The 2012

exchange

News for Mechanical Engineering, Aerospace Engineering, Engineering Mechanics, and Nuclear Engineering Alumni of The Ohio State University

Switch To Semesters Brings Visible Changes

Page 15

Water Renewal Research

One engineer's work in nanoscale technologies

Page 4-5

A Noise Maker Examines Noise Control

Hitting the high notes in dynamics and vibrations

Page 8-9

Down to Earth with Datta Gaitonde

Aerospace professor shares what propelled his career

Page 14-15

THE OHIO STATE UNIVERSITY

Professor Ahmet Selamet Begins Role As Department Chair

Professor Cheena Srinivasan Ends Third Term

As announced in early January by College of Engineering Dean David Williams, Professor Ahmet Selamet assumed the role of chair of the Department of Mechanical and Aerospace Engineering effective July 1, 2012.

Selamet has been a professor and associate chair in mechanical and aerospace engineering, where he directs the Flow, Engine, and Acoustics Research Laboratories within the Center for Automotive Research. He replaces K. (Cheena) Srinivasan, who decided at the beginning of the 2011-12 academic year that he would step down after 12 years as the department's chair. Srinivasan, who will continue to be a member of the department faculty, was awarded the President and Provost's Award for Distinguished Faculty Service earlier this year; he was the first person in the department to receive the prestigious university award.

Selamet is recognized as a leader in advanced automotive powertrain systems, wave dynamics, noise and pollutant emission control, combustion, fluid mechanics, and heat transfer. He is also a Fellow of the Acoustical Society of America and the Society of Automotive Engineers.

The two distinguished professors took a few minutes to share their thoughts about their past and future roles at Ohio State.

Selamet

Q&A | Ahmet

Q: What prompted you to first consider a career in academia and now in academic administration?

A: Academia: The desire to develop fundamental understandings of engineering challenges in a conducive environment and disseminate them for the benefit of society.

Academic administration: The opportunity to lead and serve a great department.

Q: You're stepping into the role of Department Chair just as Ohio State transitions to semesters. What do you think will be the most significant outcome of the new academic calendar on students (and faculty)?

A: Once accomplished, we will put the transitory nature of this era behind us and move on with semesters. Future students will be entirely transparent to this transition. I believe the most significant outcome of the process has been the unique opportunity for our department to revise the curriculum markedly to address the needs of future engineers, by incorporating, for example, more design-based learning experience, economics, and statistics in addition to their solid education on the fundamentals of engineering. Semesters will facilitate more in-depth learning and more appropriate digestion time.

Q: What other changes do you see ahead for students in the mechanical, nuclear and aerospace engineering programs?

A: Innovation and entrepreneurship will become more important in contributing to the key areas of energy, transportation, manufacturing, environment, and health.

Q: What do you hope to accomplish as the Department Chair?

A: Raise the reputation of and respect for the department by focusing on particularly the experiential learning of students, by promoting further the scholarly production of new knowledge and practical discoveries, and by continuing to build strong ties with our alumni.

Continued on page 18

Q&A | Cheena

Q: The role of Department Chair requires a tremendous amount of service to and networking with students, faculty, staff, other administrators, alumni, and peers outside of the university. What or who helped you develop the leadership skills required of a department head?

A: I'd say the process of developing the leadership skills was a gradual one, in my case. I assumed a number of service leadership roles within the department and the college roles in the years preceding my appointment as department chair, for example, chair of the interest group, chair of multiple faculty search committees, chair of the department graduate studies committee, chair of the P&T committee first in the department and subsequently in the college etc. In the process of serving in these roles, one learns how to deal with the multiple perspectives that faculty and staff members bring to the table, and the importance of listening to different viewpoints as the group works toward its goals. Also, the opportunity, over the years, to observe other successful faculty leaders and understand the factors behind their success was valuable.

Q: How do you think the curriculum and the student body have changed during your tenure as Department Chair?

A: The curriculum at the graduate level and the elective courses undergo natural and gradual change with the addition and departure of faculty members with different

Srinivasan

areas of expertise. So, for instance, our current curriculum in these areas reflects increased emphasis on automotive engineering, nuclear power, and biomechanics as we have added many new faculty members in these areas. Change in the required undergraduate curriculum does not occur so naturally. As noted in previous communications to alumni, the department proactively used the switch to semesters this year as the occasion to make significant change in the undergraduate curricula in mechanical engineering as well as aerospace engineering.

As for changes in the student body, our student body has grown more than 60% in the ME undergraduate program and about 40% at the graduate level. The quality of our undergraduate students has improved dramatically, partly as a result of OSU's increased investment over the past fifteen years in scholarships to attract more academically stronger students, and partly because the department is more selective in admissions to the undergraduate majors.

Q: What have been some of the greatest highlights and/or accomplishments during your 12 years as Department Chair?

A: The coordination of the design and construction of Scott Lab, the fund raising needed for the project, and the management of the department's move to swing space off campus during the construction phase and the subsequent move to Scott Lab was clearly a major achievement, one that would have been impossible without the yeoman efforts of the department's associate chair, Gary Kinzel. Secondly, the department has

Continued on page 18

Reinke Appointed to Ohio State University Board of Trustees

Ohio Governor John Kasich recently appointed nuclear engineering graduate student Benjamin Reinke, a 2010 Ohio State graduate from Bowling Green, to serve as a graduate student trustee of The Ohio State University Board of Trustees for a term that began May 23, 2012 and ends May 14, 2014.

Reinke, who served in many roles in the Undergraduate Student Government, became the nuclear engineering program delegate in the Council of Graduate Students shortly after being accepted into his graduate study. "Ohio State has played an incredible role in not only educating me in the classroom, but helping to mold me into the person I am today. I saw this opportunity, to learn far more about OSU and to serve the university and the people of the state of Ohio as a trustee, as the greatest opportunity to serve OSU at the highest levels of university governance," he said.

President Obama Visits Ohio State's Center for Automotive Research

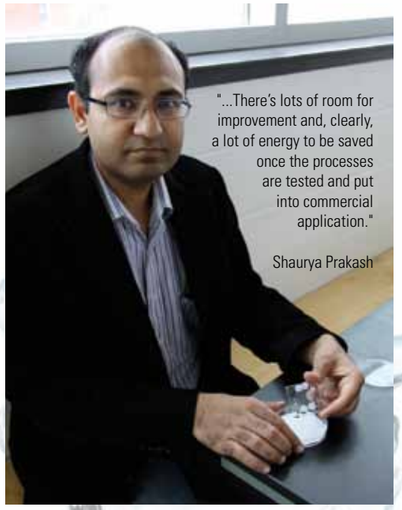
Several ME students and faculty couldn't help but feel a bit "revved-up" when President Barack Obama took time during his visit to Columbus on March 22 to drop by Ohio State's Center for Automotive Research (CAR). In a speech later that day, the President declared, "This school is a national leader in developing new sources of energy and advanced vehicles that use a lot less energy. We've got to look at renewable energy as the key to our future and we've got to build cars and trucks that get more miles to the gallon . . . and we'll do it by harnessing the same type of American ingenuity and imagination that's on display right here at Ohio State."

On hand to explain the various motorsports projects housed at CAR, were faculty advisors Giorgio Rizzoni, Marcello Canova and Shawn Midlam-Mohler. Evan Maley, an ME undergraduate, commented, "It was an honor to explain our project to the President and show how we are trying to advance alternative energy transportation." Obama met students and faculty working on EcoCAR2, an international student competition focused on fuel efficiency. (Ohio State placed second in the first year of EcoCAR2 competition that concluded at the end of May in Hollywood, CA.) He also met Buckeye Bullet, Formula SAE and Buckeye Electric Motorcycle team members.

President Obama speaks with Buckeye Bullet team leader David Cooke, a recent ME graduate and soon-to-be ME graduate student, during his visit to Ohio State's Center for Automotive Research in March.

One Engineer's Imperative: Safe, Consumable Water That Flows From Research in Nanoscale Technology

In our world, nearly every individual has some grasp of how important water is to our existence. Yet, only a small group of scientists and engineers are studying how fundamental physics, or more specifically the molecular scale interactions between water and the surrounding environment, might be rigged in order to solve one of our greatest environmental and societal challenges. Shaurya Prakash is one of the individuals who spends countless hours researching how nanoscale devices, integrated systems, and smart sensors that are one million times smaller than the width of a human hair may one day help to solve the concerns we have about the future availability of clean water and the energy required to sustain our 21st Century lifestyles.



"...There's lots of room for improvement and, clearly, a lot of energy to be saved once the processes are tested and put into commercial application."

Shaurya Prakash

Current methods for large-scale water desalination and waste water treatment require significant energy to manage and process water to either mitigate waste or generate fresh, clean water from wastewater. At the same time, many energy sources including oil, gas, and alternate fuels such as corn-ethanol are water intensive, either in mining or refining. For example, refining every gallon of corn-ethanol requires four-to-six gallons of freshwater, accessing shale oil and gas can consume three-to-five million gallons of water per horizontal well when drilled by means of hydraulic fracturing; vertical wells while consuming less water, still require anywhere from 60,000 to 600,000 gallons of water. Consequently, there's a nexus of technological and economic factors to consider when determining the most promising methods for producing not only potable or drinking-quality water but generating the quantities of water needed to tap into energy sources to sustain industry, mining, and farming. The relationship between water and energy is so intertwined that the classic "which came first – chicken or egg" question quickly comes to mind. With nuclear, coal, natural gas, oil, and other thermal or heat-based forms of power generation demanding nearly 40 percent of the U.S.'s water resource and generating over 95 percent of the nation's energy, including the energy required to filter or treat most water, the bond between water production and energy production is almost certainly unbreakable.

