April 9, 2012

2012 EAS DISTINGUISHED ALUMNI

EAS Alumni Professor Tom Carney will be presented with the CoS Distinguished Alumni award Friday, April 13.

Please join us in the department for the following events:

- 11:30am: Luncheon with EAS Students (CIVL 2201). Please RSVP to Kathy.
- 3:00pm: Reception with EAS Faculty, Staff and Students (CIVL 2201).
- 3:30pm: Seminar “Slipping the Surly Bonds: the Impact of Weather On Aviation Operations and Safety, Past, Present, & Future” (CIVL 2201)

(See attached flyer for more information)

2012 PURDUE UNIVERSITY AGRICULTURAL RESEARCH AWARD

Dr. Indrajeet Chaubey has been selected to receive the 2012 Purdue University Agricultural Research Award. This is the highest honor awarded to mid-career faculty members through the office of the Associate Dean of Research, College of Agriculture. Dr. Chaubey receives the award in recognition of the exceptional contributions he has made in the field of soil and water engineering.

Dr. Chaubey will receive his award and present a seminar on Monday, May 7th, 3:00-5:00pm, Dean’s Auditorium, Plenderl Hall.

2012 FRAUNHOFER AWARD FOR YOUNG RESEARCHERS

Congratulations to Dan O’Malley who was just recently informed that he has won the 2012 Fraunhofer Award for Young Researchers. The award is for his outstanding contributions to our understanding of mixing processes in porous media; specifically, his renormalization group methods for classifying and scaling dispersive processes. The award comes with a 5000 Euro stipend and he will spend 3 months at the Fraunhofer Institute for Industrial Mathematics in Germany. Dr. O’Malley was a PhD recipient in applied math last spring (major professor, John H Cushman EAS/Math) and he’s currently a post doc in EAS.

The Weekly News

Upcoming MEETINGS

Monday, April 9
- EAS Gold Mine Committee, CIVL 2201 (Noon)

Upcoming EAS SEMINARS

Thursday, April 12 at 3:30pm in CIVL 1252
Dr. Andrew Rivkin, John Hopkins, applied Physics Laboratory, “Water, Hydroxyl, and Ice in the Asteroid Belt.” (See attached flyer)

RECENT EAS PRESENTATIONS

Prof. Lasher-Trapp gave an invited talk at the National Science Teachers Association (NSTA) National Conference on Science Education in Indianapolis on Friday, March 30th, entitled “Clouds and Precipitation in a Future Climate: Why Isn’t There an App for This Yet?”

Upcoming DEFENSES

Thursday, April 12, at 1:30 pm in CIVL 2201:
“A Proposed Method for Objectively Identifying and Characterizing Frontal Zones,” for Kimberly Hoogewind, Advisor: Michael Baldwin

Friday, April 13, at 11:30 am in CIVL 3201:
“Mineralogy of Acid Saline Lake Systems in Southern Western Australia,” for Stacy Story, Advisor: Brenda Bowen.

CAMPUS-WIDE SEMINARS

Nobel Laureate Elinor Ostrom, “Confronting Challenging Collective Action Problems,” Monday, April 16th, 3:30 p.m., Fowler Hall.
Elinor Ostrom, an American political economist and distinguished professor at Indiana University, is the 2009 Nobel Prize winner in Economic Sciences, which she shared with Oliver E. Williamson, for “her analysis of economic governance, especially the commons.” She is the first woman to win the prize in this category. Her work is associated with the new institutional economics and the resurgence of political economy. In her talk, “Confronting Challenging Collective Action Problems”, she will discuss how informal institutions can provide new perspectives on three intractable problems that have confounded policymakers for decades: climate change, food security, and women’s rights. (see attached flyer)

**EARTH DAY SYMPOSIUM**, April 23, 2012. Schedule of events: 7:30 am – 4:30 pm, Burton D. Morgan Center for Entrepreneurship. (See attached flyer)

**Dr. John Robinson**, Chief conservation officer of the Wildlife Conservation, “Conservation and Sustainability in a Human-Dominated World,” Monday, April 23, STEW-214ABCD. (See attached flyer)

**Steve Hallette**, Part of the Earth Day 2012 Celebration, “The Ecology of War: How Peak Oil and global Climate Change will Shape the Conflicts of the 21st Century,” Tuesday, April 24 at 7:00 pm, Krannert Auditorium. (See attached flyer)

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**THE GLOBAL POLICY RESEARCH INSTITUTE HAS TWO EVENTS ON WEDNESDAY, APRIL 18TH:**

(Agenda attached)

Policy Research for a Changing World “Grand Challenge” Conference, 8 am-3 pm, Room 3082, Rawls Hall – we ask people to register for this event even though it is free and the website is listed on the flyer (attached).

