To the Lake Forest College Community:

It is my pleasure to welcome you to the 2010 Spring Student Symposium, one of the highlights of our academic year, featuring a host of scholarly presentations, artistic performances and exhibits from students across campus.

This year’s broadly varied presentations will include, among many others, an examination of Edward H. Bennett’s original vision for Chicago’s Grant Park, a study linking chronic stress and the development of depression and anxiety disorders, a review of research findings on pathologies in Parkinson’s Disease, an exploration of questions of Mexican identity and the Spanish language of first- and second-generation Mexicans, a correlation study on drug abuse during adolescence and increased risk for addiction, and a study of Plato’s Meno dialogue and its consideration of the question whether virtue can be defined and taught.

These and many other fascinating presentations and discussions will fill the 2010 Symposium and clearly demonstrate the breadth and depth of our intellectual community. I look forward to seeing you in the audience.

Sincerely,

Stephen D. Schutt
President
A little more than a decade ago, Dean of Faculty, Provost, and Professor of Mathematics Steven P. Galovich proposed an idea that would highlight his passion for the academic work of students. He believed that Lake Forest College should devote a day during the academic year to showcase students and their research. He was so committed to the idea that he recommended the cancellation of classes so students could freely attend and participate in all the events.

The First Annual Student Symposium was held April 7, 1998. Nearly 1,000 members of the College community attended 118 student presentations, poster sessions, music concerts, and other events throughout the day and evening. Never one to stay in his office, a beaming Dean Galovich made a point to go to as many sessions as possible.

Ten years later the Student Symposium — which has since stretched to two days to accommodate growing interest and participation — is stronger than ever. This year, more than 350 students and campus groups will present, perform, demonstrate, and share their scholarship with the College community.

While he would have never taken credit for the idea, Steven Galovich’s mark on this event is undeniable. When he died unexpectedly, Lake Forest College decided to honor his legacy by renaming an occasion that has become an integral part of the College.

We dedicate the annual Steven Galovich Memorial Student Symposium for his contributions to academic discourse and his commitment to celebrating student research.
# Steven Galovich Memorial Student Symposium

**9:30 - 3:00** Welcome Center - Donnelley and Lee Library First Floor Lobby

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>10:00</td>
<td>Donnelly and Lee Library Room 208</td>
<td>A Little Money Can Go A Long Way: Studies in Microfinance 10:00 - 11:00</td>
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<tr>
<td>10:15</td>
<td>Donnelly and Lee Library Room 219</td>
<td>Philosophical Perspectives 10:00 - 11:20</td>
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<tr>
<td>10:30</td>
<td>Hotchkiss Hall 101</td>
<td>Experimental and Cognitive Psychology 10:00 - 11:20</td>
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<td>10:45</td>
<td>Johnson 100</td>
<td>Rotate, Collide and Disappear 10:00 - 11:20</td>
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<td>Johnson 215</td>
<td>Biology Demonstration 10:00 - 11:00</td>
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<td>SAACS Chemistry Demonstration 11:00 - 12:00</td>
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<td>Donnelly and Lee Library Room 203</td>
<td>Lake Forest College Press and &amp;Now 11:20 - 11:50</td>
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<td>Controversies in Contemporary American Religion 11:30 - 12:30</td>
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<td>Library Room 221</td>
<td>Chicago, My Kind of Town 11:00 - 12:20</td>
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<td>12:00</td>
<td>Mohr Cafeteria</td>
<td>Biology Exhibition 11:00 - 12:00</td>
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<td>12:15</td>
<td>Outside Mohr Cafeteria</td>
<td>Aikido Demonstration 12:00-1:00 P.M</td>
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<td>12:15</td>
<td>Mohr Cafeteria</td>
<td>Root Beer Floats 12:00-1:30 P.M</td>
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<td>12:45</td>
<td>Nine Miles North: The Experience of LFC Student Teachers in Waukegan Public Schools 1:00 - 2:00</td>
<td>Life in Contemporary China 2:00 - 3:00</td>
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<td>Mohr Cafeteria</td>
<td>Sex, Sexuality and Love 1:00 - 2:40</td>
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<td>Creative Writing All Stars</td>
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<td>Life in Contemporary China</td>
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<td>Latin American Politics and Society 2:10 - 2:50</td>
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<td>Mohr Café - Quiz Bowl</td>
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**4:00 - 4:15** Calvin Durand Hall - Closing Event

**4:15 - 6:00** Mohr Café - Quiz Bowl
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<td>Games, Game Theory, Voting 10:00 - 11:30</td>
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<td>Pax Americana 11:00 - 12:00</td>
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<td>Roll Over, James Madison! 1:00 - 2:20</td>
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<td>Chicago as Place 2:30 - 3:30</td>
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<td>5:00</td>
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<td>Lake Forest College Global Activism and Citizenship 1:00 - 2:00</td>
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<td>Writers' Guild Reading 1:00 - 2:30</td>
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<td>Model United Nations 2:40 - 3:30</td>
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<td>5:45</td>
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<td>Pop Culture 2:10 - 2:50</td>
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4:00 - 4:15 Calvin Durand Hall - Closing Event
4:15-6:00 Mohr Café - Quiz Bowl
## Monday, April 5

### OPENING EVENTS

**4:00-5:30**  
**Student Art Exhibit with Gallery Talks and Reception**  
Sonnenschein, Albright, and Deerpath Art Galleries  
Durand Art Institute and Deerpath Hall  

**Moderator:** Karen Lebergott  

**4:00-4:45**  
**Collage Readings**  
Creative writing from the modern languages in a rich variety of styles and genres  

**Moderator:** Cynthia Hahn  

**4:45-5:30**  
**Lake Forest College Jazz Ensemble**  
Director, Mitch Paliga

### Tuesday, April 6

**9:30-3:00**  
**Welcome Center, Donnelley and Lee Library First Floor Lobby**

### ORAL PRESENTATIONS

#### Morning Session

**Hotchkiss Hall 101**

**Panel 1**  
**Experimental and Cognitive Psychology**  
Moderator: Naomi Wentworth  
**10:00-10:20** Derek Atchley  
*Effects of Stress on emotion-related behavior in rodents: Implications for affective disorders*

**10:20-10:40** Siu Yin Lee  
*Subjective Probability Bias*

**10:40-11:00** Taylor Tuscherer  
*Development and Validation of a Social Support Scale*

**11:00-11:20** Linda Winkelmann  
*Moving Tables: The Great Caf Experiment*

**Meyer Auditorium**

**Panel 2**  
**Mutants and Parkinson’s**  
Moderator: Douglas Light  
**10:00-10:20** Daryn Cass  
*Cocaine Exposure and Withdrawal Changes Rat Frontal Brain Activity in an Age-dependent Manner*

**10:20-10:40** Michael Fiske  
*Insight Into Parkinson’s: Does the E46K Familial Mutation Doom Yeast?*

**10:40-11:00** Jaime Perez  
*Insight into Parkinson’s Disease: Is α-Synuclein Degraded by Endocytosis?*

**11:00-11:20** Kayla Ahlstrand Peter Sullivan  
*Self-Cannibalizing for a Parkinson’s Disease Cure*

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**Young Hall 111**

**Panel 3**  
**Women's Studies: Rhetoric and Myth**  
Moderator: Randall Iden  
**10:00-10:20** Anum Haider  
*A Nation Alive in the Diaspora: Statelessness and the Transnational Experience for Palestinian Immigrants from 1967 to the Present*

**10:20-10:40** Elliot Luke  
*In the Language of Women*

**10:40-11:00** Marija Milosevic  
*Was Pilar Primo de Rivera a feminist?*

**11:00-11:20** Angela Spoto  
*Insight into Parkinson’s Disease: Is α-Synuclein Degraded by Endocytosis?*

**Young Hall 117**

**Panel 5**  
**Games, Game Theory, Voting**  
Moderator: Edward Packel  
**10:00-10:20** Sarah Peluse  
*Combinatorial Game Theory and The Game of Rectangle*

**10:20-10:40** Mehmet Ugurbil  
*Game of Pure Strategy*

**10:40-11:00** Chris Janjigian  
*Equilibrium in Continuous Time Games: Theory and Applications to the Prisoner's Dilemma*

**11:00-11:30** Ornis Mala Devin McIntyre  
*Lake Forest College Voting Web Application*

**Young Hall 320**

**Panel 6**  
**Religious Experience and Religious Discourse**  
Moderator: Elizabeth Barre  
**10:00-10:20** Mackenzie Buchanan  
*Reason, Emotion, and Religious Experience*

**10:20-10:40** Justin Stenger  
*Textual Criticism: What is Religion in Political Science Textbooks?*

**10:40-11:00** Aasim Ahmad  
*Khataman-nabiyeen: Muhammad as Seal of the Prophets*
<table>
<thead>
<tr>
<th>Panel 7</th>
<th>Contemporary Art: The Female Body and the Land</th>
<th>Donnelley and Lee Library 205</th>
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<tbody>
<tr>
<td>Moderator: Ann Roberts</td>
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<td>Moderator: Chad McCraken</td>
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</tbody>
</table>
| 11:10-11:30 | Kira Maar  
*The Human Footprint: Exploring the Geographies of Land Art* | 10:00-10:20 | Maria Zawadowska  
*Extending Kitcher’s Account of Reduction to Other Special Sciences. A Consideration of Organic Chemistry and Quantum Mechanics* |
| 11:30-11:50 | Kimberly Bohier  
*Skinning the Canvas: A Reconstruction of the Female Body* | 10:20-10:40 | Christine Dobies  
*The Socratic Idea of Virtue* |
| 11:50-12:10 | Farrell Topham  
*Performing the Female Body: Violence Against Women in Late-Modernd Feminist Art* | 10:40-11:00 | Justine Messmore  
*Intersubjectivity and Love in the Thought of Sartre and Levinas* |

Young Hall 506

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<thead>
<tr>
<th>Panel 8</th>
<th>Contemporary European and International Politics</th>
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</table>
| Moderator: Cynthia Hahn | | 11:00-11:20 | Nick Leland  
*Unreality, Holographically* |
| | | | 11:00-12:00 | Nick Leland  
*Unreality, Holographically* |
| 10:00-10:20 | Magdalena Bartolik  
*Strategic Enticement Theory: Polish-American Security Relations* | 10:00-10:20 | Magdalena Bartolik  
*Strategic Enticement Theory: Polish-American Security Relations* |
| 10:20-10:40 | Alexander Monahov  
*Corruption in Europe: Causes and Consequences* | 10:20-10:40 | Alexander Monahov  
*Corruption in Europe: Causes and Consequences* |
| 10:40-11:00 | Hadley Skeffington-Vos  
*French Identity Crisis* | 10:40-11:00 | Hadley Skeffington-Vos  
*French Identity Crisis* |
| 11:00-11:20 | Gabriella Panayotova  
*An Empirical Study of Security-related Transparency in International Relations* | 11:00-11:20 | Gabriella Panayotova  
*An Empirical Study of Security-related Transparency in International Relations* |

Panel 9

<table>
<thead>
<tr>
<th>Education Reform</th>
<th>Lou Lombardi</th>
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| 11:30-12:30 | Alberto Alvarez  
Katherine Frost  
Ziting Li  
Mayley Imhoff  
Tracy Schwartz  
Educational Reform |

Donnelley and Lee Library 203

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<tr>
<th>Panel 10</th>
<th>A Little Money Can Go A Long Way: Studies in Microfinance</th>
<th>Reid Hall 100</th>
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</table>
| Moderator: Les Dlabay | | 11:00-11:30 | Margaret Golembiewski  
Zachary Engel  
*A Class in Music Education, Composition, and Performance* |
| | | | 11:30-12:15 | Joe Bozarth  
Maria Dugas  
David Dunn  
Emily Zender  
Jim Huon Jou  
May Hilgenberg  
Lindsay Parisi  
Matt Kistler  
Danielle Voloshin  
Cole Thornton  
Taylor Wright  
Art 343 Video Art |
| 10:00-10:20 | Suhn Lee  
Emily Zender  
Microfinance Activities for Economic Development | 10:00-10:20 | Suhn Lee  
Emily Zender  
Microfinance Activities for Economic Development |
| 10:20-10:40 | Emilie Vrbancic  
*A Comparison of Microfinance in Developing and Industrialized Economies* | 10:20-10:40 | Emilie Vrbancic  
*A Comparison of Microfinance in Developing and Industrialized Economies* |
| 10:40-11:00 | Caitlin Smith  
*Formal and Informal Funding Sources in China* | 10:40-11:00 | Caitlin Smith  
*Formal and Informal Funding Sources in China* |

Panel 11

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<th>Lake Forest College Press and &amp;Now Books</th>
<th>Art 343 Video Art</th>
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| Moderator: Davis Schneiderman | 11:20-11:50 | Sarah Spoto  
*Lake Forest College Press and &Now: The Publishing Process* |

