Welcome Back to Fall 2013!

Greetings EAPS Faculty, Staff, and Students: It is hard to believe that summer is over, and classes have already started, though I trust your summer was enjoyable and productive. I feel honored to serve as the new Department Head, especially with EAPS’ excellent national and international reputation of having outstanding faculty, as well as graduating stellar students within our respective disciplines. EAPS is also known for its quality teaching and mentoring of students and our department contributes significantly to the core areas of university’s mission – discovery, learning, and engagement. I believe that our department is poised to make even greater contributions to the core mission of the College of Science and Purdue, and I am excited to be a part of this synergy as we move forward.

Please feel free to visit/call/email me if you have any questions or ideas that you would like to discuss. Specifically, starting on August 27th, I invite you to come visit me during my informal “coffee meetings” on Tuesdays from 10:30 AM – 11 AM. I would love to listen to and discuss your ideas on how we may all work together to take EAPS to even greater heights.

Best regards,

Indrajeet Chaubey
Professor and Head

EAPS SEMINARS

No seminar this week. The seminar series will begin on Thursday, August 29. As well as being announced in the newsletter and posted on each floor, seminars will also be announced in the Google Calendar on the departmental website.

EAPS PUBLICATIONS


WELCOME TO OUR NEW FALL 2013 GRADUATE STUDENTS

Wai Allen received her Baccalaureate degree from Fort Lewis College and will begin a MS program working with Prof. Ken Ridgway.

Rebecca Bobick was a current undergraduate in our department and will begin a MS program working with Prof. James Ogg.

Joshua Boschelli received his Baccalaureate from New Mexico Institute of Mining and Technology and will begin his PhD program with Prof. Hersh Gilbert.

Jake Crane received both his Baccalaureate and Master degrees from Central Washington University and is beginning a PhD program with Prof. Lucy Flesch.

Liesel Elison received her Baccalaureate degree from Brigham Young University and will begin a MS program with Prof. Larry Braile.

Bradley Fehnel will begin a PhD program with Prof. Michael Baldwin. Bradley obtained a Bachelor’s degree from Ball State University and a MS degree from the University of Wisconsin-Milwaukee.

Kevin Graves is working with Dr. James Richardson on a Ph.D. program. Kevin received his Baccalaureate degree from Truman State University.

Cassidy Jay received her Baccalaureate from Hamilton College and will begin a PhD program with Prof. Lucy Flesch.

Zhou Lyu begins her Ph.D. program working with Prof. Qianlai Zhuang. Zhou received her Baccalaureate degree from Wuhan University.

Angus Moore received his Baccalaureate degree from the University of Wisconsin-Madison and begins a MS program with Prof. Darryl Granger.

Patrick Newman begins a PhD program with Prof. Saad Haq. Patrick received both his Baccalaureate and Master degrees from the University of Akron.

Andrea Orton was another EAPS Purdue undergraduate and begins a MS program working with Prof. Ernest Agee.

Lei Qin will be working on a Ph.D. with Prof. Maarten deHoop. Lei received her Baccalaureate degree from the University of Science and Technology of China.

Yang Qu received his Baccalaureate degree from Peking University and begins a PhD degree working with Prof. Qianlai Zhuang.

Christopher Roemmele received his Baccalaureate degree from Franklin & Marshall College and his Master’s from Kean University. Christopher begins a PhD program with Prof. Dan Shepardson.
Yu Ye is beginning a Ph.D. program with Prof. Qianlai Zhuang. Yu received his Baccalaureate degree from Fudan University.

Feng Yu received his Baccalaureate degree from Beijing Forestry Institute and his Masters from the Ecological Science and Engineering (ESE) Interdisciplinary Program at Purdue University. Feng continues his Ph.D. program with ESE and will be working with Prof. Jon Harbor.

Tong Yu is also beginning her PhD program with Prof. Qianlai Zhuang. Tong received her Baccalaureate degree from Peking University.

OIL COMPANY INTERVIEWS

CHEVRON
September 18-19
If interested in obtaining an interview slot, please send your resume, transcripts (both undergraduate and graduate), and a cover letter to Michele Gutenkunst (mgutenkunst@chevron.com) by September 6th. Invitations for an interview will be sent via email on September 11th. Chevron will hold an Information Session on September 18th at 6:00pm in HAMP 2201. See attached flyer for additional information and job descriptions.

