and the evolution of the meme and its contagious nature.

#### **THE 'HOTTENTOT VENUS,' THEN AND NOW**

**Madison Louis ('13), French/Italian**

In the early decades of the nineteenth century, Sarah Baartman, a Khoisan woman from South Africa, became known in Europe as the Hottentot Venus. During the five years she spent in London and Paris, from 1810 to 1815, she was considered inferior to her European counterparts and exploited as a caged spectacle for audiences. Upon her death in 1818, Baartman's body became the object of scientific inquiry, and her skeleton, preserved brain and genitalia were displayed in Paris in the Musee de l'Homme. This presentation will develop in greater detail Baartman's history in both South Africa and Europe along with the various ways she was represented scientifically. Visual depictions will be used to further illustrate the negative characterization of Baartman during her life, which anticipates how she became a lasting symbol of black women.

#### **ARE YOU TALKIN' TO ME?**

**Katherine MacNamee ('14), Psychology**

This presentation seeks to explain the biological processes by which we encode, process and comprehend spoken language, how our comprehension affects our behavior, and whether the reverse is also possible. The effects of brain damage in regions such as Wernicke's area on auditory language comprehension skills and how such damage affects our behavior and ability to process stimuli will also be explored.

#### **DOES 'CALL' PRIME 'MAYBE'?**

**Katherine MacNamee ('14), Julia Blumenstyk ('14) and Rebecca Levenson ('13), Psychology**

The theory of association-based semantic priming states that connections within semantic memory are

based on co-occurrence within language (e.g., axe-FELL) rather than shared semantic features (e.g., robin-BIRD). We recruited 62 students from Colby College (ages 18-22) in order to investigate whether episodic exposure to semantically unrelated, but episodically associated, word pairs from song titles would yield priming effects in a lexical decision task (LDT) or improved performance in a cued recall task as compared to non-associated or associates, for which participants have little to no context. In the cued recall task, participants were given cues and percent of correctly recalled targets was measured. Word pairs were derived from song titles of tunes that were popular either between 1958 and 1962 or between 2008 and 2012. The different eras were used as a way of measuring the amount of exposure a young adult would have to a song. A greater priming effect for the modern era songs would suggest that the amount of exposure we have to word pairs does, indeed play a large role in the development of episodically associated pairs and can influence the structure of our semantic network. A questionnaire addressing both explicit and implicit measures of musical exposure was also administered. The experiment resulted in cued recall data, which support our hypothesis that modern song title prime-target pairs are treated similarly to previously-known semantically related word pairs while 'oldies' song titles are treated more similarly to unrelated word pairs.

#### **HIDDEN TRUTHS AND QUESTIONING AUTHORITY: AN INVESTIGATION INTO THE USE OF COMEDY AS A SOCIAL CRITIQUE IN HEINRICH VON KLEIST'S 'DER ZERBROCHNE KRUG'**

**Katherine MacNamee ('14), German/Russian**

This presentation addresses the societal critiques and moral implications of Heinrich von Kleist's 'Der Zerbrochne Krug'. I argue that Kleist uses physical, spoken and written events within the play to indicate to the audience (or reader) that that which we see with our own eyes is not always the entire truth, and that much of truth in our lives remains hidden due to such human fallibility. Specifically, Kleist criticizes the justice system and the society's blind trust in authority figures - in this case, the village judge - who are just as corruptible as anyone else. He also conveys the society's readiness to trust the word of others, who alter the truth via various emotional and physical biases.

#### **THE IMPACT OF ACUTE ETHANOL EXPOSURE ON THE INNATE IMMUNE SYSTEM OF ZEBRAFISH**

**Paul Macklis ('15) and Kaitlin Curran ('14), Biology**

Ethanol is a widely consumed alcohol with numerous effects on the body. Recent studies have suggested that its consumption might lead to impairment of the innate immune system. To test this, Zebrafish (*Danio rerio*) were exposed to one percent ethanol solutions for one and two hour periods of time at 10 AM and 10 PM. Zebrafish kidneys, their site of white blood cell creation, were harvested and their innate immune cells were tested using pHrodo labeled *E. coli* and flow cytometry to determine the percent of cells participating in phagocytosis and the relative amount of phagocytosis performed per cell. It was found that the innate immune system experienced a decrease in activity after one hour of ethanol exposure at 10 AM. In contrast, exposure to the system at 10 PM did not produce a significant decrease in innate immune activity. We hypothesize that this difference may relate to circadian rhythm patterns of the innate immune system. Future investigation will include an examination of which innate immune cells in particular are experiencing a decrease in functionality in response to ethanol treatment.

#### **ATLAS OF MAINE: SURFACE WATER FEATURES**

**Sarah Madronal ('14), Environmental Studies**

This map shows some of Maine's surface water features. The features that were included are wetlands, vernal pools, as well as streams and rivers.

#### **CURRENT STATUS OF PANAMA REEFS**

**Sarah Madronal ('14) and Felicia Aronson ('14), Environmental Studies**

In the last 20 years disease has heavily affected Panamas Caribbean reefs. These reefs are essential for maintaining local marine biodiversity and play a vital role in the coastal economy in both the fishing and tourism sectors. These reefs are at high to very high risk today, so keeping them healthy is a top priority. Determining future resilience is critical to choosing a reef management strategy that will account for all negative inputs in the long term. Since many different confounding factors impact health, we are specifically focusing on how disease threatens reefs.

#### **A CULTURAL READING OF L.L.BEAN**

**Elizabeth Malone ('13), American Studies**

What is most striking in the Maine wilderness is, the continuousness of the forest . . . with here and there a blue mountain, like amethyst jewels set around some jewel of the first water, so anterior, so superior to all the changes that are to take place on their shores, even now civil and refined, and fair, as they can ever be. These are not the artificial forests of an English king a royal preserve merely. Here prevail no forest laws, but those of nature. This was Henry David Thoreaus response to his exploration of Mount Katahdin, which he conducted in August 1846. Over the course of his life, Thoreau visited Maine three times, and wrote detailed accounts of the geography embellished with meditations on his relationship to nature. This quote is an excerpt from his second volume, published post-humously, entitled *The Maine Woods*. Thoreau is not the only one to have marveled at Maines natural beauty. Tourism is the second largest sector of Maines economy, generating .4 billion annually. Maine tourism is primarily nature-based, providing visitors with the opportunity to explore the outdoors through a number of group and self-guided activities. Yet despite all the beautiful shore lines, the mountains to hike and ski, and the rivers to fish, the number one tourist attraction in Maine is L.L.Bean, which receives 3.5 million customers per year and earns .52 billion in annual sales. This project is an examination of the role of L.L.Bean in Maine's tourism industry.

#### **MODERN AUTOMOTIVE MANUFACTURING AND THE EFFECT OF FDI ON AN INCREASINGLY GLOBALIZED INDUSTRY**

**Matthew Mantikas ('13), Economics**

Foreign direct investment and exportation are prevalent cost cutting tools taken by multinational corporations across industries, and nowhere is it more prevalent in the minds of consumers than in the auto industry. Parent brands own and manage smaller subsidiaries across the globe, and their strategic decision to undertake FDI or to export is contingent on many underlying economic factors. I intend to uncover some of these larger macroeconomic factors. Determinants of FDI outflow revealed a significant negative effect on goods transported by road. This effect can be interpreted as an increase in goods transported by road leading to a decrease in outward FDI.

**FILLING THE GAP OF GOVERNANCE: COMMUNAL VIOLENCE IN INDIA AND THE NAXALITE INSURGENCY****Patrick Martin ('13), Government**

India is experiencing a wide variety of politically-motivated acts of violence, from ethnic separatist movements in the countryside to sectarian conflict in the cities. This study looks at two manifestations of political violence - Hindu-Muslim communal conflict and the Naxalite insurgency - and analyzes the variables that enable and facilitate their occurrence. While both types of violence are extremely different in many regards, including motivations of the leadership, geographic concentration, and scale, they both share one root cause: the inability of the Indian state to fulfill its role as a provider of essential services.

**LEARNING CURVE: ANALYZING CHANGES IN PREDATORY TECHNIQUES OF THE STONE CRAB *MENIPPE MERCENARIA* ON WHELKS****Omari Matthew ('14), Geology**

LEARNING CURVE: ANALYZING CHANGES IN PREDATORY TECHNIQUES OF THE STONE CRAB *MENIPPE MERCENARIA* ON WHELKS For many marine organisms successfully hunting and dispatching prey is essential to survival. This study characterizes the durophagous predatory techniques of the stone crab (*Menippe mercenaria*) on whelks. We recorded four hour long interactions between stone crabs and whelk prey, with images taken every 30 seconds, and created time lapse videos using the still images. Each crab was fed ten whelks, with interactions occurring in ten-week long sequences. We observed each crabs behavior with each of their 10 shells, and classified their behavior by specific predatory techniques. We hypothesized that, over time, each crabs predatory behavior would shift towards novel techniques not previously observed in earlier interactions. Several crabs appeared to show preferences for specific handling behavior, indicated by the frequency of specific techniques increasing and dominating in frequency over other techniques over the course of the ten weeks. Despite each technique being a viable way to open up the shell, some techniques became more likely to be associated with managing to eat the whelk shifts in behaviors supports our hypothesis, and suggests that crabs can learn and change their methods of predation over time.

**WHEN THE WALLS TALK: POLITICAL GRAFFITI AT LA UNIVERSIDAD NACIONAL IN BOGOTÁ, COLOMBIA****Abbott Matthews ('13), Latin American Studies**

Most of the literature on graffiti examines how graffiti is used as a form of resistance and opposition in the face of repressive regimes. In Argentina and Chile, for example, graffiti has been referred to as an alternative, subaltern method of communicating political dissent in times of authoritarianism. In this analysis, I look at the case of la Universidad Nacional (UNAL) in Bogotá, Colombia. This research analyzes the ways in which students express themselves politically through graffiti. Colombia presents a unique case, as political graffiti does not seem connected to the cycles of democracy and repression. Instead, graffiti seems to be a cultural and historically based response by leftist groups. More importantly, UNAL serves as an important centerpiece for graffiti, whereas the los Andes exhibits little, if any, graffiti. I question why the use of graffiti persists in the wake of political party reform and rhetoric of increased participation in politics by previously marginalized groups, looking specifically to the history of the dominant two-party system in Colombia as a possible explanation.

**THE EFFECTS OF ASPARTAME ON HUMAN HEALTH****Laramie Maxwell ('13) and Elizabeth Anderson ('14), Environmental Studies**

This poster will address the human health effects related to aspartame. The focus of the project will be on assessments of peer reviewed scientific articles that focus on different health effects in a variety of species. The research poster will include current policies in place to regulate this chemical which serves as a food and beverage additive.

**SECTARIAN VIOLENCE THROUGH THE LENS OF THE COPTIC QUESTION IN EGYPT****Emma Mayville ('13), Religious Studies**

Many conflicts between ethnic and religious groups throughout the Middle East do not receive great attention from the media or are neglected in the Western public's eyes. Egypt, commonly thought of as a Muslim nation, has a large community of Coptic Christians. This group makes up a religious minority in the country. A 2009 figure published by the BBC estimates there are between six to eleven million Copts living in Egypt. Out of the 85 million citizens of Egypt, the Coptic community is less than ten percent of the population. In light of the January 2011 Egyptian Revolution, the Coptic issue in Egypt is important. Both Egypt and the surrounding region transformed since the Arab Spring, and continue to modernize and develop. Egypt has a new government and its citizens have new expectations. In theory, new governance will be a positive development for most of the population. However, with the democratic election of a Muslim Brotherhood candidate for president, the socio-religious climate of the nation may change. The rights of religious minorities might be at stake. It is necessary to observe the history of the Coptic presence in Egypt in order to form a context around the current events. Tracing the history of Copts under Egyptian rule will facilitate better understanding of the evolution of Coptic rights, the violence that has surrounded their community since the Roman era, and the complex nature of how sectarian conflicts are viewed in modern thought.

**ELECTROMAGNETIC PULSES FROM NATURAL AND NUCLEAR SOURCES: HISTORY AND**



**PUBLIC POLICY****Eoin McCarron ('13), Science, Technology, and Society**

In the 1950s and 1960s, the United States and the Soviet Union conducted upper atmospheric and near space nuclear testing in the name of science, progress and national defense. Nuclear blasts in the upper atmosphere create an electromagnetic pulse, which can destroy circuits and disable electronics. How would this sort of testing (or act of war or terrorism) affect society, global infrastructure and world governments today? Could a natural eruption on the Sun so disrupt space weather that modern electronic circuits might experience massive failures? What would happen if a nuclear detonation at high altitude or a serious solar flare occurred over the United States today, and should scientists, military planners and politicians take such possibilities seriously? This study examines the vulnerabilities of our electronic age and brings an important episode of the Cold War to the forefront by drawing a connection with the present day.

**THE AESTHETIC OF FAILURE: AUTHENTICITY, EFFORT, AND IMPERFECTION IN AMERICAN CONTEMPORARY DANCE****Delaney McDonough ('13), Theater and Dance**

The underpinning of failure in live performance is the medium of the craft, human bodies. This project investigates the choreography of movement vocabulary that reads as failure, imperfection, or flaw in American postmodern dance. It is important to distinguish movement that reads as failure from movement that is failure. Performed failure, for my purposes, does not refer to actual failure, as in not meeting the expectations of the choreographer. Employing the aesthetic of failure is a deliberate choice. Choreographers often ask dancers to perform movement material with many layers of instructions or obstacles to ensure the dancers execution never gets overly polished. Dancers must be willing to lose their balance and must be unconcerned with hiding what some might read as flaw. If the task is impossible, and the intent is authentic, the result reveals effort. Failure in dance has many faces, most of which portray either legible awkwardness or bare the realities of physical impossibility. Dancers performing failure must cultivate honesty. The newness and effectiveness of each performance lives in the authenticity of each physical experience. It hinges on commitment to fluctuating physical extremes. The choice to include failure in choreography promotes the constant reinvention of rehearsing, performing, and viewing dance. Performed failure presents itself in three categories; placement, allowance, and demand. This research is focused on the ways in which the aesthetic of failure is breaking down the illusion of dancer as ideal body and reinstating the performers' humanity.

**BLACK MASCULINITY VARIED THROUGH THE WIRE****Jemarley McFarlane ('13), American Studies**

I will be showing television clips from YouTube.

**GOT STRESS? THE PROS AND CONS OF STRESS ON THE TEENAGE BRAIN****Eileen McGuire ('13), Psychology**

From awkward social interactions to intense academics, teenagers experience both acute and chronic stress. Adolescence is a critical time for neurological and psychological development marked by a period of cell death and pruning. Considering current research, I will explain how the pubertal brain behaves during periods of stress. While stress is often considered a negative experience, the brains response to stress can be an incredibly helpful response to acute stressors. I will simply explain these amazing biological response mechanisms such as the production of glucocorticoids and the sympathetic nervous systems. These systems can also have negative consequences from periods of chronic stress during puberty. Chronic stress can cause dendritic shrinkage in hippocampal neurons and hypertrophy in the amygdala, which may be more permanent in adolescents than in adults. Perhaps this effect on plasticity plays a role in psychological diseases later in life. However, mild chronic stress can be beneficial to the pubertal brain, and promote resilience by decreasing anxiety and depression in adulthood. Finally I will present some stress reduction methods such as meditation, mindfulness, yoga, and exercise.

**FRANCOPHONE EUROPE IN 2013: A PICTORIAL AND CRITICAL EXPLORATION OF WHAT MADE THE NEWS ON THE OTHER SIDE OF THE OCEAN****Colin McLaughlin ('14), Brita Midness ('13) and Mary Rogers ('13), French/Italian**

Whether public opinion is shaped by the medias representations of events, or the other way around, the way media and news are used to present information affects the way history and culture are understood. This research panel will focus on the culminating research projects conducted by nine FR343 students who aimed at understanding how images work to convey information that is culturally embedded. Based on an in-depth exploration of Francophone news and media in 2013 and a critical decoding of their

deliberate stylistic and editorial choices, this presentation will focus on political cartoons and media photos, as they were found to offer a more subjective view of contemporary issues. More precisely, this panel will focus on influential figures including Hugo Chavez, Pope Benedict, Nicolas Sarkozy and Bashar al-Assad, and current events such as the fiscal crisis in Cyprus, the debate over gay marriage, and the introduction of free birth control for minors in France. This collaborative examination led to shed light onto underlying cultural perspectives of the Francophone world by demonstrating the biases and cultural contexts influencing media portrayal of events and their relevance to the audiences interpretation of the news.

**ATLAS OF MAINE: FOREST STAND AGE****Andrew Mealor ('14), Environmental Studies**

Forest Stand Age of Maine I obtained forest stand age data from the Distributed Active Archive Center for Biogeochemical Dynamics, North American Hillshade data from The Commission for Environmental Cooperation, and county lines and hydrology data from the Maine Office of GIS. The forest stand age essential denotes time since last disturbance, which typically means logging. The data is displayed in increments of 40 years, and layered over a hillshade. Stand age was determined through a variety of

sources, including NASA imagery, public records, historical fire data, and forestry inventory data.

#### **◆YOU◆ARE FINE. WAIT, NO YOU◆ARE NOT!◆ SOURCE THOUGHTFULNESS AND THE PERSUASIVENESS OF CONTRADICTORY MESSAGES.**

**Ethan Meigs ('13), Kayleigh Monahan ('13) and Nicholas Rimsa ('13), Psychology**

Inconsistent with popular beliefs, previous research has found that under certain conditions contradictory messages can be more persuasive than consistent ones (contradiction effect). This effect may be due to positive attributions of thoughtfulness made about a contradicting source, and beliefs that the source has come across some new information or has given more thought to the topic. In the present study, we will be determining if attributions of thoughtfulness can fully explain the contradiction effect. Participants will read a scenario where they receive either two contradictory messages or a single message from the same source. In addition, the sources final advice will differ on degrees of thoughtfulness (high, low, no thoughtfulness information). In light of previous findings, we anticipate that participants will be more persuaded by a high thoughtfulness source, regardless of message consistency.

#### **MODERN SLAVERY: THE RESTAVEKS IN HAITI**

**Brita Midness ('13), French/Italian**

Despite the Universal Declaration of Human Rights that was adopted by the UN in 1948 and the commitment of numerous international organizations to ensure the human rights of all people, slavery remains omnipresent in Haiti. This study explores the French colonial legacy in Haiti, particularly as it pertains to the plight of the restavks. The restavks are children who are sent to live with families, usually from rural to urban areas, in an attempt to give them a better life, for example, with increased access to education. However, often they perform labor-intensive tasks instead of attending school. Haiti represents an interesting case because it became an independent republic in 1804 after emancipating itself from French colonial rule and years of slavery. Nevertheless, today in 2013, there are between 150,000 and 500,000 restavks living in Haiti. By examining the legacy of French colonization as well as the forces that perpetuate this violation of human rights, we may become better equipped to combat the phenomenon of the restavks and root out a modern form of slavery.

#### **MONTAIGNE AND THE OTHER: TOWARD A TOLERANT VISION OF OUR PERCEPTIONS**

**Brita Midness ('13), French and Italian**

This study explores the Essays of Michel de Montaigne with a particular focus on his concept of the other. Montaigne lived during the wars of religion in France in the 1500s where he witnessed the fear of the unknown manifest itself into violence, particularly between Catholics and Protestants. Despite the violence raging around him, through his essays Montaigne attempted to understand the foundation for this fear and in turn to explore the means through which to diminish the fear of the other. He evoked the importance of education, freedom of conscience, and scepticism as crucial elements in encouraging his peers to be more tolerant of others. Montaigne particularly focuses on the role of the individual in overcoming the fear of the other. The Essays provide a window into the daily lives of people living during the wars of religion, while also engaging the attention of a reader in 2013, as many of the issues addressed remain pertinent today.

#### **NEUROPROTECTION BY POSTNATAL CHOLINE SUPPLEMENTATION IN A RAT MODEL OF FETAL ALCOHOL SYNDROME**

**Julia Mitchell ('15), Psychology**

The objectives of this project are to further examine the effects of post-natal choline supplementation on a rat model of Fetal Alcohol Syndrome. In this study, male and female rat brains are examined to identify any differences that exist between the two genders, due to the fetal alcohol exposure or to the post-natal choline supplementation. The brains of rats sacrificed earlier in the project are compared to the brains of rats sacrificed at a later date in order to identify any naturally occurring volumetric changes in brain structures after birth. To do all of this, the rat brains were sliced, stained, and examined under a microscope. This project seeks to understand how exactly post-natal choline supplementation can reverse brain abnormalities caused by Fetal Alcohol Syndrome in male and female rats as well as how the brain corrects these changes naturally. The current study is a continuation of a previous study that identified choline supplementation as counteracting the degenerative neural effects of pre-natal alcohol exposure in rats.

#### **HUNTS, HEINZ, AND FRIES PRIMING ◆KETCHUP◆ THE EFFECTS OF LEXICALITY ON BRAND NAME MEMORY AND PRODUCT ASSOCIATIONS**

**Kayleigh Monahan ('13) and Miia-Liisa Termonen ('14), Psychology**

The present study investigated how brand name lexicality affects the strength of association between a brand and its related product category. Participants completed a Lexical Decision Task (LDT), in which brand names were used as primes and product categories were used as targets. The brand names were either real words featured in the English Dictionary (DODGE) or non-words that were created by marketers (TOYOTA). The brand prime preceded either a related product category (CAR) or an unrelated product category (SHAMPOO). Baseline semantic association pairs (GARAGE-CAR) were also included. Brand-product associations resulted in equivalent facilitation as semantic associations. In comparing brands as primes, nonword brand-product pairs resulted in significant reaction time facilitation, whereas real word brands did not. In addition, participants recalled significantly more nonword brands than real word brands in a surprise brand recall task following LDT. In comparing nonword targets and word targets, analyses revealed that participants were most accurate and fastest to respond to targets when there was a match between prime and target lexicality. The current study has strong implications for marketers, who are determined to create brands that have a strong association with their product.