Inaugural C.N.R. Rao Global Science Policy Leadership Lecture as part of the Global Connections Lecture Series – Dr. C.N.R. Rao will be presenting a lecture on Global Collaboration in Scientific Research and Higher Education and the Future of Mankind. This event will be held at 7 p.m., Krannert Auditorium. (see attached flyer)

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**2012-13 PRF INTERNATIONAL TRAVEL GRANT ANNOUNCEMENT**

The first round of the 12-13 PRF International Travel Grants is open. An application form can be obtained by selecting appropriate links on the following Web page:

[http://www.purdue.edu/research/vpr/funding/itg.php](http://www.purdue.edu/research/vpr/funding/itg.php)

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**GRAD STUDENTS - IOWA HIGH PERFORMANCE COMPUTING (IHPC) - SUMMER SCHOOL 2012**

Applications are invited for the fourth annual Iowa High Performance Computing (IHPC) Summer School 2012, to be held on the University of Iowa campus from Wednesday-Friday, 6/6-6/8/2012. Funded by the National Science Foundation, the summer school is intended to teach graduate students the fundamentals of high performance computing for modern research in all fields of study. The three-day intensive course consists of a series of lectures, each followed by a period hands-on exercises in a computer laboratory to put the newly gained knowledge into practice immediately. Therefore, enrollment is limited to 16 students so the application procedure for participation in the IHPC 2012 is expected to be competitive. Travel support and lodging is provided for students from outside of the University of Iowa. Information on how to apply is included in the attached flyer.

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**A NOTE FROM OUR ACADEMIC COUNSELOR**

**Purdue North Central**

Purdue North Central staff will be on campus to register students for PNC summer classes on:

Date/Time:

- **Monday: April 9, 2012, 11:00 a.m. - 4:30 p.m.**
- **Tuesday: April 10, 2012, 9:00 a.m. - 2:00 p.m.**

Place: **ELLIOTT HALL OF MUSIC, Ground Level Lobby.**

**Job Fairs**

**Just in Time Job Fair**

Tuesday, **April 17, 10 - 3** in the PMU Ballrooms. The Just in Time Job Fair is your last chance of the school year to connect on campus with a wide variety of companies with opportunities for all majors and degree levels.

**Virtual Career Fair**

Wednesday, **April 18.** Looking for a job or internship? Register for the online job fair—no charge to students and alums.

[https://www.cco.purdue.edu/Events2012/IndianaVirtualCareerFair.jpg](https://www.cco.purdue.edu/Events2012/IndianaVirtualCareerFair.jpg)

**Purdue West Coast Virtual Career Fair**

Wednesday, **May 9.** Students and Alums can meet West Coast employers looking for interns and full time employees. Register:

[http://purdue.careereco.net/students-alumni/virtual-career-fair-details/](http://purdue.careereco.net/students-alumni/virtual-career-fair-details/)
Learning Beyond the Classroom Certificate
Are you enrolled in the College of Science Learning Beyond the Classroom Certificate program? If interested, go to www.science.purdue.edu/lbc and enroll. The end of each semester is a good time to reflect back on the activities in which you have participated and determine whether they are eligible for LBC points. Go to the LBC Blackboard site (https://blackboard.purdue.edu/webct/entryPage.do?wct), log in, and determine into which category the activity falls. Consult the appropriate report form and complete your report. Submit it through Blackboard. You may submit reports on activities up through your next-to-last semester at Purdue. Questions go to → lbc@purdue.edu.

The 10th Annual Undergrad Research Poster Symposium is Tuesday, April 10 from 2:00pm – 6:30pm, PMU Ballrooms.

