

Did you know?

Electrical Engineering students have the opportunity to study abroad as undergraduates without necessarily delaying graduation. There are 32 international universities that are affiliated with Penn State and offer electrical engineering courses. For more information, visit our website's Study Abroad page.



Communications and Space Sciences Laboratory
Department of Electrical Engineering
presents

Space Weather Storms: Are We Ready for a "Space *Katrina*"

William Murtagh

Program Coordinator
National Oceanic and Atmospheric Administration
Space Weather Prediction Center

Friday, April 12
8 p.m.
22 Deike Building

Reception to follow in the EMS Museum and Art Gallery,
Deike Building

Free and open to the public



Bill Murtagh is the program coordinator for the National Oceanic and Atmospheric Administration (NOAA), Space Weather Prediction Center (SWPC) in Boulder, CO. He is NOAA's space weather lead in coordinating preparedness and response efforts with industry, national and international agencies, emergency managers, and government officials around the world.

Murtagh is a member of the White House working group on geomagnetic disturbances, guiding national policy in response to space weather storms. He regularly briefs the White House and members of Congress and their staff on vulnerabilities of critical infrastructure. Murtagh recently provided expert testimony at the British Parliament on global impacts of space weather. He represents the United States in consultation with the European Union and specialized agencies of the United Nations.

Murtagh is a regular guest speaker at universities, government agencies, and national and international conferences and has provided numerous interviews to major media outlets and is featured in several documentaries on space weather.

Before joining NOAA, Murtagh was a meteorologist and space weather forecaster in the U.S. Air Force. He coordinated and provided meteorological support for national security interests around the world. Bill transferred to the SWPC in 1997 as a space weather forecaster and liaison between NOAA and the U.S. Air Force. He joined NOAA in 2003 after retiring from the Air Force with 23 years of military service.

Early Career Recognition Alumni Award Recipient

The Department of Electrical Engineering and the Penn State Electrical Engineering Society announce that **Ben Campbell** is this year's recipient of the Early Career Recognition Alumni Award.

Campbell spent five years studying at Penn State graduating in 2003 with a master's of science in electrical engineering, bachelor of science in physics with honors, and minors in business, mathematics, and astronomy and astrophysics. He was awarded the Langhorne H. Brickwedde Recognition Award for Excellence in Undergraduate Physics for his excellent senior/M.S. thesis.

In 2005, he joined Robert Morris University's (RMU) inaugural engineering Ph.D. program and earned his degree in 2008 after successfully defending his dissertation concerning quantitative quality measurement methods for laser machining.

Campbell joined Robert Morris University as an assistant professor of engineering in fall of 2011. He spent eight years prior to that as a laser engineer at the Penn State Electro-Optics Center specializing in laser micromachining research. He has more than 20 publications and has presented his work at several international laser conferences. Campbell has performed research for government funded investigations into ultrashort pulse laser-material interactions, and has also generated business with industrial partners to use lasers for innovative manufacturing processes.

In 2011, Campbell was awarded his first research grant from the National Science Foundation in the amount of \$300,000 for the "Fundamental Study of Pulse Length Dependency for Laser Ablation and Melt Formation" for laser machining applications. As a demonstration of his laser micromachining capabilities, Campbell laser etched the entire Gettysburg Address on a Lincoln penny. He also directed an intern to write the Declaration of Independence on a nickel. His hobby with lasers has led to the formation of the company, Laser Coins, to produce and sell keepsake coins with meaningful messages inscribed by lasers, with the initial product offering being the Gettysburg pennies.

Campbell served for many years on the faculty for the Pennsylvania Governor's School for the Science (PGSS) at Carnegie Mellon University. During that time he taught courses in laser technology, the science of music, and led student research projects designing and building electronic musical instruments. In 2005 he was given the PGSS award for exemplary service. Since the loss of state funding for the program in 2009, Campbell has helped to lead efforts to restore the program. He serves as the vice president and is on the board of directors of the PGSS alumni association and has personally met with the governor of Pennsylvania and the heads of the state legislature to discuss the future of the program. Campbell recently joined the board of directors for the National Conference of Governor's Schools (NCOGS) and leads the committee for alumni database management solutions.

Campbell is a professional member of Institute of Electrical and Electronics Engineers, SPIE, Biomedical Engineering Society, American Society for Engineering Education, NCOGS, and Laser Institute of America.

Campbell and his wife, Kim, have a three-year-old daughter, Zoey, and live in Cheswick, PA. In his spare time, he enjoys home improvement projects and traveling.

The year's award will be presented at the Penn State Electrical Engineering Society 20th anniversary reception on March 19, 6:00 pm at the Nittany Lion Inn. For more details and to RSVP for the reception, please see page 3 of this newsletter.

This award was developed to recognize and honor outstanding Penn State electrical engineering alumni at the outset of their career. A bachelor's, master's or doctoral degree in electrical engineering from Penn State, University Park campus, within ten years of the nomination date is required. The award recipient must have demonstrated outstanding technical excellence resulting in significant accomplishments as well as showing great potential for continued success in their field. In addition, the individual should have solid extra-curricular leadership activities having a positive influence on others and role model opportunities.

Award nominations for the 2013 award will be accepted this spring. Watch the next newsletter for details.