EXXONMOBIL
September 30-October 2
Stay tuned for further details.

CAMPUS NEWS

SUPERCOMPUTING TO PURDUE CLASSROOMS
One of the world’s most powerful supercomputers is now available to give Purdue students in undergraduate courses introductory experience with high-performance computing. The Scholar cluster is open to Purdue instructors from any field whose classes include assignments that could make use of supercomputing, from high-end graphics rendering and weather modeling to simulating millions of molecules and exploring masses of data to understand the dynamics of social networks. More details and contact information is available at http://www.itap.purdue.edu/newsroom/news/130809_communityclusters_scholar.html

RESEARCH COMPUTING “COFFEE BREAK CONSULTATIONS” FOR WOULD-BE, NEW AND EXPERIENCED USERS.
Weekly “Coffee Break Consultations” with ITaP Research Computing (RCAC) staff are informal meetings with benefits for new and experienced high-performance computing users or faculty, staff and students just thinking about adding the tool to their research toolbox. More information is available at www.itap.purdue.edu/newsroom/detail.cfm?newsId=2788 or by emailing rcac-help@purdue.edu.

INFORMATIONAL LUNCHEON ON CONTE, PURDUE’S NEWEST SUPERCOMPUTER
Purdue’s new Conte community cluster supercomputer, which can speed up and enhance research results, will be the focus of an informational luncheon for faculty, staff and graduate students, set for 12:15 to 1:30 p.m. Wednesday, Aug. 28, in the Lawson Computer Science Building, Room 1142. More information at can be found at http://www.itap.purdue.edu/newsroom/news/130808_communityclusters_contelunch.html or email Ed Lee, elee@purdue.edu.

ALFRED P. SLOAN FOUNDATION RESEARCH FELLOWSHIPS
These fellowships seek to stimulate fundamental research by early-career scientists and scholars of outstanding promise. Candidates must hold a Ph.D. (or equivalent) in chemistry, computational or evolutionary molecular biology, computer science, economics, mathematics, neuroscience, ocean sciences (including marine biology), physics, or a related field. Candidates must hold a tenure track (or equivalent) position and be no more than six years from completion of their most recent Ph.D. No more than three candidates from a department may be nominated. Please contact your Department Head ASAP to coordinate submission. Deadline: September 16.

Burton D. Morgan, Room 121, Discovery Park Registration (no cost) is now open for the workshop on ‘Building Research Collaborations: Electricity Systems’ August 28-29, 2013 at Purdue. Attached is the tentative agenda. Please share it with your colleagues/students and encourage them to register/attend. Please contact Andrew Liu (andrewliu@purdue.edu) for technical questions or Pankaj Sharma (Sharma@purdue.edu) for general questions. (See attached for tentative agenda)

POSTDOCS AND PhD GRAD STUDENTS
NATIONAL RESEARCH COUNCIL of the NATIONAL ACADEMIES
The National Research Council of the National Academies sponsors a number of awards for graduate, postdoctoral and senior researchers at participating federal laboratories and affiliated institutions. These awards include generous stipends ranging from $42,000 - $80,000 per year for recent Ph.D. recipients, and higher for additional experience. Graduate entry level stipends begin at $30,000. These awards provide the opportunity for recipients to do independent research in some of the best-equipped and staffed laboratories in the U.S. Research opportunities are open to U.S. citizens, permanent residents, and for some of the laboratories, foreign nationals.
Detailed program information, including online applications, instructions on how to apply and a list of participating laboratories, is available on the NRC Research Associateship Programs Website (see link above). Questions should be directed to the NRC at 202-334-2760 (phone) or rap@nas.edu.

There are four annual review cycles. Review Cycle: May; Opens March 1; Closes May 1 Review Cycle: August; Opens June 1; Closes August 1 Review Cycle: November; Opens September 1; Closes November 1 Review Cycle: February; Opens December 1; Closes February 1 Applicants should contact prospective Adviser(s) at the lab(s) prior to the application deadline to discuss their research interests and funding opportunities.