IMPORTANT NOTICE ABOUT THIS NEWSLETTER
This newsletter is used as the primary information source for current and upcoming events, announcements, awards, grant opportunities, and other happenings in our department and around campus. Active links to additional information will be provided as needed. Individual email announcements will no longer be sent unless the content is time-sensitive. We will continue to include our publications, presentations and other recent news items as well. Those using paper copies of the newsletter should go to our newsletter archive on the EAS website at www.purdue.edu/eas/ and Click on News to access active links as needed. Material for inclusion in the newsletter should be submitted to Wanitta Thompson (thompson@purdue.edu) by Friday noon of each week for inclusion in the Monday issue. If it is in the newsletter, we assume you know about it and no other reminders are needed.

For answers to common technology questions and the latest updates from the EAS Technology Support staff, please visit http://www.purdue.edu/eas/info_tech/index.php.

Also, as an additional resource for information about departmental events, seminars, deadlines, etc., see our departmental calendar at http://calendar.science.purdue.edu/eas/seminars.

APRIL BIRTHDAYS!!!
Nat Lifton - 14
Maarten deHoop - 20
Dayton Vincent – 23
Claire Chandler - 29
Slipping the Surly Bonds: the Impact of Weather
On Aviation Operations and Safety, Past, Present, & Future

Friday, April 13
3:30pm, CIVL 2201

An aircraft in flight becomes, in essence, a part of the air mass within which it is flying. The ambient atmospheric conditions, design and performance characteristics of the aircraft, and experience and currency of the flight crew, can have profound effects on the safety of flight. However, even the best-equipped aircraft, flown by the most experienced and capable pilots can encounter atmospheric conditions that lead to an accident or incident.

The costs can be significant: a recent FAA statistic listed “weather” as being responsible for 66% of delays in airline operations in the U.S., with direct costs to airlines of $2B, and $9B in lost productivity (source: [www.faa.gov](http://www.faa.gov)). Moreover, in its Review of U.S. Civil Aviation Accidents, 2007–2009, the National Transportation Safety Board noted that “between 2007 and 2009, turbulence encounters during the en route phase of flight was the most common defining event for Part 121 <air carrier> accidents” ([www.ntsb.gov](http://www.ntsb.gov)). This presentation will provide a brief retrospective of the author’s career in aviation and aviation education and research, spanning nearly 40 years at Purdue, followed by an overview of the impact of weather on aviation operations and safety, the weather elements most critical for flight operations, and current and anticipated research to mitigate aviation weather hazards in the National Airspace System (NAS).
The asteroids are generally thought of as rocky or metallic bodies, with comets as their ice-rich distant relatives. Meteoritical and spectroscopic evidence for OH-bearing minerals on asteroids dates back decades, however, and 2010 saw the first detection of ice (along with organic material) on an asteroidal surface. I will focus our current understanding of the diversity of OH- and H2O-bearing asteroidal materials, and touch upon the dynamical and physical processes that have created and maintained that diversity over billions of years.
Confronting Challenging Collective Action Problems

How informal institutions can provide new perspectives on three intractable problems that have confounded policymakers for decades:

climate change  food security  women’s rights

April 16, 2012
3:30 pm
Fowler Hall
Free and open to the public

Prof. Elinor Ostrom
Recipient of 2009 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel

Elinor Ostrom, an American political economist and distinguished professor at Indiana University, is the 2009 Nobel Prize winner in Economic Sciences, which she shared with Oliver E. Williamson, for “her analysis of economic governance, especially the commons.” To date, she is the first woman to win the prize in this category. Her work is associated with the new institutional economics and the resurgence of political economy.

Ostrom is the Arthur F. Bentley Professor of Political Science and Senior Research Director of the Workshop in Political Theory and Policy Analysis at IU in Bloomington. She also is founding director of the Center for the Study of Institutional Diversity at Arizona State University in Tempe.

She is a member of the American Academy of Arts and Sciences, the National Academy of Sciences, and the American Philosophical Society.

For More Information
Visit www.purdue.edu/discoverypark/dls/  |  Contact Cindy Ream: cream@purdue.edu  |  765-494-0015

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Global Sustainability Initiative
Purdue Climate Change Research Center
STRENGTHENING AMERICA’S ECONOMY & NATIONAL SECURITY: A CALL TO REDUCE U.S. DEPENDENCE ON FOSSIL FUELS

THURSDAY, APRIL 19 AT 3:30 P.M.
STEWARD CENTER, ROOM 206

Retired four-star General Ronald Keys will discuss the urgent economic and national security risks associated with the nation’s over-dependence on fossil fuels at an interactive public forum sponsored by Purdue University’s Energy Center, Discovery Park.