Prakash, an assistant professor in the Department of Mechanical and Aerospace Engineering, heads the department's Microsystems and Nanosystems Laboratory which designs, fabricates, and characterizes microsystems and nanosystems for applications in water purification and alternate and renewable energy. At the Water Infrastructure Summit in Washington, D.C., held this past May, Prakash discussed some surprising statistics about current U.S. trends in water usage and impeding water crises that will also significantly affect energy solutions. For example, the total annual water withdrawal in the United States matches nearly the entire outflow of the Mississippi River. Of this, nearly 40 percent is consumed for power generation, and over 50 percent is consumed in agriculture and industrial use. He also discussed possible solutions based on nanotechnology that his team is pioneering. Their research may well lead to more efficient water desalination methods and create a paradigm shift in the way we manage wastewater, or, as he calls it "resource water".

Given the planet's diminishing resources and our mounting thirst for water and energy, plenty of individuals are banking on the development of more energy efficient methods for producing usable water. Fortunately, all sources of water are fair game for experimentation as researchers attempt to convert everything from seawater, brackish water, fresh water, water from ground aquifers, and even the water found in the air into a consumable water product. As one of those attempting to solve our water dilemma, Prakash wants to re-purpose some of the technology used in his lab to recycle the solids and sludge from wastewater to create a new energy stream. He suggests that the term "resource water" should replace the term wastewater in order to broaden the way we think about the by-product of our water usage. According to Prakash, sludge has the potential to generate nearly two percent of US electricity demand and can nearly match many of the non-thermal renewable power sources such as wind, geothermal, etc.

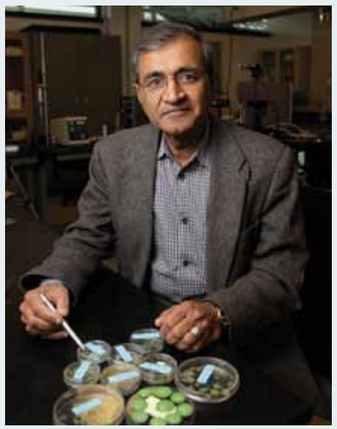
Before plunging into a wastewater-energy reclamation study, Prakash with his students and collaborators are busily applying the principles of mechanical engineering to some significant water desalination projects. In one study supported in part by an NSF center on advanced materials for water purification, they are developing nanoscale platforms on cell-phone size devices that will purify water by actively sensing the chemical composition of source water. This nanofluidic separation device for water desalination is different from reverse osmosis systems (the most common process used in desalination) in that it requires no membrane to remove salt from water. Instead, it relies on control over charged particles such as salt ions through a method similar to that used by many biological constructs to separate salt and other charged contaminants such as pharmaceuticals from water molecules.

Prakash explains that nanoscale technologies are game changers because they allow researchers to operate at the same physical length scale that governs molecular motion and consequently work at the very fundamental limits of natural laws. "With high surface area-to-volume ratios found at the nanoscale level we're given the tools that allow us to play around with fundamental physics. Current methods for separating contaminants from water require 4 to 100 times more energy than what we can likely achieve with nanoscale processes, so there's lots of room for improvement and, clearly, a lot of energy to be saved once the processes are tested and put into commercial application," he said.

In another on-going research project, Prakash and his graduate student researchers are building novel nano-structured membranes for a lightweight, portable water purification system to generate freshwater directly from seawater. Supported by funding received from the Defense Advanced Research Projects Agency (DARPA), they are constructing what they believe will become one of the world's most energy efficient water desalination systems. Their objective is to build a water purification system that generates 75 gallons per hour of freshwater with a device no larger than five cubic feet in size and weighing just 20 pounds. The energy required to desalinate the water is expected to be extremely low – anywhere from two to ten times better than other commonly used desalination processes. He also thinks the system could eventually be scaled down to a backpack-sized unit.

In every method associated with water sustainability, energy cost is key. "Like anything else, you're looking at 'most bang for the buck' and the methods that deliver the greatest quantities of usable water while consuming the least amount of energy, are going to become the most widely and readily adopted methods," he added.

Even in water-rich states like Ohio, that theorem isn't a trivial notion. Cities like Dayton, Ohio, once a mecca of manufacturing, are now marketing their bountiful ground water resource and view it as a means of their future vitality. Like any business entity, they would certainly have a vested interest in lowering their "cost of goods" while making a fair profit. While water may be a plentiful natural resource for much of the state, it isn't regarded as an unlimited commodity. Ohio is one of the eight states bound by the Great Lakes Compact, which was created to establish water withdrawal limits for the entire Great Lakes Basin by December 2013. In early June, Ohio Governor John Kasich made good on Ohio's water conservation commitment by signing legislation to establish the first permitting program for water withdrawals from Lake Erie and its tributaries. That's good news for anyone interested in protecting our water usage and something we can all drink to while Prakash and his fellow researchers are busily examining the best way to keep the water flowing.



Ohio State's Nanoprobe Laboratory for Bio- and Nanotechnology and Biomimetics is led by renowned tribology expert Professor Bharat Bhushan.

Learning From Nature's Novel Approach

If you're a regular reader of the Ohio State Alumni Magazine, you may have seen the article on Biomimicry that was featured on the cover of the magazine's May-June issue. Examples of ME Professor Bharat Bhushan's work in biomimetics research were included in the article. He and his research team have studied everything from the feet of geckos to the surface of salvinia, an aquatic weed, to the skin of mud sharks. The goal of their studies is to learn more about friction, lubrication and wear. A few of his recent research findings could well impact the development of coatings that would enhance a boat's buoyancy and ability to propel through turbulent water.

Alumni and Undergraduate Awards

The annual Spring Honors and Awards Ceremony, held this past April, honored the accomplishments of mechanical engineering, nuclear engineering, and engineering mechanics alumni, current undergraduates and faculty. Starting next year, two awards for recognition of alumni of the aerospace engineering program will be added. Awards presented this year included:

Alumni Awards

The **E.G. Bailey Entrepreneurship Award** was presented to **Jeffrey Ficke,** '81 BS ME and '82 MS ME. The award is presented to alumni who have invented new products, processes, or procedures that have been successfully manufactured, adapted, or utilized.

Like many Bailey Award winners before him, Jeff Ficke possesses an entrepreneurial spirit that has led to a life of great career accomplishments. Like Ervin G. Bailey himself, Ficke deviated from an engineering-only career path. Soon after Ficke obtained his bacherlor's and master's degrees, he began working at Battelle, where he performed advanced computer modeling to simulate high speed, plastic deformation manufacturing processes. Subsequently, he called upon his engineering know-how to assist a few technology start-up companies that were advancing the methods by which businesses and consumers transacted business with government agencies and other entities in the public sector. His successful track record in payment processing solutions eventually led him to Fifth Third Bank, where he first assumed the role of Director of Central Operations responsible for the bank's back office functions and call center services and now oversees the strategic direction of its Treasury Management direct and depository services. By optimizing technologies that deliver visibility and insight into many essential business processes, Ficke has been an effective advocate for change.

Also attending the April 20 event to receive his **2011 E.G. Bailey Entrepreneurship Award** was **Don Caudy,** '68 BS and MS ME**,** who had been unable to attend last year's awards program.

The **Bertha Lamme Feicht Award** was awarded to **Joette G. Sonnenberg,** '80 BS ME. The Bertha Lamme Feicht Award is presented to alumni who have made noteworthy contributions to their chosen professions while overcoming significant obstacles or barriers to the completion of their education and/or obstacles in their careers.

After graduating from Ohio State, Sonnenberg obtained graduate level degrees (a MS in Industrial and Systems Engineering; and a PhD in Engineering Management from the University of Alabama in Huntsville). Joette recently retired as the Associate Laboratory Director for Energy Security and Engineering at th e Department of Energy's Savannah River National Laboratory in Aiken, South Carolina. In this capacity, she is responsible for managing a multimillion dollar R&D program that includes hydrogen, biofuels, nuclear and other forms of alternative energy sources. She also has responsibility for specialties engineering R&D and associated facilities for the laboratory. Her record of public service is no less remarkable. She has been a loaned executive and technology advisor to the state of South Carolina, has served on numerous state technical advisory boards and committees, and served as the South Carolina Governor's representative on the Appalachian Regional Commission's Energy Advisory Council. Her extraordinary achievements are notable in a profession in which women presently occupy only 10 to 15 percent of the total workforce.

Jeff Caracillo, BS ME '85 was presented the the **Alan Gregory Loofbourrow Business Achievement Award,** the award given to alumni who have distinguished themselves in their chosen business or industry. Caracillo's dedication to the quality and continuous improvement of various projects at Boeing Defense Systems impacts the lives of our military service personnel. Caracillo's life's work has centered on understanding and testing the limits of military aircraft like the F-18 and F-15 among others. Whether his engineering "know-how" has been associated with fatigue and fracture mechanics or how aircraft can be reliably maintained, he has proven time and again that he is able to lead teams of individuals at Boeing as they address pre-production and production concerns in order to keep deliveries of aircraft on schedule. In addition to his Boeing career accomplishments, he has remained a valued friend of Ohio State. Caracillo has been a member of the Dean of the College of Engineering's External Advisory Council and he has participated in Boeing's Executive Focal Network, which oversees its strategic activities with Ohio State and other educational institutions.

The **Charles Kettering Lifetime Achievement Award** was presented to **Joseph Davidson**, '60 BS ME and MSME, '65 PhD ME. The Kettering Lifetime Award is presented annually to alumni who have distinguished themselves over their lifetime in their chosen profession. Joe Davidson had been a member of Ohio State's ME faculty before joining Arizona State University in 1973. Davidson is well known in the kinematics and robotics community, particularly for his pioneering work in mapping robotic workspaces. In 2005, he was recognized by ASME with the Mechanisms and Robotics award for his lifetime contributions to the field. He is also the principal inventor of Tolerance-maps (T-Maps) for which he holds a patent. 'T-maps' represents a revolutionary approach for analyzing geometric and dimensional variations in manufactured parts and assemblies, consistent with geometric dimensioning and tolerancing standards.

