Access to Safe Potable Water in the US: Infrastructure Inequality and Environmental Injustice*

- Kelsey J. Pieper, PhD. USDA NIFA Fellow will host a seminar on a Flint Water Collaborative Research-Citizen Project
- The seminar will be on Monday, April 24, 3:30pm at Dean’s Auditorium in Pfendler Hall (PFEN)
- See attached flyer for more details

PGS Workshop & Leonards Lecture - Climate Change & Geotechnical Engineering*

- The Purdue Geotechnical Society is pleased to announce the 15th edition of the Purdue Geotechnical Workshop and 15th G.A. Leonards Lecture that will take place on Friday, April 21, 2017
- CLIMATE CHANGE: IMPACTS AND CHALLENGES FOR GEOTECHNICAL ENGINEERS, will be delivered by Dr. Patricia Culligan, the Robert, A. W. and Christine S. Carlton Professor of Civil Engineering at Columbia University
- The lecture, free and open to the public, will take place in the Krannert Auditorium at 4:30 p.m.
- Registration form, schedule, and flyer attached

CLA Event: At the Intersection of Liberal Arts & STEM *

- Jenny Bilfield will be talking about “How cross-disciplinary fields work together to create unusual alliances aimed at serving art, artists and audiences” on Thursday, April 13 at 5:30 in Lawson Commons
- The goal of these discussions is to show how liberal arts and science, technology, engineering, and math (STEM) fields are enriched and have greater capacity for meaningful change when the disciplines intersect
- Jenny is the current President and CEO of Washington Performing Arts
- See attached flyer for more details

Undergrad Summer Intern openings for Prof. Sutherland*

- Professor John W. Sutherland at EEE is seeking motivated undergraduate students to assist with a research project funded by the U.S. Department of Energy (DOE). 10-15 hours a week for 8-10 weeks, starting May 2017. $10 per hour
- There are 2 positions available, see attached flyers for both job descriptions

Volunteers, interns sought for Mandela Washington Fellowship at Purdue*

- Purdue University will host 25 of Africa’s emerging leaders for an academic and leadership institute focused on business and entrepreneurship from June 16 to July 28 and needs volunteers and interns to assist with the program.
- Purdue students who have an interest in business and entrepreneurship in fields related to agriculture and engineering and who have completed at least two semesters in undergraduate study in any major are welcome to
Interns will work on a variety of projects, including coordinating networking events and assisting with site visits during the fellows’ stay at Purdue.

- Interns will receive a stipend of $500 for their involvement, with an average time commitment of 8 hours per week.
- See attached flyer for more details

**C4E Summer Ugrad Research Internship**

- The C4E is now accepting applications for Summer Undergraduate Student Research Internships. These internships provide funding to support undergraduate students who are interested in working with a Purdue faculty mentor on a field or laboratory-based research project related to the environment.
- The internships will provide support for 20-40 hours per week for up to 8 weeks at $10 per hour. Please see the attached RFA for details about the applications process.
- Deadline for submission is April 20, 2017.

**2018-2019 Core Fulbright U.S. Scholar Program**

- Fulbright Scholarship opportunities on behalf of the American Academy of Environmental Engineers and Scientists available at: [http://campaign.r20.constantcontact.com/render?m=1102273204531&ca=0c901032-4599-4568-82fc-3b2dea7cec84](http://campaign.r20.constantcontact.com/render?m=1102273204531&ca=0c901032-4599-4568-82fc-3b2dea7cec84)

**Brown and Caldwell Scholarship Opportunity**

- Brown and Caldwell is sponsoring scholarship opportunities for junior and senior undergrad & grad students
- Information on the available scholarships can be found at [www.brownandcaldwell.com/scholarships](http://www.brownandcaldwell.com/scholarships)
- Scholarships average around $5,000 each, the **deadline is April 30th**
- See attached flyer for more details

**Course: CE 44300 is Back**

- Introductory Environmental Fluid Mechanics (CE 443) will be offered Fall 2017
- Prof. Cary Troy will teach the class **MWF 1:30 pm**
- See attached flyer for more details

**Course: EDCI 50600 Environmental Education**

- Environmental Education (EDCI 50600) will be offered for Fall 2017 and will be taught by Dan Shepardson
- See attached flyer for more details

**Fall 2017 Human Rights Courses**

- A list of human rights courses has been made available for Fall 2017 and can be used towards a human rights minor
- Some of these courses may also be options for General Education Electives. Check with Tammi if interested.
- See attached list for more details
Access to Safe Potable Water in the US: Infrastructure Inequality and Environmental Injustice

Kelsey J. Pieper, PhD
USDA NIFA Fellow
Civil and Environmental Engineering, Virginia Tech

In April 2014, the officials in the City of Flint, Michigan stopped purchasing treated water from Detroit, and instead, treated water from the Flint River. Within months of the switch, residents began reporting water quality issues, the utility issued boil warnings, and water main breaks were occurring throughout the city. Concerned citizens discovered that corrosion control had not been implemented by the city and lead (Pb) was leaching into their water. Thanks to these concerned citizens, Dr. Marc Edwards and a group of Virginia Tech students were informed about the water issues who created the Flint Water Study to support Flint citizens by empowering them with sound science and independent information about their tap water. Through this collaborative research, the corrosion problems in Flint were uncovered and the city began purchasing the Detroit water again in October 2015.