Dear Alumni,

Penn State Electrical Engineering Society has hit a milestone!

Twenty years ago, **Larry Burton**, then department head of the Department of Electrical and Computer Engineering, commissioned a group of alumni to discuss forming a Penn State Engineering Alumni Society affiliates program group. The resulting group called themselves the Society of Penn State Electrical Engineers. Even though the name changed a few years ago to Penn State Electrical Engineering Society, the group has remained steady to the mission of promoting fellowship and communication among alumni, faculty, and students of the department in order to work for the improvement of the department and college.

[You and a guest are invited to our 20th anniversary reception to celebrate the milestone.](#)

Tuesday, March 19

6:00 p.m.

Nittany Lion Inn

Assembly Room

University Park, PA

During the course of the evening, we will be recognizing past presidents and officers who were instrumental in developing the organization. As part of our anniversary celebration, we will award our third annual [Early Career Recognition Alumni Award](#).

We are truly honored to have such a successful and vibrant organization. Please join us in celebrating the journey.

We will have appetizers and a cash bar. There is no charge for this event but we will be making name tags so please be sure to let us know if you are coming by contacting Cathy McClellan, 814 863-0253 or CLS118@psu.edu.

If you are attending the reception and would like a tour of the new Millennium Science Complex, a tour has been arranged for electrical engineering alumni and their guests prior to the reception at 3:30 p.m. Please let Cathy know if you would like to attend.

Outstanding Engineering Alumni Award

Richard (Dick) Williams (BSEE '80) is the recipient of the 2013 Outstanding Engineering Alumni Award sponsored by the College of Engineering. The award, which recognizes and rewards outstanding alumni for their success as leaders in their field, is the highest honor bestowed by the College.

Williams is the president of Shell WindEnergy. Williams joined Shell immediately after graduation and over the years held positions in project engineering, operations, joint ventures, and business development. His last role there was commercial manager for Shell Distribution North America. Shell WindEnergy builds and operates eleven wind farms, including eight in the U.S. and three in Europe.

Williams is committed to the future and success of wind energy, and Shell is a founding sponsor of The Wind Alliance which is a collaboration among government, industry, and academic institutions dedicated to the long term operational sustainability of the wind industry. Williams is the founding chairman of the alliance.

In addition to his professional career, Williams is on the board of Breakthrough Houston which is an educational collaborative which nurtures high achieving students from at-risk areas, He is also chairman of the Houston Technology Center, recently named one of America's top ten incubators and is on the advisory board for the Alaska Center for Energy and Power at the University of Alaska.

While attending Penn State, Williams was involved in the Institute of Electrical and Electronics Engineers, intramural sports, and was a member of Eta Kappa Nu.

He lives in Houston with his wife, Sandi, and they have two sons



Dean Announces Retirement



Following a distinguished career as a researcher, professor and the Harold and Inge Marcus Dean of Penn State's College of Engineering, **David N. Wormley** has announced his retirement effective this summer.

"The college is in a very good situation," Wormley said of his decision to retire. "It has a strong foundation with great faculty, staff and students. It is a favorable time to have this transition in leadership."

Wormley was appointed dean of the College of Engineering on July 1, 1992. Prior to coming to Penn State, he served as a faculty member, department head for mechanical engineering and associate dean of engineering at the Massachusetts Institute of Technology. He earned his bachelor's, master's and doctoral degrees from M.I.T.

During his tenure, the departments of chemical engineering and industrial and manufacturing engineering were endowed. A four-year undergraduate degree program was created in the newly formed department of bioengineering.

The department combining computer science and computer engineering and the department combining mechanical engineering and nuclear engineering also were established during Wormley's tenure.

The college has strengthened its graduate program and enhanced outreach in Pennsylvania, across the nation and around the world. In recent years the college has emphasized new research efforts in energy and the environment, health care, new materials applications, cyber infrastructure and civil infrastructure.

Today the College of Engineering enrolls 6,800 undergraduate students and more than 1,300 graduate students in highly regarded programs that annually rate among the best in national and international rankings.

Since Wormley became dean, College of Engineering research expenditures have grown from \$32 million to \$131 million and the college's endowment has increased from \$14 million to \$173 million.

"The fields of engineering have seen enormous changes in the past two decades, and under David Wormley's leadership the College of Engineering has not only kept pace but emerged as a global leader in teaching, research and service in these many areas," Penn State President Rodney Erickson said. "He has been a terrific colleague and an outstanding researcher, educator, administrator and member of the Penn State community. His commitment to the College of Engineering and to Penn State will be felt by many for years to come."

Erickson said the University will conduct a national search for Wormley's successor.



The student chapter of IEEE participated in the Rube Golberg competition at the Penn Stater in February. This was their year to participate in the annual event. The Rube Goldberg Machine Contest challenges students to use innovative ideas and problem-solving skills to design a machine that accomplishes an otherwise trivial task. This year's challenge was to design and build a machine that hammers a nail in 20 or more steps.

Contact Information:

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Please submit news items to: Cathy McClellan at cls118@psu.edu

This publication is available in alternative media on request.

Penn State is committed to the affirmative action, equal opportunity, and the diversity of its workforce.

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