#### **FDI AND EU MEMBERSHIP: ANALYSIS OF FORMER SOVIET BLOC COUNTRIES**

**Allison Mond ('13), Economics**

FDI flows have been shown to have beneficial effects on the economic growth of countries, and particularly of countries which were formerly in the Soviet Bloc. This paper analyzes the effects on FDI of these countries joining the EU, with the prediction that EU membership increases FDI due to the integrated economies of the member countries. Fixed effects and OLS regressions are utilized to determine whether EU membership and status as a former Soviet Bloc country matter to FDI. The results are mixed and suggest many avenues for future research.

#### **MEMORY AND ANXIETY IN ADULT RATS AS A FUNCTION OF EARLY LIFE CHOLINE LEVELS AND EXPLORATORY BEHAVIOR**

**Astrid Moore** ('15), Psychology

From infancy, rats can be divided based on their level of exploratory behavior and these patterns extend throughout life. Interestingly, infant rats categorized as low explorers, or neophobic, display higher stress reactivity, more anxiety, and poorer cognition in adulthood than high explorers, or neophilic rats. The aim of the present work was to examine the hypothesis that early life dietary factors may alter these behavioral profiles. Prenatal supplementation with the nutrient choline, in rats, reduces anxiety and enhances cognition. Thus my goal was to specifically investigate whether prenatal choline supplementation altered patterns of neophobia or neophilia. Rats were fed a control (CON) or choline supplemented (SUP) diet during gestation and exploratory behavior was assessed during adolescence and adulthood. Adult rats were also assessed for levels of anxiety and cognition. The main findings were that, among CON rats, neophobia was associated with more anxiety and poorer memory. Among SUP rats, neophobia was also associated with more anxiety, however, both neophobic and neophilic rats displayed similar performance on a test of spatial working memory and both were significantly better than CON neophobic rats. These data suggest that though patterns of neophobia and neophilia are generally unchanged by prenatal choline supplementation, the SUP rats may not be as adversely impacted by this behavioral profile as CON rats.

#### **'DESVESTIENDO LA CENSURA:' AN ANALYSIS OF THE USE OF CLOTHING TO SUBVERT CENSORSHIP IN SPANISH CINEMA**

**Alexander Morris** ('14), Spanish

This paper investigates the effects of censorship in Spanish cinema, with particular interest in how clothing represents or subverts the censoring of this medium. Through the analysis of two films in particular, *Mi querida seorita* (dir. Jaime Armin) and *2012s Blancanieves* (dir. Pablo Berger) I look at how censorship affects individuals and relationships, and how it is symbolized by a characters dress or undress. This paper further claims that in Spanish cinema, a genre heavily impacted by the long era of Franconian dictatorship, clothing is much more than the articles worn by a character: it conceals truths, expresses identity, and both facilitates and restricts change. The varied and thematically complex uses of clothing allows for an analysis that exposes deep connections between characters, themes, and the environment in which a film is produced.

#### **OH HOW CUTE: HOW THE PERCEPTION OF CUTENESS CHANGES THE NUCLEUS ACCUBENS**

**Shamika Murray** ('14), Psychology

Why do we perceive certain things as cute? When people are shown cute baby pictures while using an fMRI, there is activation found in the nucleus accumbens. The nucleus accumbens is known for being the pleasure center of the brain. It plays an important role in the reward pathway, please, laughter, and even addiction. Perceiving something as cute activates these systems releasing neurotransmitters such as GABA, whose neurons make up 95 percent of the nucleus accumbens and dopamine which is a part of the reward system. Your body associates these cute images as pleasurable and your reward system is activated, releasing more dopamine. In my paper I examine whether the levels of dopamine in your brain have an effect on ones perception of cuteness and the structure of the nucleus accumbens.

#### **FLASH VACUUM PYROLYSIS ROUTES TO [4]HELICENES**

**Beatrice Nakiryowa** ('13), Chemistry

Helicenes are polycyclic ortho-condensed aromatic compounds. The aromatic rings are angularly fused such that the compounds attain a helical framework. Carbohelicenes - helicenes made entirely of benzene rings - have been synthesized through various routes such as oxidative photocyclization, Diels-Alder reactions and reactions with organometallic species that have all required a solution phase. We propose a method of preparing helicenes that involves the formation of radicals from dibromovinyl derivatives under the solvent-free conditions of flash vacuum pyrolysis. The approach includes the synthesis of single, double and triple [4]helicenes. The dibromovinyl precursors can be initially prepared from a variety of starting materials by Suzuki coupling reactions.

#### **THE EVOLUTION OF YURI ZHIVAGO IN PASTERNAK'S NOVEL, 'DOCTOR ZHIVAGO'**

**Alina Nakos** ('13), German/Russian

'Doctor Zhivago,' Boris Pasternak's rich and complex novel about a wide and disparate variety of characters, set against the backdrop of the Russian Civil War, coalesces around its central character, Yuri Zhivago. Orphaned at a young age and raised by the gentle philosophy of his Uncle Nikolai, Zhivago is a multifaceted and deeply human character who observes the world around him and converts his observations into art through his primary passion: poetry. This paper explores Yuri's evolution from the first chapter of the novel, a crying boy on the grave of his mother, to the end of his life, and posits that his life story provides a lens through which we may understand philosophy, art, national history, politics, romance and religion as they were seen at a crucial time in Russia's history.

#### **THE BELONGING PROJECT: A COLBY CAMPUS CLIMATE ASSESSMENT**

**Molly Nash** ('15) and **Jasmine Bazinet-Phillips** ('15), Education and Human Development

This presentation documents our attempts to understand the campus climate at Colby College through a project using Photovoice. We present the photography and data from interviews and discussions regarding how students perceive their sense of belonging at Colby. Findings vary from feelings of

regarding how students perceive their sense of belonging at Colby. Findings vary from feelings of isolation and exclusion to pride in being a part of the larger Colby community. In addition, photographs show that particular spaces on campus facilitate feelings of inclusion or exclusion. Suggestions and implications for the Colby community will be addressed.

### **EMISSIONS ESTIMATE FOR COLLEGE RELATED TRAVEL**

**Ryan Newell** ('14), Environmental Studies

In 2013 Colby College declared it was carbon neutral. The college achieved net zero CO<sub>2</sub> equivalent emissions by switching to wind power for electricity and replacing 90% of its oil consumption with biomass. The remaining emissions were offset based on assumptions about travel, waste, consumption, etc. The goal of this project was to update the estimate of the total greenhouse gas emissions produced as a result of faculty, staff, and students commuting to Colby in 2013. This is important because it can improve Colby's estimate of its emissions, informing the school of the amount of carbon credits it needs to be carbon neutral. I used ArcGIS to calculate the drive distance for faculty, staff, and students living off campus; the drive distance to the college from home zip codes for students in the NE area; and the travel distance for students living outside of NE. I then used EPA data to calculate the carbon equivalent emissions from the travel distances and came up with a range of emission estimates depending on number of times commuted and extra allowances for travel routes.

### **THE LEGALIZATION OF MARIJUANA AND VIOLENT CRIME RATES IN THE UNITED STATES**

**Rebecca Newman** ('13) and **Arthur Huber** ('13), Economics

The illicit drug trade in the United States has long been associated with violent crime. A factor contributing to this dynamic includes higher than perceived market prices for drugs due to their illegality and the consequent formation of black markets. These high profit margins incentivize greater protection of trade routes ruled by rogue agents or powerful syndicates in the drug trade. This paper examines the correlation between the decriminalization and legalization of medical marijuana in the United States and occurrences of violent crime. As of mid-November 2012, seventeen states and the District of Columbia allow the use of medical marijuana, fourteen permit decriminalized possession in small quantities, and six states sanction both. Colorado and Washington recently legalized recreational use. Other factors

observed include income per capita, legalization of abortion, the crack cocaine epidemic, and proximity to the Mexican border to control for additional contributors to violent crime over the observed time period. The results of this paper indicate strongly suggestive evidence of reduced violent crime rates after the decriminalization of marijuana while controlling for in-state and time effects. These findings warrant further research on the subject, especially if more states continue to legalize its use.

### **THE POST-CRISIS RELEVANCE OF INFLATION TARGETING**

**Rebecca Newman** ('13), Economics

Macroeconomic theory dictates contemporaneous growth between output and inflation, yet recent evidence suggests a divergence between the two. In countries with explicit inflation targeting regimes, such a change requires unorthodox monetary policy to address stagnating growth while simultaneously adhering to an inflation target and upholding the central banks credibility. This paper examines if, in fact, a decoupling of inflation and output exists, and the responsiveness of central banks with inflation targets to each using a regression of the Taylor Rule. The results present a case for a heightened response to output concerns after 2008, as well as a lessened response to inflation from central banks with inflation targets in OECD countries. These findings imply a less traditional and more flexible interpretation of inflation targets in the wake of a weakened relationship between output growth and inflation, with wide-ranging implications for future monetary policy.

### **QUESTIONING ALLOCATION OF FUNDING IN THE ENDANGERED SPECIES ACT**

**Mackenzie Nichols** ('14) and **Benjamin Timm** ('14), Environmental Studies

How certain funds are allocated to the conservation of certain species is a complicated process. In the case of the Endangered Species Act, how this is specifically done is unclear; species are listed based on how threatened their survival is, but how much money their recovery is actually allocated is not specified by the Fish and Wildlife Service's ESA fact sheet. This project seeks to determine what factors determine how money has been allocated by the National Fish and Wildlife Service under this act. We hypothesize that the charisma and popularity of the organisms being conserved is the largest determining factor, because of the leverage political pressure can have on governmental programs like this one.

### **PRENATAL CHOLINE SUPPLEMENTATION AND MK-801 TOXICITY: PROTECTING MEMORY AND PREVENTING NEURODEGENERATION**

**Chelsea Nickerson** ('13), Biology

Choline is a vitamin essential to the development and function of the central nervous system. Supplemental choline, especially in development, is neuroprotective against a variety of insults, including fetal alcohol exposure, seizures, stress, and aging. In addition to these, it may also be protective against the effects of neurotoxins like dizocilpine (MK-801). MK-801 is an NMDA receptor antagonist that is frequently used in rodent models of various psychological disorders, including schizophrenia. At low doses, it causes cognitive impairments, and at higher doses it causes motor deficits, anhedonia, and neuronal degeneration. The primary goals of the present study were to investigate whether prenatal choline supplementation protects against the cognitive impairments, motor deficits, and neuropathology that are precipitated by MK-801 administration in adulthood. Adult male Sprague Dawley rats were fed either a standard or supplemented choline diet prenatally. Using the novelty preference test of object recognition, we examined three aspects of memory in relation to choline and MK-801: encoding, consolidation, and retrieval. Our first main finding was that choline protected memory consolidation; presently, we are not able to draw clear conclusions regarding memory encoding and retrieval, as control rats did not exhibit the expected patterns. We also observed that choline alleviated the motor response to MK-801, particularly ataxia. We are continuing to analyze these data and are also in the process of confirming choline's ability to reduce neuronal degeneration in the frontal cortex and increase neurogenesis in the hippocampus.

**A ONE POT SYNTHESIS OF ACETYLENE-SUBSTITUTED OXACALIX[4]ARENES****Stephen Nodder ('13), Chemistry**

Heteracalixarenes are macrocycles formed from a backbone of benzene rings bridged with heteroatoms such as oxygen, sulfur, or nitrogen. Until recently, there existed limited literature precedents for the formation of oxygen-bridged calixarenes (oxacalixarenes). My project combines two areas of investigation in the Katz group: the formation of oxacalixarenes using nucleophilic aromatic substitution (SNAr) methods and the synthesis and use of acetylene-activated benzene electrophiles. The Katz group has shown that under the right conditions, acetylenes can act as electron withdrawing groups that stabilize anionic intermediates on benzene rings. Thus, benzene rings connected to acetylenes are able to act as electrophiles in SNAr reactions. Over the course of the summer, I have successfully formed several acetylene-substituted electrophiles and used these to produce substituted oxacalixarenes using SNAr methods.

**ATLAS OF MAINE: DISTRIBUTION OF FOOD DESERTS IN MAINE****Lucy O'Keeffe ('14), Environmental Studies**

I was inspired by the USDAs interactive food atlas map that was created with data from the U.S. Economic Research Service. The food desert data was collected by the USDA for a study analyzing the existence of food deserts in relation to socioeconomic factors such as poverty, ethnicity and age. The USDA defines a food desert as a low-income census tract where a substantial number or share of residents has low-access to a supermarket or grocery store. For my Atlas of Maine project, I manually identified the census tracts defined as food deserts in the state of Maine, and then in ArcGIS I used a binary coding system (0 or 1) to categorize census tracts that were non-food desert or food desert. This map was projected using UTM zone 19N and NAD83. The source data comes from the Maine office of GIS and the USDA Economic Research Service. The counties layer and cities layer came from the Maine Office of GIS. The census tract data was obtained from the U.S. Census Bureau. The food desert data, which came from the USDAs Economic Research Service, was aggregated at the census tract level.

**JUST BECAUSE I'M BEAUTIFUL: THE EFFECTS OF ATTRACTIVENESS AND COGNITIVE LOAD ON JUDGMENTS OF GUILT****Frances Onyilagha ('14), Ariel Martin ('15) and Nicholson Warner ('14), Psychology**

In this study we manipulated the physical attractiveness of a suspect and looked at the effects of self-fulfilling prophecy due to the attractiveness halo effect on a suspect of a minor crime. We investigated whether the attractiveness bias effect was an automatic process or a controlled process and how this affected judgments of guilt. Participants were given a goal of accuracy. Participants with no cognitive load will not show signs of the attractiveness halo effect in their judgments. Participants in an automatic judgment process will show signs of the attractiveness halo effect. All conditions will resemble the control condition except for the high attractiveness cognitive load condition, which will show more lenient judgments of guilt and sentencing. Therefore we hypothesize that self-fulfilling prophecy will emerge when suspects are of high attractiveness and when participants are impacted by cognitive load.

**FROM THE SLUMS OF SHAOLIN TO THE BARD OF AVON: THE HOMOSOCIAL BOND IN SHAKESPEARE AND HIP-HOP MUSIC****Camilla Ostrow ('13), English**

I am presenting in the Shakespearean section at 4:00 PM: I will be looking looking at the relationship between the homosocial bond in hip hop and in Shakespeare through close readings in order to make conclusions about male friendship as an entity that both preserves and is dependent on performances of masculinity. In my presentation I will do this through a close examination of both a rap song and a scene from a Shakespearean tragedy.

**RIHANNA AND CHRIS BROWN: RETHINKING THE WAY WE LOOK AT DOMESTIC VIOLENCE****Camilla Ostrow ('13), Women, Gender, Sexuality**

I will be presenting about the disconnect between the way that experienced social workers/community based organizations look at the domestic violence versus the way our society looks at domestic violence. I will use responses to the Chris Brown and Rihanna incident to talk about how the kind of rhetoric used to describe survivors and perpetrators of domestic violence has been proven by experts to be totally counter-progressive and damaging to men and women. Furthermore, I will argue that cycles of domestic abuse will inevitably continue unless we can reshape the way that we as a society respond to domestic violence.

**THE HIPPOCAMPUS & STRESS: A POSSIBLE FUNCTIONAL DIVERGENCE****Sean Padungtin ('13), Psychology**

The hippocampus is a continual source of adult-born neurons, and has long been implicated in the functions of learning, memory and emotion. Neurogenesis is greatly affected by a dysregulated stress response, an important physiological component of depression that is anatomically connected to the ventral hippocampus. The current study exposed rats to 2 weeks of chronic corticosterone (CORT) treatment, followed by anxiety and place memory behavioral tests. In addition, neurogenesis was characterized via Bromodeoxyuridine (BrdU) labeling.

**THE EFFECT OF RANDOMNESS THREAT ON ATTRIBUTION TO INTERNAL, EXTERNAL, OR MIXED SOURCES OF CONTROL****Kelsey Park ('14), Alexandra Brown ('14), Dylan Nisky ('14) and Zachary Rodriguez ('14), Psychology**

Extant research shows that people can rely on both internal and external sources of control in order to satisfy their need to believe that the world is ordered and nonrandom. Moreover, when personal control is

safety then need to believe that the world is ordered and nonrandom. Moreover, when personal control is threatened, people increase their belief in external sources of control to compensate. While the evidence suggests that internal and external sources of control are largely interchangeable, it remains unclear whether people would prefer a mix of internal and external control instead of entirely one or the other. To investigate the possibility, we primed participants with either the threat of randomness or negativity for comparison using a word-sorting task. We then rated participants' endorsement of different sources of control (completely external, completely internal, mixture of external and internal). Although the results did not indicate a significant interaction, a marginal main effect of randomness threat on control attributions, and a significant main effect of control type did emerge. In partial support of our hypothesis, participants were more likely to make mixed control attributions than complete external and complete internal attributions. Discussion is focused on implications of the results, and possibilities for future research.

#### **THE FUNCTIONS OF APPENDAGE-PATTERNING GENES DURING DEVELOPMENT OF THE SOAPBERRY BUG, *JADERA HAEMATOLOMA***

**Tyler Parrott ('13), Laura Crowley ('13) and Matthew Wilson ('15), Biology**

Populations of the red-shouldered soapberry bug *Jadera haematoloma* (Heteroptera: Rhopalidae) have adapted to an exotic, introduced host plant in only the last 60 years. As a result of this host shift, bugs have evolved a series of phenotypic changes, compared to contemporary bugs that can still be found on the ancestral host. In particular, rostrum length in *J. haematoloma* has declined from almost 70% of body length in populations living on the ancestral host to roughly 50% in populations on the derived host. Given this rapid evolution in appendage allometry, we have explored the patterning and allometry of appendages in *J. haematoloma*, using genetic models from the related heteropteran *Oncopeltus fasciatus* (Lygaeidae). Through development of methods for embryonic and juvenile RNA interference, we have compared the functions of several appendage-patterning genes, including *Distal-less*, *dachshund*, and *homothorax*. Embryonic functions of these genes are largely conserved, with regionalized requirements along the proximal-to-distal limb axis. Interestingly allometric growth regulation of the rostrum also requires juvenile activity of *Distal-less* and *homothorax*. These results suggest a possible developmental genetic route for phenotypic change in these populations during rapid contemporary evolution.

#### **THOROUGHbred RACEHORSE AUCTIONS**

**Charlotte Peck ('13), Economics**

This paper explores the Thoroughbred Owners and Breeders Association (TOBA) Sales Integrity Program and its effect on the relationship between Thoroughbred yearlings sale price and future career earnings of these horses. The American market for Thoroughbred yearlings is characterized by an English auction in which a seller generally has more insight than buyers in regards to the future success of the yearling up for auction. Historically, buyers incur a net loss on the yearlings they purchase, meaning they pay far more for the horse than it earns in its track career. In this paper I look to see whether increasing the amount of information available to buyers has a positive effect on the relationship between sale price and earnings. In 2004 the TOBA set up a task force to address the adverse selection in the thoroughbred yearling market. The goal of the Program was to create a more competitive environment, which would benefit the entire racing industry. The Program strives to provide buyers with more information about the auction process and to ensure fair bidding practices. Furthermore, the Program requires more information about the yearlings is made available to ensure buyers are confident of the value of the horse. In this paper, I analyze data from a sample of the top selling 25 yearlings at auction for two years before and after the Program was put into effect, and trace each horse's success on the track. I created a model that predicts that horses that sold for higher prices would have larger career earnings if they were sold after the Program was put into effect than those who sold before the program.

#### **AN ANALYSIS OF SUPER PAC BEHAVIOR IN THE 2012 ELECTION**

**Andrew Pepper-Anderson ('13), Government**

This article examines the role Super PACs played in the 2012 election. In doing so it seeks to address two questions. First, did Super PACs serve as a vessel for corporate money in the way the media expected they would? Secondly, did Super PACs act as independent organizations as the Supreme Court argued they would in *SpeechNOW.org vs. FEC*? The aforementioned questions can be answered by examining Super PAC fundraising, affiliation, and expenditures in the 2012 electoral cycle. In both cases, Super PACs did not operate in the way they were anticipated to operate. Instead, Super PACs relied primarily on large donations and for the most part were affiliated with preexisting political entities.

#### **AFFECT AND AUTHORSHIP: OR, HOW I LEARNED TO STOP WORRYING AND LOVE THE [SIGN]**

**Michael Perreault ('13), Independent Studies**

In describing his third criterion of auteur status, Andrew Sarris struggled with words. Daring to call it an 'elan of the soul,' Sarris, like François Truffaut before him, struggled to verbalize the qualities of those directors who have been bestowed by critics with the title auteur. This paper claims that critics (and critical theorists) of the 1960s lacked the language to more concretely describe what Sarris calls the 'temperature of the director' or 'the tension between a director's personality and his material,' a seemingly flawed theory that made it easy for Pauline Kael and others to interrogate. However, this theory what André Bazin calls *la politique des auteurs* benefits from another reading through the lens of Brian Massumi's writings on affect. Using Stanley Kubrick's *Dr. Strangelove* (1964) as a case study, this paper approaches author theory through the tensions between signs and senses to argue that the elan, or extension of a director's interiority, can be more aptly defined as the process by which Kubrick orchestrates the formal and narrative aspects of the film to create moments of affective intensity, politicizing spectators by first inviting them to feel.

#### **A FIGHT TO THE DEATH FOR THE HOMELAND: THE TAMIL TIGERS POLITICAL VIOLENCE IN SRI LANKA**

**Lindsay Peterson ('13), Government**

Sri Lanka has been plagued with ethnic tensions between the majority Sinhalese Buddhist and the Tamil Hindu minority since the British granted the country independence in 1948. This imbalance contributed to a history of violence in the twentieth-century. The Liberation Tigers of Tamil Eelam (LTTE) exercised violence in the name of the Tamils in an attempt to fulfill their objective of a separate homeland, relying on tactics such as bombings, assassinations, and suicide attacks. Eventually, a civil war ensued in Sri Lanka from 1983 until 2009, when the Sri Lankan government decisively defeated the LTTE. This poster presentation will examine the variables that led to the Civil War and that sustained the Tamil violence.

#### **✦KILL THE INDIAN, SAVE THE MAN✦ AMERICANIZATION THROUGH EDUCATION: RICHARD HENRY PRATT'S LEGACY**

**Lindsay Peterson** ('13), History

My thesis examines the history of Americanization through education and Richard Henry Pratt's legacy in regarding to 'Americanizing' Native Americans. I first look at the history of Americanization through education and the Native American experience before Carlisle. Second, I examine Richard Henry Pratt's experience and the establishment of the Carlisle Indian Industrial School. I examine how he is remembered by different audiences. The final section examines Pratt's legacy - comparing his intentions with what was actually achieved.