The **Thomas French Achievement Award** was presented to **Suresh Sitaraman**, '89 PhD ME**.** While some graduate students may intuitively know that their future will align with a career in education, it's more likely that most collegiate level educators initially envisioned other career paths within their field of study. Such appears to have been the case for Suresh Sitaraman, who worked for a brief time for IBM. In 1995 he joined the faculty of the Georgia Institute of Technology as an Assistant Professor,.and was promoted to full professor in 2004. He has been a tireless and prolific author having written 220 research papers, many published in highly-respected journals and conference proceedings from which he often earned Best Paper recognitions. He is a Fellow of ASME International, and has made more than 120 presentations to national and international academic institutions, as well as various research consortia and US federal agencies. In addition to his strong research and publication record, Prof. Sitaraman's commitment to teaching continues to be exemplary as evidenced by the engineering educator awards he has received during his career. In addition, he has guided or supervised 10 post-doctoral fellows and visiting scholars, 40+ PhD and MS ME students, and 20+ undergraduate students.

Faculty & GTA Awards

Associate Professor **Dan Mendelsohn** was presented the **Teaching Excellence Award** by Dr. Lynn Faulkner of the department's Mechanical Engineering External Advisory Board. In his presentation remarks, Dr. Faulkner noted that Associate Professor Mendelsohn earned the Teaching Excellence Award because of the student appreciation of his teaching as indicated by glowing student remarks made in course evaluations as well as other inputs that factor into the award selection process such as comments from other faculty members and previous winners of the teaching award.

Pi Tau Sigma President Jonathan Davis presented the honor society's annual **Above and Beyond Teaching Award** to Lab Supervisor **Joe West**.

Michael Neal was this year's recipient of the annual **Graduate Teaching Associate Award. Justin Creps, Benjamin Kellie, Evan Kohler, and Scott Noll** were finalists for the honor.

Undergraduate Awards

Outstanding Research Awards were presented by Professor Ahmet Selamet and Dr. Jason Dreyer. The award recipients include: **John David Frederick, Joseph Plattenburg,** and **Adam Miller**.

Top Academic Awards were presented by Amy Wolfinger of the Mechanical Engineering Alumni Society (MEAS), to the following twelve students: Freshmen **Kyle Dembinski, Maura O'Neill, Reuben Miller-Davis, Benjamin Rhoads, Zachary Saylor, and John Thornton**; Sophomores **Ryan Snodgrass, Jacob Larkin, Ethan Lange, Scott Koch**; Junior **Bo Jiang**; and Senior **Brian Black**.

The **Rob Wolf Outstanding Senior Award,** established in memory Rob Wolf, '97 BS ME, recognizes a senior who excels academically while taking an active role in department, college, university or community organizations. The award, presented by selection committee member Prof. Alison Sheets-Singer and MEAS member Amy Wolfinger, went to **Rory Kennedy**. Finalists for the award were **Laurie Taragano and Joshua Pritchard**.

Kennedy has been a model student who distinguished himself through his organizational leadership and engineering research. As an undergrad, he was involved in many professional and honorary engineering societies including the National Society of Collegiate Scholars, Alpha Lambda Delta, Phi Eta Sigma, Texnikoi, and Tau Beta Pi. Kennedy was inducted into Mortar Board, a senior class honor society that recognizes college seniors for outstanding achievement in scholarship, leadership and service. Through his involvement in Mortar Board, he helped organize Columbus on Campus, and the Stephanie Spielman Breast Cancer Foundation banquet and dinner. He's a member of Pi Tau Sigma, a mechanical engineering honorary, and has held previous positions as membership chair and vice president, and currently serves as president. Kennedy volunteered on campus and in the Columbus community in various capacities including literacy lessons to elementary students, cleaning up local parks and gardens, volunteering at soup kitchens in Columbus and Lancaster, and spent time with the elderly in retirement homes. He graduated in June with honors and distinction in ME and will be enter the ME graduate program this fall.

Laurie Taragano's accomplishments include serving as president of the Society of Women Engineers (SWE) and as Tau Beta Pi co-chair

Continued on page 13

Joseph Plattenburg

A Study in the Yin and Yang of Noise Control

In movies and TV shows, we're accustomed to musical transitions to segue us from one interesting scene to the next. In Joe Plattenburg's life, "I Wanna Go Back To Ohio State" might be the fitting interlude between his life as an undergraduate ME student and graduate ME student – especially since the tune is a piece of music that he's played more than a few times as a member of the Ohio State marching band. Beginning this fall, Joe's graduate level study will focus on dynamics and vibrations – a research interest that seems completely apropos for a man who trumpets the joy of being a Buckeye. We think you'll find Joe's candid responses to our profile questions entertaining and insightful.

Q: Hometown?

A: I lived in Beavercreek, OH until I was in second grade, then we moved to Kettering. My parents have lived there since.

Q: First engineer in the family or is there a history of engineering degrees?

A: In general, there has not been a long history of engineers in my family. However, my uncle is a nuclear engineer who works at a power plant in Toledo. My maternal grandfather was also a very hands-on, mechanical person who would help me build all kinds of toys and projects. These ranged from an electric can-crushing mechanism to a 7-foot tall trebuchet (catapult). I like to think that this fostered the engineer in me. It also helped that I was good at math and science, so naturally my family encouraged me to go into engineering.

Q: You've been a member of The Ohio State Marching Band for three years. What instrument do you play and what will you miss most about participating in marching band?

A: First off, participating in The Ohio State University Marching Band has been without a doubt the best experience of my time in college. I owe many lifelong friendships (including my girlfriend) as well as some of my favorite memories to the organization. In high school I played the clarinet, so when I arrived at Ohio State my freshman year, I was discouraged that I could not participate in the marching band. That year, I decided to learn to play the trumpet, practicing every day for 9 months up until the tryouts. I was fortunate enough to make the band on solo trumpet, and have been a member ever since. I look forward to two more years participating in the band while I am in grad school. I have had many great experiences (like a trip to California for the Rose Bowl), but I think when I am done, I will most miss the playing of the Navy Hymn on football Saturdays, a long-standing tradition of the band. One of my favorite memories was getting to play the Navy Hymn for the drum and bugle corps of the Naval Academy at my first game as they sang along. It was really a special moment for our band as well as the visiting members of the academy.

Q: Do you intend to join the Alumni Band one day?

A: I am planning on joining the "red blob," as we refer to it. I think it will be a good way to see some of my old friends and keep playing my trumpet once in a while (not to mention getting into the game).

Q: What parallels do you see between the challenges of performing with TBDBITL and your engineering course of study?

A: I have always been pretty detail-oriented and hard working and I think these traits have helped me in both endeavors. For example, the same drive that pushed me to practice every day (even while I was on vacation) while learning the trumpet is the same drive that helps me succeed in my classes. My motto the first summer that I tried out for the band was that even if there were people better than me, I would make sure there was no one that worked harder than me. There have also been other challenges since I have been in the band. We are required to memorize new music and formations almost every week and are tested with weekly music checks. Sometimes a new show can have up to 10 minutes worth of music. I strive to memorize my music as early in the week as I can so I can then focus on perfecting smaller details. I treat my classes the same way, where if I am not a week ahead on my homework, I feel like I am behind. Because I manage to stay ahead on my work, I can usually avoid the stress of all-nighters the day before an assignment is due.

Q: You participated in an undergraduate research project that was aligned with Professor Raj Singh's Smart Vehicle Concepts Center. What did you find most fascinating about the research?

A: The project I worked on was a continuation of a former PhD student's research on automotive bearings. He had developed an analytical model to determine the stiffness of the bearing, which he also validated with experimental data. Near the end of his project, he came across another bearing that was identical except that it had been damaged. For my part of the project, we are trying to quantify how the stiffness of the bearing changes with this damage. Furthermore, we have recently been trying to determine if vibration characteristics of the shaft can be determined by taking measurements at the housing. When the shaft is spinning in the bearing (a dynamic test), it would be very difficult to mount an accelerometer on the shaft. However, measuring vibrations on the housing (which is not moving) is a much easier task, so if we could determine what the shaft is doing from a measurement at the housing, this would be very beneficial. I think one of the most interesting things about this research and Dr. Singh's Smart Vehicle Concepts Center is the idea of smart vehicles and improving the safety and performance of automobiles. Smart vehicles are already beginning to appear on the road (such as cars that can detect obstructions out of the driver's field of vision or that can determine if the driver is straying out of his lane on the highway) and they will only become more common as technology advances. This project will hopefully lead the way to diagnostics analysis that will allow the driver to know when a bearing is close to failure before the failure happens. This knowledge could save the car and potentially the driver's life. These "smart" automotive technologies are the future and I would like to be involved in their development.

Q: You were the ME undergraduate selected to receive one of this year's Leo Beranek Student Medals for Excellence in the Study of Noise Control and yet you can make a trumpet blast quite effectively. Does the engineer's psyche balance out the musician in you?

A: I think the answer to this question could be yes and no. For sure, my engineer's psyche is very logical and analytical, and when I work on engineering homework and projects I can sometimes go perhaps a little overboard on analysis, notation, and getting everything perfect. For example, we will frequently need to write computer codes that will perform calculations and analyze data. I could usually write them well enough to work in a short amount of time, but I find myself spending twice the time to add in features that make the code generalizable and able to do more than it needs to do. This has always been sort of who I am, trying to do the best work I can, and even going beyond the requirements. When it comes to music, it does give me a chance to be more expressive and let loose more than I would do otherwise. Also, being around my friends in the band helps me to relax and have some fun. As you said, trumpet players like to be loud, and nothing gets me more excited than having Ohio Stadium full of 105,000 screaming fans as I am blasting the last note of a song! On the other hand, the OSU Marching Band really pushes for excellence and precision, and I think my detail-oriented nature helps with this as well. Just like with my homework, when I am performing on the field I strive to execute every maneuver precisely and accurately and to look my very best every time.

Q: You've earned a three year University Fellowship for graduate study at Ohio State. What branch of mechanical engineering do you plan to focus on and where do you see yourself ten years down the road?

A: I am planning on pursuing my Master's and potentially PhD as well at OSU in the area of dynamics and vibrations. Dr. Singh's lab has exposed me to some of the research being done in this field, and I find it very interesting. I have also enjoyed the courses I have taken in this area, so I think I will enjoy the research I end up doing. After college, I would like to get into an R&D lab in industry where I can continue with dynamics and vibrations work. Honda has a large R&D center just outside of Columbus in Raymond, OH, and I think this would be a dream job. It would give me the opportunity to work on cutting edge advances for a major player in the automotive industry while staying close to the city and university that I have come to love. Dynamics and vibrations, along with noise reduction, is a huge aspect of automotive engineering and I think my grad school plans will put me in good standing for such a job. And who knows, maybe I could even get to test drive some of their new vehicles before they are released to the public!