Co-sponsored by:

If you would like to meet with Dr. Pieper, please contact Connie Foster at 4-4773 or cfoster@purdue.edu
From rising sea-levels to changing weather patterns, the impacts of climate change are projected to have significant effects in the upcoming decades. As a result, management of climate change, from the implementation of mitigation measures to the design of adaptation strategies, is becoming increasingly important. For Geotechnical Engineers, new challenges will arise as a result of climate change impacts on existing infrastructure, as well as the performance needs of future infrastructure. In addition, changing groundwater levels and subsurface flow patterns will pose new problems, as will climate mitigation strategies, including the global movement toward a low carbon economy.

This lecture will first provide examples of climate change impacts that are likely to influence geotechnical engineering practice, together with the challenges such impacts pose. New research needs associated with these challenges will also be described. An example of a climate adaptation strategy, which involves an ambitious engineered green infrastructure program that is underway in New York City, will then be presented. This program involves a collaboration between government agencies, geotechnical engineering practitioners, researchers and community groups. Design, monitoring and modeling results from the program will be summarized, as will lessons learned and future needs. The program is an example of an emerging class of climate change mitigation and adaptation strategies that relies on local, or neighborhood level, infrastructure interventions. The final part of the lecture will deal with the implications of this new approach to the future of geotechnical engineering practice, research and training.

Introduction by Marika Santagata, Purdue University

Presented in conjunction with the 15th Purdue Geotechnical Society Workshop
“Climate Change and Geotechnical Engineering”

The PGS was founded in May 2003 to enhance the strong bond and working relationship among alumni, faculty, students, and staff of the Geotechnical Engineering group at Purdue University for the benefit of all. https://engineering.purdue.edu/PGS
Professor Patricia J. Culligan, Ph.D., CEng., M.ASCE

At Columbia University, where she serves as the Founding Associate Director of Columbia University’s Data Science Institute and the Co-Director of the Earth Institute’s Urban Design Lab. Dr. Culligan’s expertise lies in the field of geo-environmental engineering, with an emphasis on water resource management and issues related to urban and environmental sustainability.

Her research group is currently active in investigating the opportunities for green infrastructure, social networks and advanced measurement & sensing technologies to improve the management of urban water, energy, and ecosystem services in the face of climate change.

She has received numerous research and teaching awards for her academic contributions, including the National Science Foundation’s CAREER AWARD and Columbia University’s Presidential Teaching Award. She has also served on the Board of Governors of the Geo-Institute and the National Academies Nuclear and Radiation Studies Board, and has chaired the National Academies Committee on Geological and Geotechnical Engineering. She is the author or co-author of more than 150 technical articles.

Professor Culligan received her MS from Leeds University, England and her MPhil and PhD from Cambridge University, England. She also holds a degree in Languages, Literature and Civilization from Université d’Aix-Marseille, France.

Previous G.A. Leonards Lecturers

1st Leonards Lecture, 2003: Milton Harr
2nd Leonards Lecture, 2004: Victor Milligan
3rd Leonards Lecture, 2005: Robert Holtz
4th Leonards Lecture, 2006: Michele Jamiołkowski
5th Leonards Lecture, 2007: Suzanne Lacasse
6th Leonards Lecture, 2008: Jean-Lou Chameau
7th Leonards Lecture, 2009: Bernard Amadei
8th Leonards Lecture, 2010: Richard D. Woods
9th Leonards Lecture, 2011: Herbert Einstein
10th Leonards Lecture, 2012: Carlos Santamarina
11th Leonards Lecture, 2013: Craig Benson
12th Leonards Lecture, 2014: Lyssie Lalouï
13th Leonards Lecture, 2015: Richard Goodman
14th Leonards Lecture, 2016: David Frost

At the time of this announcement the following sponsors have committed their support. The Purdue Geotechnical Society gratefully acknowledges their financial assistance:

Silver Sponsors: Earth Exploration, Inc.; Ferrovial Agroman US Corp.
The Leonards Lecture was established in 2003 in honor of Professor Gerald A. Leonards, one of the giants of the geotechnical engineering profession.

Professor Gerald A. Leonards was born on April 29, 1921 in Montreal, Quebec, Canada. He obtained his BSCE at McGill University in 1943 and received both MSCE and PhD from Purdue in 1948 and 1952, respectively. He was a full-time faculty member at Purdue from 1952 to 1991, when he was named Professor Emeritus.