#### **NUTRIENT LIMITATION IN THE INFLOW AND OUTFLOW STREAMS OF GREAT POND**

**Theresa Petzoldt** ('14), Environmental Studies

Nitrogen and Phosphorus are essential nutrients for the growth of both autotrophs (algae) and heterotrophs (fungi and bacteria). An excess of these nutrients in streams can result in algal blooms and hypoxia, with ripple effects throughout the ecosystem. Because of the far-reaching consequences of too many nutrients, it is important to understand which nutrients may be limiting algal and bacterial growth. This study uses an emerging technique, Nutrient Diffusing Substrata, to understand nutrient limitation patterns in the inflow and outflow streams of Great Pond, one of the Belgrade Lakes. It is the start of a long term project that would like to determine if there is seasonal variation in nutrient limitation, as well as to explore the mitigating effects of the lake between the two stream sites.

#### **RECONNECTING THE PAST WITH THE PRESENT: THE SEARCH FOR (MY) BLACK ANCESTORS**

**Jasmine Phillips** ('14), History

The principle objective of this project is to discover my ancestors and their significance in the present. The project consisted of searching various documents such as census records and newspapers. The project also consisted of interviewing relatives and visiting archives in search of determining my ancestry. It illustrates the difficulties for African Americans to discover their family's history while highlighting the effects slavery had on familial relationships. Overall the challenges within this project demonstrate how slavery has had lasting emotional and psychological effects on blacks who are unable to learn more about their history.

#### **PEER MENTORING PROGRAM: THE TRANSITION FROM HIGH SCHOOL TO COLLEGE**

**Jasmine Phillips** ('14) and **Justin Deckert** ('15), Education and Human Development

One of the most difficult things many college students face is the transition process, where new life and study skills must be developed to be successful. Having a mentor helps students negotiate this transition by giving them a safe place to discuss their fears and difficulties, while also being able gain from the experiences of someone who has already faced the same challenges. Many students especially those who are 'at risk' are not fully prepared to adapt to Colby's social scene and academic standards. The goal of this project was to research peer institutions' mentoring programs and then form and implement an effective peer mentoring program that suits Colby's environment.

#### **UPHAMS CORNER AND 'OTHER' SPACES: EXPLORATIONS OF YOUTH IDENTITIES IN BOSTON'S CAPE VERDEAN COMMUNITY**

**Jessica Pires** ('13), Anthropology

In my thesis I evaluate the varied and multiple ways in which Cape Verdean youth in Boston identify themselves, specifically racially. I take into consideration socio-historical contexts of both the U.S. and Cape Verde, neighborhood spaces and stereotypes, intergenerational tensions, and bureaucratic forms, such as the U.S. Census. At the heart of this thesis are notions of ambiguity and ambiguous identities as well as the politics of identity performance. I interrogate the ways in which these themes inform processes of identity-making and performance, through moments of interaction, intersection, and departure in Boston's cityscape.

#### **A LIGHTING DESIGN OF BERTOLT BRECHT'S GALILEO**

**Emily Post** ('15), Theater and Dance

The process of creating a lighting design is complex. There is no one correct method and many different steps, options and decisions throughout the entire procedure. Bertolt Brecht's Galileo is a multifaceted play with many strong themes to work with and expand on. This poster will articulate the process of the lighting design and highlight the concept and research involved. The process starts with initial impression, from which an idea forms. Imagery and textual research help support this process and from this research the designer can begin to articulate and show visually though many different forms their ideas. A concrete design is developed and the images and concepts begin to be solidified on paper. The paperwork is created allowing the ideas to become a reality. This poster will follow a specific scene, stepping the viewer through the formation of a lighting design.

#### **ANALYSIS OF POTENTIAL CORRELATION BETWEEN POP AND PBT EMISSIONS FROM U.S.- MEXICAN BORDER MAQUILA FACTORIES AND NEGATIVE HUMAN HEALTH EFFECTS**

**Catherine Powell** ('15), Environmental Studies

Research was completed to determine if there was a correlation between POP and PBT emissions from

Research was completed to determine if there was a correlation between POP and PBT emissions from U.S.-Mexico border Maquila factories and negative human health effects. The studies collected observed no negative mental health effects due to the hazardous emissions from these factories. In fact, some factory workers claimed to feel more in control and balanced. However, many physical ailments and diseases have been recorded in both Maquila workers and citizens in surrounding areas. It is still unclear whether sickness is directly linked to the POPs and PBTs emitted from the factories and their waste, but from what we know from prior research, this correlation is likely.

#### **THE EFFECTS OF PCB ON INCIDENCE OF ADHD IN CHILDREN**

**Anna Rabasco ('15) and Erica Talamo ('15), Environmental Studies**

Our poster analyzes the effects of PCBs (polychlorinated biphenyl) on the incidence of ADHD (attention deficit hyperactivity disorder) in children. By reviewing a broad spectrum of research, both animal and human based, we conclude that exposure to PCBs, both prenatally and during childhood, does increase the likelihood that a child will be diagnosed with autism.

#### **STUDYING UNKNOTTING NUMBER FOR CONNECTED SUMS OF KNOTS USING SUTURED MANIFOLD THEORY**

**Alexander Rasmussen ('13), Mathematics and Statistics**

Let  $K$  be a knot in  $R^3$ . The unknotting number for  $K$ ,  $u(K)$ , is an easily defined measure of its complexity. Moreover, unknotting number has a very intuitive geometrical interpretation. Yet little is known about unknotting number in general. Given two knots  $K_1$  and  $K_2$  we can form a third knot ( $K_1 \# K_2$ ) by 'cutting' small segments from  $K_1$  and  $K_2$  and 'pasting' them together. ( $K_1 \# K_2$ ) is called the connected sum of  $K_1$  and  $K_2$ . A conjecture states that unknotting number is additive under connected sums. That is, if  $K_1$  and  $K_2$  are knots in  $R^3$  and ( $K_1 \# K_2$ ) is their connected sum, then  $u(K_1 \# K_2) = u(K_1) + u(K_2)$ . Martin Scharlemann proved that if  $K$  is a connected sum of two nontrivial knots then  $u(K)$  is greater than or equal to 2. With the goal of extending this result to connected sums of three nontrivial knots we study unknotting number for such connected sums using the techniques of Scharlemann's sutured manifold theory.

#### **FAT CHANCE: THE LINK BETWEEN PRESCRIPTION ANTIDEPRESSANTS AND OBESITY**

**Conor Richardson ('13) and Samuel Kaplan ('13), Environmental Studies**

The relationship between depression and weight gain/obesity has long been debated and is often thought of as a cyclical conundrum, as each could potentially aggravate the other. This research study examines the exact nature of association between the primary groups of antidepressant medications and their purported link to patient weight gain. Excess weight gain/obesity can have drastic health consequences for patients of all ages, including physical impairment and/or discomfort, discontinuation of treatment, and, more importantly, an increased risk of life-threatening comorbidities such as diabetes, hypertension, and cardiovascular disease. In this study, we review not only the relative risks associated with each medication, but also the history of relevant government regulations associated with those chemicals. Furthermore, a better understanding of the exact physiological mechanisms through which medication causes weight gain will lead to better management of the potential adverse metabolic effects associated with psychotropic medications, and will improve overall patient care.

#### **INVESTIGATION OF THE ROLE OF ADAMTS-5 AND CDH3 EFFECTOR GENES IN TGF- $\beta$ -INDUCED MAMMARY EPITHELIAL CELL INVASION.**

**Conor Richardson ('13) and Emily Karr ('13), Biology**

Numerous intracellular signaling pathways play important roles in influencing cancer development and progression by regulating cellular responses such as cell proliferation and migration. The Transforming Growth Factor  $\beta$  (TGF- $\beta$ ) signaling pathway is of particular importance, and has been shown to have the capacity to induce both tumor-promoting and tumor-suppressive responses in breast cancer. It is therefore of strong interest to determine how signaling components in this pathway regulate different biological responses. To this end, our lab has developed mammary epithelial cells that are wild-type, heterozygous, and null for Smad3, an important signaling protein in the TGF- $\beta$  pathway. In a previous study, we used these cells to examine the importance of Smad3 in TGF- $\beta$ -induced cell invasion, a process by which cells spread (metastasize) from a tumor to other areas of the body. We found that, while cells that completely lack Smad3 do not invade, TGF- $\beta$ -induced invasion was actually enhanced in cells containing reduced amounts of Smad3, in comparison with wild-type cells. In order to investigate the mechanism by which Smad3 influences invasion, our current study examined the expression of two potential Smad3 target genes that have been implicated in cellular invasion, ADAMTS-5 and Cdh3. mRNA expression analysis in each of the three Smad3 genotypes may indicate their involvement in TGF- $\beta$ -mediated cellular responses and, accordingly, in cancer cell invasion, thus having potential future pharmacotherapeutic implications.

#### **THE EFFECTS OF VIEWING NATURE PICTURES AND MUSIC ON SHORT AND LONG TERM MEMORY**

**Jillian Riendeau ('15), Megan MacKenzie ('15), Nkosingiphile Shongwe ('15) and Madeleine Tight ('15), Psychology**

We investigate the effects that nature imagery and music have on short and long-term memory. Previous research suggests that walking in nature or viewing nature images have restorative effects on attention and memory. We explore the cognitive benefits of nature by comparing the effects of viewing a picture of a natural setting to visualizing the setting with only the aid of a sentence. We also examine the effects of music on cognitive functioning. Prior studies have found varying results on this topic; some have shown music to be beneficial, whereas others have shown that it can be detrimental. Using the backwards digit span test and a recognition test, we measure the cognitive effects of different forms nature stimuli (caption, pictures, and both captions and pictures).

#### **A FRENCH WOMAN'S ENCOUNTER WITH AFRICANS (1892-1893)**



**Mary Rogers ('13), French/Italian**

Raymonde Bonnetain (1868-1913) was the wife of Paul Bonnetain, a soldier and a diplomat who travelled for the French government in the late 1800s. She followed him to Africa in 1892, with her seven-year-old daughter. They travelled from Dakar, Senegal to Bamako, the modern-day capital of Mali by barge, by train, and by caravan with numerous African porters to carry all their belongings. Raymonde Bonnetain was the first European woman to see the Niger River, and as they travelled, she wrote letters back to France, and kept a journal. She collected this correspondence together with her reflections in a book, *Une Française au Soudan sur la route de Tombouctou du Sngal au Niger* (1894) in which she combines facts and memories to give an account of their journey. This site explores her attitudes towards race, gender, and class, and the socio- historical context that likely informed her particular beliefs. Mme. Bonnetains firsthand account helps to contextualize anew Frances involvement in Africa today, particularly the recent military operations and humanitarian efforts in Mali.

**GENDER, NATURE, AND THE FAIRYTALE STRUCTURE IN THE WORKS OF ROBIN MCKINLEY****Mary Rogers ('13), English**

In my thesis, I have examined the intersections between fantasy and nature that become mutable spaces where traditional fairytale structure may be disrupted, and new gender roles appear. Robin McKinley is a young adult fantasy author whose works are often based on fairytales, and take place in a natural setting. Four of her books illustrate the progression of her writing from a strong basis in the fairytale norms, to works where characters are allowed more transgressive roles. *The Blue Sword* deals with issues of colonialism, and finding identity between two cultures. *Spindle's End* is a retelling of 'Sleeping Beauty.' In *Dragonhaven*, a teenage boy must become a mother to a dragon, and *Sunshine* is a vampire tale full of 'impossibilities.' McKinley constantly references the fairytale structure, but uses the innovative spaces of fantasy and nature to redefine gender roles and bring more freedom and uncertainty to the fairytale patten. McKinley builds off the traditional fairytale structure to offer new possibilities that seem even more credible for their traditional basis. She shows the relevance and power that the fairytale structure maintains in the world today as an evolving model for behavior, conceptions and possibilities.

**THE IMPACT OF PESTICIDE EXPOSURE ON PARKINSON'S DISEASE ONSET****Amanda Rosa Di Sant ('14) and Elizabeth Cochran ('13), Environmental Studies**

Our study investigates the relationship between exposure to pesticides and the development of Parkinsons Disease (PD). We analyzed certain occupational and biological factors that have been shown to increase the onset of PD while also evaluating the role of government programs in reducing the overall exposure to pesticides to promote human health.

**FINITE TO FAIL, INFINITE TO VENTURE: INTERACTIVISM AND RELATIONAL ETHICS****Rachel Rosenbaum ('13), Anthropology**

This project tells the story of a group of anonymous activists at Colby College that I call 'The EDFC.' To tell the story of The EDFC I build a theory of activism that I call 'Interactivism as Anarchism' that reveals how certain structures and processes affect activism. My goals are to highlight the subjectivity of the members of the group, the creation of the collective, and the process of our activism in ways that reveal the broader implications that this group has on: 1) what makes activism effective, 2) what inhibits and incites activism at Colby, and 3) what does this model of activism allow and constrain. I want to interrogate what the very existence of the EDFC means about Colby as an institution. In this project I also strive to make sense of the activism of the EDFC in critical ways, asking ultimately if such a model is sustainable and how the EDFC was effective.

**SCRIPTURE AND FICTION: AN AESTHETIC APPROACH TO THE LITTLE PILGRIM****Brian Russo ('13), Religious Studies**

The Little Pilgrim describes the pilgrimage of the Gandavyuhas protagonist, the youth Sudhana. At the behest of the Bodhisattva Manjushri, he visits fifty-three masters to attain a greater understanding of the nature of reality. My question is: How does Ko Uns aesthetic approach employ Sudhana to represent the Bodhisattva ideal? Un utilizes Sudhana as a didactic tool to espouse the primacy of experiential insight. His method is aesthetic because it relies on an underlying set of principles that guide our understanding of Sudhanas quest. The principles of life as suffering, no-self and impermanence are exquisitely interwoven within the novel. His writing style beckons us to appreciate the beauty of such pervasive themes such as interdependence and attaining enlightenment. The most important principle Un demonstrates is the worlds relative illusoriness and its liberating capacity from all unsatisfactoriness. Un depicts Sudhana as a vehicle that removes himself from the cycle of unsatisfactoriness by ideally progressing through mindful, virtuous activity to attain Bodhisattvahood. His hermeneutical transformation of the Gandavyuha engenders a Sudhana that is entirely accessible and expressive. Rather than depicting the esoteric philosophical dialogues of the Gandavyuha Sutra, Un humanizes Sudhana by personalizing his journey. In his journey to detach himself from desire and sense of self, he becomes a hero as he is propelled by the purest desire: to realize the primordial consciousness.

**THROUGH THE EYES OF URBAN STUDENTS: EDUCATIONAL INEQUALITY AND SOCIOECONOMIC DISPARITIES IN SANTIAGO, CHILE****Hillary Sapanski ('13), Global Studies**

This project explores student perceptions of educational inequality in Santiago, Chile. Educational inequality in Santiago is statistically well documented; this study is novel in that it gives voice to the students. Distinctions among Chilean student perceptions in low, middle and upper classes exist due to different educational and societal experiences, yet across all classes there is an overwhelming awareness of inequality, despite a major emerging middle class. The results in this study are two-fold: not only are the diverse student experiences supported by critical theory around issues of social justice, but student contributions to the ongoing conversation about inequality and education reform demonstrate their critical consciousness, which can be used towards making change, and suggest the realities of power relations in Chilean society.

**LEARNING BY GIVING: THE MAINE CHILDREN'S HOME FOR LITTLE WANDERERS****Cara Saunders** ('13), **Jacob Bratman** ('15), **Lillian Liang** ('15) and **Brittany Reardon** ('14), Sociology

This project summarizes the work we have done with the Maine Children's Home for Little Wanderers as a part of SO332 Nonprofit Organizations and Philanthropy. Over the course of the semester we worked on a grant which will fund a summer session of the teen parent at the Maine Children's Home. At the end of the semester the grant will be reviewed by The Learning by Giving Foundation.

**ATLAS OF MAINE: INLAND WATERFOWL AND WADER HABITAT****Elizabeth Schell** ('14), Environmental Studies

This map shows the relationship between inland waterfowl and wader habitat and the different hydrological features in Maine. The hydrological and hillshade data were obtained from ESRI. The waterfowl and wader habitat layer and the county layer came from the Maine Office of GIS. Political boundaries of Canada and the United States was downloaded from the Commission for Environmental Cooperation.

**OVERCROWDING THE EDUCATION SYSTEM? THE ARGENTINE EXAMPLE OF A CONDITIONAL CASH TRANSFER PROGRAM****Grace Schlesinger** ('13), Global Studies

In 2010, there were approximately 93 million beneficiaries of conditional cash transfer (CCT) programs in Latin America and the Caribbean. These programs strive to address short-term poverty through cash transfers while alleviating long-term poverty and accumulating human capital by conditioning the cash transfers to regular school attendance and use of health care services. In Argentina, the government implemented Asignacin Universal por Hijo (AUH) in 2009, a conditional cash transfer program that provides disadvantaged families with monthly monetary allowances. Between 2009 and 2010, the Argentine school system experienced an increase of approximately 100,000 new students under the age of eighteen. CCT programs have generally been well received and considered successful in increasing school attendance and health service usage. Through literature review, data analysis, and fieldwork in Buenos Aires, Argentina, this study examines whether there is an association between the increase in demand for educational services, as a result of the initiation of AUH, and an increase in the quality of school services in Buenos Aires, Argentina.

**FIRST YEAR COLLEGIATE ACADEMIC ACHIEVEMENT: DO ATHLETES PERFORM AT THE SAME LEVEL AS THEIR PEERS?****Justine Seraganian** ('13), Economics

There exists a stereotype at many colleges of student-athletes being less academically inclined than non student-athletes. Does being an athlete have a negative effect on collegiate academic performance? This study examines students at Colby College and follows their academic performance through their first year of college. Colby requires either the SAT or ACT to be submitted in the application process and these scores are initially used separately to predict academic success. ACT scores are also converted to SAT scores to allow for all observations to be considered in the same model. ACT scores are shown to be a better indicator than SAT scores in predicting first-year collegiate academic success. Cumulative GPA at the end of a students first year is estimated based on standardized test scores, gender, ethnicity, nationality, credits earned, and athletic participation and athletic status. All else equal, being a rated athlete is shown to have a negative effect on grade point average at the end of a students first year; however, this does not hold true for those who play a varsity sport but are not rated. When season played is considered, fall athletes have the largest negative effect on GPA.

**ALGO-TRADER****Zachary Simon** ('13), Computer Science

A program that uses a feed forward neural network to examine how stocks are priced in different sectors of the stock market. The program also handles data importation and data scraping from the web.

**DUTCH AUCTION IPO'S****Zachary Simon** ('13), Economics

A study of Dutch auction IPO's, a rare form of IPO offering that has been popularized by Google. Does the winners curse exist and do dutch auctions fail to measure up to traditional book building IPO's.

**STRUCTURAL CHARACTERIZATION OF THE MAJOR DNA-DNA CROSS-LINK FORMED BY EPOCHLOROHYDRIN****Katarina Sirka** ('13), Chemistry

Epichlorohydrin (ECH) is a bifunctional alkylating agent used extensively as an industrial intermediate, as an insecticide, and as a laboratory reagent. ECH is classified as a probable human carcinogen since occupational exposure to ECH has been linked to elevated cancer risk for industrial workers. The ability of ECH to form DNA-DNA cross-links by consecutive alkylation of two nucleobases within a DNA molecule leads to the possibility of both cytotoxic and promutagenic properties. Previous work provided evidence for the formation of interstrand ECH-DNA cross-links involving deoxyguanosine residues within 5-GC and 5-GGC sites. However, the covalent structure of ECH-induced DNA cross-links has not been determined. In the present study, ECH interstrand cross-links within genomic DNA will be purified and characterized via electrospray ionization mass spectroscopy. This project was supported by the National Center for Research Resources (5P20RR016463-12) and the National Institute of General Medical Sciences (8 P20 GM103423-12) from the National Institutes of Health.

**PLAYING IT COOL WHILE WATCHING WORM EATING: INFLUENCE OF EXPRESSION STRENGTH AND CONGRUENCY ON EMOTION ELICITATION IN A PAIR SETTING**

**Samantha Slotnick ('14), Elizabeth DiMarco ('13) and Miia-Liisa Termonen ('14), Psychology**

We investigated how a confederates emotional expression influences the emotion ratings of a participant. In the congruent conditions, both the participant and the confederate were asked to either suppress or exaggerate their emotional expression, or were given no instructions of affect (natural control condition). In incongruent conditions, the participant was given no expression instructions, while the confederate either exaggerated or suppressed. Based on prior research on facial feedback, exaggeration increases the intensity of reported emotion. Emotion contagion would also intensify the participants emotional response, even if the participant is expressing casual levels of emotion. In the suppression conditions, we do not expect emotion contagion to occur. However, based on the emotion suppression research of John and Gross (2003), we expect the participant to report an increase in negative emotion and a decrease in positive emotion. Thus, we expect the suppressing participants to react more strongly to the disgust-inducing Fear Factor video, than to the happiness-inducing Me and My Cello video. Findings will be discussed in response to these hypotheses.

**CONFORMING TO (WESTERN) DESIRE: HOMONATIONALISM AND REFUGEE LAW IN IRANIAN GAY AND LESBIAN ASYLUM CASES****Shireen Smalley ('13), Women, Gender, Sexuality**

In the last few decades, the paradigm of Western public and official opinion has shifted from one of explicit homophobia to tacit homonationalism. The American media praises its liberal politics, juxtaposing U.S. policy with Ahmadinejads famous 2007 statement denying the existence of homosexuals in Iran. In this paper, I examine several asylum cases to argue that as lesbian and gay Iranians flee to countries like Canada, the U.S., England and Australia, they encounter a judicial process that questions their claims to asylum and relies on stereotypical notions of Western homosexuality. Furthermore, I argue that even in countries like Canada that liberally grant asylum, the influx of refugees serves as a political smokescreen that effectively masks other domestic and foreign inequities. By examining this trend, transnational movements of gay and lesbian Iranians are better contextualized by the problematic politics of Western receiving countries.