Panel 12

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<tr>
<th>Philosophical Perspectives</th>
<th>Eli Robb</th>
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| Moderator: Chad McCraken | 11:30-12:15 | Joe Bozarth  
Maria Dugas  
David Dunn  
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Jim Huon Jou  
May Hilgenberg  
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Art 343 Video Art |
| 10:00-10:20 | Maria Zawadowska  
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| 11:00-11:20 | Thomas Bark  
*Moderation and Sexuality* | 11:00-11:20 | Thomas Bark  
*Moderation and Sexuality* |

Panel 13

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<thead>
<tr>
<th>Controversies in Contemporary American Religion</th>
<th>Reid Hall 100</th>
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</table>
| Moderator: Catherine Benton | | 11:00-11:30 | Margaret Golembiewski  
Zachary Engel  
*A Class in Music Education, Composition, and Performance* |
| 11:30-12:30 | Walter Baum  
Rochelle Chambers  
Austin Stewart  
*Controversies in Contemporary American Religion* | 11:30-12:30 | Walter Baum  
Rochelle Chambers  
Austin Stewart  
*Controversies in Contemporary American Religion* |

Panel 14

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<tr>
<th>Music Composition and Experiments</th>
<th>Michael Grady Dunn</th>
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| Moderator: Don Meyer | 11:30-12:15 | Joe Bozarth  
Maria Dugas  
David Dunn  
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Art 343 Video Art |

Panel 15

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<th>Xperiments in Sound and Music</th>
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| Moderator: Eli Robb | 11:30-12:15 | Joe Bozarth  
Maria Dugas  
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Matt Kistler  
Danielle Voloshin  
Cole Thornton  
Taylor Wright  
Art 343 Video Art |
Panel 15 Chicago, My Kind of Town
Moderator: Michael Ebner
11:00-11:20 Tracy Schwartz
HOPE VI: Chicago Public Housing

11:20-11:40 Ashley Hall
Shakespeare's Richard III in Historical Context

11:40-12:00 Maria Zawadowicz
New Method for Sampling Hazardous Air Pollutants (HAPs) in Chicago Air Using Solid-phase Microextraction and Gas Chromatography/Mass Spectrometry

12:00-12:20 Carlos Becerra-Meneses
Mexican Identity in Chicago

Panel 16 Rotate, Collide and Disappear
Moderator: Lori Del Negro
10:00-10:20 Nicole Murphy
Pulsed Nuclear Magnetic Resonance

10:20-10:40 Dawson Nodurft
EIT: Making Light “Invisible”

10:40-11:00 Dimitra Leheta
Faraday Rotation - Light Taking a Spin in Glass

11:00-11:20 Kosova Kreka
Electron-Molecule Collisions

Johnson 100

Johnson 219
Biology Demonstration
Moderator: Shubhik DebBurman
10:00-11:00 Kayla Ahlstrand Clare Conlisk
Lauren Ferrell Terese Noe
Natalie Simak Peter Sullivan
Shannon Ver Woert
You’re the Biologist Now: Investigate with TriBeta!

Johnson 215
Biology Demonstration
Moderator: Shubhik DebBurman
11:00-12:00 Derek Atchley Daryn Cass
Julie Coltri Paulius Daizovi
Jonathan Flaksman Dilllon Gilbow
Matt Greenwood Sajan Koirala
Natalie Kukulka Alina Konnikova
Lauren Leeber Anna Naditz
Elizabeth Pahomov Jaime Perez
Abegail Pipkorn Ashley Porter
Ashley Reich Daniel Sanchez
Keith Solvang Alexus Urbanik
Colin Waller
Exploring Medical Mysteries of the Human Brain

Johnson 300

Johnson 300
SAACS Chemistry Demonstration
Moderator: Professor Elizabeth Fischer
11:00-12:00 Timila Dhakhwa Tenzin Dolkar
Leah Frenette Nicole Larson
Julian McLain Saajidhe Rizvydeen
Annada Rajibhandary Madhavi Senagdag
Ali Vetter Maria Zawadowicz
Xiaoyu Zhu
Flames, Fumes, and Flashes: Students Fired Up About Chemistry

LAKE FOREST COLLEGE DANCE CLUB

Calvin Durand Hall
11:00-12:00 Kathryn Appelhans Diana Bartolo
Jenina Delgado Estafania Garcia
Anna Grig Amy Gonzalez
Hannah Hildebrand Lulu Ke
Carliann Pentz Britanny Rattinger
Alaina Shelby Samantha Smith
Michelle Svelti

AIKIDO DEMONSTRATION

Mohr Cafeteria
12:00-1:00 Phil DeCorte Karen Larson
Ben Tyler Alyssa Ritchie
Colin Willis

ROOT BEER FLOATS

Outside Mohr Cafeteria
12:00-1:30

Afternoon Session

Hotchkiss Hall 101

Panel 17 Guppies, Gorillas and Genes
Moderator: Anne Houde
1:00-1:20 Elaine Gustafson
Dominance Hierarchies and Social Spacing in Western Lowland Gorillas

1:20-1:40 Claire Konefal
The Effect of Prior Experience of Male Color Morph Frequency on Sexual Responsiveness of Female Guppies

1:40-2:00 Paige Keasler
Analyzing Splicing Differences in Genes Associated with Alzheimer’s Disease

2:00-2:20 Yama Sadozai
Search for the Gene Mutation Producing the Short Pharynx Phenotype
### Johnson 100

**Physics Demonstration**  
**Moderator:** Nathan Mueggenburg  
1:00-2:00  
Bashra Alam  
Hussein Daraghma  
Brandon Kass  
Nicole Murphy  
Lauren Denise Swafford  
*Physical Extravaganza!*

### Johnson 300

**Panel 18**  
**Moderator:** Tracy Taylor  
1:00-1:20  
Justin Messmore  
*The Effects of Pornography Consumption on College-age Men*  
1:20-1:40  
Regina Cyas  
*The Lithuanian Rumspringa*  
1:40-2:00  
Charlotte Capaldo  
*The Looming Transition - Time for “The Talk”*  
2:00-2:20  
Jessie Miranda  
*Sexual Playgrounds: A Study on Lake Forest College*  
2:20-2:40  
John Bon  
*Society’s Hesitance to Accept Interracial Relationships*

### Young Hall 111

**Panel 19**  
**Moderator:** Siobhan Moroney  
1:00-1:20  
Christina Velasquez  
*Domestic Violence Against Latinas: An International Perspective*  
1:20-1:40  
Julie Maskulka  
*The Effect of Female Labor Force Participation on Divorce: An Empirical Study Testing the Correlation between Women’s Employment Status, Household Income Contributions, and Divorce*

### Young Hall 117

**Panel 20**  
**Moderator:** Rand Smith  
1:00-1:20  
Jordan Heathfield  
*Ethical Questions of Free Trade and NAFTA*  
1:20-1:50  
Maria Crane  
Katherine Frost  
*Politics, Philosophy, and Social Policy*  
1:50-2:30  
Robert Erickson  
Jordan Heathfield  
David Ristau  
*Philosophy and International Affairs*

### Young Hall 320

**Panel 22**  
**Moderator:** Caroline Nordlund  
1:00-1:20  
Nick Leland  
*Congress and the Presidency Panel*  
1:20-1:40  
Kate Howson  
*Constitutionality of Signing Statements and Growth of Executive Power Under the Modern Presidency*  
1:40-2:00  
Brendan Moss  
*Subservience: A Relationship Between the Executive and Judiciary*  
2:00-2:20  
Emily Zender  
*The Checks and Balances of our Government*

### Young Hall 506

**Panel 23**  
**Moderator:** Joshua Corey  
1:00-2:30  
Madeeha Khan  
Carl LaMark  
Nick Leland  
Irene DaCal Ruiz  
Alysha Sidhu  
Ian Taylor  
Emily Thomas  
*Writers’ Guild Reading*

**Panel 24**  
**Moderator:** James Marquardt  
2:40-3:30  
Ioana Sirca Belintan  
Kjerstin Besser  
Matt Cunliffe  
James Dunnigan  
Ellen Shipitalo  
*Model United Nations*

### Meyer Auditorium

**Panel 25**  
**Moderator:** Jennifer Lindsay  
1:00-1:20  
Christina Dobies  
*Studying to be a Global Citizen*  
1:20-2:00  
Antri Isoaho  
Henry Salas Lazo  
*Madres Fuertes: Developing a Sustainable Future for Young Mothers*

**Panel 26**  
**Moderator:** Devorah Heitner  
2:10-2:30  
Elliot Luke  
*Television Comedy, Post-Sitcom*  
2:30-2:50  
Emily Mosier  
*The Fishbowl We Live In: An Analysis of the Culture Industry and Self-Commodification*
Donnelley and Lee Library 203
Panel 27 Students to Teachers: The Ultimate Field Trip
Moderator: Shelley Sherman
1:00-2:00 Catherine Cudahy Kaylee Gendrich Elizabeth Ross Jonathan Sricharnorn Students to Teachers: The Ultimate Field Trip

Panel 28 Latin American Politics and Society
Moderator: Carolyn Tuttle
2:10-2:30 Fiorella Lopez Comunidades de base and Liberation Theology in Brazil
2:30-2:50 Eemeli Isoaho Natives of Peru and Bolivian: A Comparison of the Political Mobilization of Indigenous Groups

Donnelley and Lee Library 205
Panel 29 A Gathering of Schools
Moderator: Siobhan Moroney
2:10-2:30 Regina Cyvas But What Happens to These Kids?: Former Montessori Students Reflect on Their Schooling
2:30-2:50 Anna Weissman Equitable Education: The Key to Sustainable Development in Sub-Saharan Africa
2:50-3:10 Carlee Taggart Public Schools, Private Interests: School Reform in Chicago

Donnelley and Lee Library 221
Panel 30 Creative Writing All Stars
Moderator: Benjamin Goluboff
1:00-2:30 Kathryn Appelhans Alexandra Fisher Benjamin Lundquist Angela Spoto Carlee Taggart Creative Writing All Stars

Panel 31 Life in Contemporary China
Moderator: Rui Zhu
2:40-3:00 Nicholas Makinster A Christian in Hong Kong: Religious Values on John Wai's 'The Killer'
3:00-3:20 Virginia Grawey Beijing: Living in a City Reborn
3:20-3:50 Ryan Glowacz Ian Tinley Caitlin Smith China's Transitions in the Age of Globalization

THEATER PERFORMANCES
Lily Reid Holt Memorial Chapel
Moderator: Richard Pettengill
11:00-11:40 Alexandra Fisher Julianna Hincks Katie Howson Mario Mazzetti Mark Vinson Theater of the Absurd
11:50-12:30 Alexandra Fisher Victoria Johnson Mark Vinson Moliere's Tartuffe: From Paris to Lake Forest College

POSTER PRESENTATIONS
3:00–4:00 P.M.
Calvin Durand Hall
Pascal Accoh
The Brain Structure Striatum Mediates Motor-Skill Learning in a Running Wheel Paradigm in Rats
Kayla Ahlstrand Ray Choi Alina Konnikova Daniel Sanchez Peter Sullivan Insight Into Parkinson’s: Autophagy to the Rescue?
Joshua Anderson
Edward H. Bennett and Grant Park: An Extended History
Carlos Becerra-Meneses Will Press Searching for New Genes that Control the Accumulation and Toxicity of Parkinson's Disease Protein Alpha-synuclein
Rebecca Brezinsky Keith Solvang Key Amino Acids that Contribute to Parkinson’s Disease Protein Alpha-synuclein’s Pathotoxic Potential
Daniella Brutman Paulius Kuprys Role of Potassium, Chloride, and Taurine during Volume Regulation by Rainbow Trout Red Blood Cells
Giuseppe Consolcenti Cleo Hehn The Life of Benazir Bhutto
Giuseppe Consolcenti Cleo Hehn The Life of Benazir Bhutto
Joseph Davis Emilie Vrbancic Ubuntu
Mura Dominko Natalie Taltbert Collaborative Recall of Social Information
Stephanie Feld Lisa Price Evolutionary Economics: An Overview
Michael Fiske Alina Konnikova Evolution of a Journal: Six Years in Business
Michael Fiske Four Parkinson’s Disease Stories
Daysi Vargas Gonzalez
One for All: Expanding the Horizons of Our PCR Assay to Measure Telomere Length of a Variety of Organisms

Danielle Gore  Samma Saed
Healthy People 2010 Movement

Robin Graber  Maddavi Senagolage
Female Preference for Novel Males in Guppies Poecilia Reticulata: Does a Fresh Face Matter?

Ashley Hall
Dramaturgy for The House of Bernarda Alba

Yekatsiaryna Kastetskaya
The Search for Telomerase RNA in Aspergillus oryzae.