Professor Leonards’ research interests were very wide and he made pioneering contributions to knowledge on strength and compressibility of compacted clay soils, strength and consolidation of natural deposits, cracking of earth dams, frost action, analysis of buried conduits, pile foundations, stability of slopes and embankments on soft clays, stress-deformation and liquefaction of sand, and methodologies for investigating failures. He published extensively nationally and internationally. His 1962 book on "Foundation Engineering" quickly became a standard reference worldwide.

Throughout his career, Dr. Leonards' insight and expertise was sought on earthwork and foundation projects all over the world, a number of which involved the investigation of failures. He was appointed as the only non-European to sit on an official government commission in Italy to investigate ways to stabilize the Tower of Pisa.

Over his career Dr. Leonards received numerous awards from professional societies. In 1980 he was honored by the American Society of Civil Engineers by being asked to present the Terzaghi Lecture and also received the Terzaghi Award in 1989. In 1988 he was elected to the National Academy of Engineering.

From the students' perspective, "GAL" was a dedicated professor and researcher, who never missed an opportunity to learn more about his chosen field and to share his views on new developments. His influence continues to be felt through the lasting influence he had on his students and colleagues.

Adapted from text by V.P. Drnevich for Geotech Hall of Fame Web Site

2017 - Purdue Geotechnical Society Program and Leonards Lecture Committee:
Antonio Bobet, Philippe Bourdeau, Vincent Drnevich, Marika Santagata, Joseph Sinfield, Linna Duan, Amy Getchell, Yu-chung Lin, Anahita Modiriasari, Sudeep Roy, Ganesh Vairavan (Purdue University, Civil Engineering); Tom Robertson, Amanda Shields (Purdue University, Conferences and Continuing Education)
https://engineering.purdue.edu/PGS
Purdue Geotechnical Society Workshop Program
Friday April 21, 2017
East Faculty Lounge, Purdue Memorial Union, State Street, Purdue University, West Lafayette, IN

Climate Change and Geotechnical Engineering

7:30 a.m. Breakfast: coffee, juice, rolls, fruits, etc.
8:00 a.m. Opening of Workshop - Philippe Bourdeau, Purdue University
Welcome – Rao S. Govindaraju, Bowen Engineering Head of Civil Engineering and Christopher B. and Susan S. Burke Professor of Civil Engineering

MORNING SESSION
Moderator: James Lambrechts, Wentworth Inst. of Tech.; Coordinators: Anahita Modiriasari & Ganesh Vairavan, Purdue

8:15 a.m. Keynote Lecture:
CLIMATE CHANGE: MECHANISMS AND FUTURE IMPLICATIONS IN THE MIDWEST AND BEYOND
Jeffrey S. Dukes, Purdue Climate Change Research Center

9:00 a.m. IMPACT OF CLIMATE CHANGE ON COASTAL PROTECTION AND RESILIENCE
Timothy D. Stark & Jiawu Chen, University of Illinois at Urbana Champaign, Navid H. Jafari & Brian Harris, Louisiana State University

9:20 a.m. PERFORMANCE OF GEOTECHNICAL STRUCTURES UNDER A CHANGING CLIMATE: QUANTITATIVE ASSESSMENT FOR EXTREME PRECIPITATION EVENTS
Farshid Vahedifard, Mississippi State University

9:40 a.m. DISPLACEMENT ANALYSIS OF WORLD ISLANDS’ BREAKWATER
Yazen Khasawneh, Geosyntec Consultants

10:00 a.m. BREAK

10:30 a.m. POTENTIAL IMPACT OF CLIMATE CHANGE ON THE ESTIMATION OF RISK OF DAMS AND LEVEES
Terry M. Sullivan, U.S. Army Corps of Engineers

10:50 a.m. CHARACTERIZATION AND MODELING OF THE CHEMO-MECHANICS OF GEOMATERIALS ACROSS SCALES
Mehmet Cil, Northwestern University

11:10 a.m. ACUDE de NACAO DAM FAILURE: INSIGHTS AND PROSPECTS ON RESILIENT STRUCTURE DESIGN
Rodrigo Borela, Georgia Institute of Technology & Danielli de Melo, Purdue University

11:40 a.m. GROUP PHOTO ON PMU STEPS

11:50 a.m. LUNCH – PMU 118, Purdue Memorial Union

AFTERNOON SESSION
Moderator: Michael Wigger, Earth Exploration, Inc.; Coordinators: Amy Getchell & Sudeep Roy, Purdue University

1:00 p.m. Keynote Lecture:
CLIMATE CHANGE AND THE PUBLIC FORUM: COMMUNICATING G EOTECHNICAL ENGINEERING CONCEPTS IN A WORLD OF SUSPICION AND MISTRUST
John A. Mundell, Mundell & Associates, Inc.