**GENDERED GEOGRAPHIES AND CODED SPACES IN TEHRAN****Shireen Smalley ('13), Independent Studies**

During the Iranian capitals growth in the past few decades, the Islamic Republic has taken a proactive stance in managing its population, using urban planning and design in the production of new public open spaces (POS) throughout Tehran. However, much of the current scholarship on Tehran architecture fails to investigate the ways in which urban planning is a distinctly gendered project. In this thesis, I aim to show how the Tehran municipality provides a burgeoning population with parks, stadiums and other spaces, and how these spaces regulate gendered expression according to a narrow conception of Islamic femininity. By examining the ways in which women navigate and negotiate through these spaces, female agency as it works both within and outside of an Islamic framework is revealed.

**BRAIN PORN: HOW IT AFFECTS OUR SCIENTIFIC LITERACY****Mariah Smith ('13), Psychology**

The increase in neuroscience research in the early 2000's led to an explosion of popular media coverage on the most recent neuroscience findings. Unfortunately, the way these findings are portrayed in the popular media does not always paint the most accurate picture of neuroscience research. In this presentation, we'll take a closer look at how neuroscience findings are over generalized in the popular media and how it can influence our critical thinking, our perceptions of accuracy, and even our everyday decisions. To conclude the presentation, we'll take a look at some potential solutions. - Part of the Better Brains session from Professor Glenn's Psychology and Neuroscience Seminar

**TEXTURE AND ILLUSION IN SCENIC ART: A PRACTICAL EXPLORATION OF SCENE PAINTING TECHNIQUES****Mimi Smith ('13), Theater and Dance**

Scenic painting techniques have developed over hundreds of years to meet the intensive demands of the theater and dance forms and the requirements of individual productions as staging conventions, artistic styles, economies, technology, and materials have changed. In this semester long independent study, I have learned and experimented with many scene painting techniques in order to meet specific goals and challenges while negotiating how to maintain artistic ownership and independence within these demands. In the first part of the project I practiced and learned physical techniques of painting that most effectively meet the time and scale demands of scenic painting. The first practical challenge required me to learn tricks of illusion to produce an often requested scene painting result: create the illusion of a three dimensional set piece that would be impractical to build or use onstage (in this case a brick wall). To create this illusion, I studied and experimented to find the most appropriate methods of paint application, shading and texture. I built upon this by faking increased depth in a painting of a crumbling stone wall with a recessed cave area. Finally I took a different direction in developing scenic art for an actual production, The New Works Festival, which required speed, efficiency, and interpretation of the designer's images. These projects required for the first part a flexibility/non-specificity in location through abstract texture and color, and for the second thematic relevance and symbolism through representation of yellow wallpaper. This poster will show how specific scenic painting techniques can be used to create set pieces and artworks that serve important scenic and theatrical functions onstage.

**ESTIMATING THE PREVALENCE AND INCIDENCE OF SUSPECTED CONCUSSIONS AMONG THE COLBY COLLEGE FOOTBALL AND RUGBY PLAYERS****Rose Solomon ('13) and Carly Hallowell ('13), Mathematics**

Approximately 300,000 sport-related head injuries occur annually in the United States. The majority of these head injuries are concussions. Recent research has shown that repeated traumatic brain injuries have severe implications for an athletes future. For this study, an anonymous survey was administered to the Colby football team, the mens rugby team, and the womens rugby team, for a total sample size of 100. A total of 40 players (40.0%) suspected or suspected concussions during the fall 2012 season. No

103. A total of 40 players (38.8%) experienced a suspected concussion during the fall 2012 season. No significant relationship was found between sport, gender and odds of sustaining a concussion was found.

### **BUILDING WITH WASTE: FLY ASH IN THE 20TH AND 21ST CENTURIES**

#### **Charles Spatz ('13), Science, Technology, and Society**

This project examines the history of coal ash utilization and marketing in the 20th and 21st centuries. Coal ash, left over waste from burning coal, poses major challenges to the electricity industry and other burners of coal. The toxicity of the coal ash makes storing the over 100 million tons of annually produced

waste costly and potentially harmful to the environment and public health. To alleviate the storage burden, industry groups have long worked to recycle the ash. In the early 20th century, scientists discovered fly ash, the coal ash captured from escaping flu gasses, has the physical properties to replace a significant proportion of Portland cement in concrete. Mixing fly ash into concrete became a prominent technique around mid century with the construction of massive dams across the Western US, including the Hungry Horse Dam in 1953. Decades later, the fly ash can now be found in 50% of concrete. The widespread use of the toxic waste has only recently received scrutiny over the safety the material. By examining several decades worth of aggressive lobbying and marketing efforts from industry groups, the current debate can be understood in a more comprehensive light.

### **VARIATION IN SNOWPACK INSTABILITIES AT DIFFERENT ASPECTS ON BURNT MOUNTAIN**

#### **Kody Spencer ('14), Geology**

Instabilities in a snowpack which lead to avalanching can vary greatly depending on the aspect. Solar radiation and wind direction are the two major factors that create instabilities that will be different on different aspects. On Burnt Mountain, directly east of the Sugarloaf ski area, wind was dominant in affecting the snowpack at different aspects. The dominant wind direction at Burnt Mountain is out of the west and most days it blows more than twenty miles per hour. Whenever snow falls the wind blows it onto the leeward (east) side of the mountain. On most study days there was little to no snow above treeline on the western side of the mountain, and on the eastern side drifts were up to two meters deep. Because the snow on the western side was shallow and densely wind packed there was little instability. On the eastern side several instabilities existed. Most common were facets, melt-freeze crusts and wind slabs that existed on top of these weak layers. New wind slabs that had not settled were typically very reactive to human triggers, but were shallow enough to be of no threat. Compression tests were performed on isolated columns to determine stability of the overall snowpack. These commonly resulted in CTM or CTH results, or medium to high stability. Overall, the wind was the dominant influence of snowpack instability and the failure interface was usually wind slab on top of facets or melt-freeze crusts.

### **INVESTIGATION OF CONSTRICTION IN SHEAR ZONES WITH COMPLEX BOUNDARY CONDITIONS USING NUMERICAL MODELING**

#### **Justin Sperry ('14), Geology**

Natural rocks with a purely linear fabric have been observed in shear zones with linear asperities parallel to the transport direction, and analogue models have observed that linear asperities can produce constriction in plane strain deformation. I am using Gale, a finite-element modeling package, to test the hypothesis that shear zones with linear asperities in the confining rock parallel to  $\sigma_1$  can produce constriction. The model is subjected to stress with components of both pure and simple shear, with  $\sigma_1$  at a 50 to 80 degree angle to the top boundary and parallel with the asperity. Strain is quantified using Matlab to calculate the deformation tensor based on the initial and end positions of a tetrahedral mesh of tracer particles.

### **RELATIONSHIP OF CROSS-LINKING POTENTIAL TO MECHANISM OF CELL DEATH**

#### **Adam Spierer ('13), Biology**

Since the discovery of nitrogen mustard as a powerful anti-tumor agent, structurally similar bifunctional alkylating agents have been widely studied for their clinical potential. These compounds prevent replication and transcription by cross-linking duplex DNA. We are characterizing the mechanisms by which diepoxybutane (DEB) and related compounds such as epichlorohydrin (ECH) exert their cytotoxic effects. Our first goal is to determine the relationship between interstrand cross-linking and cytotoxicity. We are assaying cross-linking in HL-60 cells using ethidium bromide to monitor the amount of duplex DNA following denaturation. Only cross-linked DNA reanneals rapidly and interacts with the dye, which is highly fluorescent when bound to duplex DNA. Preliminary results suggest a correlation between cross-linking and LD50 values for these compounds, with DEB as a more efficient cross-linker. Our second goal is to characterize the pathways by which these compounds induce cell death. We are using caspase apoptosis assays to understand the dosing requirements necessary to maximize apoptosis and minimize necrosis. Preliminary results suggest a greater apoptotic potential for DEB than ECH. This project is supported by grants from the National Center for Research Resources (5P20RR016463-12) and the National Institute of General Medical Sciences (8 P20 GM103423-12) from the NIH.

### **CLIMATE CHANGE AND EPIZOOTIC SHELL DISEASE IN AMERICAN LOBSTERS: IS MAINE'S MOST VALUABLE FISHERY DOOMED?**

#### **Michael Stephens ('13), Environmental Studies**

Epizootic Shell Disease of the American Lobster (*Homarus americanus*) is a bacterial disease that erodes the carapace of the lobster and has increased in prevalence in the southern stocks of lobster and has begun to move northward. Disease data was provided by the Maine Department of Marine resources Lobster Sea Sampling Program, and temperature data was provided from the University of Maine NERACOOS oceanographic buoys. ESD incidence rates were investigated spatially and temporally in the Gulf of Maine stock, and while overall levels in Maine state waters are low ( $>0.1\%$ ), warming waters and a high density of lobsters make the Gulf of Maine population susceptible to the disease. Associations of disease incidence with sea surface (1m) temperature during the summer and bottom water (50m) temperature during the winter were investigated. 20C was used as a summer upper temperature threshold to link to disease incidence. Summers with above 20C surface waters often saw a disease

increase the following summer, but this association is not fully concrete. Raw average bottom water showed no significant increase over time. However, an index was created that compares the temperature to the mean temperature climatology and suggests that warmer than average bottom water temperatures may be associated with disease outbreaks.

#### **'A SHRIMP BEHIND THE STONE:' UNDERSTANDING POLITICAL VIOLENCE IN INDONESIA**

##### **Carter Stevens ('13), Government**

My paper encompassed the three major areas of political violence in Indonesia: Islamist extremism, Christian-Muslim violence, and separatist violence. Research included an investigation of the history of these three areas, an analysis and mapping of the triggers and sustaining factors of the violence in each case, and how they work together to affect political and daily life in Indonesia.

#### **WAR: THE DEHUMANIZATION OF THE HUMAN RACE**

##### **Carter Stevens ('13), German/Russian**

This project discusses the role that war and its associated effects on society play in the process of dehumanization- both of ostensible enemies and in one's own nation. Analysis includes a discussion of three German texts- Alexander Kluge's 'Lernprozesse mit tödlichem Ausgang,' Elfriede Jelinek's 'Bambiland,' and W.G. Sebald's 'Luftkrieg und Literatur-' and the role that war and conflict in the past, present, and future plays in this process of dehumanization.

#### **WHEN THE CONFEDERATES TERRORIZED MAINE: THE BATTLE OF PORTLAND HARBOR**

##### **Carter Stevens ('13), History**

My honors thesis focuses on the Confederate raid into Portland, Maine, on June 26-27 1863, when a ship under the command of Confederate Naval Lt. Charles W. Read entered the harbor and commandeered a U.S. Revenue Cutter there. A short pursuit and battle followed off the coast of Portland, where the Confederates surrendered but scuttled the ship. The talk will cover the details of the battle, how it was reported in local and national media, the reactions of Mainers to the raid, and how this small incident fits into the larger picture of the Civil War.

#### **THE INFLUENCE OF CENTRAL BANK INDEPENDENCE ON INFLATION: EVIDENCE BASED ON A NARRATIVE APPROACH**

##### **Qi Sun ('13), Economics**

This paper analyzes the influence of central bank independence on inflation in 18 developing countries and 14 advanced countries from 1967 to 2012. By developing a narrative approach based on reports from major newspapers and journals, we separate the replacements of central bank governors into two major categories: endogenous and exogenous cases. Using this new approach, we solve the endogeneity problem existed in previous literature and we find that exogenous replacements would not induce high inflation in both developing and advanced countries.

#### **MAINE'S ROCKWEED HARVEST AND THE FUTURE OF THE SEAWEED AT STAKE**

##### **Molly Susla ('13), Biology**

Rockweed is a species of seaweed that dominates the Maine coast. Playing an important role in the ecosystem in which it shapes, rockweed supports fisheries, harbors species and keeps intertidal biodiversity high. However, all this is being threatened by the harvest of Rockweed. Seaweed harvest is beginning to replace other fisheries along the coast of Maine. There are many economic benefits to this harvest, and the industry argues that it is creating jobs in this state. Nonetheless, there is a current legal battle over the protection of this seaweed and all seaweed species along the coast of Maine. The Rockweed Coalition and the Marine Resources Council are big players in this legal battle for a statewide management plan. While there is some protection for Rockweed specifically, the legal aspects of the harvest and management plan are far from settled. I have spent my semester researching both the pros and cons of the Rockweed Harvest and will present the current status of the management plan for this species as well as the hope for future legislation. While Rockweed is among many species that are harvested off of Maine's coast, the biggest concern is that Rockweed cannot be managed in the same way as other seaweed species because of its vital role in Maine's coastal ecosystem.

#### **TRACING THE FINGERPRINTS OF BIPOLAR DISORDER**

##### **Arvia Sutandi ('13), Psychology**

The etiology of bipolar disorder has its roots in genetic, neurological, and environmental stressors. The current research indicates that genetic susceptibility to BPD stems from multiple genes. In the scope of this particular presentation, I will be focusing on circadian genes, as sleep disturbances are the most prominent correlates of mood episodes. BPD is suspected in part to arise from malfunctions in the circadian system, and patients with BPD show marked changes in activities like sleep, activity, appetite. Normalization of these abnormalities usually accompanies clinical stabilization. From a biochemical and structural abnormalities have been found in depression and are associated with decreased neural activity and volume in the frontal cortex and hippocampus, areas that have been associated with emotion regulation. Environmental stressors also need to be taken into consideration, as erratic schedules and psychological stressors promote onset of BPD and further episodes. Future treatment needs to take into consideration pharmacological and family-focused treatment in order to avoid relapse prevention and ensuring long-term stability.

#### **DERIVING 'DOG' FROM WOLF AND FOX, OR LEASH AND BARK? FALSE MEMORY IN CATEGORICAL AND ASSOCIATIVE WORD LISTS.**

##### **Miia-Liisa Termonen ('14), Psychology**

Studying lists of related words, such as garage, truck, and drive results in false memory for critical non-studied items (i.e., car; Roediger & McDermott, 1995). False memories occur with lists of associatively and categorically related lists that are matched on average associative strength. However, prior studies

(e.g., Knott et al., 2012) have not tested pure lists in other words, associatively related lists typically include associates (e.g., drive and garage) as well as categorically related items (e.g., truck). Thus, these studies cannot isolate the effects of association from those of feature overlap or semantic similarity, a critical question for understanding the nature of the underlying representations that give rise to memory errors. In the present study, participants studied carefully matched lists of pure categorically or associatively related items. Immediate free recall followed each list and a final recognition test was also administered. Categorically related list items were recalled and recognized more than associatively related list items. Importantly, critical lures from categorical lists were also falsely recognized more than those from associative lists, suggesting that, when associative strength is matched, shared features or similarity contribute to false memory.

#### **'FOOD SAFETY': THE DANGERS OF MEAT PROCESSING**

##### **Natalie Thompson ('15), Environmental Studies**

This project will give information about the chemicals used in the entire process of meat production, including the sanitation of the processing plants as well as the food itself. I plan to go into detail about the intended uses of specific chemicals frequently found in these factories, but the focus of the presentation will be the impacts of chemicals on human health. Mass-produced meat is heavily processed; many of the components of the meat itself are stripped away, and the products are injected, sprayed, and packaged in strong chemical agents that are frequently unregulated. Many of these chemicals have known negative effects on human health, and there are many more potential human health impacts that have not yet been studied, or have had laws made to restrict the chemicals that cause them. I also plan to gather information on the health impacts on the workers who package and process these animal products, which provides further evidence that processed meat consumption is highly dangerous to human health.

#### **EXPLORING THE NEUROPROTECTIVE POTENTIAL OF DIETARY CHOLINE IN A RAT MODEL OF POSTTRAUMATIC STRESS DISORDER**

##### **Adam Thompson ('13), Psychology**

Little is known about the pathophysiology of PTSD, however, compelling evidence suggests that hippocampal plasticity is compromised among those who develop it. Depression has similar effects on the hippocampus, and antidepressants are sometimes effective in treating PTSD. Interestingly, choline, an essential micronutrient and precursor to acetylcholine, facilitates plasticity and boosts growth factors in the hippocampus. Furthermore, supplementing dietary choline in developmental stages confers antidepressant-like behavioral effects. In the present study, adult Lewis rats, a strain previously used in rat models of PTSD, were given a short duration exposure to predator odor and assessed for behavioral and neural reactivity. Half of the rats received choline supplemented diets over the period of adolescence; half received a control diet with only sufficient amounts of choline. Behavioral responses to predator odor included tests of anxiety and neural responses included measures of hippocampal plasticity. The preliminary findings indicate that exposing rats to cat odor reliably provoked trauma, resulting in PTSD-like behavior that parallels the symptoms seen in humans. Supplementing rats with choline during adolescence enhanced resilience to PTSD-like behavior and is expected to increase hippocampal neurogenesis and levels of BDNF.

#### **DEVELOPMENT OF A MASS SPECTROMETRY ASSAY TO MEASURE RIBONUCLEOTIDE REDUCTASE ACTIVITY IN HUMAN CANCER CELLS**

##### **Al Phuong Tong ('15), Chemistry**

Ribonucleotide reductase (RNR) catalyzes the reduction of ribonucleotides into deoxyribonucleotides, which are essential for DNA replication and cell division. RNR is especially abundant in proliferating cancer cells and is an increasingly popular target in anticancer research. We had previously reported that the experimental anticancer prodrug Laromustine inhibits the enzyme thioredoxin reductase (TrxR), which is involved in proper RNR activity. Laromustine has been used in clinical trials to treat patients with acute myelogenous leukemia and glioblastoma multiforme. In this study, we use a particular sample preparation method and HPLC coupled to high-resolution time of flight mass spectrometry to quantify

deoxyribonucleotide diphosphate pools in human cells. These experiments will allow us to assess changes in RNR activity from cultured human cancer cells in response to treatment with Laromustine. We hope to further elucidate the mechanism by which Laromustine kills cancer cells, possibly influencing the clinical applications of Laromustine or similar agents.

#### **DOES BPA CAUSE NEUROTOXICITY? AN EXAMINATION INTO BPA'S EFFECT ON THE DEVELOPING BRAIN**

##### **Jeremy Torrisi ('13) and Sean Donahue ('13), Environmental Studies**

Bisphenol A (BPA) is a chemical found in many consumer products such as water bottles, children's toys, and the epoxy linings in cans. BPA can leach out into the coating of a product where it can be absorbed into the body, causing a toxic effect due to its structural similarity to the natural hormone estrogen. There are several well-known estrogenic effects of BPA including increased adipose tissue, increased risk of reproductive birth defects, and increased cancer risk. One of the hypothesized effects of this estrogenic disruption is neurotoxicity in the developing brain. The purpose of this study was to review the current literature involving BPA's neurotoxic effect and assess the validity of the evidence both for and against that effect. As BPA is a known toxic chemical, most research conducted with BPA, to date, have used a mouse model. While evidence exists against BPA having specific neurotoxic effects, BPA has been shown to effect the behavior of adult mice that have been exposed to the chemical throughout development. This effect has been shown to occur after exposure to BPA in utero and postnatally, exemplifying that BPA has a neurotoxic effect during prenatal and postnatal development. The precautionary model would suggest that it is beneficial to regulate BPA due to its potential to cause damage to the developing nervous system. However, because the effect has not been well studied in humans, results from the experiments involving BPA's effect on the developing brain have not been well publicized. Until unequivocal evidence from human models is provided showing BPA's neurotoxic effects, it is likely that these effects will not factor into the regulation of BPA in the United States.

**CINEMATIC PSYCHOLOGY IN MODERN AMERICAN POETRY****Chelsea Tyler** ('13), English

At the turn of the 19th century, iconic poet Ezra Pound spearheaded the modernist transition into poetic Imagism. This movement consisted of three rules for poetry: direct treatment of the object, no frivolous or unnecessary use of language, and careful consideration of the poems rhythm. At this same moment, the growing cinema industry was searching for new ways to treat visual images on film. Filmmakers in Soviet Russia became particularly interested in the third component of Pounds definition rhythm due to its aesthetic benefits with regards to new theories of cinematic montage. Lauded poet William Carlos Williams paid particular attention to this new cinematic psychology in his poetry, borrowing from strategies such as Lev Kuleshovs film experiment that came to be known as The Kuleshov Effect, demonstrated between 1910 and 1920. More specifically, Williams used techniques drawn from Soviet montage in his poems The Red Wheelbarrow and The Right of Way in order to manipulate the readers gaze; through this manipulation, the reader effectively becomes the spectator of these poem-films. The manipulation of poetic rhythm, diction, and word order, therefore, implements a similar psychological influence on the reader as editing choices affect film viewers. By looking at the similarities between these two art forms and the tools that they use, we can further uncover the secrets of how and why words and images create and amplify meaning.

**THE ABILITY OF A SMARTPHONE TO DETECT CHANGES IN BALANCE PERFORMANCE****Caroline Wade** ('13), Mathematics

Clinical assessment of balance performance is an important tool in the evaluation and medical care of many conditions. However, commonly used measures of balance are often subjective, expensive or require evaluators with extensive training. Accelerometry shows promise as a reliable measure of postural sway. In addition, the growing pervasiveness of smartphones and tablets makes them potential sources of cheap, easy to use balance tests based on accelerometry. The purpose of this study was to evaluate the ability of a smartphone accelerometer to detect changes in balance performance after challenge. Twenty-four participants were recruited from the college student population with no known vestibular, neurological or orthopedic deficits. Subjects completed two trials of four positions in a randomized order while wearing the smartphone. Balance performance was quantified using standard deviation metrics. Our results showed a significant decrease in performance after challenge by eliminating visual input. Smartphones may be a cheap and reliable platform for an objective balance measure.