Nicole Larson
Exploratory Ionothermal Synthesis

Aaron Nash
Examination of Amine Blocking Groups in Specific Sonogashira Coupling Reactions

Francesca Noero  Kathryn Zaccarello
American Girl and Children’s Media

Alyssa Parr  Kelly Rosiles Villagomez
Mikayla Warner
Effects of Vision on Auditory Threshold

Ashleigh Porter
Possible New Cancer Treatments: Ribosome Biogenesis as an Unexplored Target

Annada Rajbhandary
Examination of Substituent Effects of Para Substituents in Sonogashira Coupling Reaction

Saajidha Rizvydeen
Measuring Fungal Ends: Does Length Vary With Reproductive Mechanism?

Emily Sadler
The Burden of Representation: The Afghan Girl

Natalie Simak
Synaptic Changes in the Prefrontal Cortex during Adolescence in Rats

Steffany Sobieraj
The Exploration of Early Cretaceous (90 million years ago) Fossils in Central Utah

Molly Stapleton
Symposium Design – A Visual Marketing Presentation for the Promotion of the Steven Galovich Memorial Student Symposium

Britany Stern
A Method to Study the Subcellular Localization of Micro-RNAs Diagnostic of Breast Cancer

Ali Vetter
Computational Screening of Preferred Products in the Synthesis of Polymerization Catalysts: Building a Library for the Chelate-controlled Synthesis

Shabana Yusufishaq
Using Nematodes to Find Mutations and Modifier Genes

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**CLOSING EVENT**

**Calvin Durand Hall**

4:00-4:15  Honoring Student Achievement Across the Disciplines in Poster Presentations and Oral Presentations

**QUIZ BOWL**

4:15-6:00 P.M.

Sponsored by Lambda Chi
PARTICIPANTS AND ABSTRACTS
(COAUTHORED AND GROUP PROJECTS AT THE END)

These are arranged alphabetically by student last name, followed by presentations involving more than one student, arranged by first student's last name (alphabetically within presentation).

Pascal Accoh '12; biology
The Brain Structure Striatum Mediates Motor-Skill Learning in a Running Wheel Paradigm in Rats
This study investigated mechanisms of motor-skill learning in the brain structure basal ganglia in rats. We examined whether a long-term motor skill can be acquired with relatively short training and whether the striatum (a nucleus of the basal ganglia) is involved in this learning. First, we found that rats learned this new motor skill in two training sessions. Next, we found that motor-skill learning was inhibited by the infusion of a specific peptide (designed to inhibit glutamate receptors) into the striatum. These findings suggest that acquiring this particular motor skill is possible, even with short learning opportunities. Learning inhibition by drug infusions demonstrate that the striatum is critical for the consolidation of motor-skill memory.
Faculty Sponsor: Shubhik DebBurman

Derek Atchley '10; Psychology
Effects of Stress on Emotion-related Behavior in Rodents: Implications for Affective Disorders
Chronic stress can enhance the development of psychopathologies such as depression and anxiety disorders. Understanding the factors that contribute during the development of these effects of stress may help produce new treatments for stress-related disorders. Effects of stress can be examined in rodent models of emotion, such as anxiety-like behavior in the elevated plus maze, and fear behavior in Pavlovian conditioning. Male and female Sprague-Dawley rats were used to explore these behaviors in response to restraint stress.
Faculty Sponsor: Robert Glassman

Aasim Ahmad; History, Philosophy, Politics
Khataman-nabiyeen: Muhammad as Seal of the Prophets
This paper presents the Islamic conception of prophet-hood and explains why Muhammad is given a higher status than other prophets while at the same time presenting Islam's understanding of the prophets before Muhammad. It explains what is meant by Seal of the prophets and why it is of importance. It introduces Islam's understanding of prophet-hood in general and ties it into Islam's belief in religious evolution, which touches on Islam's beliefs about Moses and Jesus. It also discusses Islam's understanding of itself as the pinnacle of religious evolution and how this leads to Muhammad's status as the Seal of the Prophets.
Faculty Sponsor: Hasan Kosebalaban

Thomas Bark '13; History, Philosophy
Moderation and Sexuality
When placed in a particular paradigm of civilization the subject of sex (and as an extension, erotics) can take on differing but no less substantial significance. Michel Foucault's rendering of sexuality from an ancient Greek perspective removes the subject from the classical Christian paradigm of repression and redefines it completely. This paper focuses on the ideas derived by Foucault examining the emphasis placed by Greek culture on moderation and the means of achieving it by delving into the internal struggles of man in attempting to exercise self-control.
Faculty Sponsor: Rui Zhu

Joshua Anderson ’10; American Studies, Studio Art
Edward H. Bennett and Grant Park: An Extended History
After spending the beginning of his career looking down at Grant Park from his office in the Railroad Exchange, Edward H. Bennett re-designed the space though not along the lines of the 1909 Plan of Chicago. Through a number of letters and Bennett's own sketches we are able to fully grasp Bennett's vision for the park and his reactionary, early renaissance stylistic preference. By comparing Bennett's notes and plans for the 1915 Panama Pacific International Exhibition with the final plans for the Park it becomes evident that Bennett was not simply adapting Daniel Burnham's plan for Grant Park, but instead continued a style Bennett had been perfecting for years.
Faculty Sponsor: Arthur Miller

Magdalena Bartolik ’10, Communication, International Relations
Strategic Enticement Theory: Polish-American Security Relations
Since the fall of Communism Poland's transatlantic foreign policy has focused almost exclusively on wooing the United States into a strategic partnership. Poland's strategy of enticing the United States has at times compelled it to act as a vessel for America's interests even on matters unrelated to its immediate security needs. Though Poland has gotten little in return for its loyalty to the United States, it is nevertheless determined to entice the United States into a strategic alliance. I use this bilateral relationship to illustrate my strategic enticement theory of how middle powers maneuver politically to draw big powers into alliances with them.
Faculty Sponsor: James Marquardt
Carlos Becerra-Meneses '10; Biology, Spanish

Mexican Identity in Chicago

This senior thesis will explore questions of Mexican identity as well as the Spanish language of first- and second-generation Mexicans in the Pilsen area, specifically within a social as well as linguistic context. I examine these concepts through a series of questions on self-identification, gentrification, assimilation as well as influences by English or Spanglish. I am interested in how they have assimilated to life in Chicago and which aspects of their Mexican heritage they continue to maintain. Finally, I also explore how recently NAFTA has pushed migration to the U.S giving Mexicans a presence in the social sphere.
Faculty Sponsor: Gizella Meneses

Kimberly Bobier '10; Art

Skinning the Canvas: A Reconstruction of the Female Body

My presentation addresses a central question posed by artist Carolee Schneemann: “How can I reestablish the female body, pull it off this dead canvas?” Schneemann's esoteric statement reflects the notion in evolution during the late twentieth century that painting implicitly favored the male body and was therefore an insufficient means of representing a female experience. I will investigate how the artists Eva Hesse, Carolee Schneemann, Ana Mendieta and Jenny Saville, all originally painters, worked toward a more visceral expression of the female form. Each artist incorporates metaphorical and material references to the flesh in order to reconstruct the female body in art as well as the viewer's relationship to it.
Faculty Sponsor: Ann Roberts

John Bon '10; Sociology and Anthropology

Society's Hesitance to Accept Interracial Relationships

This presentation deals with why interracial relationships are still not entirely accepted in our society. This project investigates the extent to which the lack of acceptance is affected by ethnic culture, social environment, and whether a person is of an older or younger generation. I further question whether there will be a time when being in an interracial relationship will no longer be a foreign occurrence. This presentation will show that society's inability to accept interracial relationships is due in large part to the unconscious effects of cultural norms and concerns about the consequences of developing of new norms on the stability and respectability of one's own culture.
Faculty Sponsor: Holly Swyers

Sarah Brune '13

The Perils of Indifference: How Narratives, Personae, and Narratives Can Inspire an Audience

Elie Wiesel has inspired millions with his writings on the Holocaust. His ability to capture human suffering, emotion, and motivation is what makes his works more than just historical accounts of our dark past. In his speech “The Perils of Indifference: Lessons of a Violent Past,” Wiesel uses his experience in the Holocaust as merely a narrative and underlying metaphor to motivate today's population to take a stand on issues of suffering. In this paper, I demonstrate how Wiesel uses metaphors, persona, and narratives to inspire his multiple audiences to join him in the fight against human suffering.
Faculty Sponsor: Linda Horwitz

Mackenzie Buchanan '10; Philosophy, Religion

Reason, Emotion, and Religious Experience

Phenomenology of religion claims that true knowledge of God is gained through religious experience. This experience is often defined as passive, transient, noetic, and ineffable. Moreover, the religious experience is believed to be emotional as opposed to rational. However, what if emotions are not distinct from the rational? In philosophy, the cognitive theory of emotion states that emotions are not passive and irrational forces that move us to act, but rather conceptual value-judgments. This presentation will show how this cognitive theory of emotion problematizes and contradicts the phenomenology of religion.
Faculty Sponsor: Elizabeth Barre

Charlotte Capaldo

The Looming Transition - Time for “The Talk”

Graduating college represents a major transition in the lives of many Americans, and part of that transition is often deciding how - or whether - to move forward with a significant other. This presentation addresses a central question posed by artist Carolee Schneemann: “How can I reestablish the female body, pull it off this dead canvas?” Schneemann's esoteric statement reflects the notion in evolution during the late twentieth century that painting implicitly favored the male body and was therefore an insufficient means of representing a female experience. I will investigate how the artists Eva Hesse, Carolee Schneemann, Ana Mendieta and Jenny Saville, all originally painters, worked toward a more visceral expression of the female form. Each artist incorporates metaphorical and material references to the flesh in order to reconstruct the female body in art as well as the viewer's relationship to it.
Faculty Sponsor: Ann Roberts

Daryn Cass '10; Biology, International Relations

Cocaine Exposure and Withdrawal Changes Rat Frontal Brain Activity in an Age-dependent Manner

Exposure to a drug of abuse during adolescence significantly increases the risk for addiction, when compared to young adulthood. However, the mechanisms underlying this increased risk remains unclear. Here, in a rat addiction model, we asked whether the age at which cocaine is given and the period of withdrawal plays a role in determining changes observed within the brain reward system. We assessed cortical activity with cytochrome oxidase (CO-I) staining as an indicator of brain metabolism. In adolescent rats, significant CO-I increased in several frontal cortical regions that underwent a 3-week withdrawal, compared to a 3-day withdrawal from cocaine exposure.
Faculty Sponsor: Shubhik DebBurman
Four Parkinson’s Disease Stories: E46K, Phosphorylation, Alanine-76, & Domains

Parkinson’s disease (PD) is a fatal neurodegenerative disorder linked to the misfolding, accumulation, and lipid-association of the alpha-synuclein protein. However, exactly how alpha-synuclein causes pathology is unknown. Our lab utilizes a budding yeast and fission yeast model to study alpha-synuclein. My poster details four areas of Parkinson’s research that comprised my senior thesis in biology. First, I gained insight into how recently discovered familial mutation E46K imparts toxicity. I also found evidence for the role of phosphorylation on alpha-synuclein’s pathotoxicity. Next, I determined the pathological contributions of alpha-synuclein’s 76th amino acid. Finally, I determined that alpha-synuclein’s three domains differentially contribute to the protein’s pathotoxic properties.

Faculty Sponsor: Shubhik DebBurman

Doors into Yeast: E46K Familial Mutation

Parkinson’s disease is a devastating and incurable neurodegenerative disorder afflicting over one million Americans. The death of a specific population of neurons in the brain due to accumulated alpha-synuclein protein causes the disease. While a majority of PD cases occur sporadically, a smaller portion result from specific genetic mutations in the alpha-synuclein gene. I studied the recently discovered E46K alpha-synuclein mutant in a budding and fission yeast model. I found that E46K localized to the plasma membrane in budding yeast, aggregated in fission yeast and enhanced toxicity in one fission yeast strain. These E46K properties provide insight into how it causes PD.

Faculty Sponsor: Shubhik DebBurman

One for all: Expanding the Horizons of Our PCR Assay to Measure Telomere Length of a Variety of Organisms

Telomeres, the non-coding DNA sequences that protect eukaryotic chromosomes, are key in studies regarding aging and cancer. Our molecular biology laboratory is particularly interested in studying telomere length and its relation to aging. To study telomere length, we use the versatile fungus Aspergillus nidulans, as a model organism. Recently, our laboratory developed a novel PCR assay for measuring telomere length in A. nidulans. Consequently, we believe that it would be a good contribution to science if the capabilities of the novel PCR assay could be used in other organisms having different telomere sequences. Therefore, our aim in this project is to reproduce the results obtained with A. nidulans in the organism Aspergillus oryzae.

