## **URC '06**

### UNIVERSITY of NEW HAMPSHIRE

## A welcome to participants and attendees



Ann Weaver Hart



John D. Aber

elcome to the Undergraduate Research Conference at the University of New Hampshire. In its seventh year, the URC celebrates the research, scholarship, and creative activities of our undergraduate students. Students in all disciplines present their faculty-mentored projects to audiences of peers, parents, faculty, administrators, and staff through live performance, oral and poster presentations, or displays. We are pleased that the URC provides a professional venue to showcase the results of their hard work.

We take pride in the efforts of our students and in the skill and dedication of the faculty who have guided them. Undergraduate research is one of the distinctive features of the University of New Hampshire. These extraordinary learning opportunities vary from field studies to empirical research to outreach scholarship to creative works. This research experience provides our undergraduate students with the unique opportunity to gain skills essential to pursuing graduate study and meaningful careers. There are also benefits for the faculty, who report that the teamwork essential to these efforts strengthens instruction and lays the groundwork for future challenges.

Join us in commending some of our most accomplished students. We encourage you to read the posters, listen to presentations carefully, and ask questions of the student researchers. We believe you will be impressed with their answers and the depth and breadth of their knowledge and understanding.

Ann Weaver Hart, President, University of New Hampshire

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John D. Aber, Vice President, Research and Public Service

## URC '06

## Enriching the undergraduate experience through research



Eleanor Abrams



Cameron Wake

The Undergraduate Research Conference (URC) is now a highlight of every spring semester and has become a signature event for our University. Our goal is to provide a unique opportunity for undergraduate students to inquire and discover. We do this by providing a professional venue for our undergraduate students to present faculty-mentored undergraduate research, scholarship, and creative performances. These faculty-student partnerships are a vital component of higher education. They enrich undergraduate teaching and learning by providing opportunities for students to experience the workings of their discipline firsthand.

There are several benefits for students and faculty who participate in the Undergraduate Research Conference. For example, URC participation highlights and promotes the awareness of undergraduate research, scholarship, and creative work occurring in a range of disciplines across campus. By presenting in professional venues, students are encouraged to pursue advanced study and academic careers. The weeklong schedule of events communicates and celebrates the powerful outcomes resulting from student-mentor relationships. Finally, the URC fosters a multidisciplinary and multicultural community of researchers, scholars, and artists linked by a common enthusiasm for life-long learning.

The growth and the success of the URC rests upon the enthusiastic participation of students and the dedication of faculty and staff. This year the URC is pleased to host a campus and community lecture by Laurie Garrett on pandemic security, an expanded Festival of Creativity and Culture, and a broader range of events at the UNH Manchester campus. In addition, guest presenters from Elizabeth City State University in Elizabeth City, North Carolina, enrich this year's conference. We are pleased to welcome these undergraduates and their faculty mentors who collaborate with UNH researchers in a productive research and education partnership.

In all of these activities, the URC embodies the UNH mission to combine the living and learning environment of a small New England liberal arts college with the breadth, spirit of discovery, and civic commitment of a land-, sea-, and space-grant research institution.

Eleanor abrams

Eleanor Abrams, Director of Outreach Scholarship

Cameron Wake, Chair, URC Planning Committee

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All events are free and open to the public.

Accessibility accommodation requests may be directed to Lynne Cooper at (603) 862-1997.

## URC '06 Calendar

#### Friday, April 21

6-8 p.m. 2006 Senior B.A. and B.F.A. Exhibition and Preview Reception The Art Gallery, Paul Creative Arts Center

7 p.m. Pulitzer Prize-winning author Laurie Garrett, Keynote Lecture "Pandemic Security" Johnson Theatre, Paul Creative Arts Center ① Seating is limited. To reserve free tickets call (603) 862-0598 or visit www.unh.edu/urc.

#### Tuesday, April 25

9–11 a.m. UNH Manchester Undergraduate Research Conference Oral Presentations UNHM Auditorium

12:40–2 p.m. History Undergraduate Presentations Horton Social Science Center, 2 Room 201

#### Wednesday, April 26

10:30 a.m.-Noon Seacoast Reads Exhibition MUB, Rooms 330, 332, 334

UNH Office of Community Service Partnerships MUB, Rooms 330, 332, 334

Thompson School Community Service & Leadership Program MUB, Rooms 330, 332, 334

11 a.m.–2 p.m. Thompson School Undergraduate Student Showcase "Stacey's" at Cole Hall 2–5 p.m. Interdisciplinary Science and Engineering Symposium Morse Hall Atrium 5

4–6 p.m. UNH Manchester Undergraduate Research Conference Poster Presentations UNHM, 3rd Floor Lounge

#### Thursday, April 27

11 a.m.–1 p.m. UNH Manchester Student Film Presentations UNHM Auditorium

### Friday, April 28

9 a.m. Breakfast with University President Ann Weaver Hart & Vice President for Research and Public Service John Aber MUB, Granite State Room

9:30 a.m.–Noon Vice President's University-wide Symposium Poster and Oral presentations MUB 3

Noon-5 p.m. Honors English Undergraduate Research Conference Hamilton Smith Hall, English 6 Department Lounge, Rooms 128 & 129

12:30–3:30 p.m. School of Health and Human Services Grimes Award Competition Pettee Hall, Room G10 7

1–4 p.m. Psychology George M. Haslerud Undergraduate Research Conference Conant Hall, Room 101 8 All events are free and open to the public

3:30–5:30 p.m. Festival of Creativity and Culture Hennessy Theatre, Paul Creative Arts Center

4–8:30 p.m. Philosophy Undergraduate Research Conference The Waysmeet Center, 9 15 Mill Road

8 p.m. Student Composers Concert Bratton Recital Hall, Paul Creative Arts Center 1

#### Saturday, April 29

7:45 a.m. –2 p.m. 15th Annual COLSA Undergraduate Research Conference New England Center, Great Bay Room **(1)** 

#### ADDITIONAL EVENTS:

#### Wednesday, May 3

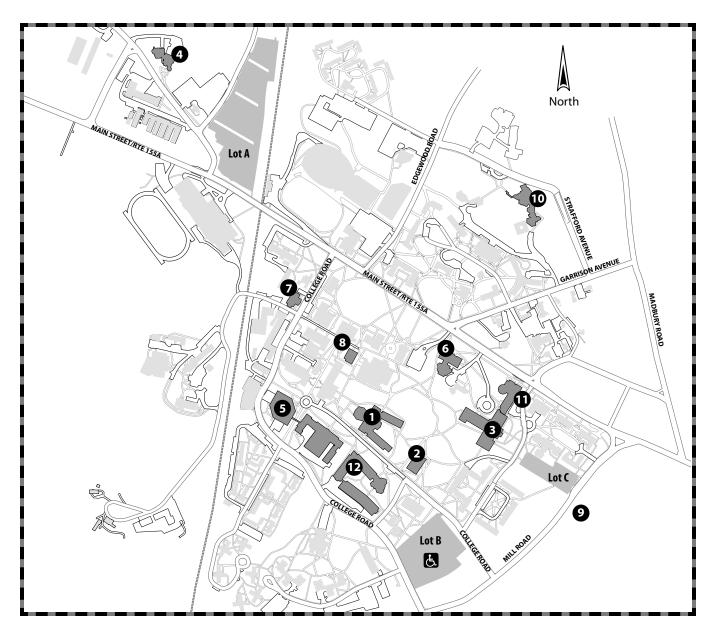
8 a.m.–2 p.m. Whittemore School of Business and Economics Paul J. Holloway Business Plan Competition Holloway Commons, Piscataqua and Swampscott Rooms

8 a.m.–12:30 p.m. Mary Louise Fernald Nursing Research Symposium MUB, Strafford Room 3

#### Friday, May 5

2:30-4 p.m. Chemistry Department Poster Exhibition Parsons Hall, Iddles Wing 12

## Campus Map



#### **BUILDING KEY**

- 1. Paul Creative Arts Center
- 2. Horton Hall
- 3. Memorial Union Building (MUB)
- 4. Cole Hall, TSAS
- 5. Morse Hall
- 6. Hamilton Smith Hall
- 7. Pettee Hall

- 8. Conant Hall
- 9. Waysmeet Center
- 10. New England Center
- 11. Holloway Commons
- 12. Parsons Hall

UNH Manchester 400 Commercial Street Manchester, NH

For directions to UNH Manchester go to www.unhm.unh.edu/directions.html or call (603) 641-4321.

## **Events and Presentations**

## The Undergraduate Research Conference is proud to present

## Laurie Garrett on "Pandemic Security"



FRIDAY, APRIL 21 7 pm

The Johnson Theatre, Paul Creative Arts Center

In this special appearance at UNH, Pulitzer Prize-winning author and global health expert Laurie Garrett addresses the University community with a talk on pandemic security.

Garrett is an authority on newly emerging and re-emerging diseases, public health, and their effects on foreign policy and national security. She is a senior fellow for global health at the esteemed Council on Foreign Relations and is the author of the best-selling books *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* and *Betrayal of Trust: The Collapse of Global Public Health.* 

## 2006 Senior Bachelor of Arts and Bachelor of Fine Arts Exhibition Preview Reception

FRIDAY, APRIL 21 6-8 pm

The Art Gallery, Paul Creative Arts Center

This annual show celebrates the achievements of graduating art students from the UNH Department of Art and Art History.

#### **Participants include:**

B.A. Studio Art degree candidates: Tenner Bradley, Painting Shane Chick, Wood/Furniture Design Adam D. Getz, Ceramics Rachel Huckins, Ceramics Sara Korpi, Wood/Furniture Design Bethany Lowe, Painting Kathleen McCaffery, Ceramics Alexis McConnell, Photography Erin Elizabeth Miley, Ceramics Kate E. Muckenhirn, Photography Rebecca O'Brien Pani, Painting Brandy Reeves, Ceramics

B.F.A. degree candidates: Thomas C. Call, Photography Sofie H. Larsen, Painting Kathryn Niboli, Painting Toby M. Schreier, Printmaking Rebecca Simpson, Painting

This exhibit runs from April 22 through May 20 (closed May 4–9).

## UNH Manchester Oral Presentations

TUESDAY, APRIL 25 9-11 am

#### **UNHM Auditorium**

The oral presentations are formal scholarly lectures and/or multimedia presentations reflecting students' research interests.

#### **Clayton Groves**

Major: Psychology Use it or Lose it, a Discussion of Adult Psychology and Service Learning Adviser: Alison Paglia

**Troy Maynard** Major: Communication Arts *Survivor, the Ultimate Survivor of Pop Culture* Adviser: Skip Tenczar

#### **Devon Mercer**

Major: History Wrongful Life Cases-The Role of the Courts in Individual Morality Adviser: John Cerullo

Kristen Montour Major: Psychology Internship at the New Hampshire Task Force on Women & Addiction Adviser: Alison Paglia

**Catherine Overson** Major: Psychology *The Role of Eros in Plato and Freud* Adviser: Terry Savage

Catherine Overson Major: Psychology Perinatal Loss: Possible Caregiver Barriers Adviser: Gary Goldstein

#### Jessica Santos

Major: Business Seminar Project at UNHM—BAE Systems Internship Adviser: Jack McCarthy

Lynne Scott Major: Business *Manchester's Sports Trifecta* Adviser: Jack McCarthy

## History Undergraduate Research Conference

TUESDAY, APRIL 25 12:40-2 pm

Horton Social Science Center, Room 201

At this event, the history department hosts a panel of undergraduate history majors, who present the research projects from their academic classes, research seminars, and Honors theses.

#### Andrew Begley

Major: History Disintegration: Ross Barnet, the Kennedys, and the Politics of Integration at Ole Miss Adviser: Harvard Sitkoff

**Caitlyn Daniuk** Major: History *Anti-Catholicism and the Ku Klux Klan in New Hampshire* Adviser: Jeff Bolster

**Christopher Eaton** Major: History *An Unfortunate Lack of Knowledge: The United States, World War II, and the Gulag* Adviser: Kurk Dorsey

**Roger Eichorn** Major: History and Philosophy *Theories of Historical Knowledge* Adviser: Jennifer Selwyn **Brooke Gilmore** Major: History Adviser: Jeff Bolster

**Meghan Glynn** Major: History Like a Letter from Home! The Impact of Doughboys' Poetry in Stars and Stripes Adviser: Lucy Salyer

#### Larry Peterson

Major: History The Siege of Stalingrad: Why They Resist Adviser: Molly Girard

## Seacoast Reads Exhibition

#### WEDNESDAY, APRIL 26 10:30 Am-NOON

MUB, Rooms 330, 332, 334

Through the Seacoast Reads program, UNH students from all academic disciplines tutor elementary school children in the subjects of literature and writing. Twice each week, student volunteers head into schools and after-school programs across the seacoast area of New Hampshire to work with children. Seacoast Reads is one of the largest service and outreach organizations on campus. Since 1998 nearly 1,000 UNH students have volunteered for the program.