This sunset O-H-I-O pose was photographed at Santa Monica pier on New Year's Eve prior to the 2010 Rose Bowl. (Joe Plattenburg is second 'O' in frame.)

OSU Alumni Association News

As you may have heard, The Ohio State University Alumni Association put a membership model change proposal to a vote this past spring and announced in mid-June that members had approved new criteria for membership.

The most significant change is that every Ohio State degree-holder became a member of the Alumni Association on July 1. Membership benefits, however, still differ depending on the tier to which a graduate belongs. There are three tiers in the new model: basic membership, sustaining membership, and life membership. Complete details about the change are available on the alumni association web site at www.ohiostatealumni.org

Mechanical Engineering Alumni Society News

Given the recent membership changes announced by The Ohio State University Alumni Association, Rich Granger, president of the Mechanical Engineering Alumni Society (MEAS), is initiating a discussion thread on the Society's Linked In group page to consider possible changes to the society's membership model as well. If you'd like to express your thoughts or ideas about MEAS membership, contact Granger at granger.9@osu.edu or visit the Society's Linked In page.

In other MEAS news, the society will hold its annual membership meeting on Saturday, October 6, at 4 pm in Scott Lab prior to the College of Engineering Tailgate event that precedes the Ohio State vs. Nebraska football game. For more information about the meeting, please visit http://meas.clubexpress.com

Mark Your Calendar

Homecoming-Reunion Weekend is October 5-7.

Make plans now to join the celebration, rekindle friendships, and visit the campus places that were special to you when you were an engineering student at Ohio State.

For a complete list of Homecoming-Reunion activities, visit go.osu.edu/reunions

Nature Publishes Work of Ohio State Faculty and ME Doctoral Candidate

With his research team's latest discovery, Mechanical Engineering and Physics Professor Joseph Heremans may have given spintronics and the possibility of a thermoelectric "heat engine" – one with no moving parts and the potential to be infinitely reliable – the boost needed to become a reality. The research of Heremans and mechanical engineering doctoral student Christopher Jaworski along with Assistant Professor of Materials Science and Electrical Engineering Roberto Myers has been published in the July 12 issue of *Nature*, the international weekly journal of science. Also contributing to the report, titled "Giant-spin Seebeck effect in a non-magnetic material," was Assistant Professor of Physics Ezekiel Johnston-Halperin. To underscore the significance of their research, an image related to the report was placed on the cover of the journal.

Heremans and his colleagues have been investigating thermopower, more specifically the voltages seen in metals located adjacent to magnetic semiconductors in which a measurable current is generated by the spin of its electrons (known as the spin Seebeck effect). As reported in *Nature*, they have produced and observed a far greater meaure of electrical power by creating a similar effect in a non-magnetic semiconductor. By creating a magnetic field around the nonmagnetic semiconductor and by lowering the temperature to polarize the electrons they discovered a new phenomenon which they refer to as the "giant spin-Seebeck" effect.

Professor Heremans, who is also an Ohio Eminent Scholar in Nanotechnology, indicates that his team's ultimate goal is a low-cost and efficient solid-state engine that coverts heat to electricity. "It's really a new generation of heat engine. In the 1700s we had steam engines, in the 1800s we had gas engines, in the 1900s we had the first thermoelectric materials, and now we're doing the same thing with magnetics," he said.

This research could enable electronic devices that recycle some of their own waste heat into electricity. In a computer, it could enable heat-powered computation, or, inversely, it could provide cooling. Assistant Professor Myers said that the key to making the experiment work was the choice of materials. The spin-Seebeck effect had previously only been seen in magnetic semiconductors and metals, but they looked to non-magnetic semiconductors instead, where there were more materials to choose from. Heremans and his team continue to explore other materials – magnetic and otherwise – to push the effect further. Christopher Jaworski, a graduate student in mechanical engineering, performed this experiment as part of his doctoral thesis. He prepared the material with the help of the laboratory of coauthor Johnston-Halperin. Funding for their research has been provided by the National Science Foundation and the U.S. Department of Energy.

To view the complete report published in *Nature*, visit http://www.nature.com/nature/journal/v487/n7406/full/nature11221.html or Ohio State Research News for more information about the research.

Chris Jaworski, center, receives his Student Innovator of the Year Award from Carolyn Whitacre, VP for Research, and Brian Cummings, VP for Tech Commercialization.

Jaworski Selected as Ohio State's First Student Innovator of the Year

ME graduate student Christopher Jaworski was selected by Ohio State's Office of Research as its first Student Innovator of the Year. The award presentation was made by Vice President for Research Dr. Caroline Whitacre this past November.

According to the Office of Research the Student Innovator award was established to recognize innovation and entrepreneurship among students who have contributed to the development or commercialization of a new technology. Jaworski's research has focused on the study of thermoelectricity – the direct conversion of heat into electrical power – and the study of thermally "pumped" spin polarization in semiconductors.

Chris is a co-inventor of 12 invention disclosures to date, five of which have resulted in patent applications being filed with the U.S. Patent and Trademark Office. His work is part of the intellectual property portfolio of ZT Plus, a high-technology startup in California that manufactures advanced thermoelectric materials. Jaworski's graduate advisor is MAE Professor Joseph Heremans.

Faculty News

Gregory Receives Army Research Office's Young Investigator Program Award

The Army Research Office (ARO) selected Assistant Professor James Gregory to participate in its Young Investigator Program, providing Gregory with $150,000 across three years to fund his research in "Time-Varying Compressible Dynamic Stall Mechanisms Due to Freestream Mach Oscillations."

The knowledge gleaned from Gregory's study of compressible dynamic stall will help helicopter manufacturers design rotor blades that enable higher speed flight, and provide weight savings for next-generation helicopters. Before arriving at Ohio State, Gregory completed a postdoctoral fellowship at the U.S. Air Force Academy, funded through the National Research Council Research Associateship Program. His service activities include membership on the AIAA Fluid Dynamics Technical Committee.

Wang Receives NSF CAREER Award

Assistant Professor Junmin Wang has received a 2012 National Science Foundation (NSF) Faculty Early Career Development (CAREER) Program award. The five-year, $400,000 award will aid Wang's research for "Integrated Estimation and Control of Over-Actuated Electric Lightweight Vehicles (LWV) for Safe and Sustainable Mobility." Wang's award was given from the NSF Division of Civil, Mechanical, and Manufacturing Innovation.

The objective of his research is to improve LWV motion control performance under extreme conditions. If successful, the research has the potential to dramatically improve the safety of LWVs and thus further enable their widespread popularization, which, in turn, could positively impact energy and environmental (including greenhouse gas) concerns in the nation's transportation sector. In addition, the research could further advance the current control of other over-actuated systems such as aerospace, robotic, and biomedical systems.

Wang and Gregory Receive SAE Ralph R. Teetor Educational Award

Assistant Professors Junmin Wang and James Gregory have each received a 2012 SAE Ralph R. Teetor Educational Award. The honor was made in recognition of their outstanding contributions to SAE's engineering education initiatives.

The awards were presented at the 2012 SAE World Congress in Detroit held in April. Department faculty who have previously received the SAE Ralph R. Teetor Educational Award include Giorgio Rizzoni, Ahmet Selamet, and Robert Parker.

Heremans Named AAAS Fellow

Department of Mechanical and Aerospace Engineering Professor and Ohio Eminent Scholar Joseph Heremans has been elected a Fellow of the American Association for the Advancement of Science (AAAS) for his distinguished contributions to the field of thermal engineering, specifically the development of high-efficiency thermoelectric materials and the discovery of thermal spin-polarization in semiconductors.

Honorary Doctorate Presented to Professor Bharat Bhushan

Mechanical Engineering Professor Bharat Bhushan was presented an honorary doctorate (Doctoris Honouris Causa) from the prestigious engineering school at Serbia's University of Kragujevac, in May. He was notified of his selection for the distinction last summer. The diploma presented to him recognizes his outstanding contribution to the advancement of engineering sciences and bio/nanotechnologies, as well as his contribution to the development of the Faculty of Mechanical Engineering in Kragujevac. Professor Bhushan is an Ohio Eminent Scholar and the Howard D. Winbigler Professor at Ohio State.

Denning Appointed to National Research Council Committee

Nuclear Engineering Professor Richard Denning has been selected to serve on a National Academy of Science Committee that will begin meeting this summer. He and his fellow committee members will undertake a congressionally mandated study entitled *Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants.* Among other topics, the study will address the causes of the Fukushima nuclear accident; the safety and security of spent nuclear fuel and high-level radioactive waste storage; and lessons that can be learned from the accident to improve commercial nuclear plant safety and security systems and operations.

Faculty Promotions

Aerospace engineering faculty member **Jack McNamara** has been promoted to rank of tenured associate professor.

Faculty Retirements

Professor J.K. Lee retired as professor in the Department of Mechanical and Aerospace Engineering after 35 years on the faculty at Ohio State. He joined the Department of Engineering Mechanics and, subsequently, the Department of Mechanical Engineering when the Applied Mechanics group merged with that department in 1999. During this period, Dr. Lee taught courses in engineering mechanics and conducted research in computational mechanics. He also advised 37 doctoral students and 18 masters students to the completion of their graduate degrees.

Professor Taylan Altan joined the Department of Mechanical Engineering and the Department of Industrial and Systems Engineering in 1986, after 18 years on the staff of Battelle Institute in Columbus. He is internationally recognized as a leading authority on metalworking processes for discrete part manufacturing. Dr. Altan is the founder and Director of the Center for Net Shape Manufacturing, originally established with funding from the National Science Foundation's Engineering Research Center Program to conduct advanced research and enhance education in net shape manufacturing processes. Research at the center involving process analysis and CAD/CAM for design of dies and molds for metalforming, diecasting, and injection molding has been supported by over seventy industrial member-partners, and graduated numerous MS and PhD graduates who have gone on to impact manufacturing nationally and internationally. Under his leadership, Ohio State has become a major national resource in manufacturing process development for discrete parts. Professor Altan retired effective July 2012.