**EL TRASVESTISMO, LA FLUIDEZ DEL GÉNERO Y EL AMOR HOMOSEXUAL EN OBRAS DE MARÍA DE ZAYAS Y ANA CARO****Riley Wagner** ('13), Spanish

El Siglo de Oro era un tiempo de papeles de género rígidos que no se podía romper sin consecuencias severas. Estos papeles definían todo en la vida: cómo se comportaba, cómo se vestía, a quién podía sentir atracción y sobre todo, con quién podía enamorarse. Los autores de aquel tiempo no podían criticar abiertamente el estatus quo de en la sociedad patriarcal; pues, tenían que encontrar una manera creativa de hacer esta crítica a través de su literatura. En Amar solo por vencer de Mara de Zayas y Valor, agravio y mujer de Ana Caro, las autoras juegan con los papeles de género, haciéndolos más fluidos y invirtiéndolos, para llamar la atención de la sociedad a la construcción de estos papeles. Por utilizar el travestismo e invertir los papeles, logran hacer un comentario sobre la fluidez de género y el amor homosexual en el siglo de oro.

**THE CONJUGAL TRANSFER OF ANTIBIOTIC RESISTANCE PLASMIDS IN LACTIC ACID BACTERIA DURING THE RIPENING OF CHEESE****Louisa Walker** ('13), Biology

The process of converting milk into cheese as a form of preservation has been part of the human culinary experience for millennia. Cheese making has spread throughout the world and the qualities of the type of cheese created have been manipulated through altering the level of acidity, temperature, length of ripening period, and especially the ratio and types of bacteria used to inoculate the cultures. Recently, Iringer and Mounier (2011) estimated that there are over 1000 different varieties of cheese around the world today. As mentioned previously, the consistency and flavor of cheeses are highly dependent on both the starter bacteria and the secondary bacteria, yeasts and fungi with which the cheeses are inoculated. Most lactic acid bacteria contain antibiotic resistance plasmids but are generally regarded as safe for human consumption. However, little work has been done on whether the lactic acid bacteria could potentially transfer their antibiotic resistance plasmids to other bacteria, especially potential pathogenic bacteria within the human gastrointestinal tract (Mathur, 2005).

**WHAT'S FISH GOT TO DO WITH IT? HOW METHYLMERCURY EFFECTS CHILDREN NEUROLOGICAL DEVELOPMENT****Kellie Walsh** ('15) and **Sara Miller** ('15), Environmental Studies

Our project examines the effects of methylmercury on children's neurological development. While a large number of studies show methylmercury has a negative impact on development, others argue it has no direct impact. Through our work, we hope to analyze these studies and come to some conclusions about methylmercury.

**IDENTIFYING THE REGULATORY SITE OF THE LYCOPENE ELONGASE ENZYME IN THE EXTREMOPHILIC MICROBE HALOBACTERIUM SALINARUM****Christine Wamsley** ('15), Biology

In order for any organism to survive, it is vital that internal balance be maintained despite changes in the external environment. All forms of life, therefore, carry out important metabolic processes to effectively respond to environmental pressures. This study focuses on an Archaea, Halobacterium salinarum. This

response to environmental pressures. This study focuses on *H. salinarum*, a microorganism. The microbial species is found in high salt environments and accordingly, is classified as an extremophile. To respond to osmotic pressures and changes in oxygen availability, *H. salinarum* produces two molecules that are critical for maintaining internal balance. Bacteriorhodopsin is a light-activated proton pump that converts light energy into energy that can be utilized by the organism. Bacterioruberin is a carotenoid pigment that protects *H. salinarum* from osmotic stress and UV light. Both of these molecules are produced from the same intermediate, lycopene, and therefore, their synthesis must be regulated. The presence of bacterioopsin, the protein portion of bacteriorhodopsin, inhibits the committed step in the formation of bacterioruberin; this step is catalyzed by the Lye enzyme. In order to determine which part of Lye is regulated by bacterioopsin, this study compares the lye gene in *H. salinarum* to another strain of haloarchaea, *Haloferax volcanii*. We generated fusion genes by connecting a portion of the gene from both species. We are in the process of analyzing the activity of these fusion genes by inserting them into a strain of *H. salinarum* lacking the lye gene. By constructing various fusion proteins, we plan to determine which part of the gene contains the sequence necessary for the bacterioopsin-mediated regulation of bacterioruberin synthesis.

#### **LESSING'S CONSERVATIVE IDEAS ABOUT PUBLIC FREEDOM DURING THE ENLIGHTENMENT IN MINNA VON BARNHELM**

**Christine Wamsley ('15), German/Russian**

For my final German paper, I want to focus on the limits of freedom during the Enlightenment as seen in Lessing's text, *Minna von Barnhelm*. I will argue against an article Urban Experience, Aesthetic Experience, and Enlightenment in G.E. Lessing's *Minna von Barnhelm* by Matt Erlin (Washington University in St. Louis). Using Lessing's work, I will explain why and how the comedy represents a more conservative standpoint than one would expect from a piece of literature written during the Enlightenment.

#### **THE NEW PROMISED LAND: MAINE'S SUMMER CAMPS FOR JEWISH YOUTH IN THE MID-TWENTIETH CENTURY**

**Charlotte Wiesenberger ('13), History**

As leading social critic, Porter Sargent, wrote in his 1931 'A Handbook of Summer Camps: An Annual Survey,' 'the Jews know a good thing and usually secure the best for their children. They were early to arrive in the promised land of the summer camp and they settled first in the choice spots of Maine around the capital' (Sargent, 42). Though many of Maine's camps for Jewish children were established in the early twentieth century, they became an increasingly popular institution in the 1930s, 1940s, and 1950s. My thesis investigates why the camps became so successful at this time, why children loved them, and why parents were so enthusiastic about sending their children to Maine for the summer. Work Cited: Sargent, Porter. *A Handbook of Summer Camps: An Annual Survey*. Eighth Edition. Boston: Wright & Potter Printing Company, 1931.

#### **DOES EXCHANGE MARKET REACT TO CENTRAL BANK GOVERNOR REPLACEMENTS: EVIDENCE FROM A NEW DATASET USING NARRATIVE APPROACH**

**Siyang Xu ('13), Economics**

This paper contributes to the literature that analyzes the exchange market reaction to the event of a central bank governor replacement. In order to solve the endogeneity problem, we develop a narrative approach-based on reports from credible newspapers that classifies central bank governor replacements by their nature and causes. Using this new dataset on central bank independence for 31 countries over the period 1967-2012, we decompose all replacements into endogenous and exogenous cases with respect to inflation and financial market performance. We find that such a distinction is critical in understanding the exchange market reactions. We show that i) endogenous replacements, particularly the ones in developing countries, are the source of the negative exchange market reaction observed in previous literature, thus the causality is actually the other way around from exchange market performance to central bank governor replacement; ii) exchange markets in both developing and advanced countries do not respond to exogenous replacements. Our findings hold for the inclusion of panel fixed effects, after controlling for international liquidity and exchange rate regimes.

#### **NOT THE MOST GLAMOROUS OF TOPICS: WASTE MANAGEMENT AT COLBY**

**Dhokela Yzeiraj ('13), Geology**

Specifically, dealing with what is considered waste, the function and handling of waste, and student/faculty perceptions of it on the Colby College Campus. I will work with (1) special collections past student thesis (2) Physical Plant department (3) geology department to research the information of waste collection and handling on campus. Discuss the generation and transportation of waste from newly built LEED buildings, municipal/sewage waste, and waste from food. The purpose is to raise student/faculty awareness on dealings of the life cycle of our waste.

#### **HOW MIGHT FOOD QUALITY AFFECT THE INCIDENCE OF MYCOTOXICOSES?**

**Kaitlin Zdechlik ('13) and Caroline Chessare ('13), Environmental Studies**

Most Americans take for granted the food quality within the United States. The Federal Drug Administration maintains a high quality of food in order to keep Americans safe and healthy. Most people probably have never heard about mycotoxins. Mycotoxins are secondary metabolites of molds that exert toxic effects on animals and humans. Mycotoxicosis refers to the toxic effect of mycotoxins on animal and human health. The severity of mycotoxicosis depends on the toxicity of the mycotoxin, the extent of the exposure, and age and nutritional status of the individual exposed. Acute mycotoxicoses can cause serious and sometimes fatal diseases. Most of the outbreaks of mycotoxicoses described were a consequence of the ingestion of food that was contaminated with a specific mycotoxin. By analyzing the mechanism of action, the health impacts of mycotoxins, and the incidence across the globe, the incidence of mycotoxicoses as related to food quality can be determined.

#### **THE ROLE OF ART AND THE ARTIST IN BORIS PASTERNAK'S DOCTOR ZHIVAGO**



**Quinn Ziegler ('14), German/Russian**

In Boris Pasternak's novel Doctor Zhivago, I explore the role art plays in relation to life, death, and what it means to exist. How art transcends the physical barriers of life in order to create eternal existence is explored by examining imagery, speech, and ideologies surrounding and expressed through Pasternak's protagonist, Yura Zhivago. I find that in his novel, Pasternak expresses through Yura what art should and should not be, suggesting characteristics of art that are necessary to achieve its higher purpose--the creation of existence. However, in order to best understand Pasternak's ideas and expressions through Yura Zhivago, it is important to understand his meaning of freedom, individuality, and what it means to exist and how these ideas are limited in the context of the Russian Revolution. Additionally, I also briefly explore the process and struggle of the artist through Yura Zhivago, examining his transformation and struggle in becoming a writer. Finally, I draw conclusions as to the role art plays in the creation of existence and how it operates as an eternal memory, greater than life or death itself.

**EFFECTS OF GLOBAL CLIMATE CHANGE ON THE DISTRIBUTION OF INCIDENCE OF VECTOR-BORNE DISEASES IN AFRICA****Julia de Guzman ('13) and Madeline Strachota ('13), Environmental Studies**

As part of Professor Gail Carlson's ES366 Environment and Human Health class, we will be studying the effect of climate change on the spread of vector-borne diseases--specifically malaria--in Africa, and what that spread (or lack thereof) means for people living in effected areas.

**LOCAL GAMING STORES: ALTERNATIVE CULTURE, MASCULINITY AND MAGIC****Miles de Klerk ('13), American Studies**

This project aims to explore how identity and community is formed within the spaces of American local tabletop gaming stores. Featuring participant observation and interviews with store owners and customers, the research delves into the formation of community, identity and masculinity in this largely unknown social space.

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## Colby Undergraduate Research Symposium

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### Colby Undergraduate Research Symposium 2013

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#### Honors Programs

Author	Department	Mentor
<b>Title</b>		
Elizabeth Malone ('13)	American Studies	Arellano, Lisa
<b>American Studies Senior Honors Thesis</b>		
Emily Karr ('13)	American Studies	Lisle, Benjamin D.
<b>Race in Friday Night Lights</b>		
Jemarley McFarlane ('13)	American Studies	McFadden, Margaret T.
<b>The Wire</b>		
Jessica Pires ('13)	Anthropology	Halvorson, Britt E.
<b>Explorations of Racial Identity in Boston's Cape Verdean Community</b>		
Rachel Rosenbaum ('13)	Anthropology	Mills, Mary Elizabeth
<b>Interactivism: An Exploration of Community, Agency, and Aesthetics at Colby College</b>		
Ellicott Dandy ('13)	Anthropology	Bhimull, Chandra D.
<b>Inteas in Action: ecofeminism and economic stability as tools for sustainable development</b>		
Sarah Nalven ('13)	Biology	Bevier, Catherine R.
<b>Characterizing the epibiotic community of green frogs and their role in their host's immune system</b>		
Chelsea Nickerson ('13)	Biology	Glenn, Melissa J.
<b>Prenatal choline supplementation and MK-801 toxicity: Protecting memory and preventing neurodegeneration</b>		
Adam Spierer ('13)	Biology	Millard, Julie T.
<b>Quantitation of bifunctional alkylating epoxide crosslinks on DNA in vivo</b>		
Brittany Colford ('13)	Biology	Tilden, Andrea R.
<b>Spatial and Temporal Gene Expression of Timeless and Cryptochrome in Crustaceans as Revealed by Immunohistochemistry</b>		
Elise Begin ('13)	Biology	Stone, Judy L.
<b>THE EFFECTS OF SELF-POLLINATION AND GEOGRAPHIC DISTANCE ON THE GENETIC DIVERSITY OF BLUE FLAG IRISES (Iris versicolor) IN THE BAY OF FUNDY</b>		
Kayla Gross ('13)	Chemistry	Rice, Kevin P.
<b>An investigation into the effects of the anticancer drug Laromustine on the anti-apoptotic protein BAG3</b>		
O. Sirka ('13)	Chemistry	Millard, Julie T.
<b>Characterization of DNA Cross-Links formed by Epichlorohydrin</b>		
Rachel Guerra ('13)	Chemistry	Rice, Kevin P.
<b>Identification of Zinc Finger Peptides That Bind Nicked DNA via Phage Display</b>		
Byung Kim ('13)	Chemistry	King, D. Whitney
<b>Measurement of Iron in Natural Waters by Solid-Phase Extraction and Inductively Coupled</b>		

<b>Plasma Optical Emission Spectrometer</b>		
James Shaum ('13)	Chemistry	Thamattoor, Dasan M.
<b>Nonnitrogenous Precursors for the Generation of Formyl- and Vinylcarbenes.</b>		
Samantha Lessard ('13)	Chemistry	Thamattoor, Dasan M.
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Lloyd Liang ('13)	Chemistry	Katz, Jeffrey L.
<b>Synthesis of ortho and para diazadoxa-1,4-cyclophanes</b>		
Carly Hallowell ('13)	Chemistry	King, D. Whitney
<b>The Role of Hydrogen Peroxide in the Life Cycle of Leptothrix</b>		
Beatrice Nakiryowa ('13)	Chemistry	Thamattoor, Dasan M.
<b>Towards a Stable and Crystalline Carbocyclic Allene</b>		
Zachary Cecere ('13)	Computer Science	Taylor, Stephanie R.
<b>Circadian Rhythms</b>		
Zhanar Seitmagzimova ('13)	Computer Science	Maxwell, Bruce A.
<b>Developing Stock Prediction Software</b>		
Mary Fletcher ('13)	Computer Science	Maxwell, Bruce A.
<b>Using Eye-Tracking to Inform Automated Object Recognition</b>		
Eleni Choephel ('13)	East Asian Studies	Weitz, Ankeney
<b>Gender Through Entertainment: A Look at Korean Pop Lyrics from Girl Groups and Boy Groups</b>		
Anne Burke ('13)	East Asian Studies	Weitz, Ankeney
<b>Modernism in Shanghai</b>		
Justine Seraganian ('13)	Economics	Findlay, David W.
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Thomas Abe ('13)	Economics	Nelson, Randy A.
<b>Can The Stock Market Predict FDA Approvals?</b>		
Siyang Xu ('13)	Economics	Vuletin, Guillermo J.
<b>Do Financial Markets Care about Central Bank Governor Change: Evidence based on a Narrative Approach.</b>		
Daniel Garin ('13)	Economics	Findlay, David W.
<b>Political Influence on the Federal Reserve</b>		
Peter Jones ('13)	Economics	Barbezat, Debra A.
<b>Senior Honors Thesis: Classroom Peer in Higher Education: Evidence for Colby College</b>		
Marcus Josefsson ('13)	Economics	Vuletin, Guillermo J.
<b>The Growth Effect of Currency Union Dissolution</b>		
Rebecca Newman ('13)	Economics	Vuletin, Guillermo J.
<b>The Relevance of Inflation Targeting</b>		
Qi Sun ('13)	Economics	Vuletin, Guillermo J.
<b>The effect of central bank independence on inflation: Evidence based on a narrative approach</b>		
Eliza Appleton ('13)	English	Burke, Michael D.
<b>A College Retrospective</b>		
Mary Rogers ('13)	English	Adams, Anthony J.
<b>A Study of the Mythologic Roots of Children's Fantasy Literature</b>		
Katherine McCarrick ('13)	English	Boylan, Jennifer Finney
<b>Are you happy now?</b>		
Michaela Pembroke ('13)	English	Boylan, Jennifer Finney
<b>Compilation of Creative Writing Short Stories</b>		
Lindsay Roberts ('13)	English	Bryant, Cedric Gael
<b>Creative Monstrosity: The Gothic Female Body in 19th and 20th Century English Literature</b>		
Leah Walpuck ('13)	English	Blevins, Adrian
<b>Creative Writing Poetry Thesis</b>		
Zachary McCartney ('13)	English	Suchoff, David B.

<b>Edifice, Gnosis, Utopia: Deconstructing Realism Towards Realizing Egalitarianism</b>		
Camilla Ostrow ('13)	English	Osborne, Laurie E.
<b>From the Slums of Shaolin to the Bard of Avon: Male Solidarity in Shakespeare and Hip-Hop Music</b>		
R. Murry ('13)	English	Boylan, Jennifer Finney
<b>Independent Study in Creative Writing - Fictional Interconnected Stories</b>		
Kristen Starkowski ('14)	English	Suchoff, David B.
<b>Making Olfactory Sense of the Victorian Social Order: Smells, Disgust, and the Abject in Charles Dickens' The Old Curiosity Shop and Our Mutual Friend</b>		
Eliza Larson ('13)	English	Bryant, Cedric Gael
<b>Martyr for the Press: The Life and Mission of Elijah Parish Lovejoy</b>		
Diana Sunder ('13)	English	Boylan, Jennifer Finney
<b>Novella About My Family in Italy</b>		
Alexandra DeConti ('13)	English	Blevins, Adrian
<b>Poetry Thesis</b>		
Melanie Brown ('13)	English	Blevins, Adrian
<b>Portfolio of Poetry and Prose</b>		
Nicholas Nowak ('13)	English	Boylan, Jennifer Finney
<b>Slow Like</b>		
Julia de Guzman ('13)	English	Boylan, Jennifer Finney
<b>Untitled (for now)</b>		
Claire Cannon ('13)	English	Osborne, Laurie E.
<b>Using Shakespeare to Comment on Violence in America: From <i>West Side Story</i> to <i>Othello</i></b>		
Lauren Fisher ('13)	English	Burke, Michael D.
<b>What Happens Between Brisket and Kugel</b>		
Lester Batiste ('13)	English	Blevins, Adrian
<b>Yours, Always and Forever</b>		
Michael Stephens ('13)	Environmental Studies	McClenachan, Loren E.
<b>Climate Change and Epizootic Shell Disease in American Lobsters: Is Maine's Most Valuable Fishery Doomed?</b>		
Virginia Keesler ('13)	Environmental Studies	Nyhus, Philip
<b>Conservation easement policies across New England</b>		
Sarah Holmes ('13)	Environmental Studies	McClenachan, Loren E.
<b>Managing the Global Marine Aquarium Trade</b>		
M. Bernard ('13)	Environmental Studies	Nyhus, Philip
<b>Metallic Metal Mining in Maine</b>		
Nicholas Papanastassiou ('13)	Environmental Studies	Reynolds, Travis W.
<b>What are the determinants of food security at the rural household level in Ethiopia?</b>		
Deborah Amato ('13)	French and Italian	Greenspan, Arthur D.
<b>Les Héroïnes Françaises pendant La Résistance</b>		
Brita Midness ('13)	French and Italian	Dionne, Valerie M.
<b>L'Autre de Montaigne: vers une vision tolérante de nos perceptions</b>		
Claire Dunn ('13)	Global Studies	Yoder, Jennifer A.
<b>I plan to look into ethical issues surrounding medical humanitarianism in emergency situations. Issues considered will include accountability and responsibility, potential collateral, and effects on the sustainable development of local health systems.</b>		
Hillary Sapanski ('13)	Global Studies	Yoder, Jennifer A.
<b>Student Perceptions of Socioeconomic Inequality in New York City and Santiago</b>		
Grace Schlesinger ('13)	Global Studies	Unidentified course sponsor
<b>Transparency in Argentina and It's Implication on Economic and Democratic Development</b>		
Georgina Hurst ('13)	Global Studies	Yoder, Jennifer A.
<b>Economic Relations between China and Senegal: Selfish or Selfless?</b>		
John Isaman ('13)	Government	Beisart, Joseph B.