Faculty Sponsor: Karen Kirk
Virginia Grawey '10; Asian Studies, English
Beijing: Living in a City Reborn
Swallowed in modern high rises and shopping centers with communist apartment complexes in between, just how much of ancient Beijing still exists today? How have monuments and surviving hutongs helped to preserve pre-modern Beijing's culture? In what ways has modernization affected Chinese culture and lifestyles? What rights does Beijing offer its visitors compared with its citizens? Explore what I, as a Gilman scholar, saw and experienced in a city plunging into modernization.
Faculty Sponsor: Shiwei Chen

Elaine Gustafson '10; Biology
Dominance Hierarchies and Social Spacing in Western Lowland Gorillas
My senior thesis study of two captive Western Lowland gorilla troops examines the effects of a dominance hierarchy on social organization. By documenting the time each individual in the troop spends in proximity to others, I hope to draw conclusions about how the dominance hierarchy affects the nature of the relationships between individuals. To answer this question, I collected spatial proximity data on two gorilla troops at Lincoln Park Zoo from May 2009 to January '10. The proportion of the time each individual spends within contact, close, and distant proximity with all other members of the troop will be compared and my results and conclusions based on these comparisons will be presented.
Faculty Sponsor: Anne Houde

Anum Haider '10; Economics, History
A Nation Alive in the Diaspora: Statelessness and the Transnational Experience for Palestinian Immigrants from 1967 to the Present
Palestinian Americans of the post-1967 cohort have had an atypical immigrant experience. For one thing, keeping their ethnic identity alive is extremely important to them in light of Palestinian-Israeli conflicts. For another, they are residing in a country that heavily supports their oppressor, where wanting a free Palestinian state is sometimes mistaken as anti-Semitic propaganda. Maintaining Palestinian culture includes raising awareness about their statelessness issue, along with speaking Arabic, cooking ethnic food, and similar practices most groups follow. Since daughters are symbols of Palestinian culture, the pressure to preserve national identity is more heavily placed on Palestinian women.
Faculty Sponsor: Virginia Stewart

Ashley Hall '10; American Studies, Theater
Shakespeare's Richard III in Historical Context
Being political or politically outspoken in Tudor England left one vulnerable to the accusations of treason. Shakespeare was aware of this and wrote with great care not to offend the Queen. Shakespeare's composition of Richard III as an evil and deformed miscreant suggests that his play promoted the Tudors' interpretation of history; when it actually questions it. While Richard III is not a blatant contradiction of the Tudor Myth, it subtly challenges each tenet that constructs that myth.
Faculty Sponsor: Richard Pettengill

Ashley Hall '10; American Studies, Theater
Dramaturgy for The House of Bernarda Alba
The House of Bernarda Alba is the last of Federico Garcia Lorca's plays; he wrote it during the political and social turmoil at the start of the Spanish Civil War and the roots of The House of Bernarda Alba are embedded deeply in this political context. While Lorca did not live to see the outcome of the Spanish Civil War, the parallel between the war and The House of Bernarda Alba is eerily similar.
Faculty Sponsor: Richard Pettengill

Jordan Heathfield '10; Economics
Ethical Questions of Free Trade and NAFTA
Given the title of our North American Free Trade Agreement and the benefits that leading economists show are possible through free trade practices, most would never think to question NAFTA. In truth, NAFTA is an agreement riddled with subsidies and restrictions which completely cripple the possibility of any positive effects argued by free trade theory economists. Moreover, the exploitation of Mexican workers by multinational corporations and other restrictions from NAFTA have been devastating to the Mexican economy. While theoretically, free trade would be an ethical public policy, in practice, millions of workers throughout North America have been negatively affected.
Faculty Sponsor: Steve Tammelleo

Kate Howson '11; Politics, Theater
Constitutionality of Signing Statements and Growth of Executive Power Under the Modern Presidency
My research examines the constitutionality and legitimacy of three different types of signing statements employed by American presidents - the historical signing statement, bureaucratic signing statement, and constitutional signing statement. Of particular concern to me is the constitutional signing statement, in which the President declares a certain provision of a law he is signing unconstitutional and therefore refuses to execute said law. I will discuss the political and legal ramifications of this type of signing statement.
Faculty Sponsor: Caroline Nordlund
biological markers of AD. We examined this in post-mortem changes in splicing of genes associated with AD may provide biomarkers for earlier diagnosis. We hypothesized that disorder in which there is a need to identify molecular markers can provide early detection of AD.  

Faculty Sponsor: Jason Cody

Claire Konefal '10; Biology
The Effect of Prior Experience of Male Color Morph Frequency on Sexual Responsiveness of Female Guppies
Female guppies choose their mates based on amount of orange coloration and frequency of color morphs. Previous studies have shown that female guppies show increased responsiveness to males with color patterns that are rare, unique or unfamiliar. My study seeks to determine if a female's previous experience with a male's color pattern as rare or common affects her sexual responsiveness to him in a subsequent one-on-one encounter. This would suggest that females are able to calculate and remember color morph frequencies within a social group. Alternatively, my data could show that orange coloration is a more important factor than morph frequency.  

Faculty Sponsor: Anne Houde

Kosova Kreka '12; Economics, Physics
Electron-Molecule Collisions
Electron-molecule and electron-atom collisions are common in technology and the natural world. Some examples include: plasma processing of semi-conductors, fluorescent lamps, plasma screen televisions, and the aurora. Also, results from electron impact studies increase our knowledge of atomic and molecular structures. When we collide a target gas with electrons some of the gas molecules gain energy, and when they lose that amount of energy they emit light. We study these collisions by analyzing this light I will also explain how we created a target of very cold molecules using a supersonic molecular beam.  

Faculty Sponsor: Scott Schappe

Nicole Larson '10, Chemistry, Physics
Exploratory Ionothermal Synthesis
Have you ever wondered how it is possible to store 8 GB of information on a device as small as an iPod nano? The answer: New magnetic materials with improved properties that came from a materials chemistry laboratory. Our quest for new materials will not yield better magnets, but never-before-seen molecular structures. The research in our lab focuses on using a special kind of fluid known as an ionic liquid as a medium to make something new. A few years ago, a member of our lab created a new compound, [EMIM]_7Ni_4P_13S_36, the properties of which are still unknown, but could potentially lead to exciting technological advancements.  

Faculty Sponsor: Jason Cody

Chris Janjigian '10; Economics, Mathematics
Equilibrium in Continuous Time Games: Theory and Applications to the Prisoner's Dilemma
Traditional game theory assumes that games are played in stages. This framework is appealing but limited, as players are constrained in their ability to respond to their opponents. This presentation discusses the development of a general framework in which players are allowed to respond immediately to other players' actions. The topic will be addressed primarily through application to a well known game, the Prisoner's Dilemma, which is used widely in economics and political theory. Some of the mathematical problems associated with generalizing game theory to a setting involving continuous time will be discussed at an introductory level.  

Faculty Sponsor: Robert Lemke

Antti Isoaho '11; International Relations, Sociology and Anthropology
Natives of Peru and Bolivia: A Comparison of the Political Mobilization of Indigenous Groups
This paper compares the political mobilization of indigenous groups in Peru and Bolivia. Although both of these Andean countries have large indigenous populations, they are at opposite poles when it comes to their native populations’ participation in politics. Whereas the natives of Bolivia have organized themselves in an unprecedented fashion, there continues to be a lack of political mobilization of indigenous groups in Peru. I discuss some of the socio-political reasons that might explain the differing levels of political mobilization of native groups in these two neighboring countries.  

Faculty Sponsor: Rand Smith

Paige M. Keasler; Biology
Analyzing Splicing Differences in Genes Associated with Alzheimer’s Disease
Alzheimer's disease (AD) is a debilitating neurodegenerative disorder in which there is a need to identify molecular biomarkers for earlier diagnosis. We hypothesized that changes in splicing of genes associated with AD may provide biological markers of AD. We examined this in post-mortem samples from normal, AD, or mild cognitive impairment (MCI) brains using RT-PCR. Overall, there were alternative splicing differences in the mid-temporal brain region, with control patients exhibiting more APOE2 exon 19 inclusion than other conditions. Thus, our preliminary studies suggest molecular markers can provide early detection of AD.  

Faculty Sponsor: Jason Cody

Yekatsiaryna Kastsetskaya ’12
The Search for Telomerase RNA in Aspergillus oryzae
Telomeres are found at the end of chromosomes and are vital for chromosome replication. An enzyme, telomerase, adds telomeric DNA to the telomere. If the telomerase gene is incorrectly expressed, it adds DNA repeats which could cause cancer. We are interested in the telomerase RNA of Aspergillus oryzae, which carries the template for synthesizing telomeric repeats. The gene encoding the telomerase RNA has not been identified in any filamentous fungus. The only sequence known is the template for the telomeric repeats. Using Reverse Transcriptase-Polymerase Chain Reaction, a folding program and comparison of structure, we hope to determine the telomerase RNA in Aspergillus oryzae and contribute to cancer research.  

Faculty Sponsor: Karen Kirk

Applications to the Prisoner's Dilemma
Siu Yin Lee ’11; Economics, Psychology
Subjective Probability Bias
How do we make decisions under uncertainty? Are we as analytical as the standard economic model assumes? Previous research shows that people mostly rely on rules of thumb when they need to evaluate the probabilities of uncertainties. These mental shortcuts, categorized as “heuristic mechanisms” by cognitive psychologists, often lead to systematic errors among the public. In my study, four questions were replicated in order to investigate if these common errors could be found among LFC students. Results show that LFC students do fall into some “traps” but are able to avoid some of the miscalculations.
Faculty Sponsor: Jeffery O. Sundberg

Dimitra Leheta ’11; Physics
Faraday Rotation - Light Taking a Spin in Glass
Polarization is a property of light employed in good sunglasses. When light travels through glass, the direction of polarization can be rotated by a magnetic field. This phenomenon was first observed by Michael Faraday in 1845. I built an apparatus that will be used for a Faraday rotation experiment in the laboratory portion of the optics course. The study involves measuring how much the polarization of laser light rotates as the magnetic field changes. Different colors of light are spun by different amounts. This effect is small, but it can be used to transmit information, such as my voice, over a laser beam.
Faculty Sponsor: Michael Kash

Nick Leland ’10; English
Congress and the Presidency
It is clear by any stretch of the imagination that executive authority has been abused over the course of American history. Almost every president has taken some power that was not afforded to them by the Framers. The interesting question then is: How has the abuse of executive authority changed over the course of American history? To answer this question, I examine the abuses of power in the Jefferson and Nixon presidencies using psychological and historical analysis.
Faculty Sponsor: Caroline Nordlund

Nick Leland ’10; English
Unreality, Holographically
I have been collecting essays, short stories, and poetry on the non-real. Specifically, these works involve the non-real as it relates to literature, psychology, chemistry, physics, art, and other fields. These essays are put together in holographic media. The idea is to get people to examine the way they understand a piece of paper, and more than that, to re-imagine what constitutes a work of art. The holograms in question are constructed from a kit by Dr. Jeong. The piece appears as a wall of small black windows, but the magic happens when shining lasers through them.
Faculty Sponsor: Davis Schneiderman

Fiorella Lopez ’12; International Relations, Religion
Comunidades de base and Liberation Theology in Brazil
During the 1950s and 1960s, the majority of Latin Americans who were under social, economic and political oppression could not make sense of the Catholic Church’s message. Liberation theology, and its commitment to social justice, emerged as a discourse to which Latin Americans could finally relate. The establishment of comunidades de base in Brazil prior to the Council of Vatican II in 1962, shows that liberation theology materialized, in great part, as a result of the ideas being explored by individuals within these communities. Liberation theology, therefore, as adopted by the hierarchy of Church and particularly in Brazil, allowed for CEBs to be conceived as safe spaces, places where people could meet to discuss political issues as well as organize for political actions.
Faculty Sponsor: Steve Tammelloo

Elliot Luke ’11; Communication, French
Television Comedy, Post-Sitcom
For most of the history of television, televised comedy has been dominated by one comedy genre: the situation comedy. For the past few decades, this televisuual format has come under fire for being antiquated and formulaic, lacking the capacity to perform effectively as a vehicle for social commentary. However, recent years have seen a renaissance in American televisuual comedy with the rise of shows like Arrested Development, Curb Your Enthusiasm, Parks and Recreation, and, perhaps most notably, The Office. This presentation explores The Office: Season One as a paradigm case for a new televisuual genre that Brett Mills calls comedy verité. Furthermore, this presentation discusses how the comedy verité genre is preferable to the traditional sitcom because of its tendency to allow the televisuiual reader to interrogate and challenge the ideological framework that the traditional sitcom format so effectively masks.
Faculty Sponsor: Linda Horwitz

Elliot Luke ’11; Communication, French
In the Language of Women
In her book A Room of One’s Own, Virginia Woolf explores the question of whether women would, in her society, be able to gain respect as writers in the same way as male writers. There have been many feminists who, inspired by Woolf’s work, have stressed the importance of rhetoric for women by women. However, as Michael Cunningham’s novel The Hours demonstrates, women’s rhetoric may come in many forms. This novel raises certain questions: Can a book written by a man be effective as women’s rhetoric? Is the novel the most appropriate medium to carry this message? This presentation explores how the heteroglosia of the novel makes this literary form an ideal medium to carry the message of women’s liberation through a discussion of The Hours in its novel and cinematic form.
Faculty Sponsor: Linda Horwitz
Jackson Primo de Rivera grew up in the family of history-making leaders. Her father General Miguel Primo de Rivera ruled Spain as a dictator from 1923-1930, and her brother founded the fascist-inspired Falange Española. At an early age, Pilar realized that she had inherited the quest for power and making history. Her desire to follow in her family's footsteps, most of all her brother's, positioned her at the top of the political spectrum. As the director of the Sección Femenina, Pilar held enough political power to make important changes during the Franco regime (1939-1975). Pilar strove to make women realize their important role in the post Civil War community.