Also retiring in July was **Professor Hayrani Oz** after 33 years on the faculty. Dr. Oz joined the Department of Aeronautical and Astronautical Engineering and subsequently, the Department of Mechanical and Aerospace Engineering, when the latter department was formed as a result of a department merger in 2010. Dr. Oz's area of expertise is structural vibrations and control, with special emphasis on aerospace applications.

ALUMNI UPDATES

1930s

Cap (Clarence) Hall, BS ME '37, celebrated his 97th birthday on June 15. He taught at Rice University for four years, and was employed by Ethyl Corporation for 41 years. He attended the Phi Beta Pi regional meeting in May.

1940s

Gene Shook, BS ME '49 and BS IE '49 (LLB '56), is a retired patent lawyer residing in North Olmsted, OH.

1950s

Robert J. Benter, BS ME '53, formerly a staff engineer at Shell Oil Co., is retired and living in Houston, TX.

Donald Christian Boyer, BS ME '59, retired, is active member of his church and an officer with Fuller Center for Housing in Greenville, OH.

Joseph Garibotti, MS EM, '59 (PhD, Case Institute of Technology '63), is retired and living in Costa Mesa, CA.

1960s

George Bobula, BS AAE '68 (MS Engineering Science, University of Toledo), is the chief engineer of the Propulsion Division, Aviation Engineering Directorate, US Army Aviation and Missile Research, Development and Engineering Center located in Huntsville, AL.

Frank McNabb, BS ME '60, teaches at the University of Connecticut and recently started a new company, Sun Harvest Renewable Resources, which designs and installs solar electric and heating for residential and commercial needs.

1970s

Robert Anderson, BS ME '74, is the president of Construction Accessories, Inc. in Waynesville, OH.

Ken Deken, BS ME '74, is retired from Rockwell Automation. He has formed a new consulting activity, TargetTek Associates, LLC to assist clients with business development of technical products in industrial markets.

Phil Fair, BS ME '77, was awarded the first Minority Engineering Program (MEP) Exemplary Alumnus Award, for his "Vision, Generosity and Commitment" to Ohio State's MEP at their 33rd Annual Awards Banquet.

Robert Fogoros, BS ME '73, retired in September 2011 and resides in Niwot, CO.

Steve Guilfoos, BS AAE '70, has retired from Civil Service (Air Force). He received several civilian medals across the course of his 38-year career. His pastimes include golf and volunteering at his church and with various service groups. He also enjoys taking OSU Alumni Travel Tours with his wife.

Walter Michener, BS ME '77, retired in 2006.

Ric Navarro, BS ME '79 and MS ME '81, became president and CEO of OrthoData Inc, a spinal implant company, in September 2011.

Rick Papso, BS ME '79, is the general manager-business development at Shell Lubricants Co. in Houston TX.

William Stewart, BS ME '77, is a staff applications engineer at Johnson Controls, Inc. Building Efficiency Division, Chiller Solutions Group. He holds PE license in PA, MD and VT and is a certified energy manager.

1980s

Steven Davidson, BS ME '83 (MS ME University of Cincinnati '86), earned PE License in '89 and Six Sigma Black Belt in '02. Now works as supplier technical assistance engineer for Ford Motor Company in Michigan.

Cathy West Dougherty, BS ME '81 (MBA University of Texas-Austin '98), PE, CEO, principal engineer, Dougherty Sprague Environmental, Inc., was nominated for the Little Knox Woman Entrepreneur of the Year.

Hamid Farzan, MS ME '82, is a technical consultant, B&W PGG. He led a one-of-a-kind oxy-combustion R&D project on a 30 MW unit demonstrating a near-zero emissions technology for coal-fired boilers.

Eric Goudy, BS ME '89 and MS ME '91, works at Procter & Gamble's Corporate Engineering Lab in the Mechanical Technologies Group developing equipment for P&G's latest innovations.

Mark F. Horstemeyer, MS EM '87 (PhD ME Georgia Tech '95), is the CAVS Chair Professor in Computational Solid Mechanics at Mississippi State University. He is also an ASME Fellow and ASM Fellow.

Ann Over, BS AAE '83, was recently promoted to Chief of the Space Science Project Office at the NASA Glenn Research Center in Cleveland, OH.

Cody Phipps, BS ME '84, was appointed CEO of United Stationers in 2011. United Stationers is a Fortune 500 wholesale distributor of business products.

Mohamad Qatu, MS EM '86 and PhD EM '89, is a professor at Central Michigan University, where he is also the director of the school of engineering and technology. He is the author of four books on vibrations, composite structures and vehicle dynamics. Professor Qatu is ASME Fellow and SAE Fellow.

David Schuehler, BS AAE '88 (MS Computer Science University of Missouri-Rolla, DSc Computer Engineering Washington University), was named the Distinguished Engineer at Exegy, Inc. and earned St. Louis Business Journal - Technology Award 2004 and St. Louis Business Journal - 40 Under Forty class of 2005.

Rick Smith, Professional Degree ME "88, owner and president of Applied Thermal Engineering, Inc., an engineering consulting company specializing in boilers, steam, engineering & steam surveys, expert witness services and training. Applied Thermal Engineering, Inc. is a disabled Veteran owned and operated business.

Thomas Sours, BS ME '83 (MS ME University of Toledo '88, MBA Cleveland State '93, BS MS Akron University '99), is a test engineer at NASA Glenn Research Center in Cleveland, OH.

William Turner, BS ME '82, has retired from Dresser-Rand, manufacturer of turbo-machines for oil, gas & chemical companies.

1990s

Christina Adkins, BS ME '99, works at Imaging Sciences International as an Engineering Project Manager.

John Andrews, BS ME '95, is a global SAP project integration manager and cutover lead at 3M Company.

Josh Bergman, BS ME '95 (MBA Ashland University '03), is currently managing a $42 million expansion/replacement project at Bunge's plant in Altona, Manitoba, Canada. He and wife Laura welcomed a daughter 4 Oct '10.

Timothy Boesch, BS ME '91 (MS Transportation MIT '96), is a project manager for CDM Smith Inc., in Seattle, WA.

Matt Bowman, BS ME '96, has accepted a position at Amsted Rail, Griffin Wheel Columbus as Operations Manager. He married Stacia Johnson in April.

Brian Darr, BS ME '96, is a forensic engineer at Rimkus Consulting Group in New Orleans, LA.

John Dreese, BS AAE '96 and MS AAE '99, left Lockheed Martin to work at Pointwise, Inc. He resides in Saginaw, TX.

Wes Hines, MS NE '92, MBA '92, PhD NE '94, is now the head of the Nuclear Engineering Department Head at the University of Tennessee-Knoxville.

Kelly Ican, BS ME '98, is a graduate student studying business at Otterbein University.

Britt Ide, BS ME '93 (MS Environmental Engineering '96 Montana State and Law '99 University of Utah) was recognized as one of the Idaho Business Review's Women of the Year at a gala event in February. Honorees were recognized for professional achievements, leadership skills, community involvement and long-term goals. Britt is the founder and president of Ide Law & Strategy, PLLC, a Boise, Idaho based consulting business.

Matt Jorat, BS EE '90 and MS NE '94, won first place in Evaluation Contest at Toastmasters' District 40 (Southern Ohio, Eastern Kentucky, Western West Virginia) Conference from among over 600 competitors this past April.

Thomas Koenig, BS ME '90, is a GE - Aviation GEnx Manufacturing Programs Leader in Cincinnati, OH.

Melissa Le, BA ME '96, earned her MBA from Harvard Business School in 2004 and now resides in San Antonio, TX.

Kevin Narcisi, BS ME '97, is a regional sales director for Rexnord Industries.

Tony Rodriguez, MS ME '93, became a lead manufacturing engineer at General Electric Intelligent Platforms located in Charlottesville, VA in April.

George H. Stratman, BS ME '96 and MBA '04, works for NAVSEA as a team leader cost analysis, in-service aircraft carriers, in Washington D.C.

Jason Taylor, BS ME '07, recently released his first self-help book entitled "The Power of the Positive", published by Balboa Press. Jason is also currently working for Anheuser-Busch InBev in Columbus, OH.

Miguel Velazquez, BS AAE '95 and MS ME '97, was recently promoted to staff engineer at Pratt and Whitney.

2000s

Douglas Buerger, BS AAE '01, graduated from US Naval Test Pilot School in June '10.

Michael Cundy, BS ME '05, recently received his PhD in ME at the University of Michigan. He is now employed with Exponent Failure Analysis Associates in thermal sciences practice in Phoenix, AZ.

Jim Cunningham, BS ME '09, began working as a plant engineer for Henkel Corporation in Delaware, OH in January.

Rudraksh Garg, MS ME '07, has been working with multi-national corporations since graduation. The work has revolved around FE analysis and dynamic analysis for different systems that included aircraft engines and automobile transmission components/ subsystems. He resides in Bangalore, Karnataka.

Pradeep Gnanaprakasam, MS ME '05, is an assistant manager at Modine Thermal Systems, India. He married fellow Buckeye, Monica Rajamanohar, who graduated in 2005 with a MS in EE.

George Gornall, BS ME '04, was recently promoted to senior engineer at Stanley Electric Co. He is a program manager focusing on new model development and tool maturation in the die-mold engineering department.

Jayesh Jain, PhD ME '08, received the Society of Petroleum Engineers 2011 ATCE Young Professionals Award. He resides in Houston, TX and is a research engineer for Drilling Mechanics and Dynamics, Baker Hughes Inc.

Christine Law, BS ME '08, is now working with the R&D group Broomfield, CO. She was married to Simon Buckler in June.