John Tully ('13)	Government	Reisert, Joseph R.
<b>Immunity Rights vs. Entitlement Rights</b>		
John Tully ('13)	Government	Reisert, Joseph R.
<b>Tocqueville and Democratic Despotism</b>		
Lindsay Peterson ('13)	History	Leonard, Elizabeth D.
<b>Americanization Through Education: A Case Study of the Carlisle Indian School</b>		
Gabriela Wyatt ('13)	History	Turner, John P.
<b>Islamic Divorce Law: From the Qur'an to the Arab Spring</b>		
Thomas Chippendale ('13)	History	Scheck, Raffael M.
<b>The German Wirtschaftswunder: Why It Was No Miracle At All</b>		
Charlotte Wiesenbergl ('13)	History	Weisbrot, Robert S.
<b>The New Promised Land: Maine's Summer Camps for Jewish Youth in the Mid-Twentieth Century</b>		
Alexandre Caillot ('13)	History	Leonard, Elizabeth D.
<b>The Rifled Musket: Transformer of War and Harbinger of Modern Conflict</b>		
Carter Stevens ('13)	History	Leonard, Elizabeth D.
<b>When the Confederates Terrorized Maine: The Battle of Portland Harbor</b>		
Zoe Herrmann ('13)	History	Weisbrot, Robert S.
<b>Why Hitler was a Man and the Japanese were Animals: Portrayals of the Enemy in American Cartoons and Comic Books During the Second World War</b>		
Sarah Junod ('13)	History	Taylor, Larissa J.
<b>Women in the Wars of the Roses</b>		
Audrey Lomax ('13)	History	Weisbrot, Robert S.
<b>The Success of Airborne Battalions in World War Two: Why Did the Army Excel and the Marines Fail?</b>		
Eoin McCarron ('13)	History	Scheck, Raffael M.
<b>'You have been in Afghanistan I Perceive': A portrait of the Second Afghan War and the Irish who were there</b>		
Shireen Smalley ('13)	Independent Studies	Turner, John P.
<b>Gendered Geographies and Coded Spaces in Tehran</b>		
Michael Perreault ('13)	Independent Studies	Wurtzler, Steven James
<b>Notes on the Politics of the Auteur: Stanley Kubrick, Wes Anderson, and the Spectator</b>		
Abbott Matthews ('13)	Latin American Studies	Yoder, Jennifer A.
<b>When the Walls Talk: Graffiti Speaks in Bogotá</b>		
Alexander Rasmussen ('13)	Mathematics and Statistics	Taylor, Scott A.
<b>3-Dimensional Topology</b>		
Gareth Cleveland ('13)	Mathematics and Statistics	O'Brien, Liam
<b>I will examine the robustness of parametric and nonparametric statistical tests to assumption violations under various conditions. This will be explored both through computational simulation and theoretical examination.</b>		
M. Masood ('13)	Mathematics and Statistics	Malmendier, Andreas
<b>KdV Equation and its N-Soliton Solutions</b>		
Jennie Buskin ('13)	Mathematics and Statistics	Mathes, D. Benjamin
<b>The Norms and Geometry Associated With States and Observables</b>		
Noah Teachey ('13)	Music	Leary, Paul S.
<b>Spatializing Music</b>		
Greg Seyfarth ('13)	Physics and Astronomy	Bluhm, Robert T., Jr.
<b>Investigations of Massive Gravity</b>		
Aurora Kesseli ('13)	Physics and Astronomy	McGrath, Elizabeth
<b>Massive Quiescent Disk Galaxies in the CANDELS Survey</b>		
M. Masood ('13)	Physics and Astronomy	Conover, Charles
<b>Nonlinear Waves - Theory and Application</b>		
Adam LaViolet ('13)	Psychology	Coane, Jennifer
<b>Psychology Honors Thesis</b>		

Constance Jangro ('13)	Psychology	Arterberry, Martha
<b>The Effect of the Learning Styles Hypothesis on Students' Academic Performance</b>		
Hillary Keach ('13)	Psychology	Sheets, Erin S.
<b>The Effect of the Sunk-Time Phenomenon on Persistence in Relationships and Other Contexts</b>		
Francesca Cone ('13)	Religious Studies	Mandolfo, Carleen R.
<b>Similar Stories, Different Histories: The Stories of Sodom and Gomorrah and the Levite's Concubine</b>		
Brian Russo ('13)	Religious Studies	Singh, Nikky-Guninder K.
<b>The Soteriology of Sacred Space: Sudhana's Quest</b>		
John Holman ('13)	Religious Studies	Singh, Nikky-Guninder K.
<b>The Wanderer's Journey</b>		
Benjamin Hannon ('13)	Science, Technology, and Society	Fleming, James R.
<b>Development of a Standardized and Functional Tactical Emergency Medical Support Training Program</b>		
Eoin McCarron ('13)	Science, Technology, and Society	Fleming, James R.
<b>Electromagnetic Pulses from Natural and Nuclear Sources: History and Public Policy</b>		
Charles Spatz ('13)	Science, Technology, and Society	Fleming, James R.
<b>The History of the Concrete Block</b>		
Jayeon Kim ('13)	Sociology	Gilkes, Cheryl Townsend
<b>Surviving Disaster: Memories of Chernobyl</b>		
Samantha Eddy ('13)	Sociology	Arendell, Teresa J.
<b>Activism, Identity and Equality Maine</b>		
Delaney McDonough ('13)	Theater and Dance	Kloppenber, Ann Marie
<b>The Choreography of Mistakes</b>		
Mimi Smith ('13)	Theater and Dance	Conner, Lynne
<b>Theater in Elementary Education A Philosophical, Sociological, and Contemporary Analysis of Theater in Education Culminating in an After-School Practicum of Theater Education</b>		
Berol Dewdney ('13)	Women's, Gender, and Sexuality Studies	Arellano, Lisa
<b>Breaking the Silence: Body Image and Disordered Eating at Colby</b>		
Morgan Lingar ('13)	Women's, Gender, and Sexuality Studies	Arellano, Lisa
<b>Gender and the Death Penalty</b>		
Thomas Letourneau ('13)	Women's, Gender, and Sexuality Studies	Arellano, Lisa
<b>Sexual Difference in NESCAC Athletics</b>		



## Colby Undergraduate Research Symposium

2013 Program »

- [Keynote Speaker](#)
- [Schedule - Wednesday](#)
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- [Schedule - Friday](#)
- [Poster Program](#)
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- [Abstracts](#)
- [Honors Program](#)
- [Participating Departments/Programs](#)

### Colby Undergraduate Research Symposium 2013

May 1 - May 3, Colby College, Waterville, Maine

Students from the following departments/programs have already submitted titles for papers and posters:

Sponsoring Dept/Prgrm	Lead Author	Title	Date Time	Project Type	Mentor
Advanced and Applied Ecology Presentations / ES352		What Effect Does Charisma Have on How Much Money a Species' Conservation Efforts Receive?	May 1	Presentation	Russell Cole
American Studies	<a href="#">Elizabeth Malone</a> ('13)	A Cultural Reading of L.L.Bean	May 2 10:40 am	Presentation	Benjamin D. Lisle
American Studies	<a href="#">Jemarley McFarlane</a> ('13)	Black Masculinity Varied Through The Wire	May 2 11:40 am	Presentation	
American Studies	<a href="#">Emily Karr</a> ('13)	Black Masculinity in Television's Friday Night Lights	May 2 11:20 am	Presentation	Benjamin D. Lisle
American Studies	<a href="#">Patrick Harper</a> ('13)	Civic Improvement: South Union Station's Economic and Societal Impact	May 2 11:00 am	Presentation	Benjamin D. Lisle
American Studies	<a href="#">Evangeline Condakes</a> ('13)	Gender, Racial and Socioeconomic Politics in the Contemporary American Nail Salon	May 2 1:00 pm	Presentation	Benjamin D. Lisle
American Studies	<a href="#">Miles de Klerk</a> ('13)	Local Gaming Stores: Alternative Culture, Masculinity and Magic	May 2 10:20 am	Presentation	Benjamin D. Lisle
American Studies	<a href="#">James Kim</a> ('14)	Sa-Rang Community Church: Fostering Ethnic Solidarity and Forging a Hybrid American Identity	May 2 1:40 pm	Presentation	Benjamin D. Lisle
American Studies	<a href="#">Benjamin Brauer</a> ('13)	Seaverns Field at Harold Alfond Stadium: The Liberal Arts Experience through a Universal Space	May 2 10:00 am	Presentation	Benjamin D. Lisle
American Studies	<a href="#">David Bendit</a> ('13)	The House Always Wins: How Casinos Legally Stack the Deck	May 2 9:40 am	Presentation	Benjamin D. Lisle
American Studies	<a href="#">Brittany Thomas</a> ('13)	True Blood and the Vampire in Contemporary American Culture	May 2 2:20	Presentation	Lisa Arellano

		Culture	pm		
Anthropology	<u>Rachel Haines</u> ( <sup>'13</sup> )	The Farnham Writers' Center as a Cultural Space	May 3 3:30 pm	Presentation	Livia K. Stone
Anthropology	<u>Rachel Rosenbaum</u> ( <sup>'13</sup> )	Finite to Fail, Infinite to Venture: Interactivism and Relational Ethics	May 3 2:20 pm	Presentation	Mary Elizabeth Mills
Anthropology	<u>Ellicott Dandy</u> ( <sup>'13</sup> )	Remapping Nature: Motherhood, Autonomy, and Anti-mining Activism in Ontag, Ecuador	May 3 1:40 pm	Presentation	Chandra D. Bhimull
Anthropology	<u>Jessica Pires</u> ( <sup>'13</sup> )	Uphams Corner and 'Other' Spaces: Explorations of Youth Identities in Boston's Cape Verdean Community	May 3 1:00 pm	Presentation	Britt E. Halvorson
Biology	<u>Laura Crowley</u> ( <sup>'13</sup> )	Allelic Diversity In Appendage-Patterning Genes Among Phenotypically Divergent Populations of The Soapberry Bug <i>Jadera haematoloma</i>	May 1	Poster	David R. Angelini
Biology	<u>Kevin Bennett</u> ( <sup>'13</sup> )	Analysis of Bird Migration Arrival Dates to Determine Effects of Global Warming	May 2 2:40 pm	Presentation	W. Herbert, Wilson
Biology	<u>Sarah Nalven</u> ( <sup>'13</sup> )	Characterizing the Epibiotic Community of Green Frogs and Their Role in Host Immunity	May 3 2:00 pm	Presentation	Catherine R. Bevier
Biology	<u>Cassie Huang</u> ( <sup>'13</sup> )	Effects of Nicotine and Indole-3-carbinol Exposure in a <i>Drosophila</i> Model of Parkinson's Disease	May 3	Poster	Syed Tariq Ahmad
Biology	<u>Laura Crowley</u> ( <sup>'13</sup> )	Exploring Novel Delivery Methods for Systemic Gene Knockdown By RNA Interference In The Milkweed Bug, <i>Oncopeltus fasciatus</i>	May 1	Poster	David R. Angelini
Biology	<u>Kelly Bourgon</u> ( <sup>'14</sup> )	Expression of the Circadian Rhythm Protein CRYPTOCHROME in Eyestalks of <i>Uca pugilator</i>	May 2	Poster	Andrea R. Tilden
Biology	<u>Jie Liu</u> ( <sup>'14</sup> )	Genome-wide Translational Profiling of Central and Peripheral Clock Cells in <i>Drosophila melanogaster</i>	May 3	Poster	
Biology	<u>Christine Wamsley</u> ( <sup>'15</sup> )	Identifying the Regulatory Site of the Lycopene Elongase Enzyme in the Extremophilic Microbe <i>Halobacterium salinarum</i>	May 3	Poster	Ronald F. Peck
Biology	<u>Conor Richardson</u> ( <sup>'13</sup> )	Investigation of the Role of ADAMTS-5 and Cdh3 Effector Genes in TGF- $\beta$ -induced Mammary Epithelial Cell Invasion.	May 3	Poster	Ethan Alfred Kohn
		Maine's Rockweed			



Biology	<u>Molly Susla</u> ( <sup>'13</sup> )	Harvest and the Future of the Seaweed at Stake	May 2	Poster	W. Herbert, Wilson
Biology	<u>Chelsea Nickerson</u> ( <sup>'13</sup> )	Prenatal Choline Supplementation and MK-801 Toxicity: Protecting Memory and Preventing Neurodegeneration	May 3 1:20 pm	Presentation	Melissa J. Glenn
Biology	<u>Adam Spierer</u> ( <sup>'13</sup> )	Relationship of Cross-Linking Potential to Mechanism of Cell Death	May 3	Poster	Julie T. Millard
Biology	<u>Kaitlin Curran</u> ( <sup>'14</sup> )	Responses of Zebrafish Phagocytic Cells to Opsonized Bacteria	May 3	Poster	Lynn Hannum
Biology	<u>Louisa Walker</u> ( <sup>'13</sup> )	The Conjugal Transfer of Antibiotic Resistance Plasmids in Lactic Acid Bacteria During the Ripening of Cheese	May 2	Poster	Frank A. Fekete
Biology	<u>Caitlin Curcuruto</u> ( <sup>'13</sup> )	The Effects of Modern Agricultural Methods on Colony Collapse Disorder	May 3	Poster	F. Russell Cole
Biology	<u>Tyler Parrott</u> ( <sup>'13</sup> )	The Functions Of Appendage-Patterning Genes During Development Of The Soapberry Bug, <i>Jadera haematoloma</i>	May 3	Poster	David R. Angelini
Biology	<u>Paul Macklis</u> ( <sup>'15</sup> )	The Impact of Acute Ethanol Exposure on the Innate Immune System of Zebrafish	May 1	Poster	Lynn Hannum
Biology	<u>Katerina Faust</u> ( <sup>'14</sup> )	The Influence of Pathogenic Fungal Infection on Antipredator Behavior of Tadpoles	May 2	Poster	Catherine R. Bevier
Biology	<u>Sarah Lane-Reticker</u> ( <sup>'16</sup> )	The Quest for an Enzyme-Regulating Motif in Extremophilic Microbe Bacterioopsins	May 2	Poster	Ronald F. Peck
Biology	<u>Victoria Abel</u> ( <sup>'14</sup> )	The Role of Epibiotic Bacteria in Modulating Skin Secretion Production in the Spring Peeper, <i>Pseudacris crucifer</i> , and Woodfrog, <i>Lithobates sylvaticus</i>	May 2	Poster	Catherine R. Bevier
Biology	<u>Josie Bazemore</u> ( <sup>'13</sup> )	fMLP Mediates in vitro Neutrophil Chemotaxis from Harvested Zebrafish Kidneys	May 2	Poster	Lynn Hannum
Biology	<u>Adam Spierer</u> ( <sup>'13</sup> )	Relationship of Cross-Linking Potential to Mechanism of Cell Death	May 3 1:00 pm	Presentation	Julie T. Millard
Biology	<u>Elise Begin</u> ( <sup>'13</sup> )	The Effects of Island Size and Geographic Distance on the Genetic Diversity of Blue Flag Irises ( <i>Iris versicolor</i> ) in the Bay of Fundy	May 3 1:40 pm	Presentation	Judy L. Stone
Chemistry	<u>Stephen Nodder</u> ( <sup>'13</sup> )	A One Pot Synthesis of Acetylene-Substituted Oxacalix[4]arenes	May 1	Poster	Jeffrey L. Katz

Chemistry	<u>Rachel Guerra</u> ('13)	A Selection Strategy for the Design of Small Proteins that Can Recognize DNA Repair Intermediates	May 2	Poster	Kevin P. Rice
Chemistry	<u>Edward Chuang</u> ('14)	Amplification of human DNA for probing DEB-induced damage via a quantitative polymerase chain reaction	May 1	Poster	Julie T. Millard
Chemistry	<u>Ai Phuong Tong</u> ('15)	Development of a Mass Spectrometry Assay to Measure Ribonucleotide Reductase Activity in Human Cancer Cells	May 3	Poster	Kevin P. Rice
Chemistry	<u>Beatrice Nakiryowa</u> ('13)	Flash Vacuum Pyrolysis Routes to [4]Helicenes	May 1	Poster	Dasan M. Thamattoor
Chemistry	<u>Katarina Sirka</u> ('13)	Structural Characterization of the Major DNA-DNA Cross-Link Formed by Epichlorohydrin	May 2	Poster	Julie T. Millard
Computer Science	<u>Zachary Simon</u> ('13)	Algo-Trader	May 2 5:00 pm	Presentation	Dale J. Skrien
Computer Science	<u>Joseph Harwood</u> ('14)	Elemental Tower Defense	May 2 6:00 pm	Presentation	Bruce A. Maxwell
Computer Science	<u>Zachary Cecere</u> ('13)	Locking In: How Coupled Oscillators Modulate Input Signals to Improve Synchrony	May 2 9:00 am	Presentation	Stephanie R. Taylor
Computer Science	<u>David Cain</u> ('13)	Mapping Circadian Features to Velocity Response	May 2	Poster	Stephanie R. Taylor
Computer Science	<u>Nicholas Balsbaugh</u> ('13)	Objektivizr: GTD for the Gaming Generation	May 2 5:30 pm	Presentation	Dale J. Skrien
Computer Science	<u>Zhanar Seitmagzimova</u> ('13)	Predicting Stock Market Movement Based on Textual Analysis Of News Articles	May 2 10:00 am	Presentation	Bruce A. Maxwell
Computer Science	<u>Mary Fletcher</u> ('13)	Using Eye-Tracking To Inform Automated Object Recognition	May 2 10:20 am	Presentation	Bruce A. Maxwell
Computer Science	<u>Mary Fletcher</u> ('13)	The Importance of Activator-Repressor Balance in Various Models of Repression in Circadian Clocks	May 2 9:30 am	Presentation	Stephanie R. Taylor
East-Asian Studies	<u>Eliza Laamoon</u> ('13)	Active and Peer Aging in Urban Parks of China	May 1 11:40 am	Presentation	Hong Zhang
East-Asian Studies	<u>Jennifer Tsang</u> ('13)	Aging and Eldercare in Elder Homes in China	May 1 11:20 am	Presentation	Hong Zhang
East-Asian Studies	<u>Petya Andreeva</u> ('13)	Community-Based Services for the Elderly in Urban China	May 1 11:00 am	Presentation	Hong Zhang
	<u>Maid Strasevic</u>		May 1		Andreas

Economics	<u>Justine Seraganian</u> ('13)		1:15 pm	Presentation	Waldkirch
Economics	<u>Justine Seraganian</u> ('13)	First Year Collegiate Academic Achievement: Do Athletes Perform at the Same Level as Their Peers?	May 3 2:00 pm	Presentation	David W. Findlay
Economics	<u>Theresa Petesch</u> ('13)	An examination of the pollution haven hypothesis: How does environmental regulatory stringency effect foreign direct investment into the mining industry?	May 1 2:45 pm	Presentation	Andreas Waldkirch
Economics	<u>Kai Chen</u> ('13)	Analysis on U.S. Oil and Gas Lease Auction (1954-1979)	May 2 4:45 pm	Presentation	Timothy P. Hubbard
Economics	<u>Mariel Lambrukos</u> ('13)	Business Climate and Country-Level Effects of Pharmaceutical FDI Growth in Emerging Economies	May 1 3:15 pm	Presentation	Andreas Waldkirch
Economics	<u>Thomas Abe</u> ('13)	Can The Stock Market Predict FDA Approvals for New Drug Applications?	May 3 3:15 pm	Presentation	Randy A. Nelson
Economics	<u>Charles Davis</u> ('13)	Determinants of Foreign Direct Investment Location Choice: An Analysis of the Private Equity Industry	May 1 3:30 pm	Presentation	Andreas Waldkirch
Economics	<u>Paul Spada</u> ('13)	Discriminatory vs. Uniform Pricing in Multi-Unit Online Auctions	May 2 7:15 pm	Presentation	Timothy P. Hubbard
Economics	<u>Siyang Xu</u> ('13)	Does Exchange Market React to Central Bank Governor Replacements: Evidence from a New Dataset using Narrative Approach	May 3 3:45 pm	Presentation	Guillermo J. Vuletin
Economics	<u>Zachary Simon</u> ('13)	Dutch Auction IPO's	May 2 7:00 pm	Presentation	Timothy P. Hubbard
Economics	<u>Michael Linskey</u> ('13)	Evaluating the Buyer's Option: Testing the Effect of the Buyer's Option on Seller's Revenue in Wine Auctions	May 2 6:15 pm	Presentation	Timothy P. Hubbard
Economics	<u>Allison Mond</u> ('13)	FDI and EU Membership: Analysis of Former Soviet Bloc Countries	May 1 12:30 pm	Presentation	Andreas Waldkirch
Economics	<u>Tendai M'ndange-Pfupfu</u> ('13)	FDI and Violent Conflict	May 1 1:00 pm	Presentation	Andreas Waldkirch
Economics	<u>Kimberly Cunningham</u> ('13)	Foreign Direct Investment Case Study: Nestlé	May 1 2:30 pm	Presentation	Andreas Waldkirch
Economics / Global Studies	<u>Shany Tropper</u> ('13)	Foreign Direct Investment and Health	May 1 12:45 pm	Presentation	Andreas Waldkirch

Economics	<u>Peter Jones</u> ('13)	Gender Effects in First Price Sealed Bid Auctions: Experimental Evidence	May 2 5:45 pm	Presentation	Timothy P. Hubbard
Economics	<u>Meagan Hennessey</u> ('14)	Maine's Rockweed Harvest: Tomorrow's Promise or a Crisis in the Making?	May 1	Poster	Sahan Tharanga Dissanayake
Economics	<u>Matthew Mantikas</u> ('13)	Modern Automotive Manufacturing and the Effect of FDI on an Increasingly Globalized Industry	May 1 1:45 pm	Presentation	Andreas Waldkirch
Economics	<u>David Cain</u> ('13)	Reputation Effects in the Online Marketplace: Contrasting bidder behavior in 'Buy it Now' and standard ascending auctions	May 2 4:30 pm	Presentation	Timothy P. Hubbard
Economics	<u>Benjamin Browne</u> ('13)	Secondary Ticket Resale Market	May 2 4:15 pm	Presentation	Timothy P. Hubbard
Economics	<u>Peter Jones</u> ('13)	Senior Honors Thesis: Classroom Peer Effects in Higher Education: Evidence for Colby College	May 3 2:30 pm	Presentation	Daniel R. LaFave, Debra A. Barbezat
Economics	<u>My Le</u> ('13)	TBA	May 1 2:15 pm	Presentation	Andreas Waldkirch
Economics	<u>Weiming Huang</u> ('13)	The Effect of Economics Scale on OCS Auction	May 2 5:30 pm	Presentation	Timothy P. Hubbard
Economics	<u>Aaron Halpine</u> ('14)	The Effect of Market Structure on New England Energy Auctions	May 2 5:00 pm	Presentation	Timothy P. Hubbard
Economics	<u>Freddy Cabrera</u> ('13)	The Effects of Complexity of Communication & Skill labor Endowment on FDI	May 1 3:45 pm	Presentation	Andreas Waldkirch
Economics	<u>Daniel Garin</u> ('13)	The Effects of Political Signals on the Federal Reserve	May 3 2:15 pm	Presentation	David W. Findlay
Economics	<u>Richard Wiederhold</u> ('13)	The FCC Spectrum Auctions: An Examination of Collusion	May 2 7:30 pm	Presentation	Timothy P. Hubbard
Economics	<u>Qi Sun</u> ('13)	The Influence of Central Bank Independence on Inflation: Evidence Based on A Narrative Approach	May 3 3:30 pm	Presentation	Guillermo J. Vuletin
Economics	<u>Rebecca Newman</u> ('13)	The Legalization of Marijuana and Violent Crime Rates in the United States	May 2	Poster	Daniel R. LaFave
Economics	<u>Marcus Josefsson</u> ('13)	The Macroeconomic Effect of Currency Union Dissolution Evidence from the Narrative	May 3 2:45 pm	Presentation	Guillermo J. Vuletin
Economics	<u>Philip Amato</u> ('13)	The OLI Paradigm: It's Application Through a Case Study of IMAX Corporation	May 1 4:00 pm	Presentation	Andreas Waldkirch

