Letter from the Dean

I would like to bring two things to your attention in this Newsletter: the Fall 2012 semester transition and celebration of Wright State University for its 45 years.

Semester Transition: Summer 2012 marked our last quarter in the history of Wright State. Fall 2012 was our first term under semesters! This is the culmination of faculty, staff and student work of the past three years. The transition in the College of Science and Mathematics has been for the most part smooth: we welcomed another record number of majors to our academic programs, 1738. We took the opportunity to make our curricula more relevant to the needs of today’s workforce (e.g., a new Environmental Science B.S. degree), to make our class scheduling more tailored to the needs of today’s students (increasing numbers of flipped courses and evening courses), and to make class content more accessible to today’s students (increasing amounts of hands-on and engaged learning).

45 Years of Excellence in Education: In 45 years, Wright State University has transformed itself from a branch campus of Ohio State University and Miami University to a comprehensive university with a national reputation. We have graduated over 100,000 alumni, close to 20,000 in just the last 5 years. The majority of these alumni have stayed in Ohio, contributing to our region’s economy and community. We have stayed true to our mission of “transforming the lives of our students and the communities we serve.” Last year, CoSM graduated 437 students, 12 with University Honors, and 6 with Departmental Honors. Fully 20% of our undergraduates participated in a research experience through independent study or undergraduate research.

This is a challenging time financially for our students. Fortunately, our alumni are increasingly stepping up to support current students, and I would like to pay special tribute to them. Look for upcoming Newsletters to feature stories about alumni support of our College. I hope that you will find the stories in this volume fascinating or at least informative, and I welcome your feedback.

Sincerely,

Yi Li, Ph.D., Dean

Wright State University is proud to be at the nexus of discovery and innovation. We are catalysts for transforming lives and the communities we serve.

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Since joining Wright State’s Department of Biological Sciences in 2009, Kate Excoffon, Ph.D., has secured two highly competitive National Institutes of Health (NIH) grants, established a joint research project focused on HIV, published papers in top journals like Proceedings of the National Academy of Sciences, Journal of Virology, and PLoS One, and became a sought-after national speaker. Her colleagues say her teaching in the areas of immunology and gene therapy has significantly strengthened departmental offerings in the areas of microbiology and immunology.

Student evaluations at both the undergraduate and graduate levels reflect Excoffon’s commitment to delivering interesting, intelligent, and thorough classroom content. She has developed classes at both the undergraduate and graduate levels and is serving as supervisor for several M.S. and Ph.D. students working with her toward degrees. She is an outstanding mentor for the students in her laboratory. Leaders in the college say her work with honors students is particularly commendable. Her drive to excel and willingness to help others have touched many during her short time at Wright State. To view Kate’s award video click here

Excoffon worked with a team whose breakthrough in gene therapy unlocked a treatment for a disorder that attacks the pancreas. Click here for the full article and feature video as reported by Marsha Bonhart of WDTN.

Service (Unclassified)
President's Awards for Excellence

Beverly Grunden has served Wright State as a statistical scientist and consultant in the Statistical Consulting Center (SCC) since completing her master’s degree in applied statistics at Wright State in 2001. She has distinguished herself in every aspect of her work.

Grunden has worked on some of the university’s largest and most far-reaching projects for the College of Nursing and Health, the Office of Institutional Research, the Office of Internal Controls and Audit, and the Center for Urban and Public Affairs (CUPA).

In addition to her professional work, Grunden has generously contributed her time, energy, and ideas to community service activities aimed at encouraging young people to pursue education in science, technology, engineering, math, and medicine.

“Her communication skills and ability to explain complex statistical concepts are superb; this might be expected, given her extensive teaching background,” said Harry. J. Khamis, Ph.D., SCC director and professor of mathematics, statistics and community health.
Wright State University Honors Outstanding Alumni

14th Annual College Outstanding Alumni Awards recognized two science and mathematics alumni as part of the reunion events on January 26, 2013

Graduate School Awardee

Sung Ahn graduated from Wright State University in 1983 with a Master of Science degree in Statistics from the College of Science and Mathematics. Sung received a Ph.D. in statistics from the University of Wisconsin, Madison in 1987 specializing in time series analysis.