Abdul Rahim Khaled, PhD ME '04, recently became a full professor at Thermal Engineering and Desalination Technology Dept., King Abduaziz University in Saudi Arabia. He has authored (or jointly authored) 50 international journal papers (49 of them are ISI journals). He is also the joint inventor of five United States patents. Khaled is a registered reviewer in many ISI journals.

Shritama (Mukherji) Menon, ME '08, is a management consultant at A.T.Kearney, primarily focused on the manufacturing sector.

Erik Nehls, BS AAE '01, is a quality manager for Rolls-Royce in San Francisco, CA. He recently earned his MBA from Indiana University's Kelley School of Business.

Kevin Orloske, MS ME '04, an analysis services manager at Woodward MPC in Skokie, IL, welcomed second child (son) to the family last September.

Scott C. Pochatila, BS ME '07, received a JD from Case Western Reserve University School of Law and passed the Ohio Bar Examination last year. He was formally admitted to the Ohio bar in November and also passed the United States Patent Office's Registration Exam earlier this year. He now works at the Santarelli law firm in Paris, France, as an ingénieur des brevets (associate patent prosecution attorney).

Tyler Skirtich, BS ME '08, has been accepted into GE Aviation's Edison Engineering Development Program.

Chris Taylor, BS ME '00, MS ME '02, MBA '06, was promoted to manager - mechanical development at Mercury Marine in Fond du Lac, WI last year.

Aaron Vingle, BS ME '09, MS ME '10, is now an associate reactor/refueling operations engineer at Bechtel Marine Propulsion Corporation in Charleston, SC.

Travis J Wagner, BS ME '00, is a PE who works as a HVAC design consultant for Ewing Cole in the San Diego area concentrating on bio-tech and hospital construction. In the recent past, he traveled around the world, going to Southeast Asia, South Pacific, Central and South America.

Pierre Wickramarachi, MS ME '01, is a vehicle powertrain NVH engineer at Ford.

2010s

Danny Brandel, BS ME '11 and Minor in Entrepreneurship '11, is currently in the Edison Engineering Development Program at GE Aviation in Cincinnati and will be progressing toward his MS in Mechanical Engineering.

Jason Cudak, BS ME '10, is an associate engineer in Stamping Structure Design with Honda Engineering.

Kevin Flaute, BS ME, '11, has accepted an invitation to serve in the Peace Corps. He and his wife will both teach secondary math in Sierra Leone. You can read more about their life in Sierra Leone on their blog at www.salonesquared.blogspot.com

Nathaniel Grove, BS ME '11, is an application engineer for The Timken Company in Canton, OH.

Nathan Hartoin, BS ME '11, is currently receiving undergraduate pilot training at Vance Air Force Base in Enid, OK.

Kristine McElligott, BS ME '10, is now an infield automation specialist for Global Field Services at Mettler Toledo.

Valentina Samodelov, BS ME '10, is completing a MS in aerospace engineering at Aachen University of Applied Sciences in Germany. Currently, she is at the Deutsches Zentrum für Luft- und Raumfahrt in Cologne, Germany doing a research semester followed by her master's thesis in the Philae (Rosetta Lander) project.

Michael Stubblebine, BS ME '10, is now a second year ME PhD candidate at UCLA studying heat and mass transfer. Along with two fellow graduate students, he is developing a patent for his research project as well as another for a heat transfer fluid lab project.

Alumni and Undergraduate Awards Continued from page 7

for planning and executing the Engineering and Architecture Undergraduate Research forum. She has been a member of Women in Engineering, Pi Tau Sigma, and served as an Honors Ambassador for Ohio State. Among her other volunteer interests, she has focused on "green" technologies and was an EcoCAR team participant, a collegiate competition in which teams modify a current in-production vehicle to be an electric-hybrid vehicle. Her post-graduation plan is to begin full time employment with Procter & Gamble.

Joshua Pritchard's volunteer efforts have included "clean up" activities associated with the Martin Luther King, Jr. Day of Service and at the Ohio School for the Blind; helping students and adults with learning and developmental disabilities at schools and for the West Tennessee Family Solutions organization; organizing item drop-off for Habitat for Humanity; and preparing holiday food baskets for the Total Living Center in Canton, Ohio. In addition to his civic efforts, Pritchard held the position of marketing chair for Pi Tau Sigma and served as president of the Theme Park Engineering group. He will enter the ME master's degree program this fall.

In Memoriam: Andre Ezis

Andre Ezis, BS Ceramic Engineering '66 and MS Nuclear Engineering '69, used his intellect, ambition, and drive to build a prosperous life from humble beginnings. He passed away February 13, 2012 at 67 years of age. Born in Latvia on November 29, 1943, his family encountered turmoil associated with displacement from their home during WWII. With the help of the Lutheran church, Andre and his family reached America in 1949. After graduating from Ohio State, he worked at Ford Motor Company in Dearborn, Michigan as an engineer and was recognized twice with the Henry Ford Technological award for his ceramic turbine engine work. He left Ford to start his first company Cercom and then invested in Pyromatics, later becoming its CEO. His career accomplishments were recognized by Ohio State in 2009 when he was chosen as the recipient for that year's Distinguished Alumnus Award. In Memoriam donations may be made to the Andre Ezis Memorial Scholarship Fund which gives financial support to distinguished students in the field of Ceramic Engineering at Ohio State. Checks may be made payable and directed to: The Ohio State University Foundation, 1480 West Lane Avenue Columbus, Ohio 43221. (Please specify foundation fund number 482276)

Dr. Gaitonde became a US citizen in 1996. He and his wife Namrata are the parents of two sons and reside in Centerville, OH.

A Look Through Time, Air and Space

with Datta Gaitonde

While the world watched John Glenn orbit the earth in February 1962, Datta Gaitonde's parents were encouraging their young son to take his first steps at their home in Mumbai, India. Fifty years later, Ohio State celebrated the 50th Anniversary of John Glenn's Friendship 7 flight by honoring the former U.S. astronaut and senator with a special week-long celebration. Among those participating in the February 2012 campus events was Dr. Datta Gaitonde, Ohio State's John Glenn Chair for Technology and Space Exploration.

Though Gaitonde was then far too young to have any recollection of the famous American's orbit of earth, future NASA space missions did capture his childhood imagination. Fortunately for Ohio State, his continued interest in space evolved into graduate degrees in aerospace engineering and research from Rutgers University, followed by many years of research at the U.S. Air Force Research Laboratory (AFRL) in Dayton. In 2010, he "landed" at The Department of Mechanical and Aerospace Engineering at Ohio State as the first John Glenn Chair. Today, Datta Gaitonde works with other Ohio State faculty in collaboration with the NASA Glenn and NASA Marshall Research Centers as well as the AFRL to improve the performance of high-speed aircraft engines. Here he shares some of his thoughts about the connection between the U.S. space program and his career as an aerospace engineer.

Q: What prompted or who encouraged your interest in Aerospace Engineering?

A: I am very thankful to my parents for strongly encouraging me to try engineering as a profession. I did my undergraduate study in Mechanical Engineering, but at Rutgers University, it became clear that Aerospace Engineering offered a lot more of the type of computational and mathematical work for which I felt a natural affinity.

Q: As a young boy, did you follow the US space program or the space program of any other nation(s), if so which?

A: There was not much of an Indian space program during the '60s and '70s. My real wonder about space increased after they started screening Fireball XL5 on television (which came much later to India than here). But I do vividly recall a few events related to the first human moon landing and the first space shuttle flight. I recall the announcement of the moon landing during morning assembly at my elementary school and everyone cheered even though as kids, we didn't really comprehend the enormity of what had been accomplished. A couple of months later, my parents took me to watch the motorcade of the Apollo 11 astronauts when they visited Bombay in 1969. Regretfully the crowd surged at just the wrong time and I didn't get to see them, but the excitement was nonetheless palpable. I also distinctly recall tuning in to BBC very late at night in 1981 to hear reporting on the progress of the space shuttle Columbia on its first flight. By that time, some of the difficulties of getting to and from space had become clearer in my mind, and I remember the peculiar mix of fear for the lives of the astronauts, and awe at their achievements.

Q: How did you determine which branch of aerospace engineering to pursue?

A: Fluid dynamics has interested me since my undergraduate years because of its wonderful combination of mathematics, physics and engineering. But I must say that specific research areas of interest have come from questions posed by many far-sighted advisors and mentors with whom I have had the fortune to interact. My graduate degree research was partly funded by the U.S. Air Force, and perhaps the most attractive aspect was that even as a graduate student, I was given access to some of the fastest supercomputers in the world. It simply boggled the mind that one could reproduce a complicated real life situation in virtual space, which could then be probed without getting any grease on one's hands! At Wright-Patterson Air Force Base, things got even more exciting, because I was given substantial freedom to pick my areas of research from a wide range of advanced concepts that are likely to become mature in the 2025 time frame.

Q: What intrigued you about the John Glenn Chair faculty position at Ohio State?

A: I have always enjoyed teaching and advising students, mostly because I find that I learn as much from them as they from me. Their insuppressible, some might say unrealistic, optimism is contagious and exhilarating. Of course, occupying a position named for one of the most accomplished individuals to grace the earth, both in aerospace as well as in politics, is rather a humbling experience.

Q: What is your teaching philosophy, and what do you hope your students gain from their education at Ohio State?

A: I have different philosophies for those I teach and those I advise in their research. At the undergraduate level, students are still searching for what they would like to focus on in their careers. Here I emphasize understanding of the relatively mature material, and how it extends to modern research and development. My hope is that they leave with the idea that nothing is too complicated for them to master, if they are willing to put in the effort. For students I advise, I hope they leave Ohio State with superior knowledge of the state-of-the-art, excellent critical thinking and communications skills, extraordinary intensity in their research and an ability to be undaunted when research results don't go as planned, as happens frequently.

Q: What sets the program at Ohio State apart from other aerospace engineering programs?

A: The OSU aerospace engineering program has a very rich history. Many of the major developments in theoretical fluid dynamics, which led to breakthroughs in the most complex fluid dynamic phenomena of transition to turbulence, were in fact generated right here. The emphasis has gradually shifted to experimental and computational facilities. OSU aerospace now leads the nation in many areas. I am particularly excited about revolutionary new types of actuators that could substantially reduce jet engine noise, enable hypersonic air-breathing flight and extend manned and unmanned aircraft flight envelopes. The faculty has several young innovative professors who care greatly about student education and are engaging in the most difficult research topics of current interest.

