



A Visionary Dean

The College of Engineering is expanding into new frontiers under the leadership of Dean Amr Elnashai, who arrived at Penn State in January.

With a vision and an entrepreneurial spirit, Dean Elnashai hit the ground running on his first day.

He moved quickly to announce exciting plans for the college, including a number of new initiatives that will invigorate the college's academic programs and research portfolio.

stipends of \$5,000 each will be made, starting this summer. And that's just a snapshot!

The dean has maintained an open dialogue with alumni, faculty, and staff. In March, he hosted the college's first-ever town hall meeting, soliciting feedback and responding to questions and concerns from faculty and staff.

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Amr Elnashai met with students at this spring's Rube Goldberg competition.

Six new frontier-faculty positions across the college and its joint institutes are in the works. More than 20 research grant opportunities that will contribute to innovative and interdisciplinary work by engineering faculty have been announced.

Graduate students will benefit from new startup funds for teaching and excellence fellowships. Fifty eight-week Research Experience for Undergraduates



As dean, Elnashai hopes to find time to maintain his personal hobbies, which include scuba diving and reading about the history of painting and movie making. His family is settling into work and life in State College, too. Wife Noha is teaching Arabic at Penn State and daughter Jumana is busy convincing her parents that the family needs a puppy.

The College is hosting a "Meet the Dean" luncheon on June 6, in conjunction with the Penn State Alumni Association's Traditional Alumni Weekend and ESM's Golden Decade Reunion. Join us! RSVP: alumnirelations@esm.psu.edu

Message from the Chair



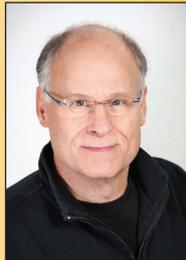
As spring arrives, we are busy advancing Dean Elnashai's new initiatives.

New College of Engineering Graduate Excellence Fellowships, funded at the level

of the National Science Foundation Graduate Fellowships, have been offered to outstanding students. Future ESM student Mengxi Wu has already accepted his award.

On March 1, our students competed in the 11th "ESM Today" Graduate Research Symposium. Winners of more than \$3,000 in prizes are featured in this page's Graduate Spotlight.

Congratulations to Ned Brokloff ('82 E SC), who was recognized for his contributions to THON (page 3) and also will be honored as a 2014 Outstanding Engineering Alumnus. On April 1, John Bender ('76 MS E MCH) received the Penn State Engineering Alumni Society's (PSEAS) Distinguished Service Award. ESM budget administrator Carrie Friday received the PSEAS Outstanding Staff Award. We also congratulate Chuck Bakis for being elected president of the American Composites Society.



John Bender



Carrie Friday

More initiatives are on the horizon. I hope you will come and hear about them at our ESM Golden Decade Reunion on June 5-6.

Warm regards,

Judith A. Todd

Judith A. Todd
P. B. Breneman Chair

Faculty Spotlight

Cliff Lissenden has been named a Fellow of the American Society of Mechanical Engineers (ASME).

His research focuses on the mechanics of materials and the assessment of structural integrity to help ensure safety, reduce life cycle costs, improve asset readiness and create a paradigm shift in design. ASME cited Lissenden for his new insights into the hardening behavior of high temperature alloys and composites; an algorithm implemented in NASA's micromechanical analysis of composites software; and solutions to the generation of higher harmonic guided wave modes in a hollow cylinder.

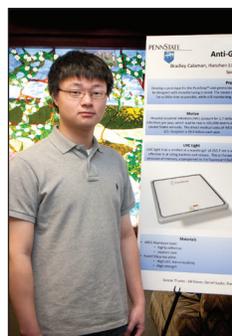


Graduate Spotlight



Winners of the 11th ESM Today Graduate Research Symposium (left to right): Abdon Francesch, Maryam Neshastehriz, Cooper Elsworth, Annirudh Vashisth, Aaron Lesky, Stephen Swiontek, Ahmad Ahsan (not pictured: Hui Yang)

Undergraduate Spotlight



Senior Hank Lin and his teammates from the departments of Mechanical Engineering and Materials Science and Engineering won the Lockheed Martin Design Award for best project at the Engineering Design Showcase this winter.

The showcase is the culmination of a semester-long effort by engineering students to design prototypes and remedies to real world-challenges posed by industry clients. The team developed a PureStep anti-germicidal device prototype for use in hospitals. Lin describes the device on page 4.

Sponsored by MMEH LLC, the team was advised by Mike Erdman ('69 E SC), Walter L. Robb Director of the Engineering Leadership Development and instructor of ESM.

Alumnus honored at Road to THON Celebration

Ned Brokloff ('82 E SC) was honored with the Diamond of Wisdom Award at the Road to THON Celebration held on Jan. 30 at The Penn Stater Conference Center Hotel.