#### UNH students serving Children in New Hampshire Schools

Special guest: Abby Pyle, VISTA Coordinator of Seacoast Reads, Department of Education Advisers: John J. Carney and Grant Cioffi

## Thompson School Community Service and Leadership Program

#### WEDNESDAY, APRIL 26 10:30 Am-NOON

#### MUB, Rooms 330, 332, 334

The Community Service and Leadership Program is an innovative associate degree and diploma program that prepares students of all ages to work effectively within community organizations and to be active, influential citizens.

Amanda Adams Thomas Brennan Peter Dunbar Andrew Grassie Vicki Hebert Jennifer McGrath Melissa Podaski Major: Community Service and Leadership Senior Portfolios of Learning, Service, and Leadership Advisers: Tim Barretto and Kate Hanson

Marc Ambrosi Jane Borkland Jeremy Bourgeois **Darren Cantor** Jessica Carter **Oliver Fisher Christopher Forbes** John Brady Erica Jannino Andrew Jensen Nicole LaBranche Kelly McGrail **Melissa Morris Tyler Parkhurst** Lori Parent **Emily Quigley Erica Raizes** Brian Reed

Marybeth Schofield James Sorbie Kerrie Sullivan Robert Sullivan Alicia Swain Louisa Turcotte Major: Various majors Presentation of Partnership Projects with Cornucopia Food Pantry Advisers: Deborah Sugerman and Kate Hanson

## Office of Community Service Partnerships

WEDNESDAY, APRIL 26 10:30 Am-NOON

MUB, Rooms 330, 332, 334

This display showcases the work of student service organizations and student groups engaged in community and service-learning projects throughout the year. These activities range from spring break service trips to campus-wide events such as Relay for Life.

Adviser: Marianne Fortescue

## Thompson School Undergraduate Student Showcase

WEDNESDAY, APRIL 26 11 am-2 pm

"Stacey's" in Cole Hall

Thompson School of Applied Science students translate academic instruction into practical presentations at this year's URC. Join selected students who showcase their expertise in such diverse areas as dairy management, restaurant management, forest management, and tropical floral design.

Jennifer Bleakney Johanna Bleakney Amanda Brown Nicole Verville Major: Applied Animal Science in Dairy Management CREAM (Cooperative Real Education in Agricultural Management): Experiential Education at its Best Adviser: Andrew Conroy

Ryan Audet Josh Bennet Andy Crowder Shawn Fales Dave Faller **Ed Frank** Barn Heckler Caleb Holden Matt Lassonde Chris Plourde Mary Beth Schofield **Holly Spinney Chris Taylor** Marie Wright Major: Civil Technology: Architectural Technology Alumni Co-housing at UNH Adviser: Guy Petty

Tania Drown Andrew Friedman Henry Stebbins Major: Food Services Management in Restaurant Management Restaurant Management Students Present a Special Buffet Featuring International Fare (BUFFET SERVED 12–1 PM, PUBLIC INVITED—RESERVATIONS RECOMMENDED, 862-1025) Advisers: Charles Caramihalis and Eugene Alibrio

#### **Michael Simmons**

Major: Forest Technology Using ArcView GIS (Geographic Information Systems) Software and the GRANIT Database to Map Natural Resources Adviser: Matthew Chagnon

Rebecca Collins Jason Goodall Mary Nicholson Amenda Pereira Jay Whitehouse Major: Horticultural Technology Horticultural Technology Student Floral Designs: Tropical Designs Advisers: John Hart, Rene Gingras, and Dana Sansom

## Interdisciplinary Science & Engineering (ISE) Symposium

#### WEDNESDAY, APRIL 26 2-5 pm

#### **Morse Hall Atrium**

Learn about the exciting research underway in UNH's science and engineering disciplines at the ISE Symposium, featuring the presentations of engineering students' capstone experiments and interdisciplinary science research from departments across campus. This event features poster presentations and an awards ceremony.

Christopher Anderson Jeremy Blanchard (team leader) Jason Finnie Michael Magri Phillip Maurice Lisa Panneton David Story Sarah Stott (team leader) Major: Mechanical Engineering *Mini Baja* Adviser: Gerald Sedor

## Lawrence C. Reardon

Associate Professor

"Leave your academic baggage at the door" might be a good sign for the entrance to Chris Reardon's office. In his 15 years at UNH, he's witnessed thousands of students ditch their notions of the "chore" of learning. "Suddenly, they begin discovering new things about the world and about themselves," he says, "and they realize 'academics' are not about the grades and quizzes, not a burden they must bear, but something they find fascinating."

He describes his students as the Indiana Joneses of the undergraduate world. "They are on a quest," he says. "Not for lost treasures, but for knowledge." Reardon works with students in the increasingly popular international affairs dual major where, on location, students examine such issues as corruption in Kenya, reproductive rights in communist nations, race, terrorism, cultural tensions, and more.

At this week's URC you'll recognize their work by the project titles. They can be attention-getting: "Switzerland is Missing...from the European Union!"; provocative: "A Nuclear Iran?"; even seemingly ironic: "Euskal Herria: A Culture in Search of a Nation."

Where do the student explorers find inspiration for these timely, global investigations? Simply by opening their eyes to the world around them. "When they go abroad they should be thinking about what intrigues them," says Reardon. Upon return, the first thing they have to do is define the question, and the research flows from that point to the point at which they culminate their explorations by defending their findings to a greater audience.

"Presenting helps them complete the learning process," says Reardon. "It's a fantastic opportunity for them to disseminate their knowledge."

What's the payback for this faculty mentor? "I learn something every day," he says. "There are students here who have had experiences that I've never had. I can teach them how to analyze, but when they develop their argument, they bring their own perspective and experiences.

"Tm extremely proud of these people," adds Reardon. "They show what somebody at a public university can do, and that's top notch work."



#### WEDNESDAY • INTERDISCIPLINARY SCIENCE & ENGINEERING SYMPOSIUM, CONTINUED

Zachary Archambault (team leader) Joshua Lent Major: Mechanical Engineering *Campfire Generator* Adviser: David W. Watt

#### Kevin Arruda Jordan Wyckoff

Major: Computer Engineering ASIC FFT Component Library: 8-bit Complex Multiplier Adviser: Andrzej Rucinski

#### Jonathan Baker

Major: Electrical Engineering Solar Maximum Power Point Tracker Adviser: Michael Carter

Jonathan Barrett Thomas Hunt Andrew Kennedy Casey Machado (team leader) Major: Mechanical Engineering *Fire Fighting Robot* Adviser: Barry K. Fussell

## Mark Joseph '06

Can Kant Accommodate Supererogation?

Can Immanuel Kant's ethics accommodate the moral category of the supererogatory, that is, the class of actions which typically go beyond the call of duty and exemplify human beings at their very best? That's the question senior Mark Joseph set out to answer in his investigation of the philosopher's ethical framework.

"The roughhewn conclusion," he says, is that Kant can accommodate the supererogatory, in a limited sense. But "for a more in-depth analysis of my conclusion, go to the philosophy department's undergraduate research event."

When Joesph is not knee-deep in intellectual reasoning, he is studying another one of his many interests: scratch baking. Can't stomach Kant? Perhaps his Italian herb and honey wholewheat bread might be the draw for you.

Follow your nose to the Waysmeet Center on Friday, April 28, 4:00–8:30 p.m., 15 Mill Road.



#### **Bradley Bell**

Major: Electrical Engineering The Effects of Sound Source Location on Driving Performance Adviser: Andrew Kun

#### Whitney Blanchard

Major: Environmental Engineering Removal of Tetramethylammonium Hydroxide from Liquid Waste Collection System Adviser: Kevin Gardner

Michael Borrelli (Mechanical Engineering) George Clark (Physics) Morgan O'Neill (Physics) Design and Testing of the Star Sensor for the Interstellar Boundary Explorer Adviser: Eberhard Möebius

Travis Boucher Charles DeLoid Michael Palladino Major: Electrical Engineering *FFT Component Project* Adviser: Andrzej Rucinski

Timothy Bourque Emmett Donovan Douglas Ferro Peter Goodwin Joshua Kissinger (team leader) Major: Mechanical Engineering *Clean Snowmobile* Adviser: David W. Watt

Michael Boutin Benjamin Buchinski Michael Farrar Michael Grobecker (team leader) Katelyn Palmer (Electrical & Computer Engineering) Sean Perron Major: Mechanical Engineering *Hovercraft* Adviser: May-Win Thein John Brackett David Ciasulli Cameron Ciccone David Hopkins (team leader) Brett Schuster Ervin Weed (Electrical & Computer Engineering) Major: Mechanical Engineering SAE Formula Vehicle Adviser: May-Win Thein

**Paul Bruillard** Major: Physics and Mathematics *Fast Neutron Imaging Telescope* Adviser: James Ryan

Liz Burakowski (Earth Sciences) Stephanie Jelliffee (Education) Cory Morin (Geography) Alex Sink (Natural Resources) The Effects of an Urban Environment on Cloud Formation and Temperature Advisers: George Hurtt and Cameron Wake

Berkley Cline (Biology) Whitney McCormack (Undeclared) Samuel Sylvester (Forestry) Thomas Welsh (Forestry) Benjamin Wilson (Biology) Solving the Mystery of Salt in the Portsmouth Coffin Woods Adviser: Barrett N. Rock

Salimah Cogbill (special guest from Elizabeth City State University) Major: Biology Shoot Regeneration from Cotyledons of Rapid-Cycling Fast Plants Adviser: Cheryl Lewis (ECSU)

**Chelsea** Corr

Major: Earth Sciences Measurements of Aerosol Chemical Composition and Optical Properties in the Polluted Summer Marine Boundary Layer Adviser: Robert Griffin Scott Crawford Jonathan Oppelaar Major: Computer Engineering *FFT Component Project* Adviser: Andrzej Rucinski

Adam Csakai Major: Chemistry Tandem Chain Extension Aldol Reaction of  $\beta$ -Keto Imides Adviser: Charles Zercher

Matthew Cullen Major: Electrical Engineering *Port Security* Adviser: Andrzej Rucinski

Elie Dagher Major: Computer Engineering FFT Library Component: 16 Bits Complex Multiplier Adviser: Andrzej Rucinski

Jason Dahlstrom (Computer Engineering) Christopher Glynn (Electrical Engineering) Computer Brain Interfaces and Computational Modeling Adviser: Kent Chamberlin

Matthew Derov Major: Mechanical Engineering Validation of a Stress Based Failure Criterion in Sheet Metal Adviser: Brad Kinsey

Susan Deuell Major: Computer Engineering Standard Test Access Port and Boundary-Scan Architecture: The IEEE 1149 Standard Adviser: Kuan Zhou

Sarah Eisenlord Major: Microbiology The Effects of Warming on Soil Microbial Metabolism Adviser: Serita Frey **Thomas Fogal** Major: Computer Science *Adaptive Mesh Refinement* Adviser: Phil Hatcher

**Owen Friend-Gray** Major: Environmental Engineering *Chromium Adsorption by Apatite* Adviser: Jeffrey Melton

Kaiem Frink (special guest from Elizabeth City State University) Major: Computer Science Study on the Implementation of Macromedia Coldfusion as a Web Server Application Adviser: Linda Hayden (ECSU)

Michael Genovese Major: Electrical Engineering Personal Guitar Isolation System Adviser: L. Gordon Kraft

David Gillespie Brett Hunter Major: Electrical Engineering Automated Radio Direction Finding System Adviser: Michael Carter

**Timothy Henderson** Major: Chemistry *Attempted Stereo Selective Synthesis of Tetrahydrofuran Rings* Adviser: Charles Zercher

**Ian Honsberger** Major: Earth Science *Magmatic Processes Beneath the East African Rift Valley in Turkana, Kenya* Adviser: Julie Bryce

Shin Horiuchi David Schwarzenberg Major: Electrical Engineering *FFT Component Project* Adviser: Andrzej Rucinski

#### WEDNESDAY · INTERDISCIPLINARY SCIENCE & ENGINEERING SYMPOSIUM, CONTINUED

#### Grace Hwang

Major: Mechanical Engineering Design and Implementation of Spatial Ability Tests and Devices Adviser: Brad Kinsey

#### Kevin Jerram Ashley Risso

Major: Mechanical Engineering Measurement of Waterborne Construction Noise in Estuaries Adviser: Ken Baldwin

Gieira Jones (special guest from Elizabeth City State University) Major: Biology Electroporation of Crithidia ricardoi with pNUS-GFPH Adviser: Cheryl Lewis (ECSU)