Economics	<u>Rebecca Newman</u> ('13)	The Post-Crisis Relevance of Inflation Targeting	May 3 3:00 pm	Presentation	Guillermo J. Vuletin
Economics	<u>Charlotte Peck</u> ('13)	Thoroughbred Racehorse Auctions	May 2 6:30 pm	Presentation	Timothy P. Hubbard
Economics	<u>Kareem Kalil</u> ('13)	Unrestricted vs Restricted: Analyzing Variation in NBA Free Agency Bidding	May 2 6:00 pm	Presentation	Timothy P. Hubbard
Economics	<u>Makayla Brown</u> ('13)	Wine Auctions	May 2 4:00 pm	Presentation	Timothy P. Hubbard
Education and Human Development	<u>Cordelia Roberts</u> ('13)	An Evaluation of the Effectiveness of the CCAK Mentor-Mentee Relationship	May 3 1:45 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Marguerite Paterson</u> ('13)	Searching for Key Elements for Learning in 21st Century Higher Education: Colby College as a Case Study	May 3 3:30 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Abigail Fontaine</u> ('15)	Technology and Special Education: How iPads Continue to Change the World	May 3 3:15 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Lucy Gerrity</u> ('13)	The Affect of Mentoring on Mentors, Past and Present	May 3 1:30 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Molly Nash</u> ('15)	The Belonging Project: A Colby Campus Climate Assessment	May 3 2:15 pm	Presentation	Marilyn J. Preston
Education and Human Development	<u>Daria Jones</u> ('13)	The Disconnected and Dissatisfied Generation: Solving the Mysteries of Loneliness, Human Connection and Identity within the Lives of Colby's Class of 2013	May 3 3:00 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Madeleine Cohen</u> ('13)	The Effects of CCAK on the Greater Waterville Community	May 3 2:00 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Priscilla McCelvey</u> ('13)	The Impact of CCAK on Current Mentees	May 3 1:00 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Anna Caron</u> ('13)	The Long Term Effects of the CCAK Program: A Narrative Evaluation	May 3 1:15 pm	Presentation	Mark B. Tappan
Education and Human Development	<u>Jasmine Phillips</u> ('14)	Peer Mentoring Program: The Transition from High School to College	May 3 2:30 pm	Presentation	Joseph E. Atkins
English	<u>Claire Cannon</u> ('13)	'Violent Delights' in Cinematic Shakespeare: Adapting Shakespearean Violence for the Contemporary Audience	May 2 4:25 pm	Presentation	Laurie E. Osborne
English	<u>Chelsea Tyler</u>	Cinematic Psychology in Modern American	May 1	Presentation	Sarah K. Keller, Steven

English	( <sup>'13</sup> )	In Modern American Poetry	4:30 pm	Presentation	James Wurtzler
English	<u>Camilla Ostrow</u> ( <sup>'13</sup> )	From the Slums of Shaolin to the Bard of Avon: The Homosocial Bond in Shakespeare and Hip-Hop Music	May 2 4:00 pm	Presentation	Laurie E. Osborne
English	<u>Mary Rogers</u> ( <sup>'13</sup> )	Gender, Nature, and the Fairytale Structure in the Works of Robin McKinley	May 1 11:15 am	Presentation	Anthony J. Adams
English	<u>Luke Bowe</u> ( <sup>'13</sup> )	Not Safe: The Horrors of Domesticity through Sight and Sound	May 1 4:00 pm	Presentation	Steven James Wurtzler
English	<u>Daniel Kissinger</u> ( <sup>'14</sup> )	On the Road to Nowhere: David Lynch and the Failure of Desire	May 1 6:00 pm	Presentation	Sarah K. Keller
English	<u>Kayla Gross</u> ( <sup>'13</sup> )	On with the story: Readings from EN478	May 2 1:24 pm	Presentation	Jennifer Finney Boylan, Jennifer Finney Boylan,
English	<u>Julia de Guzman</u> ( <sup>'13</sup> )	The Tessa Trevesani Project	May 1 11:30 am	Presentation	Jennifer Finney Boylan
English	<u>Eliza Larson</u> ( <sup>'13</sup> )	The Value of Truth: The Elijah Parish Lovejoy Story and an Examination of the Idea of 'Truth' in Journalism	May 1 11:00 am	Presentation	Cedric Gael Bryant
English	<u>Jacob Marx</u> ( <sup>'13</sup> )	Why the Boondock Saints is a Western, and Why it Matters	May 1 5:00 pm	Presentation	Steven James Wurtzler
Environmental	<u>Natalie</u>	'Food Safety': The	May		

Studies	<u><a href="#">Thompson</a></u> ('15)	Dangers of Meat Processing	3	Poster	Gail Carlson
Environmental Studies	<u><a href="#">Eli Dupree</a></u> ('13)	Atlas of Maine: Population Density and Flood Zones in Oxford and Kennebec Counties	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Catherine Powell</a></u> ('15)	Analysis of Potential Correlation Between POP and PBT Emissions From U.S.-Mexican Border Maquila Factories and Negative Human Health Effects	May 2	Poster	Gail Carlson
Environmental Studies	<u><a href="#">Brittany Colford</a></u> ('13)	Are Offshore or Terrestrial Wind Turbines Safer for Wildlife?	May 3	Poster	F. Russell Cole
Environmental Studies	<u><a href="#">Monica Davis</a></u> ('13)	Atlas of Maine: Wildlife Management Districts and Conservation Areas	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Eliza Phillips</a></u> ('14)	Atlas of Maine: Ambulance Headquarters	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Kathleen Hamre</a></u> ('13)	Atlas of Maine: Animal Shelters and Humane Societies	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Savannah Judge</a></u> ('15)	Atlas of Maine: Cellular Towers and Population	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Caleb Harris</a></u> ('15)	Atlas of Maine: County Annual Crime Rate per 1000 Residents and Correctional Facilities	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Victoria Abel</a></u> ('14)	Atlas of Maine: Deer Wintering Areas and Forest Fragmentation	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Lucy O'Keeffe</a></u> ('14)	Atlas of Maine: Distribution of Food Deserts in Maine	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Andrew Meador</a></u> ('14)	Atlas of Maine: Forest Stand Age	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Ethan Farina-Henry</a></u> ('13)	Atlas of Maine: Glacial Moraines and Eskers in Maine	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Elizabeth Schell</a></u> ('14)	Atlas of Maine: Inland Waterfowl and Wader Habitat	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Virginia Keesler</a></u> ('13)	Atlas of Maine: Median Year Structure Built Across Census Tracts	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Ryan Newell</a></u> ('14)	Atlas of Maine: Population and Population Change from 1950 to 2010	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Sarah Madronal</a></u> ('14)	Atlas of Maine: Surface Water Features	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Peter Willauer</a></u> ('15)	Atlas of Maine; Atlantic Salmon Habitat And Conserved Land	May 2	Poster	Philip Nyhus
Environmental Studies	<u><a href="#">Rose Solomon</a></u> ('13)	Climate Change and Forest Pathogens: What Will Be the Future of Maine's Forest?	May 3	Poster	F. Russell Cole
Environmental Studies	<u><a href="#">Virginia Keesler</a></u> ('13)	Conservation Easement Policies Across New England	May 1 pm	Presentation	Philip Nyhus, Philip Nyhus
Environmental Studies	<u><a href="#">Sarah</a></u>	Current Status of	May		

Environmental Studies	<u>Sarah Madronal</u> ('14)	Current Status of Panama Reefs	May 3	Poster	Philip Nyhus
Environmental Studies	<u>Olivia Avidan</u> ('15)	Do Phytoestrogens, a Substance Found in Soy Products, Cause Negative Effects to the Endocrine System?	May 3	Poster	Gail Carlson
Environmental Studies	<u>Jeremy Torrisi</u> ('13)	Does BPA Cause Neurotoxicity? An Examination into BPA's Effect on the Developing Brain	May 2	Poster	Gail Carlson
Environmental Studies	<u>Virginia Keesler</u> ('13)	Ecological and Social Implications of Conservation Easement Location Across New England	May 3	Poster	Philip Nyhus
Environmental Studies	<u>Julia de Guzman</u> ('13)	Effects of Global Climate Change on the Distribution of Incidence of Vector-Borne Diseases in Africa	May 1	Poster	Gail Carlson
Environmental Studies	<u>Ryan Newell</u> ('14)	Emissions Estimate for College Related Travel	May 3	Poster	Philip Nyhus
Environmental Studies	<u>Emma Klein</u> ('13)	Endocrine Disrupting Effects of Phthalates on Female Health	May 3	Poster	Gail Carlson
Environmental Studies	<u>Elizabeth Hughes</u> ('13)	Environmental Obesogens: How they Alter Cellular Adipogenesis Mechanisms and May Contribute to the Obesity Epidemic	May 3	Poster	Gail Carlson
Environmental Studies	<u>Larissa Lee</u> ('13)	Factors Influencing National Park Establishment: Case Studies to Inform the Maine Woods	May 1 1:50 pm	Presentation	Philip Nyhus
Environmental Studies	<u>Conor Richardson</u> ('13)	Fat Chance: The Link between Prescription Antidepressants and Obesity	May 2	Poster	Gail Carlson
Environmental Studies	<u>Monique Kelly</u> ('14)	Frack Attack: How Hydraulic Fracturing for Natural Gas Threatens Human Health	May 3	Poster	Gail Carlson
Environmental Studies / Science, Technology, and Society	<u>Matthew LaPine</u> ('13)	Golden on Great Pond: Changing the Way We Monitor Lakes	May 1 3:55 pm	Presentation	Denise A. Bruesewitz
Environmental Studies	<u>Peter Willauer</u> ('15)	Gulf Stream Sea Surface Temperature Shifts	May 3	Poster	Philip Nyhus
Environmental Studies	<u>Andrew Meador</u> ('14)	Hemlock Woolly Adelgid Range Expansion	May 3	Poster	Philip Nyhus
Environmental Studies	<u>Ethan Farina-Henry</u> ('13)	Households Located Within Flood Zones in the Willamette Valley	May 2	Poster	Philip Nyhus
Environmental Studies	<u>Jillian Blouin</u> ('13)	How Do We Find the Next BPA? - An Overview of Emerging Science and the Developing Policy	May 1 2:40 pm	Presentation	Gail Carlson
Environmental Studies	<u>Cody Eaton</u> ('14)	How Might Dioxin and Furan-Producing Waste Incineration Alter Cancer Rates?	May 3	Poster	Gail Carlson



Environmental Studies	<u>Kaitlin Zdechlik</u> ('13)	How Might Food Quality Affect the Incidence of Mycotoxins?	May 2	Poster	Gail Carlson
Environmental Studies	<u>Elizabeth Schell</u> ('14)	How Smart is Lake Smart?: An Analysis	May 3	Poster	Philip Nyhus
Environmental Studies	<u>Lydia Ball</u> ('13)	Insect Abundance and Richness in Ethiopian Church Forests	May 3	Poster	Travis W. Reynolds
Environmental Studies	<u>Sarah Holmes</u> ('13)	Managing the Global Marine Aquarium Trade	May 1 2:15 pm	Presentation	Loren E. McClenahan
Environmental Studies	<u>Kaitlyn Bernard</u> ('13)	Metallic Mineral Mining in Maine	May 1 3:05 pm	Presentation	Philip Nyhus
Environmental Studies	<u>Theresa Petzoldt</u> ('14)	Nutrient Limitation in the Inflow and Outflow Streams of Great Pond	May 3	Poster	Denise A. Bruesewitz
Environmental Studies	<u>Caleb Harris</u> ('15)	Occupancy Status, Depreciation and Housing Condition in Waterville's South End	May 3	Poster	Manuel Gimond, Philip Nyhus
Environmental Studies	<u>Lucy O'Keeffe</u> ('14)	Potential Impact of the Portland-Montreal Pipeline on Water and Land Resources in Maine	May 3	Poster	
Environmental Studies	<u>Monica Davis</u> ('13)	Prediction of Milfoil Distribution in the Belgrade Lakes	May 3	Poster	
Environmental Studies	<u>Laurel Edington</u> ('15)	Prenatal Exposure To Air Pollution and Neurological Disorders	May 3	Poster	Gail Carlson
Environmental Studies	<u>Mackenzie Nichols</u> ('14)	Questioning Allocation of Funding in the Endangered Species Act	May 3	Poster	F. Russell Cole
Environmental Studies	<u>Meagan Hennessey</u> ('14)	Shipbuilding and Health: What's the Connection?	May 2	Poster	Gail Carlson
Environmental Studies	<u>Lisa Hoopes</u> ('13)	Sustainability Report: LEAP Organics	May 1 1:00 pm	Presentation	F. Russell Cole
Environmental Studies	<u>Laramie Maxwell</u> ('13)	The Effects of Aspartame on Human Health	May 2	Poster	Gail Carlson
Environmental Studies	<u>Stefanie Lai</u> ('15)	The Effects of Chlorinated Pools on Respiratory Health	May 3	Poster	Gail Carlson
Environmental Studies	<u>Anna Rabasco</u> ('15)	The Effects of PCB on Incidence of ADHD in Children	May 3	Poster	Gail Carlson
Environmental Studies	<u>Rumbidzai Gondo</u> ('14)	The Impact of Global Climate Change on the Transportation, Assimilation, and Accumulation of Mercury.	May 3	Poster	Gail Carlson
Environmental Studies	<u>Monica Davis</u> ('13)	The Impact of Neonatal Polybrominated Diphenyl Ether Exposure on Neurocognitive Development	May 2	Poster	Gail Carlson
Environmental Studies		The Impact of Pesticide			

Environmental Studies	<u>Amanda Rosa Di Sant</u> ('14)	The Impact of Pesticide Exposure on Parkinson's Disease Onset	May 3	Poster	Gail Carlson
Environmental Studies	<u>Sarah Holmes</u> ('13)	The Role of the Ethiopian Orthodox Church in Forest Preservation in the South Gondar Region of Ethiopia	May 3	Poster	Travis W. Reynolds
Environmental Studies	<u>Kevin Bennett</u> ('13)	The Spread of Dengue Fever and Climate Change	May 1	Poster	Gail Carlson
Environmental Studies	<u>Carol Walker</u> ('15)	The Toxic Effects of Bisphenol-S	May 3	Poster	Gail Carlson
Environmental Studies	<u>Meagan Hennessey</u> ('14)	What Characteristics Lead to a Successful Corridor Project?	May 3	Poster	F. Russell Cole
Environmental Studies	<u>Kellie Walsh</u> ('15)	What's Fish Got To Do with It? How Methylmercury effects Children Neurological Development	May 1	Poster	Gail Carlson
Environmental Studies	<u>Tierney Dodge</u> ('14)	Which Coral Reef Destinations Have the Most Effective and Sustainable Ecotourism Programs?	May 3	Poster	F. Russell Cole
Environmental Studies	<u>Marianne Ferguson</u> ('14)	Why Are Invasive Species Successful in Tropical Marine Ecosystems?	May 3	Poster	F. Russell Cole
Environmental Studies	<u>Michael Stephens</u> ('13)	Climate Change and Epizootic Shell Disease in American Lobsters: Is Maine's Most Valuable Fishery Doomed?	May 1 3:30 pm	Presentation	Loren E. McClenachan
French and Italian	<u>Deborah Amato</u> ('13)	Forgotten Fairy Tales: Vision of a More Equal World	May 2 11:00 am	Presentation	Arthur D. Greenspan
French and Italian	<u>Brita Midness</u> ('13)	Montaigne and the Other: Toward a Tolerant Vision of our Perceptions	May 2 11:30 am	Presentation	Valerie M. Dionne
French/Italian	<u>Pamela Alakai</u> ('14)	A comparative study of Oral literature in francophone North America and West Africa	May 3 4:20 pm	Presentation	Benedicte Mauguire
French/Italian	<u>Madeleine Bruce</u> ('14)	Emily Carr and the construction of the Indian Imaginary?	May 3 4:50 pm	Presentation	Benedicte Mauguire
French/Italian	<u>Sarah Fensore</u> ('13)	First Contact: A Study of the First Encounters Between Jacques Cartier and the Native Americans	May 3 4:35 pm	Presentation	Benedicte Mauguire
French/Italian	<u>Sarah Braselton</u> ('13)	Paul Gauguin: Colonial Discourse in Late 19th-Century French Primitive Art	May 3 3:10 pm	Presentation	Adrianna M. Paliyenko
French/Italian	<u>Madison Louis</u> ('13)	The 'Hottentot Venus,' Then and Now	May 3 2:50 pm	Presentation	Adrianna M. Paliyenko
French/Italian	<u>Emma Levin</u> ('13)	The Abolitions of French Slavery: Discourses of Emancipation	May 3 2:30 pm	Presentation	Adrianna M. Paliyenko

French/Italian	<u>Mary Rogers</u> ( <sup>'13</sup> )	A French Woman's Encounter with Africans (1892-1893)	May 3 3:30 pm	Presentation	Adrianna M. Paliyenko
French/Italian	<u>Brita Midness</u> ( <sup>'13</sup> )	Modern Slavery: The Restaveks in Haiti	May 3 3:50 pm	Presentation	Adrianna M. Paliyenko
French/Italian	<u>Pamela Alakai</u> ( <sup>'14</sup> )	Francophone Europe in 2013: A Pictorial and Critical Exploration of What Made the News on the Other Side of the Ocean	May 2 3:30 pm	Presentation	Aurore P. Mroz
French/Italian	<u>Colin McLaughlin</u> ( <sup>'14</sup> )	Francophone Europe in 2013: a pictorial and critical exploration of what made the news on the other side of the ocean	May 2 3:30 pm	Presentation	Adrianna M. Paliyenko
Geology	<u>Sara George</u> ( <sup>'15</sup> )	From the Depths of Great Pond (Maine): Anthropogenic and Natural Influences on Bottom Sediments and their Impact on Local Sustainability	May 3	Poster	Bruce F. Rueger
Geology / Computer Science	<u>Justin Sperry</u> ( <sup>'14</sup> )	Investigation of Constriction In Shear Zones with Complex Boundary Conditions Using Numerical Modeling	May 2 3:10 pm	Presentation	Walter A. Sullivan
Geology	<u>Omari Matthew</u> ( <sup>'14</sup> )	Learning Curve: Analyzing Changes in Predatory Techniques of the Stone Crab <i>Menippe mercenaria</i> on whelks	May 1	Poster	Mary Kosloski
Geology	<u>Dhokela Yzeiraj</u> ( <sup>'13</sup> )	Not the Most Glamorous of Topics: Waste Management at Colby	May 1	Poster	Mary Kosloski
Geology / Physics and Astronomy	<u>Arran Dindorf</u> ( <sup>'13</sup> )	Spatial Variability in the Wasatch Range	May 2	Poster	Bruce F. Rueger, Yoshihiro Sato
Geology	<u>Kody Spencer</u> ( <sup>'14</sup> )	Variation in Snowpack Instabilities at Different Aspects on Burnt Mountain	May 2 2:55 pm	Presentation	Robert E. Nelson
German/Russian	<u>Katarina Sirka</u> ( <sup>'13</sup> )	Comparison of Larissa Fyodorovna and Antonina Alexandrovna's Characters in Boris Pasternak's Novel 'Doctor Zhivago'	May 3 2:20 pm	Presentation	Elena I. Monastireva-Ansdell
German/Russian		Ethnic Assimilation and Separation in Chukotka.	May 3 3:40 pm	Presentation	Elena I. Monastireva-Ansdell
German/Russian	<u>Jayeon Kim</u> ( <sup>'13</sup> )	Gendered images in Boris Pasternak's Doctor Zhivago	May 3 2:00 pm	Presentation	Elena I. Monastireva-Ansdell
German/Russian	<u>Katherine MacNamee</u> ( <sup>'14</sup> )	Hidden Truths and Questioning Authority: An investigation into the use of comedy as a social critique in Heinrich von Kleist's	May 1 3:05 pm	Presentation	Arne Koch

		'Der Zerbrochne Krug'			
German/Russian	<u>Christine Wamsley</u> ('15)	Lessing's Conservative Ideas about Public Freedom during the Enlightenment in Minna von Barnhelm	May 1 2:43 pm	Presentation	Arne Koch
German/Russian	<u>Emma Brown</u> ('16)	Material Immateriality: Dust and Disorder in W.G. Sebald	May 1 2:21 pm	Presentation	Cyrus Shahan
German/Russian	<u>Alina Nakos</u> ('13)	The Evolution of Yuri Zhivago in Pasternak's Novel, 'Doctor Zhivago'	May 3 2:40 pm	Presentation	Elena I. Monastireva-Ansdell
German/Russian	<u>Tendai M'ndange-Pfupfu</u> ('13)	The Role and Imagery of Nature in Boris Pasternak's Doctor Zhivago.	May 3 3:00 pm	Presentation	Elena I. Monastireva-Ansdell
German/Russian	<u>Quinn Ziegler</u> ('14)	The Role of Art and the Artist in Boris Pasternak's Doctor Zhivago	May 3 3:20 pm	Presentation	Elena I. Monastireva-Ansdell
German/Russian	<u>Carter Stevens</u> ('13)	War: The Dehumanization of the Human Race	May 1 1:37 pm	Presentation	Cyrus Shahan
German/Russian	<u>Thomas Chippendale</u> ('13)	The Frankfurter School and the Theory of Alienation: Finding Karl Marx in the Works of Theodor Adorno and Alexander Kluge	May 1 1:15 pm	Presentation	Cyrus Shahan
German/Russian	<u>Benjamin Hill</u> ('13)	The Subject under Fire: 20th Century Responses to the Enlightenment and the Establishment of a New Ontology	May 1 1:59 pm	Presentation	Cyrus Shahan
Global Studies	<u>Georgina Hurst</u> ('13)	A Trojan Horse in Senegal: Exploring the Economic Implications of Chinese Merchants in Dakar, Senegal	May 2	Poster	James L.A., Webb, Patrice M. Franko
Global Studies	<u>Claire Dunn</u> ('13)	Aiding or Abetting?: An Analysis of Medical Humanitarian Aid in Complex Humanitarian Emergencies	May 1 4:00 pm	Presentation	Matthew E. Archibald
Global Studies	<u>Grace Schlesinger</u> ('13)	Overcrowding the Education System? The Argentine Example of a Conditional Cash Transfer Program	May 1 5:30 pm	Presentation	Jennifer A. Yoder
Global Studies	<u>Hillary Sapanski</u> ('13)	Through the Eyes of Urban Students: Educational Inequality and Socioeconomic Disparities in Santiago, Chile	May 1 5:00 pm	Presentation	Patrice M. Franko
Government	<u>Carter Stevens</u> ('13)	'A Shrimp Behind the Stone:' Understanding Political Violence in Indonesia	May 3 2:15 pm	Presentation	Guilain P. Denoeux, Joseph R. Reisert
Government	<u>Lindsay Peterson</u> ('13)	A Fight to the Death for the Homeland: The Tamil Tigers Political Violence in Sri Lanka	May 1	Poster	Joseph R. Reisert
Government	<u>Andrew Pepper-Anderson</u> ('13)	An Analysis of Super PAC Behavior in the 2012 Election	May 3 3:45 pm	Presentation	Anthony J., Corrado
		Filling the Gap of Governance:			