---

**2014 President Harry S. Truman Fellowship**

Sandia Laboratories has announced the 2014 President Harry S. Truman Fellowship in National Security for Science and Engineering for young PhD professional: current qualified PhD students or recent graduates, as well as postdoctoral researchers. The application deadline for fellows is November 1, 2013. See attached flyer for additional information.

---

**USGS MENDENHALL RESEARCH FELLOWSHIP PROGRAM**

The U.S. Geological Survey (USGS) provides an opportunity for recent PhD graduates to conduct concentrated research in association with selected members of the USGS professional staff. Mndenhall Fellowships are 2-year appointments and deadline for applying is September 20, 2013. See attached flyer for additional information.

---

**A Note from Our Academic Counselor**

**Fall Schedule Revision Dates**

To ADD
Add through myPurdue using your PIN – now through August 25th.
Starting August 26—You need advisor and instructor signatures on a form.

To DROP
Drop through myPurdue using your PIN – now through Sept. 2.
Starting Sept. 3 - You need advisor signature and paperwork.

NOTE: Your ability to add ends sooner than dropping. If you want to do drop/add (as in changing a section), follow the dates and requirements for Adding.

---

**EAPS CLUB CALLOUTS**

**Official PUGS Callout for the Fall Semester:**

9/09/2013 in HAMP 1144 from 6 -7pm
Open to anyone with an interest in the Earth Sciences and Geology!
Non-majors welcome

This is a great way to meet more students and faculty with similar interests, get your foot in the door with research connections, and be a part of something here at Purdue University.

Feel free to contact us with questions!
President: Ishra Noor
inoor@purdue.edu
Vice President: Megan Neary
nearym@purdue.edu

---

**PUMA Callout for the Fall Semester**

August 28th at 7pm in HAMP 4251—all students interested in weather are welcome.

---

**Free Workshop on Time Management**

Wednesday, August 21, 2013 4:30-5:30 p.m. STEW Rm. 322. Open to all students; learn how to plan your time daily, weekly, and on a semester basis. Effective time management is an important step in helping all you want to accomplish.

---

**Spring Research Internships**

**WDTS**

The Office of Science /Office of Workforce Development for Teachers and Scientists (WDTS), is pleased to announce that it is accepting applications to its 2014 Spring Term Science Undergraduate Laboratory Internship (SULI) program, with all required application materials, including recommendations, due by 5:00 PM ET on October 1, 2013. The SULI program encourages undergraduate students to pursue science, technology, engineering, and mathematics (STEM) careers by providing research experiences at Department of Energy (DOE) laboratories, where selected students participate as interns appointed at participating host labs. They perform research, under the guidance of laboratory staff scientists or engineers, on projects supporting the DOE mission. Further information, including program eligibility, requirements, host lab participation, and access to the online application system are found at: http://science.energy.gov/wdts/ or http://science.energy.gov/wdts/suli/ Inquiries or questions: http://science.energy.gov/wdts/suli/contact/.
SULI at ORNL
Science Undergraduate Laboratory Internships (SULI) at Oak Ridge National Laboratory (ORNL) is one of the internships listed in the previous paragraph. See flyer at the end of the Newsletter.
Internships for summer will be posted later.

August Birthdays
Lucy Flesch – 12th
Terry West – 15th

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 EAPS 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 (thomspow@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 EAPS 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.
Chevron Earth Science Campus Recruiting – Purdue University

Information Session – September 18th, 2013 @ 6:00 pm  Room HAMP 2201

Interviews – September 18th & 19th

If interested in obtaining an interview slot, please send your resume, transcripts (both undergraduate and graduate), and a cover letter to Michele Gutenkunst (mgutenkunst@chevron.com) by September 6th. Invitations for an interview will be sent via email on September 11th. Please refer to the job descriptions or http://careers.chevron.com for more information and qualifications.
Intern Job Description – Earth Science  
Geologist / Geophysicist Intern

Chevron Corporation is one of the world's leading integrated energy companies with subsidiaries that conduct business across the globe. The company's success is driven by the ingenuity and commitment of approximately 62,000 employees who operate across the energy spectrum. Chevron explores for, produces and transports crude oil and natural gas; refines, markets and distributes transportation fuels and other energy products and services; manufactures and sells petrochemical products; generates power and produces geothermal energy; and develops and commercializes the energy resources of the future, including biofuels and other renewables. Chevron is based in San Ramon, California.