Q: What are the greatest challenges in access-to-space research today?

A: Rockets right now are the only way to get to space. While they have matured over the years, they are expensive and remain difficult to use. Air breathing propulsion at high speeds, say above five times the speed of sound, could reduce but not completely eliminate the dependence on rockets. But high-speed flight in air comes with many challenges. The aircraft becomes very hot to the point that parts can melt. It also gets much harder to generate the thrust required to accelerate or even to maintain speed, because one has to mix fuel with the incoming air and then burn the mixture in milliseconds.

Q: What are some of the space propulsion/power system advancements you foresee in the not too distant future?

A: From an air-breathing access-to-space standpoint, I believe scramjets will become very mature to the point that they will be used on a routine basis. Scramjets essentially use surrounding air as a propellant just like any airliner, but do so at hypersonic speeds. Just over a year ago, the X-51 program demonstrated successfully that scramjets are viable and can in fact use relatively commonly available fuels. I think private companies, who are becoming ever more important players in space travel, will take us in exciting new directions that are not conceivable at this time.

Q: What are the highlights of your career research to-date?

A: At AFRL, my research focused mainly on developing and applying advanced computational methods to understand the main phenomena that an aircraft encounters in supersonic and hypersonic flight. Because the air can ionize in hypersonic flight, and can thus conduct electricity, a particularly exciting area was the use of electromagnetic fields to try to control flow so one wouldn't have to use moving parts, which are not very effective at very high speeds. The science is very complicated, and experiments are very difficult, so computational methods were very appropriate and provided a great deal of insight into the physics. At Ohio State, in conjunction with other researchers, we have many exciting areas of research that will revolutionize the future. Plasma-based actuators are being developed to help for flow control as well as to enhance combustion. Cutting edge work is also being performed on aircraft wings and helicopter blades, turbine engines, and aero-structural interactions that seek to understand how air flow causes vibrations and fatigue.

Editor's note: Fireball XL5 was a children's action adventure series, created in the United Kingdom, that used supermarionation and ran on NBC (in the United States) from 1963 through September 1965.

Time and Change Bring Semesters To Ohio State

Ohio State's switch to the semester-based academic year began on June 18, 2012. The Department of Mechanical and Aerospace Engineering officially launches its semester-based course schedule with Autumn Semester classes on August 22. As reported in previous issues of the Exchange alumni newsletter, much effort has been expended in preparation for the conversion to semesters.

We thank those who have helped to shape our new semester curriculum and those who have contributed to our curriculum funds. While our new schedules, now based on two 14-week semesters (fall and spring) and one summer term, require us to reset our thinking about the start and stop of the school year, we believe that students will truly appreciate how changes to the curriculum will increase the value of the degrees they are earning here. In fact, this department remains a powerhouse in terms of degrees granted. We confer the fourth greatest number of Bachelor of Science degrees in mechanical engineering among institutions of higher education in the United States, and are also in the top ten in terms of the number of PhD degrees granted in mechanical engineering. The number of applicants to all of our undergraduate and graduate degree programs continues to increase as the importance of careers in science, technology, engineering and math continues to make headlines around the globe.

If you would like to make a gift to support the education of mechanical and aerospace engineering students (and also satisfy the $75 tax-deductible donation that makes you eligible for "Sustaining" level membership in The Ohio State University Alumni Association), may we suggest funds 313500 for aerospace curriculum reform or 313090 for mechanical engineering curriculum reform. Donations may be made online at giveto.osu.edu. For more information about the new alumni association membership levels, see the article on page 9 of this newsletter or visit the web site at www.ohiostatealumni.org/membership.

ALUMNI NEWS

Arndt Named 2012 Federal Engineer of the Year

Nuclear Engineering Program Alumnus and Professional Engineer Steven Arndt received the 2012 Federal Engineer of the Year Award (FEYA) sponsored by the Professional Engineers in Government. Arndt, a senior technical advisor with the U.S. Nuclear Regulatory Commission (NRC), received the honor during the 33rd Annual FEYA Banquet at the National Press Club in Washington, D.C., this past February.

In his government engineering role, Arndt helps ensure the safe operation of nuclear power plants both in the United States and around the world. During the Fukushima disaster last year, he worked as a severe accident analyst with the NRC's Operation Center as it supported the Japanese government and the U.S. ambassador's office. Arndt also led the U.S. analysis of the Japanese report to the International Ministerial Conference and supported the prioritization of NRC near-term recommendations for U.S. plants. He has also served on the U.S. delegation to the International Electrotechnical Commission and supported the development of International Atomic Energy Agency safety standards.

Mr. Arndt was a 2011 recipient of the Department of Mechanical and Aerospace Engineering's Bertha Lamme Freicht Award, which is bestowed to alumni who have made noteworthy contributions to their chosen professions while overcoming significant obstacles or barriers to the completion of their education and/or obstacles in their careers. He earned his PhD in Nuclear Engineering in 2010. His bachelor's and master's degrees were also earned at Ohio State.

Song Named Dean of Kent State's College of Technology

Ohio State alumnus Shin-Min "Simon" Song, MS ME '81 and PhD ME '84, became the new dean of the College of Applied Engineering, Sustainability and Technology at Kent State University (KSU) at the beginning of July. Later this summer the college will be renamed the College of Technology.

Song was previously a professor and chair of the Department of Mechanical Engineering at Northern Illinois University (NIU). Previous to his NIU experience, he was a faculty member at the University of Illinois at Chicago and at Ohio State. Song completed his undergraduate degree at Tatung Institute of Technology in Taiwan.

Ramani Appointed Donald W. Feddersen Professor at Purdue

Dr. Karthik Ramani, MS ME '87, has been appointed the Donald W. Feddersen Professorship at Purdue University in West Lafayette, Indiana. Ramani joined the faculty at Purdue in 1991 after completing his PhD in ME at Stanford University. The professorship honors the renowned CAD/CAM software tools pioneer and developer Donald W. Feddersen. While attending Ohio State, Ramani served as both a teaching assistant and research assistant. He earned his Bachelor of Technology in ME from the Indian Institute of Technology in Madras, India in 1985.

Royston Heads Univ. of Illinois at Chicago's Department of Bioengineering

Last summer, Dr. Thomas Royston was named Head of the University of Illinois at Chicago's Department of Bioengineering. Royston leads the transformation of the College of Engineering's Department of Bioengineering into a revitalized department jointly operated by both the Colleges of Engineering and Medicine. An intercollegiate department is a new administrative structure for the UIC campus. All of Royston's mechanical engineering degrees were received at Ohio State, BS '90, MS '92 and PhD '95. He joined the UIC Department of Mechanical and Industrial Engineering in 1995 as an Assistant Professor, was promoted to Associate Professor in 2000, and then Full Professor in 2004.

Hileman Named FAA Chief Scientific and Technical Advisor for Environment and Energy

The FAA has appointed Ohio State Alumnus Dr. Jim Hileman as its new Chief Scientific and Technical Advisor for Environment and Energy. He began his new role on November 7.

Hileman had been a Principal Research Engineer within MIT's Department of Aeronautics and Astronautics and its Associate Director, Partnership for AiR Transportation Noise and Emissions Reduction since 2004. His research at MIT has focused on modeling the impacts of alternative jet fuels and innovative aircraft concepts on efficiency, noise, air quality and global climate change.

Dr. Lourdes Maurice, who formerly held Hileman's new role at the FAA and now directs the Office of Environment and Energy, commented "AEE is very fortunate to have someone of Jim's caliber take on the position."

Hileman is a recent recipient of the of the FAA's Excellence in Aviation Research Award, which cited him for his "seminal work on life cycle analysis of alternative jet fuels (that) led to the discovery that sustainable alternative jet fuels are crucial to reducing aircraft carbon dioxide emissions."

Hileman holds Mechanical Engineering BS, MS, and PhD degrees from The Ohio State University.

Lim Named Associate Dean for Graduate Studies and Research at University of Cincinnati's College of Engineering and Applied Science

Dr. Teik C. Lim has been appointed Associate Dean for Graduate Studies and Research for the College of Engineering and Applied Science at the University of Cincinnati (UC). Lim is the Herman Schneider Professor of Mechanical Engineering and Interim School Director for the School of Dynamic Systems at UC. Professor Lim joined the UC faculty in 2002 and became Department Head for Mechanical, Industrial and Nuclear Engineering in January 2005.

Lim received a PhD in mechanical engineering in 1989 from The Ohio State University; a MS in mechanical engineering from the University of Missouri–Rolla in 1986; and his BS in mechanical engineering from Michigan Technological University in 1985. His new UC appointment was effective September 1, 2011.

Professor Cheena Srinivasan Receives President and Provost's Award for Distinguished Faculty Service

Professor K. (Cheena) Srinivasan was presented the President and Provost's Award for Distinguished Faculty Service this past February. Srinivasan, who recently stepped down as Chair of the Department of Mechanical and Aerospace Engineering, is the first person within the department to receive the prestigious university award.

In the nomination he initiated for Srinivasan, fellow faculty member Professor Mo Samimy stated, "Cheena Srinivasan has performed distinguished service to Ohio State in a variety of capacities and at all levels of the University, service that has advanced the common good and ensured the continuing vitality of the institution."

Srinivasan received his faculty appointment at Ohio State in 1979. His interest in governance at the departmental and college level began shortly after, when he accepted a 1984-1987 term as chair of the College of Engineering's Coordinating Committee for the Manufacturing Systems Engineering Program, and a subsequent term as chair of the department's Graduate Studies Committee. Srinivasan also led the university-wide task force that developed recommendations in 2006–07 for the enhancement of quality doctoral programs at OSU. The task force's report "Funding Models for Doctoral Education Based Upon Quality" in March 2007 stimulated a university-wide review of the 91 doctoral programs on campus and catalyzed significant changes in the administration of doctoral programs. From 2007 to 2008, he chaired the University Senate Fiscal Committee, the group whose task it is to assess how effectively Ohio State's budget system supports the academic plan, aligns resources and commitments with college and unit activities, and provides central funding to optimize academic excellence and the services that support it.