Ashley Keller (Physics) Chato Osio (Natural Resources) Matt Szymanowicz (Natural Resources) Permafrost and Carbon Advisers: George Hurtt and Cameron Wake

#### David Klimaszewski Randy Williams Major: Computer Engineering *Complex Multiplier* Adviser: Andrzej Rucinski

Stephanie Kloek Major: Marine and Freshwater Biology The Investigation of Anchor Attachment Designs for Pop-up Satellite Tags Used on Atlantic Blue fin Tuna, Thunnus thynnus Adviser: Ken Baldwin

**Russell Lemire** Major: Civil Engineering *Warm Mix Asphalt Technology* Adviser: Jo Daniel

#### Ben MacBride

Major: Physics Kolmogorov's 4/5 Law and its Magnetohydrodynamic Analogues in the Solar Wind Adviser: Charles Smith **Krystian Manitius-Kozlowski** Major: Civil Engineering *Concept Cable Stayed Bridge* Adviser: Erin Bell

Rory Martell Major: Electrical Engineering EEG and Method of Moments: Bridging Time and Space Adviser: Kent Chamberlin

Michael Mason Major: Physics <sup>3</sup>He Neutron Spin Filter with Spectrally Narrowed Diode Laser Adviser: Bill Hersman

Benjamin McMahon Major: Electrical Engineering Modeling Diurnal Variations in a Short Range Wireless Communication System Adviser: Kent Chamberlin

Elizaveta Meleshkina Major: Earth Sciences Correlation Between First Snowfall, Temperature, and the Length of Winter in Western Russia Adviser: James Pringle

Jerome Mitchell (special guest from Elizabeth City State University) Major: Computer Science Using Ensemble Learning to Detect Data Abnormalities in Databases Adviser: Linda Hayden (ECSU)

Abebe Negash Major: Chemical Engineering *Biodiesel* Adviser: Ihab Farag

Jonathan Nguyen Major: Chemical Engineering Fracture Testing for the Evaluation of Self Healing Composites Adviser: Donald Sundberg

#### Nathan Purmont

Major: Electrical Engineering Standalone Data Acquisition System for the UNH Precision Racing Formula SAE Car Adviser: Frank Hludik

Michael Rayno (team leader) Cory Timoney Major: Mechanical Engineering *Xenon Polarizer* Adviser: F. W. Hersman

**Christopher Robert** Major: Civil Engineering *UNH Concrete Canoe* Adviser: Jo Daniel

**Christopher Robert** Major: Civil Engineering *Reinforced Concrete Guard Rail* Adviser: Charles Goodpseed

**Mark Santos** Major: Microbiology *Transnasal Delivery of a GnRH Analog in Miniature Swine* Adviser: Stacia Sower

Lindsay Scott Major: Environmental Conservation Effects of Long Term Soil Warming on Soil Respiration Adviser: Serita Frey

Rachel Scudder Major: Earth Sciences Mineralogic Control on the Geochemical Signature of Water-Rock Interactions at Pawtuckaway State Park Adviser: Julia Bryce

Michael Siopis Major: Mechanical Engineering Microforming: Hardness Testing and Analysis Adviser: Brad Kinsey David Sodaitis Major: Physics Wave Excitation and Thermal Particle Acceleration by Interplanetary Shocks Adviser: Charles Smith

#### Vasiliy Vorotnikov

Major: Chemical Engineering Automated Shock Identification and Solutions for Space Weather Applications Adviser: Charles Smith

#### Jonathan Waters

Major: Computer Engineering Project54 Wireless Location Awareness Adviser: Andrew Kun

#### Anna Weaver

Major: Chemistry EPR Spectroscopy for the Forensic Analysis of Glass Adviser: N. Dennis Chasteen

## UNH Manchester Poster Presentations

WEDNESDAY, APRIL 26 4-6 pm

#### **UNHM 3rd Floor Lounge**

The poster presentations showcase students' independent research and internship projects, service learning activities, and civic engagement projects in the learning lab of the city of Manchester.

#### Louis Biondi

Major: English Government Suppression of Dissent, 1900-1920 Adviser: Jack Resch

#### Aaron Boucher

Major: Humanities The Theoretical Basis of Democracy: The Idea of Human Equality Adviser: Jack Resch

#### Joshua Gehling

Major: English *The Changing Picture of Crime in Manchester* Adviser: Deborah Brown

Caitlin Hampson Major: Undeclared An Attorney's Eye View Exploring Changing Crime Trends in Manchester Adviser: Deborah Brown

Larry Habel Major: History *McCarthyism and Freedom of Speech* Adviser: Jack Resch

#### Kayla Ingham Major: Undeclared What I Saw Exploring Changing Crime Trends in Manchester Adviser: Deborah Brown

Jaclyn Kabat Major: Nursing At the Restaurant Exploring Changing Crime Trends in Manchester Adviser: Deborah Brown

#### Nickolas Levasseur

Major: Biology Investigations Exploring Changing Crime Trends in Manchester Adviser: Deborah Brown

## Catherine Overson '06

Perinatal Loss: Possible Caregiver Barriers

As a nurse in the Labor and Delivery unit of Elliot Hospital in Manchester, Cathy Overson sees firsthand the distress of bereaved parents experiencing a pregnancy or newborn loss. As a psychology major, she wanted to explore the factors contributing to nurses' experiences as they care for these patients.

With the help of a Summer Undergraduate Research Fellowship (SURF), Overson evaluated the role of nurses' anxiety levels in this setting. Her results suggested that offering a mentoring program and supportive counseling to nurses who care for these patients might be beneficial.

"Implementing the study and interpreting the results provided me with invaluable experience that I can carry along to my graduate activities," says Overson.

As a third-time participant in the URC, Overson finds that presenting "adds a sense of credibility and acknowledgement that my research has value."

Hear about Overson's findings at the UNHM oral presentations on Tuesday, April 25, 9–11 a.m., or read her published article online at www.unh.edu/inquiryjournal.



**Ryan O'Connor** Major: Communication Arts *Experience Exploring Changing Crime Trends in Manchester* Adviser: Deborah Brown

Lauren Pelletier Major: Humanities Women's Suffrage: A Case Study of Democracy in Action Adviser: Jack Resch

## UNH Manchester Student Films

THURSDAY, APRIL 27 11 am-1 pm

**UNHM Auditorium** 

The UNH Manchester communication arts program has a production track in which students complete introductory and advanced course work in video production, scriptwriting, audio production, film aesthetics, and documentary production. The student

## Jonathan Burg '06

The Effects of Athlete Goal Orientation on Preferred Coach Leadership Behavior

Jonathan Burg knew he wanted to be a sport psychologist at a young age. Today, he is well on his way.

Burg is a Division I soccer player at UNH and is completing majors in both psychology and sport studies. Through the course of his latest research project, he established

professional relationships with scholars in both fields. Why research? He says initially it was the excitement of the challenge that motivated him to explore a topic on which others had only hypothesized. "In the later stages of my research, I realized that I'm capable of adding knowledge to my chosen field of study." The field will have to wait for Burg just a bit longer. He will start graduate school next year where he plans to continue his scholarly investigations. But first he defends his research at the Vice President's University-wide Symposium on Friday, April 28 at the MUB.

"The URC brings a sense of professionalism to undergraduate education," says Burg. "It has opened my eyes to the amount of hard work and intellect found on our campus."

#### films featured at this event illustrate their work at different stages in the curriculum.

(Information on participants will be available at this event.)

Breakfast with University President Ann Weaver Hart & Vice President for Research and Public Service John Aber

FRIDAY, APRIL 28 9-9:30 AM

#### MUB, Granite State Room

This informal gathering gives students and attendees an opportunity to visit with President Hart and Vice President for Research and Public Service John Aber. Hart and Aber will provide a preview of the large university-wide event that follows breakfast—the Vice President's Symposium.

## Vice President's University-wide Symposium

The Vice President's University-wide Symposium showcases students from a variety of academic disciplines including international affairs, political science, sociology, communications, marketing, women's studies, and the McNair Graduate Opportunity Program. Students present their faculty-mentored projects in either interactive poster or oral presentations.

## Poster Presentations; Session A

FRIDAY, APRIL 28 9:30-10:40 AM

#### MUB, Granite State Room

Nicholas Adams Jenna Darling Major: Psychology The Effects of Norepinephrine and Dopamine in Remediating Selective Attention Deficits Adviser: Jill McGaughy

#### Devin Avery Eric Ely

Major: Computer Science Network Traffic Trace Generator and Discrete Event Simulator Adviser: Radim Bartos

#### Jessica Cawley

Major: Music Education Investigating the Ways the Irish Learn Music Adviser: Susan Hatfield

#### **Rachael Corr**

Major: Nursing Cigarette Smoking as a Risk Factor for Abnormal Pap Smears: An Integrative Literature Review Adviser: Lynette Ament

#### **Rachel Croft**

(McNair Graduate Program) Major: Communications *Types of Motivation and Definitions of Success Among College Students* Adviser: Rosa Arriaga

#### Hieu Doan Major: Biology: Molecular, Cellular, and Developmental Effects of Aluminum and/or Cadmium on Growth and Cellular Metabolites in Suspension Culture of Red Spruce (Picea rubens) Adviser: Rakesh Minocha

Beth Friedman Jennifer Roussel Major: Sociology Nice Gals Finish Last: An Examination of Queen Bee's Manipulative Techniques for Dominating Others in Teen Comedy Films Adviser: Catherine Moran

Sarah Grieve Nicole Young Major: Animal Science Cytokeratin 8/18 Intermediate Filaments and their Role in Regression of the Bovine Corpus Luteum Adviser: David Townson

#### Stephan Pirnie Evan Jordan

Major: Biology: Molecular, Cellular, and Developmental Harnessing the Power of an Invasive Species: Creating a Bioremediator out of Purple Loosestrife Adviser: Subhash Minocha

#### Jennifer Perkins

Major: Nursing The Healthcare Experiences of International Students Advisers: Gene Harkless and Carol Williams-Barnard

#### Sarah Rabbet

Major: Psychology Antidepressant Reversal of Intermittent Cold Water Swim Stress Induced Swim Escape Behavioral Deficits in Rats Adviser: Robert Dugan

#### Dhandevi Singh (McNair Graduate Program) Major: Political Science Sino-Indian Security Dilemma: Offensive and Defensive Mobilization Adviser: Lawrence Reardon

#### Kristen Steinbacher

Major: Sociology Mental Health Activism, Psychiatric Survivors, and the Rejection of the Medical Model Adviser: Catherine Moran

#### **Peter Widger** Major: Chemistry Synthesis and Characterization of

New Tricyclic Tetraamines

Adviser: Gary Weisman Social Work: An Overview of

Practice and Service Learning

#### Laura Amaral Major: Social Work An Overview of Three Common Mental Health Disorders Adviser: L. Rene Bergeron

**Rachel Bloom** Major: Social Work *Giving Families a Head Start* Adviser: L. Rene Bergeron

#### Kelsey Boucher

Major: Social Work New Outlook Teen Center Program Overview Adviser: Robert Jolley

#### Justin Breton

Major: Social Work The Division for Children, Youth and Families: An Overview Adviser: L. Rene Bergeron

Kathryn Doherty Major: Social Work Dover Teen Center: Services and Opportunities Adviser: L. Rene Bergeron

#### Erin Duchemin Major: Social Work IMR: Illness Management and Recovery Adviser: L. Rene Bergeron

Sarah Gagnon Major: Social Work Birth Control Options Adviser: L. Rene Bergeron

**Frances E. Shepard** Major: Social Work *New Heights: Adventure for Teens* Adviser: L. Rene Bergeron

Felicia Zoffka Major: Social Work Reaching the HIV and AIDS Population Adviser: L. Rene Bergeron

Laura Blake Major: Social Work Empowering Families of Children with Developmental Disabilities Adviser: Robert Jolley

**Eric Esty** Major: Social Work *Refugee Resettlement Program* Adviser: Robert Jolley

Patricia LaPan Gagnon Major: Social Work Domestic Violence—the Decision to Leave Adviser: Robert Jolley

Abby Malcolm Major: Social Work *The Seymour Osman Community Center* Adviser: Robert Jolley

**Emily Newell** Major: Social Work *Sexual Assault Support Groups* Adviser: Robert Jolley

Alexa Stern Major: Social Work Choosing a Method Adviser: Robert Jolley

#### Heather Tamilio

Major: Social Work Program for Alzheimer's and Related Disorders Adviser: Robert Jolley