1:45 p.m. APPLICATION OF LIFE CYCLE ASSESSMENT TO GEOTECHNICAL AND GEOENVIRONMENTAL PROJECTS
Krishna Reddy, University of Illinois at Chicago

2:05 p.m. LANDFILL EMISSION CHARACTERISTICS OF HIGH GLOBAL WARMING POTENTIAL F-GASES
Nazli Yesiller & James L. Hanson, California Polytechnic State University, Jean E. Bogner, University of Illinois at Chicago, Donald R. Blake, University of California-Irvine

2:25 p.m. BREAK

2:55 p.m. BRINGING THE ENGINEERS BACK INTO THE BOARDROOMS: CONNECTING CLIMATE RISK TO FINANCIAL PERFORMANCE
David Espinoza, Geosyntec CAT

3:15 p.m. GEOMECHANICAL RISKS ASSOCIATED WITH DEEP CO2 STORAGE
Roman Makhnenko – University of Illinois at Urbana Champaign

3:35 p.m. THE EFFECTS OF CLIMATE CHANGE ON GREAT SALT LAKE RAILROAD EMBANKMENT STABILITY
James Lambrechts, Wentworth Institute of Technology

3:55 p.m. WORKSHOP CLOSURE
Registration Form

Name: __________________________________________
Organization: ____________________________________
Address 1: _______________________________________
Address 2: _______________________________________
City: ___________________________________________
State: __________ Zip Code:_______________________
Phone: ____________________________
Email: _____________________________
Fax: _______________________________
Spouse/Guest Name: _______________________

☐ I require auxiliary aids/services due to a disability. Please contact me at the above address.

Dinner Meal Preference: _Vegetarian _Beef _Pork _Fish
Dinner Meal Pref. Guest: _Vegetarian _Beef _Pork _Fish

Register me for:
☐ Geotechnical Workshop and Dinner $190 _____
☐ Spouse/Guest (Reception and Dinner only) $ 50 _____
☐ Workshop only $150 _____
☐ Full Time Student (Workshop and Dinner) $ 40 _____
☐ Full Time Student (Workshop only) $ 35 _____
☐ Student Spouse/Guest (Reception & Dinner) $ 25 _____

Total Enclosed: $ ______

Payment is required upon submission of registration.

Payment Methods: Check, credit card, or online (preferred)
☐ Enclosed is my check payable to Purdue University.

Charge: ☐ Credit Card

Due to University policy we are unable to take written credit card numbers. If paying by credit card please write your phone number below and a Registration Assistant will call for payment.

Phone: ________________________________

Register and pay online: http://www.conf.purdue.edu/PGS

or complete a form for each participant; submit by mail or fax:

Purdue Conferences Business Services
Purdue University, Stewart Center, Room 110
128 Memorial Mall
West Lafayette, IN 47907-2037
Fax: (765) 494-0567

Purdue is not responsible for costs due to cancellation. Registration should be received by April 11, 2017.

April 21, 2017
Workshop:
Friday, 8:00 a.m. – 4:00 p.m.
East Faculty Lounge, PMU
Purdue University
101 N. Grant Street, West Lafayette, IN 47907

Lecture (Free and Open to the Public):
Friday, 4:30 p.m.
Krannert Auditorium, Purdue University
403 W. State Street, West Lafayette, IN 47907

Reception and Banquet:
Friday, 6:30 p.m.
Sagamore Restaurant, Purdue Memorial Union
101 N. Grant Street, West Lafayette, IN 47907

Organized by
Purdue Geotechnical Society

http://www.conf.purdue.edu/PGS
0.6 CEUs/6 PDHs are available for this Workshop.
THOUGHT LEADERSHIP IN THE ARTS: Curation, Collaboration, Community Engagement and Relevance

How cross-disciplinary collaboration creates unusual alliances aimed at serving art, artists, and audiences.

Guest Speaker: Jenny Bilfield, President and CEO, Washington Performing Arts 2006-2013, Artistic and Executive Director of Stanford Live (formerly Stanford Lively Arts)

In “The Gurs Zyklus,” art and technology tell a musicalized story of Jewish people transported by train to a concentration camp. A thermodynamic pipe organ created for the production plays itself with 88 tiny pistons, powered by drops of water.

Thursday, April 13
5:30-7:00 PM • Lawson Commons
Environmental and Ecological Engineering (EEE)
Undergraduate Research Assistant

Professor John W. Sutherland at EEE is seeking a motivated undergraduate student to assist with a research project funded by the U.S. Department of Energy (DOE). 10-15 hours a week for 8-10 weeks, starting from May 2017. $10 per hour.

General Description:
Student will be assisting two graduate students to assess the techno-economic performance of (bio) chemical technologies funded by DOE. Primary responsibility will be to review the literature, communicate with national lab researchers to understand the technologies, and/or analyze data in the field of hydrometallurgy, thermodynamics, and/or aquatic chemistry. The work requires signing a non-disclosure agreement.