The celebration was part of the countdown to THON weekend and an opportunity to honor extraordinary volunteer contributions.

Brokloff supports THON in a variety of capacities, including mentoring THON Executive Committee members and student volunteers. He is a member of the Penn State Engineering Alumni Society, Penn State Annual Giving Advisory Council, and previously served on ESM's Industrial and Professional Advisory Council.

Yuebing Zheng receives Early Career Award

Yuebing Zheng ('10 PhD ESMCH) received one of the inaugural Penn State Graduate School Alumni Society Early Career Awards.



The award recognizes exceptional achievement and success early in one's career and the potential to make a significant impact throughout one's career.

Zheng is an assistant professor in the Department of Mechanical Engineering at the University of Texas, Austin, and also works in the Texas Materials Institute.

Alumnus shares valuable career advice with students

Alumnus John Starr ('90 E SC) visited with students in the senior research and design project classes this past fall.

He shared career advice and his "secrets to success," including how to build global teams.



Shortly after graduating from Penn State, Starr was offered a position with Westinghouse Electric in the Engineering Manufacturing Professional Development Program. He later worked for Respirationics, Inc., where he earned six U.S. patents and eventually became director of an engineering and business development group. John earned an MBA from Carnegie Mellon University in 1996.

In 1999, Starr began working for a dot-com company now called Ariba. He is currently vice president of Global Sourcing Operations for the company, which is an industry-recognized leader in spend management.

Starr and his wife Margie and father Richard manage a herd of certified Hereford-Angus Beef Cattle on their 275-acre family farm, Starr Valley Farm.



ESM's Golden Decade Reunion will be held June 5-6, in conjunction with Penn State's Traditional Alumni Reunion Weekend.

All alumni are invited to attend ESM's celebration banquet recognizing alumni who graduated 50-, 45-, 40-, 30-, 20-, and 10-years ago, followed by a half-day program in the ESM department.

To RSVP visit esm.psu.edu/alumni/reunion. For more information about the Penn State Alumni Association's Traditional Reunion Weekend, visit alumni.psu.edu/events/traditional-reunion-weekend

We want to hear from you!

Job changes, awards, involvement in your community—we would love to hear about it! Drop us a line at alumnirelations@esm.psu.edu

PureStep anti-germicidal device

Hank Lin, E SC senior

PureStep is an anti-germicidal device that utilizes Ultra-Violet C (UVC) light to clean users' footwear in hospital settings.



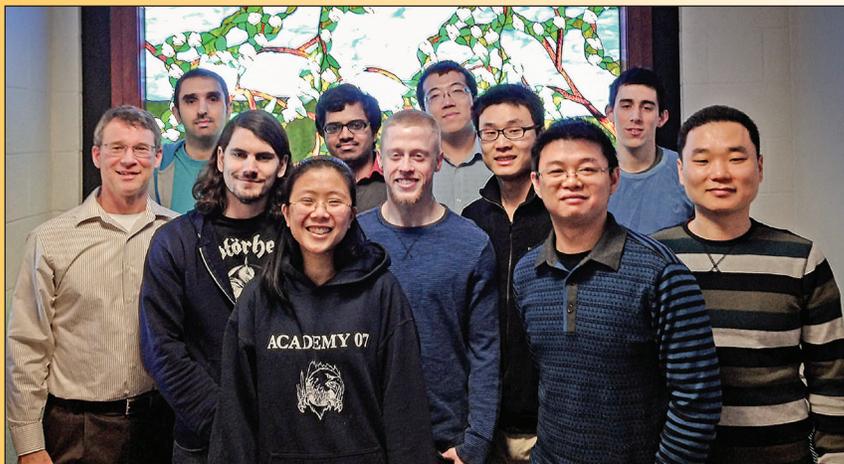
UVC light disrupts the molecular bonds of bacterial and viral life. Our team uses germicidal UV fluorescent bulbs to produce the amount of UVC required to kill 99 percent of the targeted bacteria commonly found in hospitals across the U.S. Due to the ill-effects of UVC radiation, we implemented a switch and built-in timer to limit the sanitation process to six seconds.



The device incorporates an aluminum casing as the main supporting frame, power cord, pressure switch mechanism using four spring plungers at each corner of the device, an mbed micro-controller that controls the timer, two UVC bulbs, viewing window made of fused silica that has a high UVC transmissivity, and a buzzer that signals the completion of disinfection.

ESM Research Highlights

Cliff Lissenden's research group poses for a picture after an afternoon meeting.



Back row: Mostafa Hasanian, Vamshi Chillara, Baiyang Ren, Stephen Williamson; middle row: Cliff Lissenden, Aaron Lesky (Acoustics Program), Clayton Dickerson, Yang Liu; front row: Gloria Choi, Frank Yao, Hwanjeong Cho



Franklin Institute President Dennis Wint, Subra Suresh, and Judith Todd at the Franklin Institute's 2013 Awards Ceremony. Todd hosted Franklin Institute Laureate Suresh, former director of the National Science Foundation and president of Carnegie Mellon University.