Faculty Sponsor: Catherine Benton

Justin Messmore '10; Philosophy

Intersubjectivity and Love in the Thought of Sartre and Levinas

Intersubjectivity is the philosophical term for the relationship between two otherwise independent subjects, and one form of intersubjectivity is that which we call “love.” But what is love, and how do we do it? Is it even possible? My project undertakes a critical investigation of love in the thought of two influential philosophers: Jean-Paul Sartre and Emmanuel Levinas. Sartre is famous for his play in which a character exclaims, “Hell is—other people!” Levinas centers his philosophy of love on an infinite ethical responsibility for the other person’s well-being. I believe, however, that these philosophers are more similar than they appear.

Faculty Sponsor: Abba Lessing

Marija Milosevic '10; International Relations, Spanish

Was Pilar Primo de Rivera a Feminist?

Pilar Primo de Rivera grew up in the family of history-making leaders. Her father General Miguel Primo de Rivera ruled Spain as a dictator from 1923-1930, and her brother founded the fascist-inspired Falange Española. At an early age, Pilar realized that she had inherited the quest for power and making history. Her desire to follow in her family's footsteps, most of all her brother's, positioned her at the top of the political spectrum. As the director of the Sección Femenina, Pilar held enough political power to make important changes during the Franco regime (1939-1975). Pilar strove to make women realize their important role in the post Civil War community. Although she claimed to be fighting for women's rights, it seems that she was fighting for traditional Spain at the expense of women. In this presentation I intend to address Pilar's contribution to Spanish society while also showing the anti-feminist elements in her ideology.

Faculty Sponsor: Lois Barr

Jessie Miranda '11; Sociology and Anthropology

Sexual Playgrounds: A Study on Lake Forest College

A popular image in mass media today, embodied in shows like Sex in the City, is the idea of places serving as sexual playgrounds. Sexual playgrounds are places where individuals are free to engage in whatever types of sexual relationships and transactions they want. However, recent theoretical work argues that sexual playgrounds are myths. In this project, I test whether Lake Forest College resembled a sexual playground or, if like Sex in the City, it resembles the sexual market model. My results suggest that there is more to these stories than unrestrained passions and lustful appearances as TV portrays.

Faculty Sponsor: Holly Szyers
Alexander Monahov '10, Economics, International Relations

Corruption in Europe: Causes and Consequences

This presentation addresses the issue of corruption on a national level. Some of the questions I explore include: Why are some countries more corrupt than others? Why are even the richest countries in the world plagued by malfeasance? What causes corruption and what can governments do to reduce it? Data from Transparency International and the World Bank is used in an empirical study of corruption in 35 European countries. Among the major findings is that the individual socio-economic characteristics of every state must be considered before an optimal strategy for moderating corruption can be found. On the highly institutionalized European continent, a fine-tailored model of corruption could be crucial in the fight to eliminate corruption.

Faculty Sponsor: Caroline Nordlund

Emily Mosier '10; Environmental Studies

The Fishbowl We Live In: An Analysis of the Culture Industry and Self-Commodification

What water is to a fish, culture is to a human; there is no way to live outside it for more than a brief moment. In a time of capitalism, culture is used as a powerful weapon to manipulate the masses. The culture industry uses media to teach people that they can commodify themselves in order to appear more desirable. After researching the culture industry, I concluded that the commodification of self is a learned idea which is strongly reinforced by the industry's use of self-help narratives, television, and advertising.

Faculty Sponsor: Holly Sawyer

Brendan Moss '12; Politics, Economics

Subservience: A Relationship Between the Executive and Judiciary

This research paper critically analyzes the President's control over the Supreme Court's decisions and discusses just how the President's party affiliation influences the decisions of the Court. Federalist Alexander Hamilton warned that the executive branch is bestowed with the power of the sword; the legislative branch has control of the purse, yet the judicial branch only possesses the power to pass judgment and must rely on the other branches to enforce their decisions. I argue that the Solicitor General has evolved into a politicized office to serve the President, which was not its intention. It is in this context that I explore whether Hamilton's prognosis has come to fruition in our current political climate.

Faculty Sponsor: Caroline Nordlund

Nicole Murphy '10; Physics

Pulsed Nuclear Magnetic Resonance

Nuclear Magnetic Resonance (NMR) is a ubiquitous imaging technique used to characterize materials ranging from chemical compounds to human bodies. Pulsed NMR, in particular, provides valuable information regarding the excitation behaviors of atomic nuclei. Our ultimate goal has been to investigate the effects of extremely short pulses on NMR signals. In doing this, however, we have been faced with the fact that theory predicts a very weak signal. In this our experiment we use a phenomenon called spin echo to help observe the signal.

Faculty Sponsor: Michael Kash

Aaron Nash '10; Chemistry

Examination of Amine Blocking Groups in Specific Sonogashira Coupling Reactions

Carbon-carbon bond formation is at the forefront of organic synthesis. One important aspect of carbon-carbon bond formation is the use of various blocking groups. These groups assure that side products of coupling reactions are limited during synthesis and assure their specificity. The development of blocking groups is therefore a necessity for progress in carbon-carbon bond formation. This study focuses on specific examples of the Sonogashira coupling reactions using amine blocking groups. This is important due to the difficulty of carbon-carbon bond formation in the presence of nitrogen. Therefore, an in-depth study of various amine blocking groups will allow for easier carbon-carbon bond formation with nitrogen present.

Faculty Sponsor: William Martin

Dawson Nodurft '10; Economics, Physics

EIT: Making Light “Invisible”

Electromagnetic induced transparency (EIT) is a phenomenon that I have been investigating as my senior thesis. By way of background, let me mention the well-known fact that certain colors of light are strongly absorbed by a gas of atoms. EIT is a strategy to prevent this absorption. For the rubidium atoms I am using, those special colors are in the infrared. A system exhibiting EIT shows useful properties, such as the ability to detect small magnetic fields and reduce the speed of pulses of light. My presentation will show how we are attempting to implement EIT in the laboratory.

Faculty Sponsor: Michael Kash

Gabriella Panayotova '10, Economics, International Relations

An Empirical Study of Security-related Transparency in International Relations

I use annual data from the United Nations Register of Conventional Arms (UNROCA) to test various theoretical explanations of the phenomenon of international transparency in the security realm. Central to the study is the constructivist theory of transparency as an emerging norm in international relations. The goal of the project is to complement and improve on past research on the topic, particularly by focusing on case studies that do not comply with existing models.

Faculty Sponsor: Robert Lemke
Sarah Peluse
Combinatorial Game Theory and The Game of Rectangle
Combinatorial game theory, in contrast to classical game theory, considers conventional games and not economic situations or other “real life” forms of competition. Chess, Checkers, Connect 4, Jenga, and Mancala are just some games that can be analyzed using combinatorial game theory concepts. For my project, I researched the basic concepts of combinatorial game theory and how to solve simple games. I then designed a game of my own, Rectangle, and found ways of determining the winning strategy for certain cases.

Faculty Sponsor: Edward Packel

Jaime Perez ’10; Biology, Studio Art
Insight into Parkinson’s Disease: Is α-Synuclein Degraded by Endocytosis?
Parkinson’s disease (PD) is an incurable fatal brain disorder linked to three disease-related properties that result from α-synuclein accumulation: its misfolding, aggregation, and cellular toxicity. Accelerating α-synuclein degradation might provide therapy by reducing its accumulation. We tested if the lysosome degrades α-synuclein by a specific route: endocytosis. Specifically, we evaluated if α-synuclein accumulation, aggregation, and toxicity worsened in yeast strains that eliminated specific genes that control endocytosis. In fact, most gene deletions tested so far altered one or more properties to different extents. Our data suggests that α-synuclein is degraded by the lysosome using the endocytosis route.

Faculty Sponsor: Shubhik DebBurman

Ashleigh Porter ’11; Biology
Possible New Cancer Treatments: Ribosome Biogenesis as an Unexplored Target
Cancer cells constantly need new proteins and therefore have high need for the protein making machines—ribosomes. Ribosome biogenesis is therefore an attractive target for cancer treatment. Duplex formation between the U3 RNA and precursor ribosomal RNA (pre-rRNA) is a key step in ribosome biogenesis. To achieve the necessary high U3-pre-rRNA duplex yield, two essential proteins (Imp3p and Imp4p) are needed to increase the stability of this duplex. We hypothesize that these proteins stabilize the U3-pre-rRNA duplex by hydrogen bonding to its 2'-hydroxyl groups. I am testing this hypothesis by determining how selective replacement of specific 2'-hydroxyl groups with hydrogen atoms affects duplex stability.

Faculty Sponsor: Shubhik DebBurman

Annada Rajbhandary ’10; Chemistry
Examination of Substituent Effects of Para Substituents in Sonogashira Coupling Reaction
Hammett Relationships are being studied by competitive relative rates in the Sonogashira coupling of phenylacetylene with iodobenzene compared to para substituted iodobenzenes. Slopes of the log of relative rate ratios vs. sigma constants, a measure of substituent effects, can often enable one to recognize the possibility of different mechanistic pathways being followed by substrates with different substituents. Substituents that are electron withdrawing and electron donating have been examined using a ferrocene palladium catalyst system.

Faculty Sponsor: William Martin

Saajidha Rizvydeen ’12; Biology
Measuring Fungal Ends: Does Length Vary With Reproductive Mechanism?
At the ends of every chromosome lies a repeating DNA sequence that serves important biological functions and has unique characteristics. This repetitive DNA and its critical proteins, termed telomeres, are known to assist with cellular processes during sexual development. Some studies on mice show that telomere lengths are longer in sexual or meiotic cells than in other mitotic cells. Scientists hypothesize that the telomere lengths of meiotic cells are passed on and would affect the lifespan of future generations, unlike those in mitotic cells. We attempt to explore this question of telomere length variance in meiotic versus mitotic cells of a fungus, Aspergillus nidulans, using an assay called the Polymerase Chain Reaction.

Faculty Sponsor: Karen Kirk

Emily Sadler ’10; Communication, English
The Burden of Representation: The Afghan Girl
National Geographic has always been a magazine that has captivated the world with its images and stories that delve into the lives of other people and their cultures. It has become a magazine that aspires to bring global culture into the ordinary hands of American citizens. This presentation will focus on how the Afghan Girl photograph, that was made famous on the June 1985 cover of National Geographic, has become an iconic image and has in turn become a representation of Afghan women everywhere. This presentation will also argue that this image began to exemplify the oppression of women, and has in turn reinforced the inferior status and treatment of women in Afghanistan. Today, in the aftermath of 9/11, this image still continues to work as a piece of visual rhetoric to convey the “us” versus “them” mentality that has since created new tensions within our own society about the Afghan culture and its people.

Faculty Sponsor: Elizabeth Benacka

Yama Sadozai ’10; Biology
Search for the Gene Mutation Producing the Short Pharynx Phenotype
Development is a fascinating process of a single cell transforming into multi-cellular organs and muscles. Our lab is mapping genes that are essential for development. We use nematodes called Caenorhabditis elegans to investigate the development of muscles. Our goal is to genetically map a mutant line of C. elegans that have a malformed short and wide pharynx with differentiated pharynx muscle cells with enough precision to determine the genetic and molecular cause of the short pharynx phenotype. Moreover, our goal is to genetically balance the M77 strain.

Faculty Sponsor: Pliny Smith
Tracy Schwartz '10; Communication, Politics

HOPE VI: Chicago Public Housing

Public housing may be known for providing the working class with gang infested, crumbling high-rise towers to call home, but it is actually an attempt to move people out of poverty. Over the years federal policy has tried to clear out the slums to be replaced with safe and sanitary living conditions. In 1992 the federal government launched the HOPE VI housing program. This mixed income model replaced high rise towers with smaller, more welcoming and visually appealing homes where a variety of income levels could share a community. But has this program provided any hope for those in poverty to rise above it?