Job Duties: (include but may not limited to)
1. Communicate with graduate students and national lab researchers
2. Perform literature review and learn new technologies
3. Analyze data

Qualifications Required:
1. Academically well-prepared undergraduate student
2. Knowledge of metallurgy and/or thermodynamics (hydrometallurgy or aquatic chemistry) is preferred
3. Ability to work with multiple audiences, such as peers, faculty and other researchers
4. Upon hire, must sign a non-disclosure agreement

If interested, please send resume to Hongyue Jin at jin156@purdue.edu no later than Friday, April 21.
Environmental and Ecological Engineering (EEE)
Undergraduate Research Assistant

Professor John W. Sutherland at EEE is seeking a motivated undergraduate student to assist with a research project funded by the U.S. Department of Energy (DOE). 10-15 hours a week for 8-10 weeks, starting from May 2017. $10 per hour.

General Description:
Student will be responsible for developing a VBA software embedded in an Excel spreadsheet to help assess the techno-economic performance of new projects funded by DOE. Primary responsibility will be to program using VBA and integrate it with Microsoft Excel and Microsoft Access. The required software features and functions will be provided by two graduate students at Purdue. The work requires signing a non-disclosure agreement.

Job Duties: (include but may not limited to)
1. Communicate with graduate students to understand the software requirements
2. Program using VBA
3. Develop a Microsoft Access Database and connect it with VBA and Excel

Qualifications Required:
1. Undergraduate major in computer science is preferred
2. Knowledge of VBA, Excel, and Microsoft Access
3. Ability to work with multiple audiences, such as peers, faculty and other researchers
4. Upon hire, must sign a non-disclosure agreement

If interested, please send resume to Hongyue Jin at jin156@purdue.edu no later than Friday, April 21.
Volunteers, interns sought for Mandela Washington Fellowship at Purdue University

WEST LAFAYETTE, Ind. - Purdue University will host 25 of Africa's brightest emerging leaders for an academic and leadership institute focused on business and entrepreneurship from June 16 to July 26 and needs volunteers and interns to assist with the program.

Purdue students who have an interest in business and entrepreneurship in fields related to agriculture and engineering and who have completed at least two semesters in undergraduate study in any major are welcome to apply. Interns will work on a variety of projects, including coordinating networking events and assisting with site visits during the fellows' stay at Purdue.

Interns will receive a stipend of $500 for their six-week involvement, with an average time commitment of eight hours per week.

The application review process begins April 14; however, applications will continue to be accepted through May 1. Those interested in intern positions should email a cover letter and resume to mwf@purdue.edu.

In addition to interns, the program also is seeking volunteers who want to help provide facilitation and assist with logistics during the fellows' stay at Purdue. Those interested should visit www.purdue.edu/mandela-fellowship/get-involved/ and sign up by completing the volunteer form.

The Mandela Washington Fellowship, the flagship program of the Young African Leaders Initiative, empowers young African leaders through academic coursework, leadership training, mentoring, networking, professional opportunities and support for activities in their communities. Fellows are from across sub-Saharan Africa and have established records of accomplishment in promoting innovation and positive change in their organizations, institutions and communities. The cohort of fellows at Purdue will be part of a larger group of 1,000 Mandela Washington Fellows hosted across the U.S. this summer.

Biographical information about the fellows will not be available until June, but you can review past profiles here at http://www.purdue.edu/mandela-fellowship/fellows/. The website also has more information about the program, and questions about the program can be directed to the Mandela Washington Fellowship staff at mwf@purdue.edu.

The Mandela Washington Fellowship is sponsored by the U.S. Department of State Bureau of Educational and Cultural Affairs and administered by International Research & Exchanges Board (IREX). Purdue’s Institute is co-sponsored by Discovery Park’s Burton D. Morgan Center for Entrepreneurship, Office of Executive Vice President for Research and Partnerships, Center for Global Food Security, Krannert School of Management, Office of Engagement, and the Colleges of Engineering and Agriculture.
Summer Undergraduate Student Research Internships
Request for Applications
Summer 2017
Deadline: April 20, 2017 at 5pm

The C4E Summer Undergraduate Student Research Internship provides funding for students to work with a Purdue faculty mentor on a field or laboratory-based research project related to the environment. These research internships will provide funding for between 20-40 hours per week for 8 weeks at $10 per hour. Funding will be commensurate with the proposed plan of work. Any Purdue University undergraduate student in good standing is eligible to apply.

The application, to be written and submitted by the student applicant, in collaboration with her/his faculty mentor, must include:

1. Cover Page: The cover page (see page 2 of this RFA) should be completed and then signed by both the applicant and the faculty mentor.

2. Project Description: Limited to 2 pages (Arial 11 point font and 1 inch margins). References do not count in the page limitation. Please include each of the following elements in your project description.
   a. Lay summary: Provide a short statement describing the proposed project in language for a non-specialist. (This statement may be posted on the C4E website.)
   b. Project details: State the goals, significance of project, plan of work, and expected final outcome(s).
   c. Expected benefit: Provide a short description on how the experience will benefit your educational and/or professional goals.
   d. Connection to C4E: Describe how the project fits within the C4E Strategic Vision.
   e. Funding request: Indicate the number of hours per week you are requesting.