Vice President's University-wide Symposium Oral Presentations; Session A

FRIDAY, APRIL 28 9:30-10:40 am

#### Memorial Union Building (MUB)

#### MUB, Room 207

Scandal, Spectacle, and the Public Sphere in the Contemporary United States Moderator: Melissa Deem

Magnolia Barrett Major: Communications Punishing Freaks: Brandon Teena and The Reinscription of Heteronormativity in U.S. Public Culture Adviser: Melissa Deem

Leah Igo Major: Communications The Kobe Bryant Trial: Celebrity, Race, and Rape in the United States Adviser: Melissa Deem

**Amy Kaye** Major: Psychology *Parenting Behaviors in Adult Survivors of Child Sexual Abuse* Adviser: Victoria Banyard **Emily Martin** Major: Communications *Female Monster: Eileen Wournos and the Transgressions of Public Sexuality* Adviser: Melissa Deem

**Corinne Schmitz** Major: Communications A Good Ana Doesn't Die: Pro Anorexia Websites as Contemporary Manifestoes Adviser: Melissa Deem

#### MUB, Room 330

Contemporary Issues in Modern Society Moderator: Sharyn Potter

**Brian Collins** Major: Sociology *The Effects of Undergraduate Employment on Academic Achievement* Adviser: Sharyn Potter

Emily Duynstee Major: Sociology Non-medical Use of Prescription Drugs on College Campuses Adviser: Sharyn Potter

Loryn Gadbois Major: Sociology Corporal Punishment and How it Effects Later Partner Violence Adviser: Sharyn Potter

Kristin Harris Major: English Financing the Evolutionary Machine: Capitalist Ideology and Social Darwinism in Zola's, The Ladies Paradise and Dreiser's Sister Carrie Adviser: Sarah Sherman

**Elizabeth Milliken** Major: Sociology Alumni Reflections on the UNH Undergraduate Research Conference Adviser: Sharyn Potter **Krystin Morin** Major: Spanish *Picasso y la guerra* Adviser: Carmen Garcia de la Rasilla

#### MUB, Room 332

International Affairs: Working Out of Poverty Moderator: Albert Griffin

Erica Bertolotto

Major: Political Science The Effects of Neoliberal Economic Policies on Child Labor in Iringa, Tanzania and Matagalpa, Nicaragua Adviser: Lawrence Reardon

Kristen Fitzpatrick Major: Spanish When Sex Sells: A New Era Encounters a Historic Problem Adviser: Lawrence Reardon

Katarzyna Gannon Major: English Mobility of Labor and Job Migration of Polish Nationals Adviser: Lawrence Reardon

#### Carolyn Kokko

Major: Political Science A Welfare State South of Rome: The Economic Failure of il Messogiorno Adviser: Lawrence Reardon

Mariana Peña-Trestini Major: Economics Poverty and Growth in Venezuela Adviser: Lawrence Reardon

#### Matthew Reno

Major: Business Administration Regional Stagnation: The Undermodernization of Southern Spain Adviser: Lawrence Reardon

#### MUB, Room 340

International Affairs: Economic Growth and Stagnation Moderator: Theodore Howard

Aleyah Ashour Major: Political Science A State of Emergency Adviser: Lawrence Reardon

#### Shannon Buckley

Major: Environmental Conservation Laggard or Just Misunderstood: The Development of Environmental Policy in Italy since the 1970s Adviser: Lawrence Reardon

**Chelsea Mukon** Major: Linguistics *Switzerland is Missing...from the European Union!* Adviser: Lawrence Reardon

## Vicki Hebert '06

Senior Portfolio of Learning, Service, and Leadership

Vicki Hebert is passionate about cancer prevention. She spent hundreds of hours starting up the UNH chapter of Colleges Against Cancer, then showed her work on this massive initiative at URC '05, winning a scholarship for her presentation.

Passionate *and* savvy, Hebert knew that bringing her work to the conference would not only give her valuable academic experience, but also would be great exposure for her fledgling organization. It "did just that," she says. "Several people expressed interest in joining the organization and we found a faculty adviser for the group, as well."

Passionate about presenting, this year Hebert will have her senior portfolio on display at the Thompson School Community Service and Leadership event on Wednesday, April 26, from 10:30 a.m.–noon at the MUB. Alice Sheehan Major: Economics *CAFTA: An Intelligent Choice?* Adviser: Lawrence Reardon

Joel Verrill Major: Business Administration What Causes Currency Failure? Adviser: Lawrence Reardon

#### MUB, Room 338

International Affairs: Preserving Culture and Identity I Moderator: Kurk Dorsey

Virginia de Freitas-Battersby Major: Political Science The Barriers between the Kitchen and the Campaign: Women and Politics in Brazil Adviser: Lawrence Reardon



#### FRIDAY · VICE PRESIDENT'S UNIVERSITY-WIDE SYMPOSIUM—ORAL PRESENTATIONS; SESSION A, CONTINUED

Justin Gelinas Major: Political Science Euskal Herria: A Culture in Search of a Nation Adviser: Lawrence Reardon

#### **Emily Hardy**

Major: Humanities Culture Clash in Southern France: Effect of Maghreb Immigration from Northern Africa Adviser: Lawrence Reardon Nora Larkin Major: German Changing Ethnic Identities in Post-National Germany: A Study of Turkish-German Literature, Politics, and Society Adviser: Lawrence Reardon

#### **Justin Laurion**

Major: Linguistics Governmental Impact on Tolerance in Multicultural Environments: A Montreal Case Study Adviser: Lawrence Reardon

#### Erin Margentino

Major: Political Science Argentina: A Divergent National Identity Adviser: Lawrence Reardon

#### MUB, Room 334

Political Science: International Relations Moderator: Alynna Lyon Discussant: Benjamin Cole

#### Jessica Gauthier

Major: Political Science Modern Military Means: Considerations for Effective Uses of Force Adviser: Lawrence Reardon

#### Dan Jasinski

Major: History State Sovereignty and the International Criminal Court Adviser: Lawrence Reardon

#### Christine Leonard

Major: Political Science and International Affairs *A Test of Will: Darfur and the International Debate for Intervention* Adviser: Lawrence Reardon

#### Katie Smith

Major: Political Science *A Nuclear Iran?* Adviser: Lawrence Reardon

#### Michael Smith

Major: Political Science Perspectives on the Use of Force for the Twenty-first Century Adviser: Lawrence Reardon

### Jerome Mitchell '07 ELIZABETH CITY STATE UNIVERSITY

#### Using Ensemble Learning to Detect Data Abnormalities in Databases

Jerome Mitchell majored in computer science because he enjoys solving complex problems using methodological steps. But it's not the only kind of science that interests him.

"Since freshman year I've worked on projects concerning glacier dynamics," says Mitchell. Now a junior, Mitchell uses his technological know-how to help study global climate change. He collects data abnormalities in databases, which helps researchers measure changes and make predictions about polar ice.

"We're looking for data on melting glaciers to test the theories of global warming and its effect on the rise of sea levels," he says.

Mitchell is one of four Elizabeth City State University (ECSU) students presenting at this year's URC. ECSU, in Elizabeth City, N.C., and UNH have a research and education partnership which enables faculty and students at both institutions to collaborate on research, education, and outreach opportunities.

Mitchell says that coming to UNH is a way for him to get his research in front of people. "I hope that I can inspire someone to become interested in the kind of work I'm doing." He'll return to campus this summer to continue his research on ice sheets and sea level rise with research associate professor Mark Fahnstock in the Research and Discover Program.

Jerome Mitchell recently returned from a five-week Antarctic expedition where he worked 10–15 hours each day in sub-zero temperatures operating plane-wave radar to measure the annual accumulation of snowfall and digging snow pits to accurately test the results of the radar using density snow core samples.



Laurel Smith Major: Political Science International Politics and the Ratification of the European Union Constitution Adviser: Lawrence Reardon

#### MUB, Room 336

Political Science: Political Thought Moderator: Marla Brettschneider Discussant: Nicolas Noloboff

**Paul Brachman** Major: Political Science *Competing Visions of the American Dream: From Frontiers to Ferraris* Adviser: Lawrence Reardon

#### **Phillip Brand**

Major: Economics Three Excesses in American Contemporary Democracy: A Tocquevillean Critique Adviser: Lawrence Reardon

Jaci Lawson

Major: English Tocqueville and Poetry in a Democratic Age: Can Inspiration Survive the Daily Grind? Adviser: Lawrence Reardon

Meghann McCluskey

Major: English Politics and Film: A Focus on Freedom Political Adviser: Lawrence Reardon

Ian Pajer-Rogers Major: Political Science Politics and Fear: The Supreme Court and the Executive After September 11 Adviser: Susan Siggelakis

#### MUB, Room 321

Highlighting the Margins: Empowerment and Engagement I Moderator: Mary M. Moynihan

Laura Haselton Major: English Adviser: Mary M. Moynihan

**Gina Lalli** Major: Sociology Adviser: Mary M. Moynihan

**Elizabeth Martin** Major: Sociology Adviser: Mary M. Moynihan

Nika Short Major: Women's Studies Adviser: Mary M. Moynihan

Suzanne Tesoro Major: English and Women's Studies Adviser: Mary M. Moynihan

#### MUB, Room 302

Video Analysis of Police-Citizen Communication Moderator: Mardi Kidwell

Kara Boucher Whitney Moore Meredith Zeicher Major: Communications Some Interactional Problematics of Police Searches Adviser: Mardi Kidwell

Taji Allen Megan Brown Garrett Donatelli Ben Johnson Major: Communications Police Use of Force Adviser: Mardi Kidwell Erin Donovan Emily Lawless Kerri O'Leary Jaime Staples Major: Communications Body Positioning in Police-Citizen Encounters Adviser: Mardi Kidwell

Michael Haney Adrian Kerrison Tom Sanchez Major: Communications "Gettin' Schooled:" Police Lecture Citizens Adviser: Mardi Kidwell

Bryce Casper Andrew Davis Nick Laliberte Mike Zengilowski Major: Communications Accusation and Denial in Police-Citizen Encounters Adviser: Mardi Kidwell

#### MUB, Wildcat Den

Educating Students About Using Credit Wisely—Citibank Marketing Project Moderator: Peter Masucci

**Derek Angove** Lindsay Cunningham Sarah Faasse Hayley Holmes Juliana Maitan Jesse McKay Sydney Mikkelson Alison Milioto Ian Mitchell Katelyn Moore Sheena Ruskowski **Kyle Sevits** Michael Trainor Lauren Tucker Stephen Woodruff Major: Business Administration Adviser: Peter Masucci

Research on New Auto Purchasing—Ford Fusion Marketing Project Moderator: Peter Masucci

**Jamie Adams** Melinda Amaral Katie Bamberger **Ryan Bernier Angela Blais Carrie Bourgue** Peter Burbank Matthew Clougherty **John Cosco** Andre DePaula LeeAnne Desrochers LeeAnn Flanagan Ian Frederick Amanda Guerin Zoey Gulmi-Landy Hayley Holmes Lindsev Jambard Niari Keverian Lindsav Lacher-Katz Brendan Leo Jennifer Livingstone **Jesse McKav** Thomas Moore **Ethan Robinson Casev Rosinski** Adam Sandler Rebecca Sandrue Michael Savage **Corinne Schmitz David Tessier** Michael Trainor Megan Woodman Major: Business Administration Adviser: Peter Masucci

## Vice President's University-wide Symposium

Poster Presentations; Session B

FRIDAY, APRIL 28 10:50 Am-NOON

MUB, Granite State Room

Magdalen Balz

Major: Communication Sciences and Disorders Electronic Journal Writing: Communicative Freedom for Adults With Brain Injury Adviser: Michael Fraas

Margaret Calvert Major: Communication Sciences and Disorders Professionals' Attitudes and Beliefs About Acquired Brain Injury Adviser: Michael Fraas

Shellie Chiavetta Major: Linguistics "That Was Totally Intense!": A Study of Emphatic Adverbial Modifiers in Male and Female Speech Adviser: Naomi Nagy

Maureen Gillespie Major: Psychology and English Hemispheric Sensitivity to Grammatical Agreement within a Sentence Context Adviser: John Limber

#### Stephanie Kloek Major: Biology: Marine and Freshwater The Investigation of Anchor Attachment Designs for Pop-up Satellite Tags used on Atlantic Blue fin tuna, Thunnus thynnus

Adviser: Ken Baldwin

Jennifer Lyckland

Major: Biology The Effects of Serotonin Depletion on Intermittent Cold Water Swim Stress-Induced Depression Adviser: Robert Drugan

Jonathan Marshall Major: Business Administration *Expatriates in Global Commerce* Adviser: Meera Venkatachalam

**Abebe Negash** Major: Chemical Engineering *Biodiesel* Adviser: Ihab Farag

Jeffrey Nichols Major: Computer Science Computer Engineering Improved Simulated Tile Mosaics by Tile Clipping Adviser: Alejo Hausner