General Keys will also highlight opportunities for Hoosiers to help lead the nation in building a safer and more prosperous future by diversifying our energy resources, moving to clean energy, and using energy more efficiently. There will be a question and answer session for audience members.

About CNA
The CNA MAB presented its most recent report on energy and national security to the Senate Energy and Armed Services Committee, as well as to the House Defense Energy Security Caucus. The report is titled, Ensuring America’s Freedom of Movement: A National Security Imperative to Reduce U.S. Oil Dependence.

CNA is a non-profit research organization that operates the Institute for Public Research. Through innovative analysis, CNA provides public sector organizations with the tools to tackle complex problems.
A symposium to promote understanding of interactions between agricultural and natural communities

SPONSORS
Center for the Environment (C4E) • Purdue Climate Change Research Center (PCCRC) • Global Sustainability Initiative (GSI)
Purdue Interdisciplinary Center for Ecological Sustainability (PICES) • Office of Sustainability • Department of Botany and Plant Pathology • Department of Biological Sciences

GUEST SPEAKERS

CLAIRE KREMEN
Associate Professor, Department of Environmental Science, Policy and Management; University of California, Berkeley

DOUG LANDIS
Professor of Entomology; Michigan State University

JOHN ROBINSON
Chief Conservation Officer, Executive Vice-President for Conservation & Science; Wildlife Conservation Society

DIANA WALL
Professor of Biology, and Director, School of Global Environmental Sustainability; Colorado State University

PURDUE SPEAKERS

JEFF HOLLAND
Associate Professor Entomology
“The flow of ecosystem service agents across landscapes”

CHRISTIAN KRUPKE
Associate Professor Entomology
“Where honey bees meet corn: how insecticidal seed treatments move beyond agricultural fields”

BEN GRAMIG
Assistant Professor of Agricultural Economics
“Farmer decision-making and joint economic-ecological outcomes in agro-ecosystem management”

SCHEDULE OF EVENTS

Burton D. Morgan Center for Entrepreneurship

7:30 AM Registration, MRGN Cafe

8:00 AM-11:30 AM Morning session: Guest Speakers, MRGN 121

1:30 PM-4:30 PM Afternoon session: Purdue University speakers, MRGN 121

7:00 PM Discovery Lecture Series hosts John Robinson, Stewart Center, 214 ABCD

Additional Earth Day Activities
www.purdue.edu/earthday
www.purdue.edu/symposium

Human impacts have accelerated loss of biological diversity in both natural and managed landscapes. Our local landscape in Indiana is now a mosaic of genetically homogenous crops, expanding urban patches, and shrinking remnants of natural forest and prairie. Although we understand little about how these ecological communities interact, recent research provides evidence that the preservation of native biodiversity (e.g., pollinators and natural predators) promotes stability in managed systems and that agricultural practices have significant impacts on neighboring natural areas. This symposium will bring together leaders in the field from around the country and Purdue to explore strategies for conserving biological diversity and productivity.
Conservation and Sustainability in a Human-Dominated World

The human influence on natural ecosystems is already ubiquitous, and will increase in the foreseeable future. Land conversion in response to food and agricultural needs, the extraction and harvest of natural commodities, and the disruptions created by climate change will further erode natural capital and promote biodiversity loss.

The traditional response of conservationists, to establish parks and protected areas and seek to exclude human influences, is unlikely to be socially and economically sustainable. Instead, conservation efforts will have to focus on helping manage larger landscapes and seascapes.

The challenge of this approach is that it requires consideration of a variety of different management goals across the landscape: from biodiversity conservation, through the maintenance of cultural and social diversity, the alleviation of poverty, and the generation of economic benefits.

Managing the trade-offs among land-use goals will require effective governance and decision-making institutions, and sustaining ecosystem services and biodiversity will depend on the relative roles of national governments, multinational entities, private corporations and civil society.