3. Student transcript (unofficial copy is fine).

Submit your application by e-mail, as a single PDF, to environment@purdue.edu. Applications will be reviewed on a rolling basis (as they are received), but must be received by 5pm on April 20, 2017.

Awards will be based on the quality and feasibility of the research design, significance of the research project, benefit to the student, and fit to the C4E strategic vision (you can review the center’s strategic vision here: http://www.purdue.edu/discoverypark/environment/about/vision.php). Awards will be available immediately following the spring semester.

At the end of the summer, student interns will be required to:
   1. Write a short final report describing the results of the summer research project. A template will be provided to awardees and will be due at the end of August.
   2. Present their research project in a poster presentation at the C4E Community Mixer in the fall.

For more information on the process or individual inquiries, please contact Rose Filley, C4E Managing Director, e-mail: rfilley@purdue.edu, phone: 765-496-3211.
Title of Project:

Project Start and End Date:

Below to be completed by Student

Name:

Local Address:

Email:

Major and School:

Year (i.e. Junior):

Overall GPA:

*Please attach an unofficial transcript with the application.

Below to be completed by Faculty Research Mentor

Faculty Mentor, College/Department, and Rank:

Faculty Mentor Email:

Faculty Mentor Phone Number:

Applicant Signature/Date:

_____________________________________________________

Faculty Research Mentor Signature/Date:

_______________________________________
Are you passionate about water, the environment and solving the complex challenges before us? If so, we invite you to check out Brown and Caldwell's scholarships. We are committed to advancing the next generation of engineers, scientists, consultants and constructors.

Learn more at BrownandCaldwell.com/scholarships
Back by popular demand

Introductory Environmental Fluid Mechanics (CE443)

Fall 2017, MWF 1:30pm
“This course changed my life.”
- Course instructor

Course Description:
This intermediate-level course examines the fluid mechanics of natural and environmentally-relevant fluid flows, with applications in a wide variety of engineering specializations.

Topics include: Boundary layers, turbulence, convection, jets and plumes, atmosphere and hurricanes, drag and lift, geophysical flows, viscous flows, and density-stratified flows.

Prerequisites: CE340 (Hydraulics) or equivalent first-level course in fluid mechanics, and solid skills in calculus (integration and differentiation).

Questions? Email Prof. Cary Troy (troy@purdue.edu)
ENVIRONMENTAL EDUCATION

EDCI 50600

When: Monday, 2:30-5:20, 1 hr Arr; 3 credits; BRNG B247

Who: Undergraduate and graduate students in education, earth and environmental sciences, forestry and natural resources
Practicing environmental educators and teachers
Others interested in environmental education

What: EDCI 50600 is designed as an application course; students learn about environmental education by planning, developing, and evaluating environmental education materials and programs and by teaching about the environment. Students will gain real-world experiences working with the Junior Nature Club. Students are also certified in Project Learning Tree, Project Wild, and Project Wet, nationally recognized EE programs. Additional topics covered include:

- Environmental education vs. education for sustainability
- Place-based and experiential education as frameworks for EE
- Environmental literacy, the cognitive, behavioral and affective dimensions
- Environmental field studies, monitoring and citizen science
- Issues investigation and project-based learning
- Techniques for teaching about the environment
- Assessment and evaluation of EE learners, programs, and curriculum

The course meets the North American Association for Environmental Education (NAAEE) guidelines for the initial preparation of environmental educators:

- Promotes awareness about the history and evolution of environmental education and the philosophy and goals of environmental education.
- Creates an awareness of environmental education programs, practices, and curriculum.
- Develops a foundation for planning and implementing environmental education: knowledge about learners, pedagogy, curriculum materials and planning.
- Develops the knowledge and skills for assessing and evaluating environmental education materials, programs, and learners.

Students that successfully complete the course also receive a certificate indicating that they meet the NAAEE guidelines for the initial preparation of environmental educators.

Instructor: Dan Shepardson
Questions: dshep@purdue.edu
HUMAN RIGHTS COURSES – FALL 2017

SOCIOLOGY

SOC 310: Racial and Ethnic Diversity │ Jean Beaman │ TR 09:00 – 10:15; TR 10:30 – 11:45, UNIV 203

This course is a sociological examination and analysis of the presence and significance of race and ethnicity in our society. The purpose of this course is to provide a foundation and critical framework for assessing the origins and manifestations of race and ethnicity. Race and ethnicity have historically been one basis for differentiation and stratification in the United States and other societies, and this persists today. In this course, we will examine the emergence of race and ethnicity as concepts, and how they shape our everyday lives. We will be guided by the following questions: Why do we study race and ethnicity? How and why are they relevant in our society? How do we experience race and ethnicity, and how has this changed over time? Topics include multiculturalism and diversity; media representations; racism and discrimination; colorism; racial hierarchies; immigration; and different domains of racial inequality.

HISTORY

HIST 469: Black Civil Rights Movement │ Cornelius Bynum │ MWF 3:30 – 4:20, UNIV 301

This course will examine the origins, dynamics, and consequences of the modern black civil rights movement by exploring how struggles for racial equality and full citizenship worked to dismantle entrenched systems of segregation, repression, and discrimination within American society and culture.