Satya Sardonicus Major: Biochemistry Circulating Concentration of Interleukin-18 Binding Protein in Obese and Non-Obese, Asthmatic and Non-Asthmatic Women Adviser: Anthony Tagliaferro

Joseph Shannon Major: Natural Resources Forestry Effect of Forest Species in a Watershed on Stream Chemistry at Bartlett Forest Adviser: Jacqueline Aitkenhead-Peterson

**David Sodaitis** Major: Physics *Wave Excitation and Thermal Particle Acceleration by Interplanetary Shocks* Adviser: Charles Smith

Andrew Van Hoogenstyn Major: Psychology The Effects of Intermittent Cold Water Swim Stress on Navigation Learning and Memory Adviser: Robert Drugan Anna Weaver Major: Chemistry EPR Spectroscopy for the Forensic Analysis of Glass Adviser: N. Dennis Chasteen

#### Social Work: An Overview of Practice and Service Learning

#### Sara Horan

Major: Social Work Building "Family Strength" Adviser: L. Rene Bergeron

#### Christina Julian

Major: Social Work *The Children Literacy & Arts Program* Adviser: L. Rene Bergeron

#### Stephanie Kogut

Major: Social Work Family Empowerment Project: An Overview Adviser: L. Rene Bergeron

#### **Allison Proctor**

Major: Social Work Dover Children's Home: Preparing Adolescents for Productive and Independent Lives Adviser: L. Rene Bergeron

#### Jeffrey Sellars

Major: Social Work The Juvenile Probation System: An Overview Adviser: L. Rene Bergeron

#### Meghan Shea

Major: Social Work *Resources for Homelessness in New Hampshire* Adviser: L. Rene Bergeron

#### **Courtney Frederick**

Major: Social Work Adolescent Substance Use Prevention and Treatment Adviser: Robert Jolley

#### Kristen LaRue

Major: Social Work Wheel of Community Resources Adviser: Robert Jolley

**Hilary Spurr** Major: Social Work *The Chase Home Program Model* Adviser: Robert Jolley

#### **Katelyn Wagner** Major: Social Work *Stereotypes and Accepting Differences* Adviser: Robert Jolley

## Alison Milioto '06

Educating Students About Using Credit Wisely: Citibank Marketing Project

Alison Milioto is pretty responsible with a credit card. She's had one since she was 18 and has learned a lot about budgeting by owning it. So when presented with the opportunity to teach responsible credit card use to other students she jumped at the chance.

Last semester, Milioto and 15 of her classmates in Peter Masucci's marketing class participated in a Citi/EdVenture program to teach students about avoiding financial problems by maintaining good credit.

Using \$2,500 from Citi/EdVenture, a division of Citibank, Milioto and her peers created their own marketing agency, and set to work. The first step? Their agency, Etavonni (that's "innovate" backwards) Creative Marketing, distributed surveys to more than 450 UNH students, with questions about their credit card use.

Based on the survey results, Etavonni built a campaign strategy, created brochures, a Web site, and even a "responsible credit" event at the Memorial Union Building, where students "traveled" to internationally themed tables (China, Italy, Jamaica) learning about credit, credit ratings, and APRs along the way.

But their work wasn't over. Etavonni then presented the campaign results to its client, Citi Vice President Kerry Locke Bedard. "As a marketing professional, I'm very impressed with the quality of the campaign and the degree of thought put into it," said Locke Bedard, who brought the results back to the corporate office for further analysis.

"What I liked most [about the project] was that we had real-time deadlines and we saw real results," says Milioto. "It was a good experience and showed me how valuable research can be."



## Vice President's University-wide Symposium

## Oral Presentations; Session B

FRIDAY, APRIL 28 10:50 Am-NOON

Memorial Union Building (MUB) and Holloway Commons

#### MUB, Wildcat Den

Marketing Research Projects featuring Whittemore School of Business and Economics students Moderator: Peter Masucci

#### Jennifer Livingstone

Major: Business Administration Beauty and Advertising: Does Advertising Affect the Body Image of Adolescent Girls? Adviser: Peter Masucci

Sarah Barthelmes **Padraigine Bush Jillian Coleman** Lensey Dixon Jonathan Gaffney **Brian Hersey Rachel Larson** Laura Marandola **Tyler Morrison Eden Orndorff** Michael Richardson **Jonathan Sears David Smith** Andrew Tollner Major: Business Administration Hannaford Bros. Marketing Project: New Recruitment Campaign Adviser: Peter Masucci

Jessa Baillargeon **Michael Card Justin Connor Erica Farley Ethan Goodrich Rachel Harrison** Justin Joyner Adam Manley John McDonough **Ryan Nicholson** Stephanie Olynyk Kristen Perry Heidi Rowe **Christina Roy** Matthew Sperazzo Major: Business Administration USNH Marketing Project: Influencing Aspirations of 12-18 Year Olds to Attend College Adviser: Peter Masucci

#### MUB, Rockingham Lounge

Insights into American and International Society Moderator: Stephen Hale

#### Jonathan Burg

Major: Sport Studies and Psychology The Effects of Athlete Goal Orientation on Preferred Coach Leadership Behavior Adviser: Karen Collins

Kelsey Dennis Major: Anthropology Leaving Home: A Global Perspective on the Trends of Young Women Adviser: Stephen Reyna

Kristin Harris Major: English Irrational Exuberance: Allegories of Economic Madness in Eighteenth-Century Literature Adviser: Sean Moore Kara Houghton

Major: French *Marketing in American and French Food Cultures* Adviser: Barbara Cooper

#### Caitlin Marrinan

Major: Linguistics and Spanish Second Language Acquisition and the Critical Period Hypothesis: Are Children more Efficient Language Learners than Adults? Adviser: Aya Matsuda

#### Ashley Ward

Major: Psychology The Effects of Victim and Perpetrator Reputation on Physical Distance: Do Individual Differences Matter? Adviser: Ellen Cohn

#### MUB, Room 233

Advances in Science at the Molecular Level Moderator: Julian E. Torres

#### **Florence Fong**

(McNair Graduate Program) Major: Microbiology Rapid Detection of Enteric Viruses in Water Through Cell Suspension and Integrated Cell Culture Real Time RT-PCR Adviser: Aaron Margolin

#### Loreen Fournier

Major: Biology: Molecular, Cellular, and Developmental Phosphate Groups on Her2 Binding to Estrogen Receptors: Implications for Tamoxifen-resistant Breast Cancer Adviser: Andrew Laudano Leolene Jean (McNair Graduate Program) Major: Biochemistry Molecular Diversity and Functional Analysis of the Opsin Genes Expressed in Daphnia Adviser: W. Kelley Thomas

**Mark Santos** Major: Microbiology *Transnasal Delivery of a GnRH Analog in Miniature Swine* Adviser: Stacia Sower

#### MUB, Room 207

Interaction and Representation: On Film, France, Feminism, and Sports Moderator: Beverly James

#### **Kristin Condon**

Major: Communications The F Word: Feminist Identity Declared or Disavowed by Callers on Talk Radio Adviser: Beverly James

**Ben Guerette** Major: Communications *Native American Sports Mascots: Analysis of the Arguments* Adviser: Beverly James

Rachel Kearns Major: Communications 'What Made the Red Man Red?': Native American Discourse in Disney Adviser: Beverly James

Kristen Lewis Major: Communications Three Perspectives on Social Problems in France Exposed through Film Adviser: Beverly James

#### MUB, Room 302

Informational Exchange through the Mediums of Language, Music, and Computers Moderator: Rob Haskins

Jessica Cawley Major: Music Education Investigating the Ways the Irish Learn Music Adviser: Susan Hatfield

Chantelle Jacobs (McNair Graduate Program) Major: English Literature *Evaluating the Feminine Voice in John Donne* Adviser: Janet Gardner

Kraig Lamper Major: Music Performance and Philosophy *Fluxus as Fragmentation and Continuity* Adviser: Rob Haskins

Jason Lawrence Major: Music Beatles Get High with Lucy in the Sky Adviser: Rob Haskins

Christina Leber Major: Computer Science Accelerated Spatial-Directional Queries for Dynamic Scenes Adviser: Alejo Hausner

#### MUB, Room 321

Highlighting the Margins: Empowerment and Engagement II Moderator: Mary M. Moynihan

**Jaden Brulotte** Major: Sociology Adviser: Mary M. Moynihan **Sarah Clinton** Major: Women's Studies Adviser: Mary M. Moynihan

**Meghann McCluskey** Major: English and Women's Studies Adviser: Mary M. Moynihan

Lindsay Menard-Freeman Major: English and Women's Studies Adviser: Mary M. Moynihan

**Kristen Mollomo** Major: Women's Studies Adviser: Mary M. Moynihan

**Courtney Strait** Major: Women's Studies Adviser: Mary M. Moynihan

#### **Holloway Commons, Lamprey Room**

Perspectives on Gender-related Issues Moderator: Catherine Moran

Blaine Butler Major: Sociology Masculinities: Gender Identity Development among Heterosexual and Homosexual Men Adviser: Jean Elson

Erica Downing Laura Keith Major: Sociology Media Effects on Perceptions of Female Attractiveness Adviser: Jean Elson

Jillian Kalosky Major: Sociology and Justice Studies The Impact of Physical Attractiveness in Perceptions of Acquaintance Rape Adviser: Catherine Moran

**Gina Lalli** Major: Sociology *Gender Attitudes Among Men and Women at UNH* Adviser: Catherine Moran

#### FRIDAY • VICE PRESIDENT'S UNIVERSITY-WIDE SYMPOSIUM—ORAL PRESENTATIONS; SESSION B, CONTINUED

**Kara Lowell** Major: English *The Similarities and Differences of Breastfeeding* Adviser: Jean Elson

#### MUB, Room 332

International Affairs: People at War: Terrorism, Violence, and Civil War Moderator: Barrett Rock

Lindsay Aleo Major: Political Science Separatist Movements: The Fight against the Authoritarian Regimes Adviser: Lawrence Reardon

**Victor Florez** Major: Political Science *La Violencia: Continuing Guerrilla Activity in Columbia* Adviser: Lawrence Reardon

John Hilton Major: Spanish Spain and the United States: Unequal Rates of Violent Crimes Adviser: Lawrence Reardon

**Ioannis Karalis** Major: Political Science *The Green Line: The Invasion of Cyprus in 1974* Adviser: Lawrence Reardon

Nathan Smith Major: Political Science When Do Terrorists Attack? Adviser: Lawrence Reardon

Matias Wigozki Major: Communications Borders and Desperation: Separatist Movements around the World Adviser: Lawrence Reardon

#### MUB, Room 336

International Affairs: Fear of the Other Moderator: Lori Hopkins

**Stephen Calcavecchia** Major: Linguistics *The Gypsy Subculture in Andalusia, Spain* Adviser: Lawrence Reardon

**Rana Chakar** Major: European Cultural Studies *The Fear of Acceptance* Adviser: Lawrence Reardon

Andre Hoehl Major: Political Science Integration and Cultural Tension in the German Turkish Community Adviser: Lawrence Reardon

**Elsa Rodrigues** Major: Spanish *Effectiveness of Immigration Policies in Spain* Adviser: Lawrence Reardon

Kristen Studley Major: French Race Riots in France: New Development or Old News? Adviser: Lawrence Reardon

Zachary Zoulias Major: Economics French Kiss Goodbye: European Immigration Issues and Racism Adviser: Lawrence Reardon

#### MUB, Room 338

International Affairs: Preserving Culture and Identity II Moderator: Edward Larkin

Elizabeth Bougie Major: Tourism Planning and Development Food for Thought: France's Culinary Rise to International Recognition Adviser: Lawrence Reardon

Rachel Harrison Major: Business Administration Regionalism and Spanish Cultural Identities Adviser: Lawrence Reardon

**Courtney Hazleton** Major: Anthropology *The Preservation of Tradition in an Increasingly Globalized World* Adviser: Lawrence Reardon

Andrew Masel Major: Spanish God's Black Mother: The Influence of Religion in State Censorship Adviser: Lawrence Reardon

**Carrie Nichols** Major: French *Où va notre langue? The Colonization of English in the French Language* Adviser: Lawrence Reardon

#### MUB, Room 340

International Affairs: Building a More Civil Society Moderator: Funso Afolayan

Moses Ajou Major: Economics *The Corruption of Kenya* Adviser: Lawrence Reardon Michelle Giguere Major: English The Censorship has Sailed: Spanish Media and Democracy Adviser: Lawrence Reardon

#### **Devin Morey**

Major: Spanish Government Oppression during Argentina's Dirty War Adviser: Lawrence Reardon

Jonathan Van Arsdell

Major: Political Science State of Democracy: Italy and the Berluscconi Era Adviser: Lawrence Reardon

#### **Emina Zlotrg**

Major: Political Science *Civil Society in Post-conflict State: Case of Bosnia and Herzegovina* Adviser: Lawrence Reardon

#### MUB, Room 334

Political Science: American Politics Moderator: Susan Siggelakis Discussant: Ashley Jane Kneeland

#### Aleyah Ashour

Major: Political Science and International Affairs An Insight into Public Opinion of Female Presidential Candidates Adviser: Lawrence Reardon

Ian Pajer-Rogers Major: Political Science Presidential Powers and Judicial Review during the Bush Administration Adviser: Lawrence Reardon

### Ruth Varner

Research Assistant Professor

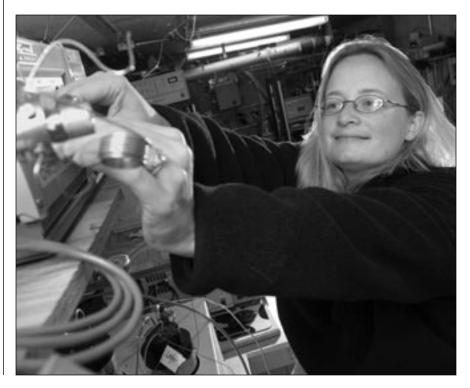
In the dark of night during a steamy stretch of North Carolinian midsummer weather, a team of two students climbs a 15-meter tower to the high branches of pine and sweet gum trees. For the next 45 minutes, they'll take air samples and readings from instruments measuring gas emissions from the trees' branches. It's a process they'll repeat every two hours, around the clock, for 10 straight days.