Dr. John Robinson
Executive Vice President, Conservation and Science
Wildlife Conservation Society

John G. Robinson, chief conservation officer of the Wildlife Conservation Society, oversees WCS conservation programs in the Americas, Africa and Asia. Focusing on primate behavior and ecology, Robinson received his doctorate in zoology from the University of North Carolina in 1977. His postdoctoral studies were with the Smithsonian Institution. In 1980, he joined the faculty of the University of Florida, and established the Program for Studies in Tropical Conservation, a graduate program providing training to students from tropical countries. He joined the Wildlife Conservation Society in 1990. Read More.

For More Information
Visit www.purdue.edu/discoverypark/dls/ | Contact Cindy Ream: cream@purdue.edu | 765-494-0015

Sponsors
Discovery Lecture Series
Lilly Endowment Inc.
Global Sustainability Initiative at Purdue
Center for the Environment
Steve Hallett is an associate professor in the department of Botany & Plant Pathology at Purdue University. He is the author, with John Wright, of Life without Oil: Why we must Shift to a New Energy Future (Prometheus Books, 2011). His new book, The Efficiency Trap: The Worst Nightmare of the Environmental Movement and what to do about it, will be published by Prometheus Books later this year.

For More Information:
http://www.purdue.edu/earthday
# AGENDA

8:00 a.m.   Continental Breakfast  
8:15 a.m.   Opening Remarks – GPRI Director Arden Bement  
            Introduction of President France Córdova  
8:30 a.m.   Welcome: President Córdova  
8:45 a.m.   Introduction of Presentations: Arden Bement  

Researchers will provide status presentations on their GPRI-sponsored incentive awards. Each presenter will report on their technological findings, research impact, leveraged funding efforts, and resultant awards. Council members will have the opportunity to engage in a question and answer session following each presentation. Conference will address critical global concerns: Health, Food Security, and Society and Leadership.

## Health

**Session 1:** "Bridging Income Generation with Provision of Incentives for Care (BIGPIC)"

*Presenter:* Sonak Pastakia, Assistant Professor of Pharmacy Practice

9:20 a.m.   Question and Answer Session  
9:30 a.m.   **Session 2:** "Public Health Policies for Breast Cancer Prevention Research: A Global Venture"

*Presenter:* Sophie A. Lelièvre, Associate Professor of Basic Medical Sciences

9:50 a.m.   Question and Answer Session  
10:00 a.m.  Break

## Food Security

**Session 3:** "Development of Markets for Local Food Crop to Enhance Incomes and Improve Food Security for Smallholder Farmers in East Africa"

*Presenter:* Betty Bugusu, Managing Director, International Food Technology Center, Food Science
10:35 a.m.  Question and Answer Session

10:45 a.m.  Session 4: “A Global Spatially-Explicit, Open-Source Data Base for Analysis of Agriculture, Forestry, and the Environment: Kickoff Workshop for a 2 Year Pilot Project” (GEOSHARE)
   Presenter: Thomas Hertel, Distinguished Professor of Agricultural Economics and Nelson Villoria, Research Assistant Professor, Agricultural Economics

11:05 a.m.  Question and Answer Session

11:30 a.m.  Lunch Break

Society and Leadership
1:00 p.m.  Session 5: “Network Resilience in Disasters: An Interdisciplinary, International Perspective.”
   Presenter: Satish Ukkusuri, Associate Professor of Civil Engineering

1:20 p.m.  Question and Answer Session

1:30 p.m.  Session 6: “New Perspectives on Intractable Problems: Informal Institutions as Policy Responses to Global Grand Challenges”
   Presenter: Laurel Weldon, Professor of Political Science

1:50 p.m.  Question and Answer Session

2:00 p.m.  Council General Discussion

2:30 p.m.  Wrap up: Arden Bement

2:45 p.m.  Adjourn
Purdue’s Global Policy Research Institute presents
Policy Research for a Changing World “Grand Challenge” Conference

Wednesday, April 18, 2012
8:00 a.m. – 3:00 p.m.
Room 3082, Rawls Hall

This one-day conference will provide a unique window into cutting edge work that is at the nexus of game changing research locally, nationally and globally. The conference will focus on the following themes: Health, Environment, Food Security, and Society & Leadership.