HIST 396: The Afro-American to 1865 │ Cornelius Bynum │ MWF 1:30 – 2:20, UNIV 301

This course is designed to introduce students to the trends, events, issues, and people that shaped African American history from its West and Central African roots to the Civil War. In particular, this course will focus on presenting black people as active agents in the American historical narrative that significantly shaped the course of their own lives even within the context of slavery. To this end, this course sets out to discredit American myths about people of African descent, examine key elements of black slavery and freedom in the United States, analyze the slave experience with special emphasis on black resistance and resiliency, and identify the economic, political, and social factors that shaped and were shaped by African slaves, their descendants, black communities and institutions, and plantation society.
HIST 460: American Colonial History | Trenton Jones | MWF 9:30 – 10:20, UNIV 301

This lecture/discussion course examines the social, political, economic, and cultural development of England’s mainland American colonies roughly from the founding of Virginia to the middle of the eighteenth century. It explores motivations for colonization, expectations of colonizers, challenges encountered in the American wilderness, and relations between settlers and their British overlords. It also studies the cultural interactions between the settlers and the diverse peoples from non-English societies, including the many Native Americans and Africans—both free and slave. The class considers the private as well as the public lives of early Americans, paying close attention to the hopes and realities of men, women, and children of the “lower,” “middling,” and “better” sorts. The primary goals are for students to gain a general understanding of the major challenges and opportunities that the peoples of early America faced and to appreciate the interpretative problems historians encounter in explaining the period. Through a semester-long research project, students sharpen their research skills as they sift through evidence to answer questions that they pose about early America.


This course is a social and cultural history of Europe in the decades prior to World War I and during the war itself. Some unifying themes and issues include the following: modernism; gender and sexuality; race and empire; class and politics; the nature and extent of war as rupture with the past; experiences and memories of war by civilians and combatants. The goal of this course is to engage students in learning and questioning the latest findings and interpretations of this formative period in recent history. Additionally, this course intends to develop students' analytical, verbal communication, and writing skills. To achieve this, students will read and discuss both primary and secondary texts, and view and discuss several media presentations. Lectures will guide students through this body of learning, and add to it. Short papers will be assigned on the readings and media presentations. A research paper will allow student to apply the knowledge and debates covered in class to their own, original research, and to write history themselves.

CORE CLASS
HIST 338: History of Human Rights | Rebekah Klein-Pejšová | MWF 10:30-11:20, UNIV 301

The concept of – and struggle for – human rights is powerful, pervasive. Its origins, development, and strategies of implementation contested. Have human beings always had the "right to have rights"? How did the concept of "rights" arise? What does it mean, and how has it been used? This course explores human rights' genealogy and uneven historical evolution from the European Enlightenment through the late twentieth century human rights revolution and experience of
globalization. We will examine Atlantic Revolutionary era articulations of “rights of man” and “human rights,” the interwar institutionalization of rights, the post-WWII shift from minority to individual human rights, the human rights revolution of the late 1970s, and the relationship between globalization and human rights using a variety of primary and secondary sources. Students will come away with a deeper understanding of a human rights narrative that belongs to the world, its politics and ideas, and our own humanity.

HIST 382: American Constitutional History | Yvonne M. Pitts | TR 10:30 – 11:45, UNIV 201

This course explores how fundamental Anglo-Saxon legal theories on justice, republicanism, and economics have been modified by the American experience from 1763-1896. While the course deals with judicial interpretations of the Constitution, it does so in terms of the political and social environments in which the courts operated. The course examines the legal and historical context in which the Supreme Court established major early constitutional interpretations regarding federalism, contractual obligations, and regulation of monopolies. The course then turns to the constitutional debates over sectional strife, slavery, and the coming of the Civil War. Finally, we conclude by exploring the Reconstruction-era amendments and the debates over racial and gender equality.

POLITICAL SCIENCE

HONR 299: ISIS: The Islamic State | Aaron Hoffman | MWF 12:30

This Honors course provides students the opportunity to evaluate key questions surrounding the rise of ISIS, the most notorious purveyor of terror since Al Qaeda. We will examine a range of issues that relate to the threat of ISIS and governments responses to it. We will also examine why groups use violence, how terrorist groups end, and the role of the media in enabling terrorist violence. Students will not only engage with the scholarship on terrorism, but they will, with the guidance of the instructors, conduct original research on terrorism using standard social science techniques such as experiments and statistical analysis. After completing this course, students will have a solid understanding of international terrorism, its changing nature and causes.

POL 130: Intro to International Relations | Various Sections and Instructors

This course provides an analysis of the fundamentals of international law, organization, and politics particularly as relevant to contemporary international relations.
POL 222: Women, Politics, Public Policy  □ Staff □ MWF 1:30

This course is an introduction to women’s participation in politics, with an emphasis on the U.S. and developing nations. We will discuss structural and attitudinal conditions that disadvantage women as a social group, and efforts to change women’s status in society through politics.