Faculty Sponsor: Caroline Nordlund

Madalina Serban

How I Translated The Gift of Rain

A sine qua non condition for translating Tan Twan Eng's The Gift of Rain for the Romanian public was to make each word sound as if it was originally written by a Romanian writer. It meant the frantic, punctilious work of a cultural jeweler: the descriptions of post-war Malaysia or the dialogues between a Japanese spy and his Chinese student, though sometimes too exotic for a Romance language or for the Eastern European terminology, had to flow naturally as if the world spoke the same language and shared the same history. During the Student Symposium, I invite you to discover the secrets of a literary translation and the macroscopic challenges that lie behind a great story.

Faculty Sponsor: James Marquardt

Natalie Simak '11; Biology, Psychology

Synaptic Changes in the Prefrontal Cortex during Adolescence in Rats

Little is known about the mechanisms that support the maturation of dopamine action in the prefrontal cortex (PFC) of our brain during adolescence. Here, we investigated how NMDA receptor-mediated synaptic transmission changes during the perinatal period. We observed that PFC NR2B levels (NR2B/NR2A ratio) were lower in preadolescent rats and increased, approaching adult levels during late adolescence. Subadjacent cortical regions followed a different developmental trajectory. These results indicate that maturation of NMDA function in the PFC is region-specific. A relative augmentation of NR2B subunits underlying the enhanced NMDA-mediated synaptic transmission may account for maturation of dopamine action in the PFC observed during the adolescent transition period.

Faculty Sponsor: Shubhik DebBurman

Hadley Skeffington-Vos '10; French, International Relations

French Identity Crisis

France is caught in the midst of an identity crisis that has been building since the early 1970s. Changing immigration patterns, which today consist of mostly North African immigrants, have been challenging French identity in ways of illegal immigration, integration, and rising Islamophobia.

This presentation covers these main immigration issues in context and how France is working as a sovereign state and a member of the European Union to respond to questions of nationality, citizenship, and religion.

Faculty Sponsor: Rand Smith

Caitlin Smith; Economics and Business

Formal and Informal Funding Sources in China

Although China has moved toward free market capitalism, many aspects of society, especially the financial sector, continue to encounter strict government control, resulting in a system that could be labeled “managed capitalism.” Vast inequalities, especially regarding the availability of funding for small business, continue. While China is one of the fastest growing economies, high rates of income inequality and poverty persist. Additionally, disparities in the administration and distribution of funding sources have exaggerated these injustices.

Faculty Sponsor: Les Dlabay

Steffany Sobieraj '12; Biology, French

The Exploration of Early Cretaceous (90 Million Years Ago) Fossils in Central Utah

The long-term goal of this project is to determine how preserved biodiversity varies between fossil sites and how to reconstruct an ecosystem based on these inherent differences. In order to collect the necessary data, we traveled to central Utah and collected samples of sediment from the Early Cretaceous (90 Ma) and the Late Cretaceous (80-70 Ma). The Early Cretaceous project focused on three dinosaur sites excavated by the Field Museum containing two ornithopods (herbivorous, bipedal dinosaurs) and one new species of theropod (carnivorous dinosaur). A collection of microvertebrates encased in the same sediment as the dinosaurs and will provide an initial estimate of the types of organisms living with and buried with the dinosaurs. At these sites we also found small theropod teeth, teeth from 2-3 species of crocodiles, and skeletal remains from unidentified species. From this data, we can understand what dinosaurs and vertebrates existed during this time.

Faculty Sponsor: Terry Gates

Angela Spoto '12; Business, English

The Women of Beowulf: Queen Wealthow and Grendel’s Mother as Sovereign Figures and Counterparts

Beowulf is named after its male protagonist, and yet at the heart of the story are two powerful female characters: Wealthow, queen of the Danes, and Grendel’s mother, mother of a monster. Not only in the ancient epic but also in modern reinterpretations, these two figures are counterparts. Each also serves as a sovereignty figure, granting the kingdom the authority to rule – either through her blessing or through her defeat. My presentation will examine the story of Beowulf and the characters of Wealthow and Grendel’s mother as well as the evolution of their portrayal in popular culture.

Faculty Sponsor: Heather Brown
Brittany Stern ’11; Biology, Chemistry
A Method to Study the Subcellular Localization of Micro-RNAs Diagnostic of Breast Cancer

Micro-RNAs are post-transcriptional regulators. Recently, miRNAs have emerged as diagnostic markers of breast cancer. An emerging hypothesis is that miRNAs may be released from cancer cells through cargo within exosomes, which are vesicles produced in multivesicular bodies (MVBs). Using fluorescent in-situ hybridization, I tested if two micro-RNAs (hsa-miR-923 and hsa-miR-1246) co-localized within cells to CD63, a protein marker of MVBs. I found that although these miRNA specifically form clusters within cells, they co-localize with CD63 to a very limited extent. Our data suggest alternative pathways to MVB by which miRNAs are released from the cell.

Faculty Sponsor: Shubhik DebBurman

Molly Stapleton
Symposium Design – A Visual Marketing Presentation for the Promotion of the Steven Galovich Memorial Student Symposium

As part of an independent study, I have taken on the challenge of designing several marketing materials, and creating an overall visual identity for the Steven Galovich Memorial Student Symposium. To complete these pieces, I have used Adobe Creative Suite 4 software, as well as researched a common visual identity of Lake Forest College to represent the symposium. In presenting and creating these materials, I explain how they visually communicate and exemplify the student body, and symposium tradition.

Faculty Sponsor: Tracy Taylor

Justin Stenger ’10; Politics, Religion
Textual Criticism: What is Religion in Political Science Textbooks?

I will be exploring the way introductory political science textbooks speak about “religion” and related concepts. The term “religion” has been notoriously hard to define in the field of religious studies, and such definitions have had a profound impact for the theories of religion. I will be examining textbooks from the three main subfields; namely, American government, comparative politics, and international relations. I will use religious studies theories to show how political science textbooks use “religion” in a deeply oversimplified fashion, leading students in these courses to misunderstand the complex relationship between religion and politics.

Faculty Sponsor: Elizabeth Barre

Taylor Tuscherer ’10; Psychology
Development and Validation of a Social Support Scale

Social support, or the perception that we are loved or cared about, is a construct referenced frequently in the health and social psychology literatures. A substantial body of research, particularly in the 1980s and 1990s, has generated a large number of definitions and measures of the construct. My research focuses on integrating several divergent theoretical frameworks and measures of social support into a unified, comprehensive, and conceptually coherent instrument. Moreover, I use structural equation modeling procedures to assess the key psychometric properties of this new social support measure.

Faculty Sponsor: Sergio Guglielmi

Mehmet Ugurbil ’13; Mathematics
Game of Pure Strategy

A short summary about the history and rules of Game of Pure Strategy will be given. Then, some mathematical concepts will be explained. These concepts consist of game theory, strategies and rational play. Demonstration includes Mathematica and a short version of Game of Pure Strategy. At the end, the abstract results will be shown to the audience.

Faculty Sponsor: Edward Packel
Cristina Velasquez '10; Psychology
Domestic Violence Against Latinas: An International Perspective
Domestic violence is a pervasive problem in families of all countries, classes, income levels and cultures. My research explores the experience of domestic violence in Latina women in the U.S. I take an ecological approach to understand the sociocultural influences that put Latina women particularly at risk. Studies of the Mexican population in the U.S and of their native counterparts in Mexico are compared and analyzed to understand how culture and immigration can contribute to the experience of domestic violence. Insights on how to approach domestic violence from Mexican scholarly literature will be discussed.
Faculty Sponsor: Susan Long

Ali Vetter '10; Chemistry
Computational Screening of Preferred Products in the Synthesis of Polymerization Catalysts: Building a Library for the Chelate-controlled Synthesis
Specialty plastics are produced in a reaction that requires the use of transition-metal catalysts with specific structures. Richard Jordan (University of Chicago) is exploring the synthesis of catalysts used in polymerization reactions. Jordan's laboratory synthesis leads to a mixture of products with different structures. Only one component of the mixture has the desired structure. We are using computational modeling of catalysts to understand how to fine-tune Jordan's synthesis to form a single, desired catalyst, rather than the mixture. This poster will report the use of modeling as a screening tool to predict products ratios for a range of catalysts.
Faculty Sponsor: Dawn Wiser

Emilie Vrbancic; International Relations, Sociology and Anthropology
A Comparison of Microfinance in Developing and Industrialized Economies
Microfinance has become a global phenomenon in creating ways to alleviate poverty, to increase entrepreneurial initiatives, to find pathways to women's empowerment and to contribute to programs in community development. Microfinance is traditionally used as a development strategy in developing nations, however in recent years companies, non-governmental agencies and financial institutions in industrialized nations have started to utilize microfinance as a means to reach thousands of “unbankable” citizens. This project searches to find ways in which the traditional strategies of microfinance can be employed to structure effective and productive microfinance programs in industrialized nations, specifically in the United States. A major focus of this project is to examine how specific cultural, social, economic and political conditions effect and contribute to a microfinance program's success for target markets, such as immigrant populations, in the United States.
Faculty Sponsor: Les Dlabay

Anna Weissman '10; International Relations
Equitable Education: The Key to Sustainable Development in Sub-Saharan Africa
Tens of millions of girls across the developing world are growing up without the most basic education. This crisis is especially acute in the poverty-stricken areas of sub-Saharan Africa, where nearly 40% of these children live. Is girls' education one of the keys to the elimination of poverty in Africa? Extensive research has confirmed that investing in girls’ education delivers high returns for increased productivity, income growth, maternal and children's health especially in the HIV/AIDS epidemic, and ultimately a brighter hope for the future. In light of this evidence, why hasn’t more been done? What are the barriers that obstinately remain?
Faculty Sponsor: Siobhan Moroney

Linda Winkelman '11; Politics, Sociology and Anthropology
Moving Tables: The Great Caf Experiment
The way we organize and use space has profound effects on our social organization and dynamics. A classic example on the Lake Forest campus is the cafeteria, an idea which became very obvious in the spring of 2009 when all the tables in the caf were rearranged. This project asks how space becomes readable. What makes students stake such strong claims to space in the caf? How do decisions like where someone sits in the cafeteria help define social constrictions of individuals and groups? This project analyzes how seating arrangements both shape and reveal the social structures and group dynamics of Lake Forest College.
Faculty Sponsor: Holly Swyers

Shabana Yusufishaq '12; Biology, Education
Using Nematodes to Find Mutations And Modifier Genes
Caenorhabditis elegans are powerful model organisms to study human diseases because of their short life span and well understood genome. Duchene Muscular Dystrophy is one such disease. C. elegans expresses the homolog (dys-1) of dystrophin. DMD is progressive degeneration of skeletal muscles. The DMD causing mutation in dys-1 also leads to the loss of function in BK channels (slo-1 in worms). First, C. elegan strains were studied to determine the location of a mutation which alters the effects of the above mentioned mutation. Second, dys-1 worms were further mutated to identify modifier genes, which may alter the rate of DMD symptoms.
Faculty Sponsor: Shubhik DebBurman
Maria Zawadowicz '12; Chemistry
Extending Kitcher's Account of Reduction to Other Special Sciences: A Consideration of Organic Chemistry and Quantum Mechanics

Phillip Kitcher's essay, “1953 and All That: A Tale of Two Sciences,” shows that explanations of classical and molecular genetics are autonomous, and that one cannot be substituted for the other without losing accuracy. It can be shown that Kitcher's anti-reductionist argument is true outside of biology. This presentation considers anti-reductionist examples from organic chemistry and quantum mechanics. It shows that autonomy of the two scientific explanations stems from their different objectives, purposes, and methods. This autonomy enhances the explanatory powers and applicability of the theories, and it does not have to compromise the commitment to realism about entities.

Faculty Sponsor: Chad McCracken

Maria Zawadowicz '12; Chemistry
New Method for Sampling Hazardous Air Pollutants (HAPs) in Chicago Air using Solid-phase Microextraction and Gas Chromatography/Mass Spectrometry

Hazardous Air Pollutants (HAPs) are toxic chemicals, whose emissions are regulated by the EPA. Monitoring HAP concentrations is useful in tracing air pollution, but presents challenges related to sample contamination, equipment cost, and environmental hazards. In this study, polymer-coated fibers were used to selectively sample HAPs from Chicago air before laboratory analysis. This novel technique is simple and cost-effective, unlike more traditional approaches. Two different approaches to air sampling were used: extraction from stagnant air contained in sample bags and extraction from moving air. Sampling of moving air showed more promise, as predicted by the theoretical model.

Faculty Sponsor: Lori Del Negro

Emily Zender '10; Communication, Economics
The Checks and Balances of our Government

9-11 was an attack on the United States by terrorists. America's response also underscores a longstanding struggle for power between the executive and legislative branches of the national government. This research paper examines how the expansion of presidential power has upended the checks and balances system and threatens American democracy.