The students, a UNH undergraduate and Ph.D. candidate, are at the Duke Forest FACE (Free Air CO<sub>2</sub> Enrichment) site working with UNH research assistant professor Ruth Varner. They are studying how plants respond to an increased CO<sub>2</sub> environment and how this may impact future air quality. The work is as important as the schedule is grueling.

"We know CO<sub>2</sub> is increasing and will continue to increase," says Varner. "What we're not sure about is how the natural ecosystems will respond," she adds.

Varner is part of UNH's Climate Change Research Center. Closer to home, she and her students study gas emissions at diverse local field sites and in her Morse Hall lab, where she is working with UNH sophomore Jordan Goodrich to examine emissions of methyl halides from fungi as part of a National Science Foundation-funded study. "Methyl halides are important in the atmosphere because halogen atoms can destroy ozone," the barrier protecting Earth from solar radiation, Varner says. "Jordan has been growing the fungi and running air samples on a gas chromatographer," work he will continue during the upcoming summer break.

"What I like about working with undergraduates is they bring a fresh perspective to the research," says Varner.



#### FRIDAY • VICE PRESIDENT'S UNIVERSITY-WIDE SYMPOSIUM—ORAL PRESENTATIONS; SESSION B, CONTINUED

Political Science: Comparative Politics Moderator: Mary Malone Discussant: Stephanie Bramlett

Virginia de Freitas-Battersby Major: Political Science and International Affairs The Barriers between the Kitchen and the Campaign: Women's Political Participation in Latin America Adviser: Lawrence Reardon

#### Amanda Diegel

Major: Sociology and International Affairs Struggling with Democracy: A Comparative Examination of Legitimacy in Venezuela and Argentina Adviser: Lawrence Reardon

Shana Friedman Major: Political Science A Comparative Analysis of the Democracies in Mauritius and Madagascar Adviser: Lawrence Reardon

Kelly Vogel Major: Political Science Reproductive Rights for Chinese Women Adviser: Lawrence Reardon

#### MUB, Room 330

Contemporary Configurations of Gender in the United States Moderator: Melissa Deem

Sarah Coleman Major: Communications Rushing Sisterhood: Sorority Culture and Rivalry within Gender Adviser: Melissa Deem

Jamie Dellorusso Major: Communications Outing the Secret: Hypersexuality on the Down Low Adviser: Melissa Deem Lauren Story Major: Communications Title IX and the Feminist Challenge to Masculinist Hegemony in U.S. Sports Culture Adviser: Melissa Deem

Kristen Woodruff Major: Communications Girls Gone Wild: Academic Culture and the Reinvigoration of the College Coed Adviser: Melissa Deem

#### Holloway Commons, Cocheco Room

Perception: The Mind at Work Moderator: Sharyn Potter

**Emily Belmonte** Major: Sociology *Gendered Aspirations* Adviser: Sally Ward

Faith Gatcomb Major: Sociology Are Female College Student's Perceived Fears Matching the Actual Danger? Adviser: Sharyn Potter

Melissa Mangold Major: Sociology and Justice Studies Perceptions of Hate Crimes on a College Campus Adviser: Sally Ward

Sarah Miles Major: Anthropology Dar es Salaam, Tanzania: The Organization and Mobilization of Women in NGOs Adviser: Joe Lugalla

Sarah Raymond Major: Sociology Crime, Deception, and the Misleading of the American Public Adviser: Sharyn Potter

## Honors English Undergraduate Research Conference

FRIDAY, APRIL 28 NOON-5 pm

Hamilton Smith Hall, English Department Lounge, Rooms 128 & 129

In order to complete Honors-in-English, students are required to conduct a semester-long research project, culminating in a 30–40 page senior thesis. The Honors English Undergraduate Research Conference provides these students with the opportunity to share their work with fellow students, professors, and families. The presentations are wide-ranging, from original poetry to autobiographical criticism to scholarship on literature, spanning the medieval period to the twenty-first century.

**Lindsay Burke** Major: English *Women in Renaissance Drama* Adviser: Douglas Lanier

**Molly J. Cooper** Major: English *Bad Girls: Romantic Feminine Rebellion in Renaissance Drama* Adviser: Douglas Lanier

John Eaton Major: English From This Point Onward, There Are No Maps: Short Stories Adviser: Alexander Parsons

Patricia Grennen Major: English The Sentimental Novel of the Eighteenth Century: A Discussion of Works by Mackenzie, Sterne, and Austen Adviser: Sean Moore **Catherine Huettner** Major: English *William Faulkner and the Endurance of Modern Man* Adviser: Delia Konzett

#### Meaghan James-Rapp Major: English The Peyton Place Tradition: Breaking the Mold of Femininity in Small Town New England Adviser: David Watters

Jessica Nelson Major: English Last Dance: Alzheimer's Rhythm Adviser: Andrew Merton

Jaclyne M. Salzillo Major: English Gossip as Narrative in the Eighteenth Century Adviser: Sean Moore

Jacqueline Silva Major: English One Last Bell: A Collection of Poetry Adviser: Lisa Miller

## School of Health and Human Services Grimes Award Competition

FRIDAY, APRIL 28 12:30-3:30 рм

Pettee Hall, Room G10

Jack and Marianna Grimes and family, all UNH graduates, endowed the funds for this celebration of excellence in undergraduate research. This oral presentation competition includes finalists who have been selected by School of Health and Human Services faculty after rigorous scientific review of written proposals. (Information on participants will be available at this event.)

## Psychology George M. Haslerud Undergraduate Research Conference

FRIDAY, APRIL 28 1-4 pm

Conant Hall, Room 101

The George M. Haslerud Undergraduate Research Conference, named for the late professor emeritus of psychology, recognizes and celebrates undergraduate research conducted by psychology students.

Nicholas Adams Major: Psychology The Effects of Catecholaminergice and Cholinergic Enhancement on Covert Orienting and Alerting in Visuospatial Attention Adviser: William Stine

Laura Comley Major: Psychology Memory in the Classroom with Particular Attention to Math Conceptualization and How it Relates to Memory Adviser: Michelle Leichtman

Alyssa Fenton Major: Psychology The Protective Function of Spirituality on Depression in Older Adult Widows Adviser: Toni Bisconti

Jesse Gag

Major: Psychology Attitudes and Knowledge of the Legal System as it Relates to the Level of Watching Crime-Related Dramas on Television Adviser: Carolyn Mebert Amy Kaye

Major: Psychology Parenting in Adult Survivors of Child Sexual Abuse: Examining Resilience Adviser: Victoria Banyard

Rebecca Peake

Major: Psychology Romantic Relationships and College Students: A Study of Subjective Well-being in Undergraduates Adviser: Victor Benassi

Kristina Schmid

Major: Psychology Autobiographical Memories of Parent-Adolescent Experience Adviser: David Pillemer

Andrew Van Hoogenstyn

Major: Psychology The Effects of Intermittent Cold Water Swim Stress on Navigational Learning and Memory Adviser: Robert Drugan

**Mary Veronica Vandoloski** Major: Psychology *Verb Tense as a Predictor of Listener's Reactions to Autobiographical Narratives* Adviser: David Pillemer

**Kara Vigliatura** Major: Psychology *Memory in the Classroom* Adviser: Michelle Leichtman

**Erinn Walsh** Major: Psychology *Personal-event Memory in Adults with and without ADHD* Adviser: Michelle Leichtman

## Festival of Creativity and Culture

FRIDAY, APRIL 28 3:30-5:30 рм

Hennessy Theatre, Paul Creative Arts Center

At this event, students from various disciplines share their artistic projects through a unique combination of performance and scholarly presentation. Students will discuss how they were inspired, how they prepared for the event, and how their UNH experiences are preparing them for careers in the arts.

Albert Craig Major: Music *The Trek of John Jacob Niles* Adviser: Rob Haskins Rachel Brodeur Rachel Elias Megan O'Connor Courtney Trudeau Major: Theatre and Dance Sapphire Project Adviser: David Richman

**Chris Jackson** Major: Theatre and Dance *The Sunglass Variations: The Actor as* 

*Creative Artist* Adviser: David Kaye

#### Kraig Lamper

Major: Music Fluxus as Fragmentation and Continuity Adviser: Rob Haskins

#### Jason Lawrence

Major: Music Music Beyond Words: Sonic Representations of Drug Euphoria Adviser: Rob Haskins

Harmony Stempel Major: Theatre and Dance *Last Chance for Power* Adviser: David Richman

## Philosophy Undergraduate Research Conference

FRIDAY, APRIL 28 4-8:30 pm

The Waysmeet Center, 15 Mill Road (see map page 5)

The Philosophy URC is a mosaic of concise and meaningful student presentations, varying from such philosophical topics as deontological ethics to Pyrrhonian skepticism to social justice. Presentations are

### Amanda Putnam '06

The Role of Cytokeratin-8/18 in Cell Death within the Corpus Luteum

Amanda Putnam spent the summer of 2005 analyzing the ovarian structure of cows in an effort to better understand bovine infertility. She divided her time between the UNH dairy facility, where she collected cell samples from ovaries of cows in their luteal or prepregnancy phase; and the lab, where she stained the cells with fluorescent markers and analyzed them for incidence of cell death using a sophisticated cell-sorting machine.

"I liked how the research was contingent upon many different procedures and processes. It was never boring," says Putnam, an animal science major who is planning a career in biotechnology. She defends her research

at the 15<sup>th</sup> annual COLSA Undergraduate Research Conference on Saturday, April 29.

"If one could capture lightning in a bottle, Amanda personifies this," says David Townson, associate professor and adviser to Putnam over the past four years. "She's an exceptional student, an eager investigator, and a wonderful person."

Earlier this month, Putnam received the prestigious 2006 University Women's Award, which recognizes a student who shows the greatest promise through character, scholarship, leadership, and usefulness to humanity.

#### followed by a brief question and answer period. All are welcome and sincerely encouraged to attend. Refreshments will be served.

Elias Abdallah Major: Philosophy, Political Science, and Humanities Dying Souls Adviser: Drew Christie

**Ryan Abbott** Major: Philosophy *Habermas' Critique of Adorno* Adviser: Nick Smith

#### **Roger Eichorn**

Major: Philosophy and History Philosophy and Common Life: Skeptical Crisis or Dogmatic Crisis? Adviser: David Hiley

Mark Joseph Major: Philosophy and English Can Kant Accommodate Supererogation? Adviser: Paul McNamara

**PJ Niver** Major: Philosophy and Humanities *Nietzsche as Educator* Adviser: David Hiley

Martin Rowley Jr. Major: Philosophy Individualism and the Self Adviser: David Hiley

Hannah Varn Major: Philosophy and English *What Words Can Do* Adviser: Kathy Miriam

## Student Composers Concert

FRIDAY, APRIL 28 8 pm

Bratton Recital Hall, Paul Creative Arts Center

The UNH Student Composers Concert is an annual event featuring the works of undergraduate and graduate students in the Department of Music. The music is newly composed and is almost exclusively performed by fellow music students.