Chevron is accepting online applications for the position of Geologist and Geophysicist Interns located in:
- Bakersfield, California
- Covington, Louisiana
- Lafayette, Louisiana
- Houston, Texas
- Midland, Texas
- Moon Township, Pennsylvania

Geologists and Geophysicists within Chevron are part of multi-disciplinary teams which vary in make-up but can include reservoir engineering, production engineering, simulation engineering, facility engineering and well engineering operations functions. These positions will provide technical geological or geophysical support and risk assessment for prospect generation, reserves recovery and major capital projects. Mobility is encouraged as there are many opportunities for Chevron geologists and geophysicists to work in a variety of assignments at different locations, both domestic and international.

Responsibilities for this position may include but are not limited to:

**Geologic Skills:** Successful geology candidates must be familiar with development geology work processes and have the ability to integrate seismic, well, and production data to evaluate reservoirs. Reservoir Management skills such as reservoir mapping, modeling and characterization must be demonstrated. The successful candidate also needs to be adept at volumetric, reserve and risk assessments. Formation evaluation and planning for and managing reservoir surveillance programs or new well, sidetrack and work over planning could also be expected job functions.

**Geophysical Skills:** Successful geophysical candidates must be familiar with geophysical tools (velocity, amplitudes, AVO modeling, rock physics, seismic processing, etc.) to assist earth scientists and engineers in prospect generation and reserves recovery. The candidate must keep abreast of new and emerging technologies, maintain close ties with geophysical vendors and intra-company technology networks and leverage when appropriate.

**Required Qualifications:**
- Students pursuing their Masters or Doctorate degree in geology, geophysics, geological engineering or related fields.
- Strong academic performance in core programs, communication, leadership, teamwork and problem-solving skills.
- GPA – 3.0 or above

**Preferred Qualifications:**
- Masters or Doctorate students with specialties in the fields of geophysics, seismic data acquisition and processing, seismic velocity modeling, reservoir properties from seismic, carbonate and clastic stratigraphy and petrography, structural geology, field mapping, depositional systems, petrophysics and well log technologies, geochemistry, and basin, geostatistical and fluid flow modeling.

**Relocation Options:**
Relocation may be considered within Chevron parameters.

**Additional Application Instructions:**
Please submit your resume and unofficial Transcript(s) for review.

EOE M/F/D/V
Chevron Corporation is one of the world’s leading integrated energy companies with subsidiaries that conduct business across the globe. The company’s success is driven by the ingenuity and commitment of approximately 62,000 employees who operate across the energy spectrum. Chevron explores for, produces and transports crude oil and natural gas; refines, markets and distributes transportation fuels and other energy products and services; manufactures and sells petrochemical products; generates power and produces geothermal energy; and develops and commercializes the energy resources of the future, including biofuels and other renewables. Chevron is based in San Ramon, California.

Chevron is accepting online applications for the position of entry-level Geologists and Geophysicists located in:
- Bakersfield, California
- Covington, Louisiana
- Lafayette, Louisiana
- Houston, Texas
- Midland, Texas
- Moon Township, Pennsylvania

Geologists and Geophysicists within Chevron are part of multi-disciplinary teams which vary in make-up but can include reservoir engineering, production engineering, simulation engineering, facility engineering and well engineering operations functions. These positions will provide technical geological or geophysical support and risk assessment for prospect generation, reserves recovery and major capital projects.

For most recent graduates, Chevron has a competency-based employee development program that includes two to three technical assignments in the first 5 years of your career supported by strong technical mentoring and comprehensive technical training. Mobility is encouraged as there are many opportunities for Chevron geologists and geophysicists to work in a variety of assignments at different locations, both domestic and international.