Faculty Sponsor: Caroline Nordlund

Kayla Ahlstrand '12; Biology
Self-Cannibalizing for a Parkinson's Disease Cure

Parkinson's Disease (PD), characterized by impaired speech and motor skills, is likely caused by the accumulation of the protein alpha-synuclein, leading to cell death in the substantia nigra. A naturally occurring cellular process, autophagy ("self-eating"), is a possible therapeutic way to break down damaged or excess cellular materials. Whether it is used to degrade accumulated alpha-synuclein is unknown. To test the hypothesis that autophagy protects cells from the harmful effects of alpha-synuclein accumulation, we tested genetically compromised autophagy in cells producing alpha-synuclein. We analyzed cellular toxicity and alpha-synuclein accumulation and will report our findings on the autophagy and PD connection.

Faculty Sponsor: Shubhik DebBurman

Kayla Ahlstrand '12; Biology
Ray Choi '09; Biology
Alina Konnikova '11; Biology
Danny Sanchez '11; Biology
Peter Sullivan '12; Biology
Insight Into Parkinson's: Autophagy to the Rescue?

Parkinson's disease is an incurable neurodegenerative illness that affects millions. Unfortunately, how the culprit protein alpha-synuclein contributes to cell death is still unknown. Autophagy is the process by which the cell degrades its own components through the lysosome. This process is regulated through three steps (nucleation, expansion, and fusion), each controlled by specific genes. In order to determine whether autophagy plays a role in the degradation of the protein alpha-synuclein, we assessed yeast strains deleted for the major autophagy genes. Results obtained thus far support that autophagy does subtly regulate alpha-synuclein localization, accumulation, and toxicity.

Faculty Sponsor: Shubhik DebBurman

Kayla Ahlstrand '12 Biology
Clare Conlisk '10; Biology
Lauren Ferrell '10; Biology
Terese Noe '10; Biology
Natalie Simak '11; Biology
Peter Sullivan '12; Biology
Shannon VerWoert '11; Biology
You're the Biologist Now: Investigate with TriBeta!

Do you ever wonder exactly what your Biology major friends are doing when they disappear into the Johnson labs for 4 hours each week? Have you ever seen the information they keep hidden in their lab notebooks? Now is your chance to be the scientist and see what the second floor of Johnson is all about! Beta Beta Beta Biological Honor Society invites you to have a hands-on laboratory experience and perform a variety of your own simple and fast experiments. After this, you'll know just what your friends in Johnson are up to and why those lab notebooks are so valuable.

Faculty Sponsor: Shubhik DebBurman
Bushra Alam '10; Economics, Physics  
David Curie '13; Physics  
Hussein Daraghma '11; Economics, Physics  
Brandon Kass '10; Physics  
Kosova Kreka '12; Economics, Physics  
Michael Monterroso '12  
Nicole Murphy '10; Physics  
Dawson Nodurft '10; Economics, Physics  
Lauren Denise Swafford '11; Physics, Spanish  

Physical Extravaganza!  
The Society of Physics Students will introduce some of the wonders of the physical world through fun and interactive demonstrations. A simulation of a levitating train will show the amazing application of superconductors. Laminar flow will be modeled with viscous fluids. Imploding cups will show the magnitude and intensity of air pressure. Also air movements in musical pipes will be used to produce melodious tunes. Familiarize yourself with the world of physics through these fun demos.  

Faculty Sponsor: Nathan Mueggenburg

Alberto Alvarez '12  
Meagan Cassidy  
Katherine Frost '10  
Mayely Imhoff '12; International Relations  
Ziting Li '12; International Relations, Mathematics  
Tracy Schwartz  

Educational Reform  
The Ethics Center research course for 2009-10 has focused on issues of educational reform. Six students will report on their investigations into particular aspects of reform, from fundamental questions about encouraging social justice versus providing training for jobs, to debates over the use of standardized testing as a means of assessing students and schools, to the value of charter schools, to comparisons between public and private schools as well as national differences in focus and results. The insights students gained from their individual research projects provided a foundation for discussions about appropriate directions for reform.  

Faculty Sponsor: Lou Lombardi

Hans Petter Andersson '10; International Relations  
Alexandra Andreeva '10; International Relations  
Linda Bajraktari '10; International Relations  
Magdalena Bartolik '10; Politics  
Matthew Douglas '10; Politics  
Eric Forfar '10; Politics  
Alexandra Harmon  
Joseph Hess  
Yu Imai '10; International Relations  
Rodolfo Parra  
Ayal Sharvit  
Natasa Stosic  
Elizabeth Vallen  

The Unipolar World  
This panel presents the research of senior international relations and politics majors on the meaning and significance of American primacy on world politics in the 21st century. On a diverse range of topics, students pose and test hypotheses derived from a core set of questions: How does politics in a unipolar world work? How have U.S. foreign policies been shaped by the uneven distribution of power in the international system? Can unipolarity be extended beyond its “normal” lifecycle, and if so, how? If not, why? How have the world’s other great powers and emerging powers responded to unipolarity? Among others, topics include China and global finance, Japanese identity and East Asian security, and U.S. strategy under Obama.  

Faculty Sponsor: James Marquardt

Kathryn Appelhans '11; English Writing  
Alexandra Fisher '10; Theater  
Benjamin Lundquist '11; English  
Angela Spoto '12; Business, English  
Carlee Taggart '10; American Studies  

Creative Writing All Stars  
Five creative writing students present their own new, original, and innovative work.  

Faculty Sponsor: Joshua Corey
Dance in LFC

What is dance? What goes into a performance? The Lake Forest College Dance Team represents! Moving past the Hip-hop, Jazz, Latin, and Indian routines, we have elevated dance in Lake Forest College to a new level. Drawing on and extending the DANCE WORKSHOP and SHOWCASE we hosted over the semester, this performance is another demonstration of what we have achieved as an active school spirit team. Our poster also makes visible the back-stage work that goes into our on-stage glamour. We do more than just dance!

Faculty Sponsor: Alexander Mawyer

Carlos Becerra-Meneses '10; Biology, Spanish
Will Press '11; Biology, Economics

Searching for New Genes that Control the Accumulation and Toxicity of Parkinson’s Disease Protein Alpha-Synuclein

Parkinson’s disease (PD) is a neurodegenerative disease caused by accumulation of α-synuclein in dying midbrain neurons. Using a yeast model, we examined whether the two genes UBP3 and HRD1 that normally regulate protein accumulation would regulate α-synuclein accumulation and aggregation and overall cellular toxicity. We report two preliminary findings. First, the lack of HRD1 did not induce toxicity, but it did alter localization of α-synuclein. Secondly, the absence of UBP3 produced an unexpected morphological defect in α-synuclein expressing cells and causes mild toxicity. Our study suggests that both genes subtly regulate α-synuclein properties linked to PD pathogenesis and we recommend further analysis.

Faculty Sponsor: Shubhik DebBurman
Ioana Sirca Belintan '11; International Relations
Kjerstin Besser '12; International Relations
Matt Cunliffe '13; Asian Studies
James Dunnigan '12; History
Ellen Shipitalo '12; English, International Relations

Model United Nations

For our symposium program, Lake Forest College’s Model United Nations team has chosen the subject of language extinction. Language extinction has a profound cultural impact and a significant influence on the internal and external politics of affected countries. Through our research, we hope to raise awareness of and stimulate discussion on the campus about this issue. We also hope to share, through stories and pictures, our experiences at the Model United Nations conference we attended in Chicago the weekend before the Student Symposium.

Faculty Sponsor: James Marquardt

Joe Bozarth ’12
Prudencio Cabral
Maria Dugas ’12
David Dunn
Michael Grady Dunn ’10; Art
Brian Elmer
Emily Hilgenberg
Jin-Huon Jou ’10
Matt Kistler
Fallynn Orusa
Lindsay Parisi
Cole Thornton
Taylor Wright
Danielle Voloshin

X-periments in Sound and Music

Students in Art 343: Video Art will make digital videos in response to digital music compositions provided by last semester’s Music 325: Advanced Digital Music Composition class. The resulting videos will be screened for the Symposium audience, and artists will be available to discuss their work.

Faculty Sponsor: Eli Robb

Rebecca Brezinsky ’11; Biology
Keith Solvang ’11; Biology

Key Amino Acids that Contribute to Parkinson’s Disease Protein Alpha-Synuclein’s Pathotoxic Potential

Parkinson's disease is an incurable neurodegenerative disease affecting nearly 4 million people worldwide. The disease is linked to three properties of the protein α-synuclein: misfolding and aggregation, lipid interactions, and cellular toxicity. Scientists still do not fully understand how α-synuclein aggregates or binds lipids. Here, in a budding yeast model, we evaluate whether a key amino acid within the water-fearing middle section of α-synuclein (alanine-76) and two specific amino acids that are often modified with phosphates (serine-87 and -129) influence these three α-synuclein properties. Our data suggests that all three amino-acids are contributors to alpha-synuclein's pathotoxic potential.

Faculty Sponsor: Shubhik DebBurman

Daniella Brutman '12; Neuroscience
Paulius Kuprys '12; Biology

Role of Potassium, Chloride, and Taurine during Volume Regulation by Rainbow Trout Red Blood Cells

Regulatory volume decrease (RVD) is a compensatory response whereby swollen cells remove specific solutes, which is then followed by water, leading to volume recovery. The purpose of this study was to examine the role of potassium, chloride, and taurine in RVD by rainbow trout red blood cells (RBC). Our main hypothesis was that the efflux of both potassium and chloride is key to the RVD response and therefore blocking the transport of these ions would inhibit volume regulation. We also hypothesized that taurine would contribute to RVD. We found that blocking K+ or Cl- efflux inhibited RVD and increased osmotic fragility. In addition, inhibition of taurine efflux increased osmotic fragility. Our results were therefore consistent with our original hypotheses.

Faculty Sponsor: Douglas Light

Giuseppe Conoscenti ’13
Cleo Hehn ’13; Art History, Education

The Life of Benazir Bhutto

Benazir Bhutto was a powerful Pakistani politician, leader of the Pakistani People’s Party. She was the first woman to be elected prime minister of Pakistan, but was removed from her position and exiled for alleged corruption. She was elected once more, but once again her title was revoked due to more scandalous accusations. Because she was never tried and found guilty, many believe the charges were founded on the basis of her gender. This is an overview of her life and influence over Pakistani politics as well as her tragic assassination.

Faculty Sponsor: Fatima Imam

Maria Crane ’10; Politics
Katherine Frost ’10; Philosophy, Politics

Politics, Philosophy, and Social Policy

Presentations by two students who have dealt with the ethical and political dimensions of social policy issues: 1) Capital punishment: an analysis of common philosophical arguments for and against, the impact of its use in the United States, and how it can be reformed in the future. (Katherine Frost) 2) Tribal Sovereignty, A Two-Sided Coin: Tribal entities have an unusual status in American law: they are sovereigns. But is this sovereignty dependent--a political right limited by U.S.-or original--as tribes often maintain? And how can two such different sorts of sovereignty coexist within a single political system? (Maria Crane)

Faculty Sponsor: Lou Lombardi
Catherine Cudahy '11; Education, Theatre
Kaylee Gendrich '11; Education, History
Elizabeth Ross '11; Biology, Education
Jonathan Sricharmorn '11; Education, English

Students to Teachers: The Ultimate Fieldtrip

Teachers who make a difference in the lives of their students work diligently and passionately to polish their craft throughout their careers. These Lake Forest College students are beginning their journey as teachers in a semester-long internship in Waukegan Public Schools. In this session, they share stories about the joys and challenges they are facing as they learn what it takes to make a difference in the lives of their students and experience the difference in their own lives, too.

Faculty Sponsor: Shelley Sherman

Jordan Davis '10; Sociology and Anthropology
Emilie Vrbancic '10; International Relations, Sociology and Anthropology

Ubuntu

We present a poster collage highlighting our study abroad experience in Gaborone, Botswana. The Southern African community in which we immersed ourselves has a world called Ubuntu. The essence of what it is to be human, Ubuntu means being connected with others in such a way that what one person does affects the whole of humanity. We portray our social encounters with people who embody the spirit of Ubuntu. Our collage is a mixture of our personal reflections from correspondence and journal entries as well as pictures and artifacts documenting our experience. Our time spent in Southern Africa heightened our global awareness and we want to share it with the College community.

Faculty Sponsor: Janet Miller

Phil DeCorte '13
Karen Larson '11
Ben Tyler '11
Alyssa Ritchie '12
Colin Willis '13

Aikido Demonstration

In this presentation, we will demonstrate techniques used for self-defense from Aikido, a Japanese martial art that teaches how to create peaceful resolutions by redirecting an opponent's energy to gain control of a situation. Through a series of joint locks, pins, and throws, as well as practice with jo (a four-foot staff) and bokken (a wooden, practice sword), students learn to protect themselves, and they also learn the peaceful philosophy behind the martial art. Morehei Ueshiba once said, “To control aggression without inflicting injury is the art of peace.” This is the philosophy we learn at the LFC Aikido Club.