Sung has held visiting positions at the University of Tennessee, University of Maryland at College Park, and Pohang University of Science and Technology in Korea. He has been at Washington State University since 1989, and was Chair of the Dept. of Management & Operations from 2006-2010. Sung has authored or co-authored 45 journal articles and has given 88 professional presentations. He has been a reviewer for innumerable professional journals, book chapters, and for NSF. Sung has been active in organizing conference sessions, has been a Fulbright Senior Specialist in Economics (2002-2006), and is the recipient of 17 grants. He visited the European University Institute as a Fernand-Braudel Senior Fellow during the spring semester of 2011. Sung’s service work is far too extensive to enumerate. In the summer of 2009, he was selected as a Fellow of the American Statistical Association, a prestigious and rare honor in the statistics profession.

Sung’s career, in both scope and depth, exemplifies that of an outstanding Wright State University alumnus. In addition to his professional accomplishments, Sung is a kind, respectful, friendly individual who is polite and accommodating.

College of Science and Mathematics Awardee

Chris Johnson graduated in 1982 with a Bachelor of Science degree in Physics. He received his Master of Science degree in Physics and his Ph.D. in Biophysics and Computing from the University of Utah.

Chris is the founding director the Scientific Computing and Imaging (SCI) Institute at the University of Utah where he is a Distinguished Professor of Computer Science and holds faculty appointments in the Departments of Physics and Bioengineering. His research interests are in the areas of scientific computing and scientific visualization. Johnson founded the SCI research group in 1992, which has since grown to become the SCI Institute employing over 200 faculty, staff and students. Johnson serves on several international journal editorial boards, as well as on advisory boards to several national research centers. He has received several awards including the NSF Presidential Faculty Fellow (PFF) award from President Clinton in 1995, and the Governor's Medal for Science and Technology from Governor Michael Leavitt in 1999. Johnson is a Fellow of the American Institute for Medical and Biological Engineering, a Fellow of the American Association for the Advancement of Science, and in 2009 he was elected a Fellow of the Society for Industrial and Applied Mathematics (SIAM) and received the Utah Cyber Pioneer Award.

Chris is internationally regarded as one of the foremost researchers and leaders in scientific visualization and scientific computing. In pursuing his research, Johnson has been principle investigator on more than $50M of research grants, has written over 140 papers and book chapters, has given more than 80 keynote or plenary presentations and more than 150 invited talks at national and international conferences and workshops.

For more about alumni relations...
CoSM Spotlight

Wright State professor has role in next Mars mission

Research Professor Jane L. Fox, Ph.D., in the Department of Physics, is a member of the science team for Mars MAVEN and is next in line for a ride to the Red Planet. The unmanned craft is scheduled to blast off in late November 2013 and arrive in September 2014. Fox has been preparing for the mission for years, and she looks forward to more years of study and discovery.

The data MAVEN beams back will be just as important in helping scientists understand Mars’ past—and whether life was ever possible there. The Laboratory for Atmospheric and Space Physics at the University of Colorado at Boulder manages the science side of the program, led by principal investigator Bruce Jakosky. Several teams of scientists are involved, most focused on one or another of MAVEN’s eight instruments. Fox is on the interdisciplinary team, one of five scientists at different universities who will use the data MAVEN sends back to carry out scientific investigations.

By studying the escape rates of atoms from the top of the atmosphere into space, she hopes to be able to backtrack through time to learn what the primordial atmosphere of Mars was like—and whether it could have supported life. Fox hopes MAVEN will provide the clues that allow her and other scientists to answer those questions.

Educational Partnership Agreement (EPA)

The Anatomy Master’s Program in the Department of Neuroscience, Cell Biology & Physiology has entered into an EPA with the USAF School of Aerospace Medicine, Department of Aeromedical Research. Five students will participate in several ongoing research projects.

Graduate students may participate in scientific research, data analysis, and/or service projects using the Department of Defense facilities and data. The Air Force Component personnel will use this opportunity to mentor, train, and educate future scientific leaders while they assist on current Air Force Component research projects.

Conversely, students will gain experience working with military research organizations, procedures, best practices, and personnel.

This Agreement also seeks to enhance the educational experience of our graduate students and introduce them to potential career opportunities in the Department of Defense, while at the same time increase human resources available to develop projects and activities that will help accomplish Air Force mission goals and objectives.
CoSM Spotlight, cont.