Joel Biedrzycki Major: Music Performance *Woodwind Quintet* Adviser: Nicholas Orovich

**Tom Bourgault** Major: Music Education *Quintet for Winds* Adviser: Mark DeTurk

Nat MacDonald Major: Music *Piano Piece* Adviser: Chris Kies

**Tim Miles** Major: Music Education *String Quartet: Music for Clarinet and Percussion* Adviser: Mark DeTurk

Dan Noronha Major: Music String Quartet No. 1 Adviser: Chris Kies

#### Nate Therrien

Major: Music Education Piece for Clarinet, Vibraphone, and Bass Adviser: Larry Veal

**Scott Thibodeau** Major: Music Education *Solo for Unaccompanied Clarinet* Adviser: Andrew Boysen

## 15th Annual COLSA Undergraduate Research Conference

SATURDAY, APRIL 29 7:45 am-2 pm

New England Center, Great Bay Room

Student presentations at the 15th annual COLSA URC are based on research work done in any of the college's departments and run the full gamut of research found in the college from field studies to developmental and molecular biology and genomics studies. A number of studies are collaborative efforts between work here at UNH and work carried out in foreign countries. The COLSA URC is funded by the College of Life Sciences and Agriculture, Dean's Office and Departments: the Office of Academic Affairs, the Office of Research and Public Service, the Marine Program, the Office of Sponsored Research, and the Center for Undergraduate Research.

Elisha Allan Major: Biology: Ecology, Evolution, and Behavior Barcoding of the Growth Stages of Two Freshwater Calanoid Copepod Species Adviser: James Haney

#### SATURDAY • 15TH ANNUAL COLSA UNDERGRADUATE RESEARCH CONFERENCE, CONTINUED

#### Lisa Bedford

Major: Biology: Molecular, Cellular, and Developmental The Influence of Endogenous Circadian and Circatidal Clocks on Horseshoe Crab (Limulus polyphemus) Locomotion Adviser: Winsor Watson

Janelle Bosse Major: Biology: Ecology, Evolution, and Behavior Effective Sampling of Beetles: A Comparison of Terrestrial Invertebrate Sampling Techniques in the Hunua Ranges, New Zealand Adviser: Kim Babbitt

**Jill Brelsford** Major: Microbiology *A Tale of Two Sigma Factors* Adviser: Cheryl Whistler

#### Jennifer Busse

Major: Biochemistry In Vitro Studies of Mechanisms of Nutrient Supply to Oocytes During Oogenesis and Localization of Stem Cells in the Green Sea Urchin Adviser: Charles Walker

#### Sarah Comeau

Major: Microbiology Characterization of a Novel Bacteriophage in the Burkholderia cepacia Complex Adviser: Vaughn Cooper

#### Steven Conaway

Major: Environmental Horticulture Evaluation of Biological and Chemical Fungus Gnat (Bradysia spp.) Controls for Production of Vegetative Cuttings in Greenhouse Settings Adviser: Paul Fisher

#### Hieu Doan

Major: Biology: Molecular, Cellular, and Developmental *Effects of Aluminum and/or Cadmium on Growth and Cellular Metabolites in Suspension Culture of Red Spruce* (Picea rubens) Adviser: Rakesh Minocha

Sarah Eisenlord Major: Microbiology The Effects of Warming on Soil Microbial Metabolism Adviser: Serita Frey

#### Celeste Eno

Major: Biology: Marine and Freshwater Production of Triploids and Karyotyping the Green Sea Urchin, Strongylocentrotus drobachiensis Adviser: Charles Walker

#### Evan Jordan

**Stephan Pirnie** Major: Biology: Molecular, Cellular, and Developmental Harnessing the Power of an Invasive Species: Creating a Bioremediator out of Purple Loosestrife Adviser: Subhash Minocha

#### **Stephanie Fardy**

Major: Environmental and Resource Economics *Exeter River Watershed Vulnerability Analysis: Data* Adviser: John Halstead

**Darren Ferguson** 

Major: Animal Science: Bioscience and Technology Steroid Hormone Concentrations during the Reproductive Cycle of the Female Smooth Skate, Malacoraja senta Adviser: Paul Tsang

#### Loreen Fournier

Major: Biology: Molecular, Cellular, and Developmental Phosphorylation of Her2/neu Creates a Binding Site for Estrogen Receptors: Implications for Tamoxifen-resistant Breast Cancers Adviser: Andrew Laudano

#### Brianna Heath

Major: Wildlife Management Home Range Establishment and Dispersal of Yearling Moose in Northern New Hampshire Adviser: Peter Pekins

#### Leolene Jean

Major: Biology Molecular Diversity and Functional Analysis of the Opsin Genes Expressed in Daphnia Adviser: Kelley Thomas

#### Christie Klisz

Major: Biochemistry Identification of Trans Acting Factors Controlling Opsin Gene Expression Adviser: Karen Carleton

#### Angela Kuehn

Major: Microbiology Rotting to Success: Experimental Evolution of Burkholderia in Onions Adviser: Vaughn Cooper

#### **Jennifer Loquine** Major: Animal Science *Expression Pattern of the CPK5 Gene in* Arabidopsis thaliana

Adviser: Estelle Hrabak

#### Matthew Lubicky

Major: Biology: Marine and Freshwater Genetic Analysis of Cod Stocks in the Gulf of Maine Adviser: David Berlinsky

#### **Courtney Miller**

Major: Microbiology The Effects of Environmental Conditions on Photorhabdus temperata Biolfilm Formation Adviser: Louis Tisa

#### Ethan Miller

Major: Bioscience and Technology Facilitation and Inhibition of Trap Closure in D. muscipula through Manipulation of Membrane Aquaporin and Potassium Channels Adviser: Wayne Fagerberg

#### **Heather Moulton**

Major: Wildlife Management Using Site Occupancy to Assess Population Health of Hochstetter's Frogs (Leiopelma hochstetteri) in the Kokako Management Area Adviser: Kimberly Babbitt

#### Jennifer Murphy

Major: Medical Laboratory Science Effects of the Notch-1 Receptor on the Differentiation Status of Human Liposarcoma Cells Adviser: Deena Small

#### Hristina Natcheva

Major: Biology *Targeted Mutagenesis in the Moss* Physcomitrella patens Adviser: Estelle Hrabak

#### **Brenton Paolella**

Major: Biology: Molecular, Cellular, and Developmental *Identifying Components of the Circadian Clock that may Entrain Germ-line Stem Cell Mitosis in the Green Sea Urchin*, Strongylocentrotus drobachiensis Adviser: Charles Walker

#### Anna Pape

Major: Dairy Management Land Values Based on Corn and Hay Production in New Hampshire Adviser: Doug Morris

#### Paul Pepler

Major: Environmental Science Forest Canopy Recovery After Reduced Impact Logging in Amazonia Adviser: Michael Keller

#### Amanda Putnam

Major: Animal Science: Bioscience and Technology *The Role Of Cytokeratin-8/18 in Cell Death within the Corpus Luteum* Adviser: David Townson

#### Jonathan Quade

Major: Biochemistry Structure, Function, and Regulatory Differences of Rod and Cone Photoreceptor Phosphodiesterase (PDE6) Adviser: Rick Cote

#### **Mark Santos**

Major: Microbiology Transnasal Delivery of a GnRH Analog in Miniature Swine Adviser: Stacia Sower

## Chris Glynn '06

Brain Computer Interfaces and Computational Modeling

Why is an electrical engineering major studying the prehistoric lamprey, the oldest living representative of the first vertebrates? Chris Glynn was driven by an interest in biological applications to electrical engineering. He teamed up with computer engineering major Jason Dahlstrom to study a lamprey brain-computer interface, then modeled the brain's functions as the lamprey orients itself to ambient light.

Glynn says the project exposed him to many different aspects of electrical engineering, including signal processing, modeling, and components of controls and mechanics. "In my education, these were topics that were treated as independent," he says. "In this project, all of these skills and subjects merged."

Glynn presents his work at the Interdisciplinary Science and Engineering Symposium (ISE) on Wednesday, April 26 in the Morse Hall atrium.



#### Satya Sardonicus

Major: Biochemistry Circulating Concentration of Interleukin-18 Binding Protein in Obese and Non-Obese, Asthmatic and Non-Asthmatic Women Adviser: Anthony Tagliaferro

#### Lindsay Scott

Major: Environmental Conservation Effects of Long Term Soil Warming on Soil Respiration Adviser: Serita Frey

#### **Kristine Seigars**

Major: Microbiology Neutrophil Binding to Salmonella typhimurium and Salmonella enteritidis in their Wildtype, Mutant, and MBLbound Forms Adviser: Thomas Pistole

#### Joseph Shannon

Major: Forestry Effect of Forest Species in a Watershed on Stream Chemistry at Bartlett Forest Adviser: Jacqueline Aitkenhead-Peterson

#### Daniel Vail

Major: Biochemistry North American Red Spruce Migration Pattern Inferences from Molecular Analysis of Intraspecific Genetic Variation Adviser: Anita Klein

#### Nicole Young

Major: Animal Sciences Cytokeratin 8/18 Intermediate Filaments and their Role in Regression of the Bovine Corpus Luteum Adviser: David Townson

## Whittemore School of Business and Economics Paul J. Holloway Business Plan Competition

WEDNESDAY, MAY 3 8 am-2 pm

#### Piscataqua and Swampscott Rooms, Holloway Commons

The Paul J. Holloway Business Plan Competition is an integral part of the undergraduate experience at the Whittemore School. Students are required to research and prepare business plans, which they present to a panel of industry leader judges. Prizes are awarded for the most feasible and fundable plans for starting, acquiring, or expanding a business venture.

(Information on participants will be available at this event.)

## Mary Louise Fernald Nursing Research Symposium

WEDNESDAY, MAY 3 8 am-12:30 pm

#### MUB, Strafford Room

The Mary Louise Fernald Nursing Research Symposium is a program of scholarly presentations by undergraduate honors students and graduate students.

#### Sarah Belisle

Master's Research Project: Healthy Start: A Prevention Program to Address Childhood Obesity Adviser: Pam DiNapoli

#### Angela Braswell

Master's Research Project: A Pilot Project to Identify Factors Affecting Nurses' Decision to Administer As-needed Analgesics to Nursing Home Patients with Dementia Adviser: Raelene Shippee-Rice

#### Roberta Compagna

Master's Research Project: College Student's Knowledge of HPV Adviser: Lynette Ament

#### **Rachel Corr**

Major: Nursing Cigarette Smoking as a Risk Factor for Abnormal Pap Smears: An Integrative Literature Review Adviser: Lynette Ament

#### **Christine Crawford**

Master's Research Project: Women and Cardiac Rehabilitation: The Effect of In-patient (Phase I) Consultation on Referral to Out-patient (Phase II) Programs Adviser: Susan Fetzer

#### Patricia Grobecker

Master's Research Project: Comparison of Health Status of Adolescents Using BMI: A Study of Lowell High School Students Adviser: Pam DiNapoli

#### Elizabeth Hale-Campoli

Master's Research Project: Handoffs-Clarifying Communication and Improving Patient Care Adviser: Gene Harkless

#### Shawna Healy

Master's Research Project: Cardiovascular Risk Modification in the College Student Adviser: Pam DiNapoli

#### **Cheryl Laferriere**

Master's Research Project: Exploring Effects of Music on Anxiety of Patients Undergoing a Colonoscopy Adviser: Susan Fetzer

#### Leslie Larsen

Master's Research Project: The Evaluation of Teaching Undergraduate Nursing Students Pediatric Clinical Skills Through Simulation Adviser: Pam DiNapoli

#### **Dorothy Normile**

Master's Research Project: Do Nursing Homes in New Hampshire Use Alcohol Hand Rubs? Advisor: Gene Harkless

Jennifer Perkins Major: Nursing The Health Care Experiences of International College Students Adviser: Gene Harkless

#### Susan Reeder

Master's Research Project: Measurement of Health Status in Adult Burn Patients Adviser: Gene Harkless

#### Rizwana

Master's Thesis: Attitudes and Current Practices during Intrapartum Period of Maternity Care Providers in India Adviser: Gene Harkless

#### Ashley Jeffery Katie Roy

Master's Research Project: Over-the-Counter Emergency Contraception and Changes in Contraceptive Behaviors and Practices of College Students Adviser: Gene Harkless

#### Jane Sobolov

Master's Research Project: The Forfeiture of a Driver's License by an Elder: The Experience of Family Adviser: Janice Foust

## Chemistry Department Poster Exhibition

FRIDAY, MAY 5 2:30-4 рм

Parsons Hall, Iddles Foyer

This exhibition is the result of students' yearlong senior thesis research in such areas as organic, inorganic, physical, or analytical chemistry, and under the direction of their research adviser.