Faculty Sponsor: Jennifer Saylor

Timila Dhakhwa '10; Chemistry
Tenzin Dolkar '11; Chemistry
Leah Frenette '12; Chemistry
Nicole Larson '10; Chemistry, Physics
Julian McLain '11; Chemistry
Annada Rajbhandary '10; Chemistry
Saajidha Rizvydeen '12; Biology
Madhavi Senagolage '12; Biology
Ali Vetter '10; Chemistry
Maria Zawadowicz '12; Chemistry
Xiaoyu Zhu '12; Chemistry, Mathematics

Flames, Fumes, and Flashes: Students Fired Up About Chemistry

The members of the Lake Forest College Student Affiliates of the American Chemical Society (SAACS) have been nationally recognized as an award-winning chapter because of their continuing commitment and involvement in the community. SAACS will demonstrate central chemical principles through a series of attention-grabbing experiments, including freezing roses with liquid nitrogen, explosive hydrogen balloons, and a colorful ammonia fountain. Those in attendance will also be invited to join in a hands-on demonstration to make their very own “slime.”

Faculty Sponsor: Elizabeth Fischer

Mura Dominko '10; Psychology
Natalie Talbert '10; Psychology, Spanish

Collaborative Recall of Social Information

Three experiments explore the influence of social information on collaborative memory performance. Experiment 1 uses passages by Mesoudi et al. (2006) and shows that collaborative inhibition is eliminated when participants are asked to recall social information. However, near ceiling performance and confounds in the passages render the results inconclusive. Experiment 2 addresses these problems while manipulating gossip and sociability. Results show collaborative inhibition across all conditions. There is a significant effect of gossip (gossip > non) and an effect of sociability (explicit > implicit). Experiment 3 separately manipulates gossip and interest in collaborative recall. Early results suggest that, while both interest and gossip enhance memory, interest yields stronger mnemonic benefits. Further, some degree of collaborative inhibition appears present in all manipulations.

Faculty Sponsor: Matthew Kelley
Zachary Engel ’10; Music
Margaret Golembiewski ’10, Music
A Class in Music Education, Composition, and Performance
Margaret Golembiewski and Zachary Engel will discuss the process of composing an original piece for the music senior seminar class to perform and the process of teaching and conducting music to the class.
Faculty Sponsor: Don Meyer

Robert Erickson ’10; English, Philosophy
Jordan Heathfield
David Ristau ’10; Philosophy
Philosophy and International Affairs
We will give presentations by three students who have examined ethical and philosophical issues in international affairs. Topics include: 1) Ethical dilemmas and implications of foreign loans in third world countries: The question of whether or not these loans are effective and ethical will be investigated through the fields of realism, liberal constructivism, and idealism. (David Ristau) 2) Is the North Atlantic Free Trade Agreement actually a free trade agreement? Does NAFTA include protections, tariffs, and subsidies that undermine the goals that free trade is supposed to achieve? (Jordan Heathfield) 3) An analysis of the Darfur situation through the visions of utilitarianism and human rights ethics. Does the international community have an obligation to intervene? If so, to what extent? (Robert Erickson)
Faculty Sponsor: Lou Lombardi

Stephanie Feld ’10; Biology
Lisa Price ’11; Biology
Evolutionary Economics: An Overview
Evolutionary economics is an emerging discipline, borrowing concepts from both economics and evolutionary biology. The goal of the field is to explain economic and business-related phenomena using analysis of strategies and behaviors from the field of evolution. For evolutionary economics to become truly effective, many foundational ideas need to be resolved. This study examines competitive strategy in the automobile industry. First parsimony and phenetic clustering of automobile companies will be conducted. Then competition models will be run between clades on the phylogeny generated from both economic and evolutionary studies. The results of the models will be analyzed for similarities between economics and evolutionary biology, and also to see what type of business strategy best serves an automobile company.
Faculty Sponsor: Terry Gates

Alexandra Fisher ’10
Victoria Johnson
Mark Vinson ’10
Moliere’s Tartuffe: From Paris to Lake Forest College
This will be a presentation of the process that students experienced during the fall-winter production of “Tartuffe,” as well as some history behind the play. We will be integrating a spoken presentation, video clips of some rehearsals, and a short scene from the production itself. We hope to show a few different aspects of the development of the production: first and foremost, we want to explore how the rehearsal and performance process of a classical piece differs from a contemporary piece, the discoveries the actors made during these processes, and the improvisational aspect of doing a comedic play; secondly, the designer meetings and the various artistic choices that accompany the time period in which “Tartuffe” is set; lastly, the actors’ audition process and working with an acclaimed Moliere expert. We will also be displaying the progress of the set, the costumes, the music, and other elements that added to the experience.
Faculty Sponsor: Richard Pettengill

Alexandra Fisher ’10
Juliani Hincks ’10; Theater
Katie Howson ’11
Graham Ives ’11
Mario Mazzetti ’10
Mark Vinson ’10
Theater of the Absurd
Our project will focus on one of the less understood forms of theater, Theater of the Absurd. Using dramaturgical information gathered from our original project, we hope to revise and polish the last scene of “Who’s Afraid of Virginia Woolf?” by Edward Albee. Our main goal will be to teach the principles of this type of theater, and highlight how unique it really is. This performance will give us a chance to showcase the dedication and hard work we all put into last semester, as well as showcase the talent of both junior and senior theater majors. Using a mixture of performance and research, we hope to do the Theater of the Absurd justice.
Faculty Sponsor: Jennifer Lowe

Michael Fiske ’10; Biology
Alina Konnikova ’11; Biology
Evolution of a Journal: Six Years in Business
Eukaryon is an undergraduate research journal at Lake Forest College that publishes the very best of life science scholarship conducted by Lake Forest students. The journal began in 2004 with a board of only a single member and 100% article acceptance. Since then, we have expanded to include over 25 undergraduate members, and our acceptance rate has decreased to 45%. This poster will chronicle the journal’s progress the past 5 years, as we have continued to improve upon our publication process. Specifically, this year, our two main goals included improving the articles written by the editorial board through implementation of a features board and updating the look of our website.
Faculty Sponsor: Shubhik DebBurman
Samantha Gardner '13
Lulu Ke '13
Amanda Latimer '13
Hanna Morrison '10
Anastasia Yung '13

Perspectives on Place

What is the role of place in the human experience and how can theories of place help us understand what it means to live in Chicago, or on its margins? How is the past built into the present in architectural structures or neighborhoods? What is the role of nature in urban society? How do micro-spaces affect us, for instance in classrooms or in homes? This presentation illustrates our FIYS research on place, space and the human, drawing on our ethnographic observations and analyses of the ways in which we shape place and conversely how place shapes the human.

Faculty Sponsor: Alex Mawyer

Ryan Glowacz '10; Education, History
Caitlin Smith '12; Asian Studies, Economics
Ian Tinley '10; Asian Studies, History

China's Transitions in the Age of Globalization

China, a country that has recently experienced rapid economic development and social changes, presents many new ideas and innovations, challenging China's traditions, but promising a brighter future. Last summer, under the direction of Professor Shiwei Chen, five students traveled to China to examine the country's transitions, in order to achieve a better understanding of China's impact on the global community. In particular, they visited Hangzhou, Xian and Beijing, where they investigated China's industrial expansion, educational privatization, and the Chinese government's handling of the H1N1 epidemic. With this accomplishment, they look forward to sharing their discoveries in the Student Symposium.

Faculty Sponsor: Shiwei Chen

Danielle Gore '12
Samaa M. Saed '12

Healthy People 2010 Movement

The new Lake Forest College Sports Center is in the process of being remodeled in order to encourage not only athletes but students, faculty, staff, and members of the community to take initiative to build a healthier environment. By expanding the health facilities and adding state-of-the-art equipment, the whole Lake Forest community will have the opportunity to start living healthier lives and participate in the Healthy People 2010 Movement. This movement, promoted by the U.S. Department of Health & Human Services, is a systematic approach for health improvement that focuses on increasing the quantity and quality of healthy years by eliminating health disparities. We will demonstrate how the Lake Forest community can achieve healthier lifestyles with the help of the Healthy People 2010 Movement and the new facilities on campus. Together we will increase awareness and healthy living habits of the entire Lake Forest community.

Sponsor: Michael Gilboe

Robin Graber '12; Biology
Madhavi Senagolage '12; Biology

Female Preference for Novel Males in Guppies Poecilia Reticulata: Does a Fresh Face Matter?

Guppy sexual selection is determined by female choice. Male guppies display many different color morphs in a single population; a phenomenon called genetically based color polymorphism. We hypothesized that a female guppy is less responsive to a male with a similar morph to the one that has most recently courted her and more responsive to a male with a different morph. We observed that the females were more responsive to such different morph males on the first day females were introduced to a group of males. However, on the second day there was no significant difference between the female's responses.

Faculty Sponsor: Anne Houde

Antti Isoaho '11; International Relations, Sociology and Anthropology
Henry Sala Lazo '10; International Relations, Latin American Studies

Madres Fuertes: Developing a Sustainable Future for Young Mothers

During the summer of 2009, we organized a development project called "Madres Fuertes" in Lima, Peru. The foremost goal of Madres Fuertes was to promote peace by helping young mothers to become independent and proactive members of their society, and by educating others about the repressed situation of women in the Peruvian society. Through sewing lessons and several workshops, the project provided young mothers with tools to improve their job skills, self-esteem levels, and knowledge of issues like sexuality, women's rights, and motherhood. In our presentation, we will first give a brief overview of the situation of women in Peru and, then, use pictures, videos, and personal anecdotes to present the outcomes of Madres Fuertes.

Faculty Sponsor: Rand Smith

Madeeha Khan '12
Carl LaMark '10
Nick Leland '10; English
Irene Dacal Ruiz '10
Alysha Sidhu '10
Ian M. Taylor '10
Emily Thomas '12

Writers' Guild Reading

The Lake Forest Writers' Guild will give a reading of works we've written in the last year. This reading will explore the performative aspects of writing, give us a chance to practice reading our work, and give attendees a sample of writing that was produced at Lake Forest College. There are seven presenters who will read several poems, short story excerpts, or other literary pieces.

Faculty Sponsor: Joshua Corey
Suhn Lee
Emily Zender ’10; Communication, Economics
Microfinance Activities for Economic Development
Small loans (usually less than $50) can provide opportunities for the development of business enterprises in the emerging economies. As governments are rethinking foreign aid programs, other alternatives are surfacing to enhance quality of life and to stimulate long-term economic development. Microfinance activities provide loans, savings accounts, insurance, and other financial services to billions of people living on $2 or less a day. Microloans are offered by institutions ranging from small community-based lending groups to international development organizations operating in over 100 countries.
Faculty Sponsor: Les Dlabay

Ornis Mala ’11; Computer Science
Devin McIntyre ’10; Computer Science
Lake Forest College Voting Web Application
In the 2009 Computer Science Senior Seminar, our class of eight students created a database driven Web application for use by the school so faculty elections could be administered online. We utilized the LAMP (Linux, Apache, MySQL, PHP) open source environment on the server-side and HTML, CSS, and JavaScript on the front end. The system allows for Web based voting on faculty elections, as well as the creation and monitoring of elections from the administrator side. The flexibility of the software allows for easy adaptation for other uses, such as student based elections. Moreover, the framework is sufficiently robust to serve as the basis for future Web application development.
Faculty Sponsor: Craig Knuckles

Francesca Noero ’10; Communication, Sociology and Anthropology
Kathryn Zaccarello ’10; Communication
American Girl and Children’s Media
American Girl offers a rich example of children’s media and consumption directed at girls. The retail store creates an environment in which girls perform as girls but also as consumers in training because in order to fit in with this culture, you must purchase objects. In this study we will focus on how young girls find their identity within this store through purchasing and how they interact with their families when it comes to purchasing decisions. By taking the role of ethnographers, we observe these girls interacting with their parents and their surroundings in order to support our theory about consumption and gender stereotypes among girls. We will also use pictures from our observations to help support our argument.
Faculty Sponsor: Devorah Heitner

Alyssa Parr
Kelly Rosiles Villagomez ’13
Mikayla Warner
Effects of Vision on Auditory Threshold
It is widely believed that people with impairments in one sense (e.g., vision) develop heightened sensitivity in other senses (e.g., hearing). Does blocking input to one sensory system enhance performance in another one? To find out, we measured 27 students’ absolute thresholds for pitch and loudness, with their eyes closed vs. their eyes open. Contrary to our hypothesis, we found no statistically significant difference in mean threshold between the eyes-open and eyes-closed conditions. However, those who performed well in the loudness experiment were more likely to perform well in the pitch experiment, but only in the eyes-closed condition.
Faculty Sponsor: Sergio Guglielmi
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