Responsibilities for this position may include but are not limited to:

**Geologic Skills:** Successful geology candidates must be familiar with development geology work processes and have the ability to integrate seismic, well, and production data to evaluate reservoirs. Reservoir Management skills such as reservoir mapping, modeling and characterization must be demonstrated. The successful candidate also needs to be adept at volumetric, reserve and risk assessments. Formation evaluation and planning for and managing reservoir surveillance programs or new well, sidetrack and work over planning could also be expected job functions.

**Geophysical Skills:** Successful geophysical candidates must be familiar with geophysical tools (velocity, amplitudes, AVO modeling, rock physics, seismic processing, etc.) to assist earth scientists and engineers in prospect generation and reserves recovery. The candidate must keep abreast of new and emerging technologies, maintain close ties with geophysical vendors and intra-company technology networks and leverage when appropriate.

**Required Qualifications:**
- Students completing the last year of the requirements for their Masters or Doctorate program in geology, geophysics, geological engineering or related fields or individuals with a Masters or Doctorate degree in geology, geophysics, geological engineering or related fields with less than 2 years of directly related work experience.
- GPA – 3.0 or above
- Strong academic performance in core programs, communication, leadership, teamwork and problem-solving skills.

**Preferred Qualifications:**
- Masters or Doctorate students with specialties in the fields of geophysics, seismic data acquisition and processing, seismic velocity modeling, reservoir properties from seismic, carbonate and clastic stratigraphy and petrography, structural geology, field mapping, depositional systems, petrophysics and well log technologies, geochemistry, and basin, geostatistical and fluid flow modeling. These skill sets are needed for our Chevron Energy Technology Company.

**Relocation Options:**
Relocation may be considered within Chevron parameters.

**Additional Application Instructions:**
Please submit your resume and unofficial Transcript(s) for review.

EOE M/F/D/V
Building Research Collaborations: Electricity Systems

August 28-29, 2013
Burton D. Morgan, Room 121
Discovery Park
Purdue University

The goal of this workshop is to identify Purdue capabilities and build research collaborations in the area of electricity systems. Knowledge gaps and challenges addressing the Eastern region will be discussed.

Five working sessions on electricity systems include:
- Security of Energy Infrastructures,
- Data Management and Analytics,
- Regional Issues,
- Workforce Training,

Three breakout sessions, and a poster session also are planned.

The workshop is co-sponsored by the colleges of Engineering, Science, Technology, and Health and Human Sciences, and Discovery Park’s Cyber and Energy Centers.

Two continental breakfasts and two lunches are provided and a heavy hors d’oeuvres reception on the first evening of the workshop.

There is no registration fee, however registration is required. Please use the following link to register.
Register for Event

For more information contact Pankaj Sharma (sharma@purdue.edu)
A Workshop on  
**Building Research Collaborations: Electricity Systems**  
Purdue University, West Lafayette, IN 47907  
28-29 August 2013

**Day 1**

7:00-8:00 am  Registration/breakfast
8:00-9:00 am  Inauguration and keynote presentations
9:00-9:15 am  Break
9:15-10:45 am  **Panel Session #1: Security for Energy Infrastructures (Lead: E. Bertino)**  
Synopsis: Novel energy infrastructures are characterized by large and complex software systems able to support a more intelligent management of the infrastructures. This however makes the infrastructures vulnerable to cyber-attacks, including injection of malicious data, disclosure of privacy-sensitive data, and denial of service attacks. Conventional security solutions are inadequate as they are unable to deal with very large complex systems with real-time requirements as it is the case of energy infrastructures. The deployment of smart meter infrastructures is also introducing privacy issues related to the unauthorized or improper use of energy consumption data. This session will identify challenges and develop a research roadmap towards addressing these challenges.

Suggested Keynote Speaker: Dan DeLaurentiis (AAS, Purdue)
Suggested Panelists:
- Ninghui Li (CS, Purdue)
- Rick Sheldon (Oakridge)
- Scott Peters (Sypris)

10:45-11:00 am  Break
11:00-12:30 pm  **Panel Session #2: Data Management and Data Analytics for Energy Infrastructures (Lead: E. Bertino)**  
Synopsis: Modern energy infrastructures will require the management and integration of different date types, including spatial and temporal data. Also data will likely have uncertainty. The management of these data must be done in real time in order to provide actionable information to the infrastructure control systems. Also effective and efficient data analytics techniques are crucial in such context. Quality of data is also an important challenge that requires solutions that take into account specific aspects of energy infrastructures. This session will identify challenges concerning data management and analytics and develop a research roadmap towards addressing these challenges.