#### Adam Csakai

Major: Chemistry Tandem Chain Extension Aldol Reaction of  $\beta$ -Keto Imides Adviser: Charles Zercher

Joseph Dunn Major: Chemistry

Major: Chemistry Adviser: Glen Miller

#### Matthew Guay

Major: Chemistry Atmospheric Halocarbon Measurements: A Companion of Two in situ GC Systems to Canister Sampling Advisers: Howard Mayne and Barkley Sive

#### Laura Gustafson

Major: Chemistry Diaminosarcophagine, CB-TE2A and TMpyP: A Comparative Kinetics Study of Inertness and Stability Adviser: Edward Wong

#### **Timothy Henderson**

Major: Chemistry Attempted Stereo Selective Synthesis of Tetrahydrofuran Rings Adviser: Charles Zercher

**Richard Luciano** Major: Chemistry Advisers: Howard Mayne and Barkley Sive

#### Tara Rix

Major: Chemistry Trace Gas Detection using Cavity Ring-down Spectroscopy Adviser: John Dudek

#### Anna Weaver

Major: Chemistry EPR Spectroscopy for the Forensic Analysis of Glass Adviser: N. Dennis Chasteen

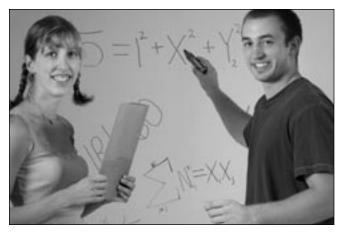
#### Peter Widger

Major: Chemistry Synthesis and Characterization of New Tricyclic Tetraamines Adviser: Gary Weisman

## Expanded horizons



Maggie Balz



Kirsten Hutchison and Derek Pouliot

Many students broaden their research experience by taking their findings on the road to present at national conferences and professional meetings.

Junior Maggie Balz is one of them. Last semester she headed west to the American Speech, Language, and Hearing Association's national convention in San Diego to present the results of her study on how electronic journal writing helps persons with brain injuries communicate.

In addition to having the chance to present her work to future colleagues, Balz says "it was really great to see how many career choices I'll have with my degree. I didn't realize how many specialties of speech pathology existed until I attended this conference."

See Balz's poster presentation "Electronic Journal Writing: Communicative Freedom for Adults with Brain Injury" at the Vice President's University-wide Symposium on Friday, April 28 at the MUB. Mathematical and the search of the search of

At the suggestion of their faculty mentor, Associate Professor Dmitri Nikshych, the pair applied for and was awarded a Summer Undergraduate Research Fellowship (SURF) which enabled them to work on computations and write a computer program that searches for based rings.

Earlier this month, Hutchison and Pouliot presented their findings at the National Conference on Undergraduate Research in Asheville, North Carolina.

## Capital! in the Capitol

Eleven student researchers represented the University of New Hampshire at the UNH Legislative Breakfast in Concord on April 19. An annual spring event, the breakfast brings New Hampshire Senators and key leadership from the New Hampshire House together with some of UNH's finest student researchers to discuss their work and findings.

This year's participants represented the diverse array of research underway at UNH in all disciplines; from music, to nursing, chemistry, animal science, and beyond.

#### 2006 Legislative Breakfast presenters:

Abebe Negash, Concord, N.H. Joe Pearson, Barrington, N.H. Emmanuel Pitia, Manchester, N.H. Chemical Engineering Testing Biodiesel Fuel in Small Diesel Aircraft Engines

Jessica Cawley, Manchester, N.H. Music Education Investigating the Ways the Irish Learn Music

Magdalen Balz, Portsmouth, N.H. Communication Sciences and Disorders Electronic Journal Writing: Communicative Freedom for Adults with Brain Injury

**Chad Saindon, Kingston, N.H.** Health Management & Policy *PhysicalBest Program Increases Children and Adolescent Fitness to Healthy Levels*  Duane Hudgins, Sandown, N.H. Naoufal Souitat, Rabat, Morocco Mechanical Engineering Emission Tomography

**Catherine Overson, Weare, N.H.** Psychology Perinatal Loss: Possible Caregiver Barriers

Amanda Putnam, Peru, Maine Animal Science: Bioscience and Technology The Role of Cytokeratin-8/18 in Cell Death within the Corpus Luteum

#### Anna Keim Weaver, South Berwick, Maine

Chemistry (Biology minor) EPR Spectroscopy for the Forensic Analysis of Glass

2005 Legislative Breakfast



## URC 2005 Awards of Excellence

Last year, the Undergraduate Research Conference distributed more than \$12,000 in scholarships and travel grants to student participants for their award-winning work. The following University offices and departments sponsored these awards: The Office of the Vice President for Student and Academic Services, the Office of the Vice President for Research and Public Service, the Center for Undergraduate Research, the Institute for the Study of Earth, Oceans, and Space, the New Hampshire Space Grant Consortium, the College of Engineering and Physical Sciences, the Environmental Research Group, and the Marine Programs.

The following returning undergraduates received \$500 scholarship awards of excellence.

**Amy Blaisdell '06** *The "Loaded Question" in Police Interrogations* 

Michael Bruce '06 Electron Microscopy of Shell Disease in Homarus americanus

**Milena Doerfer '06** Post Traumatic Stress Disorder and EEG Assymetry in Vietnam Nurses

**Heather Drayton '05** Parents Perceptions of the Imaginary Companions of their Preschool Children

Jesse L. Gauthier '06 Obsessed

Victoria Lynn Hebert '08 Students against Cancer

Jillian Kalosky '06 Attitudes towards Rape Myths, Acquaintance Rape, and Reporting

**Benjamin T. MacBride '07** Application of the Kolmogorov 4/5 Law to Interplanetary Turbulence

**Emily Olsen '06** Writing as Activism The following undergraduates received \$750 travel grants to present their award-winning research at a professional conference.

#### Candice Carbone '05

*The Many Languages of Spain: Linguistic Evolution and Influence on Contemporary Spain* 

**Nicholas Dellas '05** *Texture Formation in Thin Films During Sputter Deposition* 

**Robert DiFabio '05** Energy Dependent Charge States in Impulsiv Solar Energetic Particle Events

Matthew Fortier '05 Active Noise Cancellation

Jacquelyn Frasca '05 Sondra Seppala '05 The Effect of Parental Marital Status and the Parent-Adolescent Relationship on Sexual Risk Taking Behaviors: An Archival Analysis of the New Hampshire 2000–2001 Teen Assessment

**Stephen Hatfield '05** *Identification of the Subcellular Localization of Calcium-Dependent Protein Kinases in Arabidopsis thaliana* 

Hallory Oberg '06 The Remaking of the Family in US Public Culture

**Claire Treat '05** The Interannual Variations in Methane Emissions from a Temperate Peatland

Alexander Unrein '05

A Data Acquisition System for Biofoulded Open Ocean Aquaculture Netting—The Design, Analysis and Construction

Lara Woolfson '05 The Photographic Self Portrait as a Rhetorical Genre

Bigger and better...More than \$23,000 in scholarships and awards will be presented at this year's URC. These awards are made possible by the Center for Undergraduate Research, the Office of the Vice President for Student and Academic Services, the UNH Parents Association, the College of Engineering and Physical Sciences dean's office, the College of Life Sciences and Agriculture dean's office, the College of Engineering and Physical Sciences Alumni Association, the Environmental Research Group, the New Hampshire Space Grant Consortium, the Institute for the Study of Earth, Oceans, and Space, and Phi Beta Kappa.

## A commitment to undergraduate research

Passion for research: It's the defining factor of a UNH education and it is exactly what you will see at this week's URC. The conference is an annual reflection of the remarkable work taking place among motivated undergraduates and active faculty researchers here at UNH.

This student-faculty collaboration is the backbone of the UNH experience. It begins in the classroom with research-intensive coursework, but exists everywhere across campus and beyond. Look around and you'll find undergraduates in faculty labs, teaming up with their teachers to find solutions that benefit society. You'll see them in UNH's many living labs such as the greenhouses, the farms, and the New England Center; or at one of more than 40 centers and institutes dedicated to studying a wide range of issues, where undergraduates conduct research alongside experts in their fields.

One way these undergraduate-faculty relationships are developed is through UNH's Center for Undergraduate Research, which provides students with the opportunity to make research and creative explorations a more formal part of their academic experience. Each semester, dozens of students from varied academic disciplines apply for grants and fellowships from the center's Undergraduate and International Research Opportunities Programs (UROP and IROP). The funds enable them to embark on their own projects, just as professional researchers do, and requires the same elements, from proposal to budget to research to report. Many of the students presenting here this week conducted their research using UROP and IROP grants.

The students you will meet at URC '06 are searching for rare frogs in New Zealand rainforests, composing their own music, building a hovercraft, and growing fluorescent flowers. This direct participation in meaningful research is one of the unique characteristics of a UNH education, where students, together with faculty, are pushing back the frontiers of knowledge.

Center for Undergraduate Research

www.unh.edu/undergrad-research

Centers and Institutes at UNH http://www.unh.edu/orps

Research and Discover www.eos.sr.unh.edu/researchanddiscover

University Honors Program www.unh.edu/honors-program

**Center for International Education** www.unh.edu/cie

The URC is but one means for students to disseminate their findings. Some of the works you see here today might become the basis of an Honors or master's thesis; others may find their way to national conferences and professional meetings where UNH undergraduates present their work to future colleagues and peers; still others may appear in Inquiry, UNH's online journal of undergraduate research. Published annually, Inquiry features the research articles, briefs, and commentaries of undergraduates. The second volume is now online. In this edition, readers will find works on "painting as meditation," an analysis of Guatemalan ceramics, a study of emphatic adverbial modifiers in speech, and much more, including a look at Lindsey Kendrick's work on African violets. Kendrick, a senior pre-vet major, designed a research project aimed at producing fluorescent flowers and plants. Here is an excerpt from her commentary in Inquiry.

Sometime in December of 2004—I should really remember the date—I realized there was no better feeling than that of accomplishment. I was standing in a basic cell culture room in Rudman Hall, where fluorescent bulbs lit up Petri dishes containing plant cultures of all kinds. Tiny sprouts of new tissue grew from the five sections of leaves I had cut and placed on the simple agar only weeks before. Perfect little clones, they were bright green like new plants in the spring. I was only a month into my independent study in the plant biology department and nowhere near the completion of my project to create fluorescent African violets, but I will never forget the sense of pride that swept over me that day.

Read on at www.unh.edu/inquiryjournal.

## **URC '07**

To learn more about participating in the 2007 Undergraduate Research Conference, check out www.unh.edu/urc.

## Acknowledgments

The UNH Undergraduate Research Conference has grown to become a signature event at the University and an annual highlight of the spring semester. One of the largest and most diverse conferences of its kind, bringing the URC to fruition each year is the result of a collaborative, behind-the-scenes network of a great many campus community members. Here, we acknowledge these individuals and thank them for helping make URC '06 happen.

#### Special thanks to:

Center for Undergraduate Research College of Engineering and Physical Sciences Editorial and Creative Services (Student staff members Nicholas Gosling '06, Laila Ballout '08, Laura Smetana '08) Environmental Research Group Institute for the Study of Earth, Oceans, and Space UNH Media Relations (Erika Mantz) New Hampshire Space Grant Consortium Office of the Vice President for Research and Public Service Office of the Vice President for Student and Academic Services The University Honors Program University Hospitality Services **UNH Marine Programs UNH** Parents Association **UNH Photographic Services** Web Solutions Elizabeth Milliken '06, Paula Pelletier '06, and Carly Kinch '06 (URC 2006 Evaluation Project) Pi Kappa Alpha

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# Pulitzer Prize-winning author and global health expert Laurie Garrett

on "Pandemic Security"

*Can it still be assumed that the government can and* will protect the populace's health, or has that trust been betrayed in this complex and frightening time?

In a special appearance at the University of New Hampshire, Laurie Garrett talks about pandemic security.

Please join us Friday, April 21, 7 p.m. The Johnson Theatre (Paul Creative Arts Center) **University of New Hampshire** 

Garrett is an authority on newly emerging and re-emerging diseases, public health, and their effects on foreign policy and national security. She is a senior fellow for global health at the esteemed Council on Foreign Relations and the best-selling author of The Coming Plague: Newly Emerging Diseases in a World Out of Balance and Betrayal of Trust: The Collapse of Global Public Health. She is the only writer ever to have been awarded all three of the Big "Ps" of journalism: The Peabody, the Polk (twice), and the Pulitzer.

There is no charge to attend this event. Seating is limited. To reserve seats, RSVP at (603) 862-0598 (automated) or online at www.unh.edu/urc.

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