For More Information & To Register Go To:
www.purdue.edu/research/gpri/events

The Conference will be webcast live. Go to:
mms://video1.itap.purdue.edu/GPRI
**The Global Policy Research Institute**
**Presents the**
**Inaugural**
**C.N.R. Rao Global Science Policy Leadership Lecture**
as part of the
**Global Connections Lecture Series**

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**Dr. C.N.R. Rao**

“Global Collaboration in Scientific Research and Higher Education and the Future of Mankind”

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**ABSTRACT**

The educational and scientific scenario has changed enormously in the last few years, and there is an increasing emphasis on the need for global outreach and collaboration. This trend is most welcome since it will not only bring the peoples of the world closer, but also help in tackling pressing problems of mankind from energy to terrorism. It should be recognized that sound global cooperation in scientific and educational endeavors is an essential ingredient for world peace. In this presentation, Dr. Rao will concentrate to some extent on India-centric and India-U.S. centric issues, and also touch on certain global issues of concern. He will attempt to suggest how this great university can excel in some of its global efforts. Some of the aspects to be covered in his presentation are:

- Concerns of India and other emerging countries
- India-U.S. collaboration – a natural phenomenon
- Barriers to engagement and what academic institutions can do to yield the best results
- Areas and trends in scientific research
- Policy matters: Government, Private sector, Academia
- Great tradition, and Purdue’s opportunities
- What Purdue can do to attain global presence at the highest level
- Global collaboration for world peace.

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**April 18, 2012**
**7:00 p.m.**

Krannert Auditorium

[Webcast link](mms://video1.itap.purdue.edu/GPRI)
Applications are invited for the fourth annual Iowa High Performance Computing (IHPC) Summer School, to be held at the University of Iowa. This three-day summer school, funded by the National Science Foundation and hosted by the University of Iowa, is intended to teach graduate students the fundamentals of high performance computing for modern research in all fields of study.

Application requirements:
- Applicants must be enrolled as a graduate student at any Big 10 University in any field of study, with preference given to those planning to employ high performance computing as an element of their graduate research.
- Competency in scientific computer programming in a version of either Fortran or C is a prerequisite for this school, but familiarity with parallel programming is not required.

Summer School Topics:
- IHPC 2012 Faculty will teach courses on:
  - The Basics of Designing High Performance Computing Algorithms
  - Parallelization using the Message Passing Interface (MPI) Library
  - Multi-threading using the OpenMP Library
  - GPU Computing and CUDA programming
  - Optimization of Parallel Performance
  - Management of a High Performance Computing Research Program

The intensive, three-day course consists of lectures on high performance computing and hands-on exercises, taught by the IHPC 2012 Faculty. This course will give students hands-on experience creating and running parallel algorithms, both locally on a shared high performance computing cluster at the University of Iowa, and remotely on computers at a national supercomputing center.

For more information, please contact Professor Gregory Howes, gregory-howes@uiowa.edu
Iowa High Performance Computing (IHPC) Summer School
June 6-8, 2012                    University of Iowa

Faculty: The course has been designed and run by Professor Gregory Howes, from the Department of Physics and Astronomy at the University of Iowa. Lectures and oversight of hands-on exercises is provided by a team of faculty members from the University of Iowa and other institutions. Previous external IHPC faculty have come from the University of Maryland and the California Institute of Technology.

Date, Time, and Location:

IHPC 2012 Summer School
Wednesday, June 6th through Friday, June 8th, 2012, 8:30am-5:30pm
Information Technology Services - Research Services
2523 UCC Training Room, University Capital Center
University of Iowa
Iowa City, IA 52242

Support:
Sixteen graduate students will be accepted for participation in this program. For students from outside the University of Iowa, travel support up to $500 and shared lodging will be provided.

To apply:
1) Please send an e-mail to Professor Gregory Howes, gregory-howes@uiowa.edu with the subject line: IHPC 2012 Application Request to obtain application materials.

2) A completed application consists of:
• Completed application form with applicant information
• One-page statement explaining how this course will directly benefit applicant’s thesis research.
• Letter of recommendation from the applicant’s faculty advisor

Applications must be received by Friday, April 20th, 2012. Accepted students will be notified by Monday, April 30th, 2012.

For more information, please contact Professor Gregory Howes, gregory-howes@uiowa.edu