Suggested Keynote Speaker: Leon Reznik (CS, RIT)
Suggested Panelists:
- Peter Baker (Cyber Center, Purdue)
- Sunil Prabhakar (CS, Purdue University)
- Walid Aref (CS, Purdue University)
- Athula Kulatunga (CoT, Purdue University)
- Michael Zhu (Stat, Purdue University)
12:30-2:00 pm  Lunch and Luncheon speaker
2:00-2:15 pm  Break
2:15-3:45 pm  *Panel Session #3: Regional Issues with National and Global Impacts (Lead: R. Kramer)*
Synopsis: The Midwest region, and especially Indiana, is at the crossroads of major energy flows in the Eastern United States. Traditionally issues that have arisen in this area have been representative of many of the issues associated with energy, reliability and transport that have arisen across the nation and the world. As we transition to new scenarios in the production, use and transportation of energy, it is critical that region wide issues be considered for both the energy system and the customers that rely upon it as a key eminent necessary for their operations and productivity. In the future, if these issues are not considered in a timely and effective manner, the transition to a new national energy profile may be impeded. Long-term issues include transmission infrastructure investments to connect the large amount of wind resources located mainly in rural areas in this region, the transition from a coal-dominated power generation portfolio to a more diversified, sustainable portfolio and the interrelation between natural gas sources and transportation for electric generation. Other issues include maintaining system reliability given a diverse resource mix and regional coordination such as that between MISO and PJM. This session will provide solutions to the main issues faced by the Midwest electricity system, and to discuss the broader application of the solutions to address similar issues at the national and global scale.
Suggested Keynote Speaker: Doug Gotham (State Utility Forecast Group)
Suggested Panelists:
- Bob Pauley (Eastern Interconnection States' Planning Council)
- Jameson Smith (Midwest ISO)
- Robert Kramer (Purdue Calumet)
- Arcelor Mittal

3:45-4:00 pm  Break
4:00-5:30 pm  *Panel Session #4: Smart Grid Workforce Training and Education (Lead: E. Dietz)*
Synopsis: The development of the future electricity grid requires a highly-trained and flexible workforce to fully realize the advanced grid technologies’ promise and benefits. The future workforce will be vital to reaching our goal to build a sustainable, reliable and efficient energy system. Growing and training the smart grid workforce will require close collaboration between industry and academia. This session will discuss and propose education and training programs to minimize the education-workforce gap in the electric energy sector, and to discuss the challenges of recruitment, retention, graduation and employment.
Suggested Keynote Speaker: Eric Dietz (CIT, Purdue)
6:00-8:00 pm  Reception and posters

Day 2

7:00-8:00 am  Breakfast

8:00-9:30 am  *Advanced Grid Modeling, Simulation and Computing (Lead: Alex Pothen)*

9:30-10:00 am  Overview and break for group discussion

The US Power Grid is highly complex—and its complexity is growing at a rate faster than ever before due to the continuous integration of renewable energy sources, emerging storage technologies and intelligent loads into the Grid. The reliable and efficient operation of the next generation power grid will require developing new advanced modeling, simulation and analysis capabilities. These include real-time and near real-time network wide dynamic simulation and state estimation; reliable, validated, static and dynamic models of complex network components; and analysis of a large number of contingencies fast enough to provide timely options to system operators. This session seeks to identify the most critical, high-priority computational challenges that need to be addressed to attain the majority of progress towards building these new capabilities. Main focus will be laid on scientific computing algorithms and the use of high-performance computing platforms.