ESM's newly-minted doctorates, December 2013 (left to right): Sila Gungor, Drew Pulsifer, Daniel Ahmed, Koray Sekeroglu, Jie Liu, Wentao Liang, Joseph Maloney



Christine Masters ('87 ME, '92 PhD ESMCH), associate professor of ESM, has been named assistant dean for academic support and global programs in the College of Engineering at Penn State. We sat down with Masters to learn more about her new position and to see how things are going over in Hammond Building.

Q: Dr. Masters, tell us about the new position.

A: I am very excited to be directing many aspects of the educational experiences of the college's

undergraduate students. It is also very rewarding to interact with a variety of units across the university and learn from my peers in other colleges.

ESM faculty and staff on a regular basis. Although I am no longer in the EES building, I am still part of the ESM faculty and look forward to remaining connected to the students, faculty, staff, and alumni.



ESM students congratulate Dr. Masters

undergraduate students, including New Student Orientation, pre-major advising, entrance to major, and graduation certification. My office includes career resources and industry relations, as well as support for study abroad. I will also serve on the undergraduate studies committee that reviews course and curriculum proposals and the undergraduate academic integrity process.

Q: What are you most looking forward to in the new job?

A: I am looking forward to the opportunity to have a positive impact on the experience of

Q: What types of exciting projects does your office have in the works?

A: We are expanding programming and support for the pre-major student experience, enhancing the Engineering Orientation Network, and developing engagement programs for second-year students. We are also looking for ways to foster more effective professional and social collaboration between our domestic and international students. And my office will be involved in Dean Elnashai's new Research Experience for Undergraduates initiative, which enables undergraduate students to take part in research during the summer and academic year.



In January, Masters took over for Jean Landa Pytel, who retired at the end of December. Masters has been a faculty member since 1997 and served as ESM's undergraduate coordinator for the past decade. In a recent student survey, she ranked in the top six favorite engineering instructors among mechanical engineering students. Her awards include the Penn State Engineering Alumni Society's Outstanding Advising Award and Penn State's George W. Atherton Award for Excellence in Teaching.

"I am looking forward to the opportunity to have a positive impact"

Q: How often will you be interacting with the folks in ESM?

A: I have been interacting and will continue to collaborate with



Message from Your Alumni Society Chair

Leadership is certainly a timely topic with a new leadership team for the University and college:

President Eric Barron, Dean Amr Elnashai, and Assistant Dean Christine Masters. We are excited to have these individuals, with proven records of leadership, assuming these key roles.

Successful organizations have strong leadership at all levels in the organization. As Penn State alumni and leaders in our own organizations, we all have a lot that we can contribute. Your Alumni Advisory Board (AAB) is always looking for opportunities to enhance the department, college, and University. In this endeavor we welcome both your ideas and your active support. As part of this effort we have sent a brief survey to ESM alumni to solicit ideas and feedback. We look forward to your responses.

A new initiative that the AAB is considering is a more structured networking system for students and alumni. We have received feedback from the students that they would like to be able to interact with alumni on a variety of topics, including information about specific industries and career paths. I suspect that some of our alumni would also welcome the inside track for recruiting upcoming graduates. We currently have some initiatives that help such as LinkedIn, career fairs, and alumni seminars. We are exploring how to strengthen, supplement, and better integrate these efforts. One idea would be a searchable database of ESM alumni. It could include your company affiliation, type of business or field of research, and contact information. The students could use this to connect with alumni. Certainly any participation would be on a voluntary basis. This is still in the discussion phase and we welcome your thoughts and ideas.

Jim Smiley
(’66 E MCH, ’66 PhD NUC E)



2014 ESM Industrial and Professional Advisory Council
Top row, left to right: John Fraiser (’56 MS E MCH, ’58 PhD), John Bender (’76 MS E MCH), Mark Walker (’99 E SC), Mike Erdman (’69 E SC), Karen Wright (’05 E SC); Bottom row: Dale Mosier (’67 E SC), Shaun Clair (’06 E SC), Vijay Venugopal (’97 MS E SC, ’00 PhD)



Ginger Vierck, Bradford Lapsansky, and Robert Vierck, Jr. (’62 Lib, ’64 MBA Bus) met this spring. Brad is a senior and recipient of the Myrtle and Robert Vierck Scholarship, created by Robert’s parents. Robert Vierck, Sr. was professor of ESM from 1957-1965 and professor and department head from 1965-1967.

For the future

THE CAMPAIGN FOR PENN STATE STUDENTS

To make a gift, visit esm.psu.edu/campaign/

Contact ESM

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