Professor Cheena Srinivasan's son Vikram and wife Jay were on hand to witness the surprise presentation made by President Gee for Professor Srinivasan's Distinguished Faculty Service Award.

Immediately upon being named a department chair in 2000, Srinivasan oversaw the integration of the applied mechanics program with the mechanical engineering department. He also oversaw the merger of the aerospace engineering department with mechanical engineering in 2010. Securing private gifts and donations toward the construction of Scott Lab, which opened in 2006, has also been a major milestone of his career. Prior to his selection as department chair, he served for two years as Associate Dean for Research in the College of Engineering.

Over the past two years, Professor Srinivasan has served as a member of the Committee for Evaluation of Central Administrators, which performs periodic evaluation of selected central administrators and their offices at Ohio State. He is also a member of the College of Engineering's Action Learning Team, a group composed of department chairs who are dedicated to enhancing and evolving the culture of the college from within.

Srinivasan is the author of more than 70 refereed publications, and has served as dissertation adviser for 13 doctoral students and 36 master's degree students. He is a Fellow of two professional societies, the American Society of Mechanical Engineers and the Society of Manufacturing Engineers. He is a recipient of department-level awards for excellence in undergraduate teaching as well as the Clara M. and Peter L. Scott Faculty Award for Excellence in Engineering Education, awarded annually to a single senior faculty member in the College of Engineering for excellence in research and education.

Each year, the university recognizes up to three faculty members who have made extensive contributions to the development and implementation of university policies and programs. Award recipients are selected by a committee of faculty, administrators, and previous recipients.

EcoCAR2 Team Places Second at Year One Competition

Ohio State's EcoCAR2 team placed second out of 15 collegiate teams competing in year one of a three-year challenge to re-engineer a GM-donated 2013 Chevy Malibu. The universities competing in EcoCAR2 gathered in Los Angeles for six days of competition that concluded May 24. "EcoCAR embodies all of the best attributes of the experiential education we strive to deliver in the Ohio State College of Engineering," said ME Professor Giorgio Rizzoni, co-faculty advisor to the team.

Competition sponsor General Motors provides each of the 15 competing teams with a 2013 Chevrolet Malibu, as well as vehicle components, seed money, technical mentoring and operational support. The U.S. Department of Energy and its research and development facility, Argonne National Laboratory, provide competition management, team evaluation and logistical support.

Year two competition will take place next summer at the GM Desert Proving Ground in Yuma, AZ. Follow the team at http://ecocar2.osu.edu.

Meet ME Alumna Julie Bing

Julie Bing received her MS ME from Ohio State in August 2011. She is now a research assistant working at Ohio State's Motion Analysis and Recovery Laboratory (MARL) located in Dodd Hall. Julie is one of many ME alums who are now pursuing careers related to biomechanics research. Here she describes how her current work, guided by Lise Worthen-Chaudhari, a research assistant professor of physical medicine and rehabilitation and associate director of MARL at Ohio State's Wexner Medical Center, is being used to develop specialized, effective therapy treatments for patients referred to MARL.

Q: What is the focus of your current work/research?

A: Our lab has two focus areas: clinical rehabilitation and biomechanics research. The clinical side involves patients who are experiencing pain or gait problems that their physicians cannot fully identify by traditional techniques. We do in-depth studies to quantify their walking patterns and can sometimes trace the source of their problems back to unexpected anomalies. Their physicians and physical therapists can then use this information to develop specialized, effective therapy treatments for them. The research side involves comparing data between experimental and control groups to determine the effectiveness of new walking aid devices, new surgery techniques, etc.

Q: How did you become interested in mechanical engineering?

A: Math and science were always strong points in my academic background, and engineering seemed to be a field in which I could apply my 'book skills' to real-world applications. I specifically chose mechanical engineering because it seemed to encompass the most possibilities and would allow me to explore many facets of engineering under the same umbrella.

Q: What do you like best about working in a field related to physical rehabilitation?

A: I could never do the one-on-one work that doctors and therapists do with the patients. However, I get to be involved in their recovery in a behind-the-scenes manner that I find very rewarding and still much more direct than the typical engineer's role in medicine.

Q: What's been the most surprising aspect of your career path?

A: Earning my degree taught me the importance of interdisciplinary progress. So much work has been done to move forward in the fields of engineering, of medicine, of rehabilitation, and of art, but there is so much untapped potential in the act of combining these fields. It's just a matter of putting the puzzle pieces together in ways that nobody has before. One of my classmates made an offhand comment that sums it up very well. We were frustrated at how poorly all of the textbook equations and formulas applied to the human body's complicated movements. He said, "Yeah, it's frustrating, but that's why we're here – because the human body is way more interesting than suspension bridges." Not to knock any civil engineers, but it's true: the human body is THE most complex machine in the world, and we are just trying to unravel the secrets behind its functionality.

Q: You have some interesting art displayed in your office space. What do the random colored dots represent?

A: The art is a result of one of Lise Worthen-Chaudhari's projects, which gathered the data recorded from movement sensors. It's a novel way to engage some patients in a creative process and one that stimulates movement recovery. A brief video of how the "Embedded Arts images" are created can be seen at http://medicalcenter.osu.edu/rehabilitation/research/motion-disorders-research/pages/motion-disorders-research.aspx

Alumni Imagination at Work

By Kari Fox

If you were a classmate of Justin Berger, ME '08, you may have recognized your fellow alum in GE Appliance's current advertising campaign for its french door refrigerators. He has a starring role in GE's "Freshpedition" campaign, which includes a national television commercial and webisodes that follow Berger, celebrity chef Ben Sergeant, and the refrigerator from Louisville, Kentucky to a remote U.S. location to bring fresh food to wildlife biologist Ron Thompson. Along the way, they make stops at locally-owned farms, ranches, and a dairy to pick up fresh food to prepare a meal for the wildlife researcher when they reach their final destination.

"I think my personality just fit with the visual," says Berger. "They also wanted someone that had worked on and contributed to the project. My role was just to play myself. I think they highlighted some of the geeky engineering tendencies I have so that was easy for me to play into. I was able to be myself the whole time," he says.

Berger is part of the ice and water subsystem team, which worked on the components that help dispense ice and water through the external dispenser and into a glass. He also headed the intellectual property efforts and designed the paddle and duct door of the new refrigerator.

Kari Fox is a student communications assistant with the College of Engineering.

Photos courtesy of GE Appliances.

Q&A | Ahmet

Continued from page 2

Q: In addition to being the Department Chair will you continue to teach any courses or advise any students?

A: I will reduce the teaching functions, but will continue to conduct research and advise graduate students.

Q: Is there a philosophy or doctrine that you apply to your personal outlook and work? Anything that has influenced or guided you along the way?

A: Determination, passion, satisfaction and pride in the learning process of young minds and in expanding the frontiers of knowledge with scholarly contributions.

Saying Thanks!

Anyone wishing to honor Professor K. (Cheena) Srinivasan's 12 years of service to the department, may contribute to his favorite cause, the MAE Curriculum Fund (#313090) online at giveto.osu.edu.

Q&A | Cheena

Continued from page 3

grown significantly over the past dozen years, primarily as a result of two mergers, first with the Applied Mechanics faculty group and more recently with the aerospace engineering department. Managing these mergers and at the same time ensuring that the department continued to evolve in a very positive trajectory has been another important highlight in the department's evolution. Finally, over the past decade, the department has compiled a record of significant accomplishments to its credit, in research as well as in teaching, and has grown in stature locally as well as nationally. The dedication and hard work of our many faculty members, including many who have joined over the past decade, is ultimately responsible for this collective accomplishment.

Q: And greatest challenges?

A: The department, college of engineering, and the university have had to deal with extraordinary fiscal challenges over the past dozen years, as have other organizations private as well as public. Maintaining and strengthening our research and teaching activities in such an environment has been extraordinarily difficult. I am pleased to say that, though our fiscal challenges continue, our progress has been strong and steady.

Q: What are your post-Chair plans? What's next?

A: I'll be on duty this fall and will be teaching and engaging in research more strongly than I have been able to do as department chairperson. I will thus experience first-hand our switch to the semester system. Finally, I will continue to coordinate the many changes in our undergraduate curricula that we undertook to implement as part of our switch to semesters, and look forward to the many attendant challenges

Exchange 2012

Exchange is published annually by The Department of Mechanical and Aerospace Engineering. Please e-mail any questions or comments about this publication to speicher.24@osu.edu

Nancy Speicher, Editor

Rebecca Sutton, Graphic Design

THE OHIO STATE UNIVERSITY

Department of Mechanical
and Aerospace Engineering

Peter L. and Clara M. Scott Laboratory
201 W. 19th Avenue
Columbus, Ohio 43210
Phone (614) 292-2289
Fax (614) 292-3163

Nominations for 2013 Alumni Recognition Program

The Annual Alumni Recognition Program has been part of the Spring Honors and Awards Ceremony since 2006 and a total of 42 alumni have now been recognized by the department for their significant career accomplishments. If you would like to nominate an Ohio State alumnus for a specific award, you may download a nomination form via the Alumni Recognition Program information page located on the alumni section of the MAE web site or contact Anna Hoza (hoza.7@osu.edu) for more information. Starting next year, two awards for recognition of alumni of the aerospace engineering program will be added. Nominations for next year's awards will be accepted through the end of February 2013.

Climbing the Walls in Scott Lab

Like many young army recruits, several of this past year's ME Product Design students were eager to show that they had Spider-Man-like skills when it came to ascending a stairwell in Scott Lab. Associate Professor Blaine Lilly invited Army Captain Kevin Stein and Master Sergeant Brad Bonnell, both of whom are Army Rangers, to teach his class a thing or two about the challenges of extreme military maneuvers. After donning all the appropriate safety gear, some of the bravest students successfully scaled the stairwell in order to better understand the mechanics inherent in climbing vertical surfaces.