Suggested Keynote Speaker:
Victor Zavala (Argonne)

Suggested Panelists:
Sven Leyffer (Argonne)
Ahmed Sameh (CS, Purdue)
Oleg Wasynczuk (ECE, Purdue)
Andrew Liu (IE, Purdue)

10:00-10:15 am  Break

10:15-12:00 pm  Breakout groups (Lead: A. Liu)

- **Breakout Group #1 – Demand Response, Smart Buildings, and Microgrids**
  Suggested Lead: Oleg Wasynczuk (ECE, Purdue)
  Suggested Discussion Points:
  - Current technology for smart homes and smart buildings
  - Microgrid plug-and-play and system stability
  - Market mechanism for demand participation to wholesale markets

- **Breakout Group #2 – Renewable Integration**
  Suggested Lead: Doug Gotham (find replacement) (State Utility Forecast Group)
  Suggested Discussion Points:
  - Business model for transmission investment
Long-term planning and capacity value of renewable resources
Flexible ramp product markets to increase system reliability with large amount of intermittent resources
Forecasting techniques for renewable generation

➢ Breakout Group #3 – Advanced Grid Modeling, Simulation and Computing
Suggested Lead: Victor Zavala (Argonne)
Suggested Discussion Points:
- Multiscale modeling
- Large-scale stochastic optimization
- Faster than real-time simulation
- Applications of high performance computing

12:00-2:00 pm Report back and working lunch
Sandia National Laboratories is seeking applicants for the President Harry S. Truman Fellowship (in National Security Science and Engineering). Candidates for this position are expected to have solved a major scientific or engineering problem in their thesis work or have provided a new approach or insight to a major problem, as evidenced by a recognized impact in their field.

The Fellowship provides the opportunity for new Ph.D. scientists and engineers to pursue independent research of their own choosing that supports Sandia's national security mission. The appointee is expected to foster creativity and to stimulate exploration of forefront science and technology and high-risk, potentially high-value research and development.

Sandia's research focus areas are: bioscience, computing and information science, engineering science, materials science, nanodevices and microsystems, radiation effects and high energy density physics, and geosciences. Additional R&D programs in support of Sandia's mission areas can be found here.

Candidates must meet the following requirements: the ability to obtain a DOE "Q" clearance; and a Ph.D. (3.5 undergraduate and 3.7 graduate GPA preferred), awarded within the past three years at the time of application, or completed Ph.D. requirements by commencement of appointment. Candidates must be seeking their first national laboratory appointment (no previous postdoctoral appointments at a national laboratory).

The Truman Fellowship is a three-year appointment normally beginning on October 1. The salary is $111,200 plus benefits and additional funding for the chosen proposal. The deadline is November 1 of each year. For more information on the Fellowship and how to apply, see:

http://sandia.gov/careers/students_postdocs/fellowships/truman_fellowship.html

Sandia National Laboratories is one of the country's largest research facilities employing nearly 8,500 people at major facilities in Albuquerque, New Mexico and Livermore, California. Please visit our website at www.sandia.gov.
The U.S. Geological Survey (USGS) began the Mendenhall Postdoctoral Research Fellowship Program (now called Mendenhall Research Fellowship Program) in 2001 in honor of Walter C. Mendenhall, the fifth Director of the USGS. The Mendenhall Program provides an opportunity for recent PhD graduates (within five years since completion of the doctoral degree) to conduct concentrated research in association with selected members of the USGS professional staff. The Program is intended to provide research fellows with experiences that enhance their personal scientific skills and accomplishments. Through the Mendenhall Program the USGS acquires current expertise to assist in the advancement of its scientific goals.

Mendenhall Fellowships are 2-year appointments with competitive salary and benefits. Mendenhall Fellows are typically granted project expense funds appropriate to the scope of research to be conducted. Postdoctoral research projects under this program have spanned a wide range of scientific topics of interest and relevance to the mission of the USGS. For additional information, please consult the Project Profiles section of the Mendenhall Program web site at the following URL: http://geology.usgs.gov/postdoc.

What is it like to be a USGS Mendenhall Fellow? Check out the FAQ section of the program web site for some informative quotes from previous Mendenhall Fellows. Another way is to find out directly from a Fellow -- Project Profiles contain their contact information.

Mendenhall postdoctoral research opportunities are advertised through the Program web site. The current set of opportunities (Round 14) will be open for application through September 20, 2013. We anticipate being in a position to make offers (pending availability of funds) late this year.