POL 235: International Relations among Rich and Poor Nations  □ Staff □ MWF 2:30 (or also as Distance Learning with Dr. Woods)

This course is an introduction to the major themes in international political economy among rich and poor nations. We will examine such areas as international trade, finance, multi-nationals and intellectual property rights and how they connect to the theme of Rich/Poor nations, international organizations, and global development.

POL 327: Global Green Politics □ Staff □ MWF 10:30

This course is an analysis and assessment of the nature of global environmentalism, its connections with other new social movements, and its impact on domestic and international politics worldwide, with particular attention to green political parties and nongovernmental organizations.

CORE CLASS
POL 433: International Organization □ Paul Danyi □ TTh 3:00-4:15

Prerequisite: POL 13000, or consent of instructor. This course is a study of the structure and functions of the United Nations and associated agencies, with an emphasis on the role of this system in contemporary human rights diplomacy.

POL 461: Constitutional Law I □ Staff □ MWF 1:30

Prerequisite: POL 10100. This course is a survey of selected areas of constitutional law, considering the political and social influences as well as the doctrinal forces that have produced these policies and interpretations.
PHILOSOPHY

PHIL 111: Ethics │ Leonard Harris │ TR 03:00 – 04:15 PM, BRNG 1230
A study of the nature of moral value and obligation. Topics such as the following will be considered: different conceptions of the good life and standards of right conduct; the relation of non-moral and moral goodness; determinism, free will, and the problem of moral responsibility; the political and social dimensions of ethics; the principles and methods of moral judgment. Readings will be drawn both from contemporary sources and from the works of such philosophers as Plato, Aristotle, Aquinas, Butler, Hume, Kant, and J. S. Mill. Readings will be drawn from contemporary and classical sources regarding moral responsibility and methods of moral judgment, especially as these are applied to cases of sexism, racism and exploitation. Topics such as the following will be considered: different conceptions of the good and a good life, virtue, and conceptions of liberation from oppression.

PHIL 490: Philosophy of Race │ Leonard Harris │ TR 12:00 – 1:15 PM, BRNG 1248
Western philosophers have commonly assumed that races exist. What is a race? Is it morally wrong to identify by race? Philosophers have ranked races in a hierarchy of normatively better and worst kinds and sub-kinds. They have presumed correlative unchanging natures and roles of races using various transcendental, historical or evolutionary scenarios of progress. What is racism? Racism has been described as intentional efforts to rid society of the ‘unfit’, ‘feebleminded’ and ‘impure’ using, for example, eugenic justifications for legal sterilization and genocide. Racism has also been described as unintentional evolutionary adaptations to cull from society inferior kinds. Some philosophers have argued that racism is morally wrong because it is a vicious form of killing and hoarding. Other philosophers have considered racism primarily wrong because it is a form of bias, ill will or a violation of the social contract. Racism has been legally practiced in various forms: race based genocide in Tasmania, America and Rwanda; racial bias in Japan and Canada; and in less than two decades between 1907 and 1925 California authorized the performance of 4,636 sterilizations and castrations: “mental patients were sterilized before discharge, and any criminal found guilty of any crime three times [especially blacks] could be asexualized [castrated without consent] upon the discretion of a consulting physician.” We will consider competing conceptions of (1) race, (2) racialism, (3) racism (4) and the ontological nature of groups.

PHIL 114: Global Moral Issues │ Various Sections and Instructors
A systematic and representative examination of significant contemporary moral problems with a focus on global issues such as international justice, poverty and foreign aid, nationalism and patriotism, just war, population and the environment, human rights, gender equality, and national self-determination.
CORE CLASS
PHIL 260: Philosophy and Law | Various Sections and Instructors

A discussion of philosophical issues in the law: a critical examination of such basic concepts in law as property, civil liberty, punishment, right, contract, crime and responsibility; and a survey of some main philosophical theories about the nature and justification of legal systems. Readings will be drawn from both law and philosophy.

CIVIL ENGINEERING

CE 355: Engineering Environmental Sustainability | Loring Nies | MWF 11:30 – 12:20, WALC 3087

An introduction to the examination of global-scale resource utilization, food, energy and commodity production, population dynamics, and their ecosystem impacts.

ANTHROPOLOGY

ANTH 205: Human Cultural Diversity | Jennifer Lee Johnson | MW 3:30 – 4:20, MTHW 210 (or also as Distance Learning)

Using concepts and models of cultural anthropology, this course will survey the principal cultural types of the world and their distribution, and will undertake a detailed analysis of society’s representative of each type.

ANTH 352: Drugs, Culture, and Society | Brian C. Kelly | TTH 4:30 – 5:45, UNIV 203

The course provides an overview of the social and cultural underpinnings of drug use across societies. Students engage with various topics, including addiction, global markets, drug epidemics, public policy, and cross-cultural differences in drug use.