Government	<u>Patrick Martin</u> ('13)	Communal Violence in India and the Naxalite Insurgency	May 1	Poster	Guilain P. Denoeux
Government	<u>Lauren Fisher</u> ('13)	Oy Gavult! Jewish Violent Extremism in the West Bank	May 1	Poster	Guilain P. Denoeux
History	<u>Jasmine Phillips</u> ('14)	Reconnecting the Past with the Present: The Search for (My) Black Ancestors	May 2 10:00 am	Presentation	Elizabeth D. Leonard
History	<u>Clea Harrelson</u> ('16)	Native Americans in the Revolutionary War: Massachusetts Patriots	May 3	Poster	Daniel J. Tortora
History	<u>Lindsay Peterson</u> ('13)	✦Kill the Indian, Save the Man✦ Americanization through Education: Richard Henry Pratt's Legacy	May 2 4:05 pm	Presentation	Elizabeth D. Leonard
History	<u>Thomas Chippendale</u> ('13)	The American Media and Misconceptions About the Nazi Economic Miracle	May 2 9:30 am	Presentation	Raffael M. Scheck
History	<u>Alexandre Caillot</u> ('13)	The Rifled Musket: Tactical Revolution or Technological Redundancy?	May 2 3:35 pm	Presentation	Elizabeth D. Leonard
History	<u>Carter Stevens</u> ('13)	When the Confederates Terrorized Maine: The Battle of Portland Harbor	May 3 4:00 pm	Presentation	Daniel J. Tortora, Elizabeth D. Leonard
History	<u>Charlotte Wiesenbergl</u> ('13)	The New Promised Land: Maine's Summer Camps for Jewish Youth in the Mid-Twentieth Century	May 3 4:30 pm	Presentation	John P. Turner, Robert S. Weisbrot
Independent Studies / Women, Gender, Sexuality	<u>Shireen Smalley</u> ('13)	Gendered Geographies and Coded Spaces in Tehran	May 3 3:15 pm	Presentation	John P. Turner
Independent Studies	<u>Michael Perreault</u> ('13)	Affect and Authorship: Or, How I Learned to Stop Worrying and Love the [Sign]	May 1 5:30 pm	Presentation	Steven James Wurtzler
Latin American Studies	<u>Marquerite Paterson</u> ('13)	Teacher Hiring Practices in Schools in the Metropolitan Region of Santiago, Chile: Survey and Recommendations	May 2 4:00 pm	Presentation	Luis Millones
Latin American Studies	<u>Abbott Matthews</u> ('13)	When the Walls Talk: Political Graffiti at la Universidad Nacional in Bogotá, Colombia	May 2 3:30 pm	Presentation	Jennifer A. Yoder
Mathematics	<u>Chiran Bhandari</u> ('13)	Mathematical Modelling of Disorientation due to Head-Movements during Rotation in a Centrifuge	May 1	Poster	Jan E. Holly
Mathematics	<u>Chiran Bhandari</u> ('13)	New Techniques for Animating Experimental and Theoretical Motion Perception	May 1	Poster	Jan E. Holly
Mathematics	<u>Caroline Wade</u> ('13)	The Ability of a Smartphone to Detect Changes in Balance Performance	May 1	Poster	James Carl Scott
		Estimating the			

Mathematics	<u>Rose Solomon</u> ( <sup>'13</sup> )	Prevalence and Incidence of Suspected Concussions Among the Colby College Football and Rugby Players	May 3 11:00 am	Presentation	James Carl Scott
Mathematics and Statistics	<u>Alexander Rasmussen</u> ( <sup>'13</sup> )	Studying Unknotting Number for Connected Sums of Knots Using Sutured Manifold Theory	May 3	Poster	Scott A. Taylor
Mathematics and Statistics	<u>Gareth Cleveland</u> ( <sup>'13</sup> )	A Monte Carlo Simulation Study of the Performance of Hypothesis Tests Under Assumption Violations	May 3 11:30 am	Presentation	Liam O'Brien
Music	<u>Noah Teachey</u> ( <sup>'13</sup> )	Beethoven's Anthropocentrism	May 1 4:15 pm	Presentation	Steven E. Saunders
Music	<u>Patrick Blinkhorn</u> ( <sup>'13</sup> )	Mixing Things up with the DJ: The Ontology of DJing	May 1 4:40 pm	Presentation	Steven E. Saunders
Philosophy	<u>Sara LoTempio</u> ( <sup>'16</sup> )	From Scumbag Steve to LL Bean Boyfriend: Memes, Humor, and the Internet.	May 1 3:40 pm	Presentation	Lydia Moland
Physics and Astronomy	<u>Ethan Crockett</u> ( <sup>'13</sup> )	Studies of Ultra-cold Neutral Plasmas	May 2 3:25 pm	Presentation	Duncan A. Tate
Psychology	<u>Anne Epstein</u> ( <sup>'15</sup> )	Are You Judging Me? The Effects of Moral Credentials on Prejudice toward Asian Americans	May 1	Poster	Martha Arterberry
Psychology	<u>Katherine MacNamee</u> ( <sup>'14</sup> )	Are You Talkin' to Me?	May 2 10:24 am	Presentation	Melissa J. Glenn
Psychology	<u>Mariah Smith</u> ( <sup>'13</sup> )	Brain Porn: How It Affects Our Scientific Literacy	May 2 10:36 am	Presentation	Melissa J. Glenn
Psychology	<u>Miia-Liisa Termonen</u> ( <sup>'14</sup> )	Deriving 'Dog' from Wolf and Fox, or Leash and Bark? False Memory in Categorical and Associative Word Lists.	May 1	Poster	Jennifer Coane
Psychology	<u>Katherine MacNamee</u> ( <sup>'14</sup> )	Does 'Call' Prime 'Maybe'?	May 1	Poster	Jennifer Coane
Psychology	<u>Czarina Evangelista</u> ( <sup>'14</sup> )	Does Adolescent Choline Supplementation Affect the Rewarding Properties of Morphine?	May 1	Poster	Melissa J. Glenn
Psychology	<u>Lori Ayanian</u> ( <sup>'14</sup> )	Exploring the Interaction Between Emotional Priming and Framing on Political Decision Making	May 1	Poster	Erin S. Sheets
Psychology	<u>Adam Thompson</u> ( <sup>'13</sup> )	Exploring the Neuroprotective Potential of Dietary Choline in a Rat Model of Posttraumatic Stress Disorder	May 3 1:25 pm	Presentation	Melissa J. Glenn
		From Club Drug to	May		

Psychology	<u><a href="#">Luzanna Evangelista</a></u> ('14)	Antidepressant? The Possible Therapeutic Utility of LSD	May 2 10:12 am	Presentation	Melissa J. Glenn
Psychology	<u><a href="#">Eileen McGuire</a></u> ('13)	Got Stress? The Pros and Cons of Stress on the Teenage Brain	May 2 11:36 am	Presentation	Melissa J. Glenn
Psychology	<u><a href="#">George Humphrey</a></u> ('15)	How Conceptual and Perceptual Cues Affect Metamemory and Memory	May 1	Poster	Jennifer Coane
Psychology	<u><a href="#">Rebecca Levenson</a></u> ('13)	How Many Times Would You Press The Space Bar? The Influence of Emotion on Predictions in a Future Moral Dilemma	May 1	Poster	Thane S. Pittman
Psychology	<u><a href="#">Courtney Klein</a></u> ('15)	How Public Commitment Influences Blame and The Ripple Effect in Memory	May 1	Poster	Joseph P. Hayes
Psychology	<u><a href="#">Kayleigh Monahan</a></u> ('13)	Hunts, Heinz, and Fries Priming Ketchup: The Effects of Lexicality On Brand Name Memory and Product Associations	May 3 12:25 pm	Presentation	Jennifer Coane
Psychology	<u><a href="#">Frances Onyiah</a></u> ('14)	Just Because I'm Beautiful: The Effects of Attractiveness and Cognitive Load on Judgments of Guilt	May 1	Poster	Thane S. Pittman
Psychology	<u><a href="#">Astrid Moore</a></u> ('15)	Memory and Anxiety in Adult Rats as a Function of Early Life Choline Levels and Exploratory Behavior	May 1	Poster	Melissa J. Glenn
Psychology	<u><a href="#">Meghan Tedoldi</a></u> ('13)	Mood and Memory as a Function of Reproductive Status	May 3 2:40 pm	Presentation	Melissa J. Glenn
Psychology	<u><a href="#">Julia Mitchell</a></u> ('15)	Neuroprotection by Postnatal Choline Supplementation in a Rat Model of Fetal Alcohol Syndrome	May 1	Poster	Melissa J. Glenn
Psychology	<u><a href="#">Shamika Murray</a></u> ('14)	Oh How Cute: How the Perception of Cuteness Changes the Nucleus Accumbens	May 2 10:00 am	Presentation	Melissa J. Glenn
Psychology	<u><a href="#">Samantha Slotnick</a></u> ('14)	Playing It Cool While Watching Worm Eating: Influence of Expression Strength and Congruency on Emotion Elicitation in a Pair Setting	May 1	Poster	
Psychology	<u><a href="#">Adam LaViolet</a></u> ('13)	Political Priming: The Effect of External Factors on Word Recognition and Recall	May 3 2:00 pm	Presentation	Jennifer Coane
Psychology	<u><a href="#">Adam LaViolet</a></u> ('13)	Political priming: The Effect of External Factors on Word Recognition and Recall	May 3 2:00 pm	Presentation	Jennifer Coane
Psychology	<u><a href="#">Katherine Kimball</a></u> ('15)	Self-Affirmation as a Buffer against Threats to External Control	May 1	Poster	Joseph P. Hayes, Martha Arterberry
			May		

Psychology	<u>Julie Levine</u> ('13)	Smart Food	2 11:12 am	Presentation	Melissa J. Glenn
Psychology	<u>Alexis Jackson</u> ('16)	Stranded in the Grasslands: Survival Processing and Categorization of Animals	May 1	Poster	Jennifer Coane
Psychology	<u>Ariel Batallan Burrowes</u> ('15)	The Affect of Conflicting Color Information on the Picture Superiority Effect	May 1	Poster	Jennifer Coane
Psychology	<u>Kelsey Park</u> ('14)	The Effect of Randomness Threat on Attribution to Internal, External, or Mixed Sources of Control	May 1	Poster	Joseph P. Hayes
Psychology	<u>Erin Caputo</u> ('15)	The Effect of Relationship Stage and Knowledge of Monetary Value on Receiver's Appreciation of Gifts	May 1	Poster	Martha Arterberry
Psychology	<u>Monica Li</u> ('15)	The Effect of Self Awareness on Moral Credentials	May 1	Poster	Joseph P. Hayes
Psychology	<u>Katherine Bell</u> ('15)	The Effect of type of Crime and Context on Blame Attribution and Memory	May 1	Poster	Martha Arterberry
Psychology	<u>Jillian Riendeau</u> ('15)	The Effects of Viewing Nature Pictures and Music on Short and Long Term Memory	May 1	Poster	Jennifer Coane
Psychology	<u>Sean Padungtin</u> ('13)	The Hippocampus & Stress: A Possible Functional Divergence	May 3 2:20 pm	Presentation	Melissa J. Glenn
Psychology	<u>Hillary Keach</u> ('13)	The Sunk-Time Effect and Personal Responsibility in Romantic Relationships and Education	May 3 12:00 pm	Presentation	Erin S. Sheets
Psychology	<u>Arvia Sutandi</u> ('13)	Tracing the Fingerprints of Bipolar Disorder	May 2 11:00 am	Presentation	Melissa J. Glenn
Psychology	<u>Anna Caron</u> ('13)	Utilizing Physical and Mental Activity to Decrease the Rate of Cognitive Decline	May 1	Poster	Jennifer Coane
Psychology	<u>Cassie Clemmer</u> ('15)	Weight, Don't Judge Me! -- The Effect of Weight-Coded Words and Social Behavior on Judgment	May 1	Poster	Jennifer Coane
Psychology	<u>Abigail Fontaine</u> ('15)	Why Did Frank Cross the Road?: Exploring the Effect of Emotional Context on Recall	May 1	Poster	Martha Arterberry
Psychology	<u>Ethan Meigs</u> ('13)	☞You're fine. Wait, no you're not!☞ Source thoughtfulness and the persuasiveness of contradictory messages.	May 1	Poster	Thane S. Pittman
Psychology	<u>Constance Jangro</u> ('13)	The Effect of the Learning Styles Hypothesis on Students' Academic	May 3 12:50 pm	Presentation	Martha Arterberry



		Performance	Time		
Religious Studies	<u>Emma Mayville</u> ('13)	Sectarian Violence through the Lens of the Coptic Question in Egypt	May 3 1:35 pm	Presentation	John P. Turner
Religious Studies	<u>Israelle Kidson</u> ('13)	The Historical Role of Women in Tantric Yoga and Sexual Ritual	May 3 1:20 pm	Presentation	Nikky-Guninder K. Singh
Religious Studies	<u>John Holman</u> ('13)	The Wanderer's Journey	May 3 1:50 pm	Presentation	Nikky-Guninder K. Singh
Religious Studies	<u>Brian Russo</u> ('13)	Scripture and Fiction: An Aesthetic Approach to the Little Pilgrim	May 3 1:00 pm	Presentation	Nikky-Guninder K. Singh
Science, Technology, and Society	<u>Charles Spatz</u> ('13)	Building with Waste: Fly Ash in the 20th and 21st Centuries	May 2	Poster	
Science, Technology, and Society	<u>Benjamin Hannon</u> ('13)	Development of a Standard and Functional Tactical Emergency Medical Support Training Program	May 2	Poster	James R. Fleming
Science, Technology, and Society	<u>Eoin McCarron</u> ('13)	Electromagnetic Pulses from Natural and Nuclear Sources: History and Public Policy	May 1	Poster	James R. Fleming
Science, Technology, and Society	<u>Nickolas Kondiles</u> ('13)	License and Regulation, Please: New Standards for the Practice of In Vitro Fertilization	May 2	Poster	James R. Fleming
Sociology	<u>Kaitlyn Bernard</u> ('13)	'Whole Healthy Kids' A Grant to Support Health Education at YMCA Camp of Maine	May 2	Poster	Thomas J. Morriane
Sociology	<u>Iris Kim</u> ('14)	A Sociology for Asian Americans? Reading Du Bois with Universal Purposes	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Luke Henneberger</u> ('14)	Black on the Silver Screen: The Image of African Americans in Contemporary Cinema	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Sloan Cargill</u> ('15)	Blacks, W.E.B. Du Bois, and the Religion That Enslaved and Freed	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Oliver Ponce</u> ('15)	Crime as a Social Phenomenon: Criminal Activity Through a Du Boisian Lense	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Berol Dewdney</u> ('13)	Du Bois on Education	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Angela Sepulveda</u> ('14)	Du Bois's Artistic Side	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Brian Levinson</u> ('15)	Du Bois's Effects on Economics	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Deborah Amato</u> ('13)	Du Bois's Reflections on Education	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Olisadumbi Okoh</u> ('13)	Du Bois, Hip-Hop, and Poetic Justice	May 2	Presentation	Cheryl Townsend

			tb:a		Gilkes
Sociology	<u>Molly Colman</u> (13)	Emergency Dental Clinic	May 2	Poster	Thomas J. Morriane
Sociology	<u>Samantha Eddy</u> (13)	EqualityMaine and the Struggle for Same-Sex Marriage	May 1	Poster	Teresa J. Arendell
Sociology	<u>Randall Person</u> (15)	Following the Trend: W. E. B. Du Bois and His Ethnographic Studies	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Cara Saunders</u> (13)	Learning by Giving: The Maine Children's Home for Little Wanderers	May 2	Poster	Thomas J. Morriane
Sociology	<u>Stefan Merriam</u> (13)	New Deal Programs and W. E. B. Du Bois	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Lauren Lacy</u> (14)	Re-imagining Du Bois: Gender and Sexuality in African Critical Studies	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Wayne Kim</u> (14)	SPACE: Supplying a Place for Action, Caring, and Education -- a Grant to Support the South End Neighborhood Association and South End Teen Center of Waterville	May 2	Poster	Thomas J. Morriane
Sociology	<u>Louw Scheepers</u> (15)	The American Political System Through the Eyes of Du Bois	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Andrew Dagres</u> (14)	The Niagara Movement	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Isadora Alteen</u> (14)	The Sociology of W.E.B. Du Bois and Black Feminist/Womanist Thought	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Cameron Poole</u> (14)	W. E. B. Du Bois and the Liberal Arts College	May 2 tb:a	Presentation	
Sociology	<u>Sean Hatton</u> (14)	W. E. B. Du Bois and the Liberal Arts Education	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Sean Ripoll</u> (13)	W.E.B. Du Bois's Perceptions of the Harlem Renaissance	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Kayla Turner</u> (15)	W.E.B. Du Bois: Examining Class, Race, and Education, Past and Present	May 2 tb:a	Presentation	Cheryl Townsend Gilkes
Sociology	<u>Jayeon Kim</u> (13)	We came! We stripped! We conquered? Sextemist feminists of FEMEN	May 2 4:00 pm	Presentation	Cheryl Townsend Gilkes, Paul R. Josephson
Spanish	<u>Alexander Morris</u> (14)	'Desvestiendo la censura:' an analysis of the use of clothing to subvert censorship in Spanish cinema	May 3 11:40 am	Presentation	Bobby Dean Allbritton
Spanish	<u>Riley Wagner</u> (13)	El travestismo, la fluidez del género y el amor homosexual en obras de María de Zayas y Ana Caro	May 3 11:20 am	Presentation	Betty G. Sasaki
Spanish	Melissa	La Comedia: una	May 3	Presentation	Bobby Dean

	<u>Anderson</u> ('14)	Herramienta para Subvertir la Censura	11:00 am		Allbritton
Theater and Dance	<u>Emily Post</u> ('15)	A Lighting Design of Bertolt Brecht's Galileo	May 2	Poster	James C. Thurston
Theater and Dance	<u>Mimi Smith</u> ('13)	Texture and Illusion in Scenic Art: A Practical Exploration of Scene Painting Techniques	May 1	Poster	John D. Ervin
Theater and Dance	<u>Delaney McDonough</u> ('13)	The Aesthetic of Failure: Authenticity, Effort, and Imperfection in American Contemporary Dance	May 3 2:40 pm	Presentation	Ann Marie Kloppenberg
Women's, Gender, and Sexuality Studies	<u>Berol Dewdney</u> ('13)	Breaking the Silence: Body Image and Disordered Eating at Colby	May 2 2:40 pm	Presentation	Arellano, Lisa
Women, Gender, Sexuality	<u>Thomas Letourneau</u> ('13)	'Stop Calling': Gender, Violence, and the Validity of Pop Music	May 1 1:30 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Laura Duff</u> ('13)	A Curriculum to Promote the Health and Success of Our Female High School Athletes	May 1 1:00 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Emily Berner</u> ('15)	Common Understandings of Race and Gender at Colby	May 2	Poster	Sonja M. Thomas
Women, Gender, Sexuality	<u>Shireen Smalley</u> ('13)	Conforming to (Western) Desire: Homonationalism and Refugee Law in Iranian Gay and Lesbian Asylum Cases	May 1 4:30 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Emily Doyle</u> ('16)	Exploring Details Behind Gender Judgements	May 3	Poster	Sonja M. Thomas
Women, Gender, Sexuality	<u>Ismael Perez</u> ('13)	From Disco to Beyoncé: Gay Male Consumption of African American Divas	May 1 4:15 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Claudia Camerino</u> ('13)	Gendered Politics: Woman of Hamas in the Gaza Strip	May 1 3:15 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Cassie Clemmer</u> ('15)	Reporting Identity-Based Violence at Colby College	May 1 4:05 pm	Presentation	Sonja M. Thomas
Women, Gender, Sexuality	<u>Kathryn Laxson</u> ('13)	Revealing the Complexities of Postfeminist Chick-Lit Television Through a Reparative Reading of Girls	May 1 4:00 pm	Presentation	Lisa Arellano, Margaret T. McFadden
Women, Gender, Sexuality	<u>Camilla Ostrow</u> ('13)	Rihanna and Chris Brown: Rethinking the Way We Look at Domestic Violence	May 1 1:15 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Rosalie Wennberg</u> ('13)	Sexual Education Re-Imagined: Using Foucault's The History of Sexuality to Inform the Future	May 1 2:15 pm	Presentation	Lisa Arellano
		Some Think That We Can't Flow: The Intersections of Black	May		

Women, Gender, Sexuality	<u>Courtney Laird</u> ('13)	Intersections of Black Womanhood, Feminism and Hip-Hop as seen through Beyoncé and Queen Latifah	May 1 2:00 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Olivia Crowley Gottlieb</u> ('13)	The Erotic Potential Of The Queer Disabled Body Through The Photographic Work Of Ashley Savage	May 1 3:45 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Kara Constine</u> ('13)	The Growth and Development of Misogyny and Homophobia in the Hip Hop Community	May 1 3:30 pm	Presentation	
Women, Gender, Sexuality	<u>Jayde Bennett</u> ('13)	Where Do We Stand: A 21st Century Examination of Family Policy in the U.S. and it's Affect On LGBT Families	May 1 2:30 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Kimberly Bourne</u> ('16)	Who is Allowed to Compete: Gender, Intersexed Individuals, and College Sports	May 3	Poster	Sonja M. Thomas
Women, Gender, Sexuality	<u>Jessica Vilella</u> ('13)	Women Who Kill: Female Violence and The State	May 1 3:00 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Lindsay Roberts</u> ('13)	There's no money in virginity: Body Politics and Feminism in AMC's Mad Men	May 1 1:45 pm	Presentation	Lisa Arellano
Women, Gender, Sexuality	<u>Laura Duff</u> ('13)	The Embodiment of Endurance Running: Female Athletes and Disordered Eating	May 2 2:00 pm	Presentation	Lisa Arellano