Program contacts:
Overall Program and Science - Dr. Rama K. Kotra, 703-648-6271, rktotra@usgs.gov
Human Resources - Ms. Susan Fong-Young, 916-278-9402, sfyoung@usgs.gov

Program Web Site: http://geology.usgs.gov/postdoc
Frequently Asked Questions about the Mendenhall Program

Q: Is United States citizenship required?
A: U.S. citizenship is not required for applying for a Mendenhall postdoc position; however those with U.S. citizenship are given priority. More information is available through the Mendenhall Program website.

Q: How many Mendenhall Fellows are hired each year by the USGS?
A: This varies as it is a function of available funding. We aim to hire 15-20 per year.

Q: How many applications are received each year?
A: This varies as a function of the number of Research Opportunities (projects) advertised. It is not unusual to receive over 100 applications in a given year.

Q: Can Mendenhall Program research be done jointly with universities or other institutions?
A: Yes. Scientists at universities and other institutions have been and will continue to serve as Research Advisors (mentors) on Mendenhall projects. Joint funding is an avenue that can be explored.

Q: If the project does not fit neatly into 2 years, can a Mendenhall Fellowship be extended?
A: Mendenhall Fellowships are 2 year appointments. The scope of the project is expected to be appropriate for a 2 year effort. However, it is not unusual for Mendenhall Fellows to secure funding to continue with postdoctoral research at the USGS beyond 2 years (maximum is a total of 4 years).

Q: What is a “reasonable” budget for a Mendenhall postdoctoral project?
A: The budget for a Mendenhall project is expected to be appropriate for the research to be conducted. Project operating expenses span a wide range.

Q: What role do the potential Research Advisors (mentors) of the Fellow have in the selection process?
A: Research Advisors have a role in the review of applications for their Research Opportunity. They provide one assessment of the merit of the applications. A panel of scientists provides another independent assessment. A selection panel utilizes the input from the Research Advisors, the panel of scientists, and adds their own review of applications to choose Mendenhall Fellows.

Q: When will applicants learn about the outcome of their application?
A: The USGS utilizes a two panel application review process. Our goal is to complete application review within 60 days after the application deadline. Applicants will be notified after this.

Q: Will the Mendenhall Fellowship lead to a permanent position with the USGS?
A: No. The Mendenhall Fellowship does not confer any special status in the search for a permanent position with the USGS. Mendenhall Fellows typically obtain permanent USGS positions through a national level public competition.

Q: Are Mendenhall Fellows required to publish papers or give presentations on their work at professional society meetings?
A: Yes. As the postdoctoral fellowship period is the last stage of preparation prior to a fully independent career in research, it is critical for Mendenhall Fellows to take advantage of opportunities to present their work at conferences and it is a primary responsibility to document the results of their research through scientific publications.
Science Undergraduate Laboratory Internship (SULI) at Oak Ridge National Laboratory (ORNL)!

2014 Spring Internship Information – Apply now!!

ORNL is the largest science and energy laboratory in the Department of Energy system. Areas of research include materials, neutron sciences, energy, high-performance computing, systems biology and national security. Visit http://www.youtube.com/watch?v=NSCdUJ8cavw to discover some exciting reasons why ORNL offers a great internship experience!

Benefits:
• 16 weeks (January 6 – April 25) engaged in a research project under the direction of a laboratory scientist/engineer
• Career development workshops/lab tours
• $500 per week stipend and limited travel reimbursement/housing allowance (for those who qualify)

To be eligible, you must:
• Be currently enrolled full-time at an accredited U.S. institution AND have completed at least one year as an undergraduate (at the time of application)*
• Be at least 18 years of age
• Be a U.S. Citizen or Legal Permanent Resident
• Have a minimum GPA of 3.0

*Please note – the internship requires a commitment of full-time (at least 40 hour per week) participation onsite at ORNL in Oak Ridge, Tennessee. Some students find it reasonable to take online or evening classes during the course of the internship.

Application deadline: October 1, 2013 5:00 p.m. ET
Apply online now at http://science.energy.gov/wdts/!
Email suli@orau.org for questions or additional information.

www.orau.org/ornl
Administered by the Oak Ridge Institute for Science and Education