Wright State Hosts Ohio Physiological Society Convention

Wright State University’s Boonshoft School of Medicine hosted the 27th annual meeting of the Ohio Physiological Society this past October, bringing in over 120 attendees from fourteen of Ohio’s universities. Opened by a keynote address from James W. Hicks from the University of California, Irvine, the convention highlighted research discussion, poster presentations, and awards for outstanding research.

Lynn Hartzler, assistant professor in the Department of Biological Sciences at Wright State and president of the Ohio Physiological Society, said the convention was an opportunity for energetic exchange of ideas between the leading physiologists and research-oriented students from across the state.

The convention began with research presentations by new investigators in Ohio, but was quickly followed by what Hartzler called a trainee data blitz. During the blitz, students and postdoctoral fellows briefly introduced research they had conducted and highlighted data figures to share with the group.

Two poster sessions gave participants an opportunity to receive one of four $500 travel awards to attend the Experimental Biology 2013 conference in Boston, Massachusetts. Joseph Santin, a graduate student in the College of Science and Mathematics, received a travel award and Adam Deardorff, a medical student in the Boonshoft School of Medicine, received an honorable mention. Four undergraduate students also received accolades for their outstanding poster presentations, including Savannah Doliboa and Orly Leiva of Wright State.

Debra Steele-Johnson is appointed chair of the Department of Psychology

Debra Steele-Johnson received her Ph.D. in Industrial/Organizational Psychology from the University of Minnesota in 1988. She was a faculty member in the Department of Psychology at the University of Houston prior to joining the Department of Psychology at Wright State University in 1995. She teaches graduate courses in training, motivation, leadership, teams, and research methods and is currently advising masters and doctoral level graduate students.

Steele-Johnson’s research focuses on how people acquire and perform complex skills and factors that affect those processes. Her research has implications for motivation and training for individuals and teams. Her interest is in how feedback, goals, other self-regulatory processes, task features, training and personal characteristics affect learning and performance on complex tasks in individual and team contexts.
Chemistry students experience real-life learning

Students of WSU associate professor of Chemistry, Audrey McGowin, participated in a project collaboration between an advanced environmental chemistry class at Wright State University and an interdisciplinary first-year seminar on water with Antioch College in Yellow Springs, OH. The advanced environmental chemistry class is intended for upper-level undergraduate students and graduate chemistry majors but is also open to other upper-level science majors and graduate students with the appropriate chemistry background. The global seminar course about water teaches basic scientific treatment, water use and critical thinking about water issues.

McGowin wanted to shift the course's emphasis from test and lectures to real-life experience that could help the community. "I got to thinking about making chemistry more relevant and having the students doing something real," she said. Their service learning model has been featured in the Journal of Chemical Education and in the Environmental Monitor magazine.

New species of wasp named after Wright State entomologist

The relatively large, colorful wasp was named in a scientific paper in honor of John Stireman, Ph.D., of the department of Biological Sciences, for his research help in identifying and providing information on tachinids, a large family of flies. Stireman's role was to examine the pupa, which precedes the adult stage, of flies that were carrying the newly identified parasitic wasp. “I’ve never had a species named after me before; it is an honor to be recognized in that way. I have friends who have species named after them, so now I feel better,” Stireman said with a smile.

However, he downplays the honor, saying it is not that unusual for newly identified species of insects to be named after someone and that there continues to be plenty of opportunity. “There are hundreds of new species pinned in drawers in museums, but there are not enough knowledgeable people to look at those things,” he said.

Stireman has been heavily involved with researchers at other universities in a National Science Foundation funded project to take an inventory of the biodiversity in the Andes Mountains of Ecuador. The project has taken Stireman to Ecuador a half dozen times, working largely at elevations of between 7,000 and 8,000 feet.

“We go into these cloud forests that are super-diverse, really diverse plant communities, really diverse insect communities, but we really know nothing about most of the species,” he said. “A lot of the species are described. Even the ones that we do know exist, we don’t know anything about them—what they eat, what eats them. You can use that information to understand the whole food web of an ecosystem.” He said “Knowing about a new species will probably not cure cancer or solve world hunger. But it could.”
Announcements

**NCBP: Sherif M. Elbasiouny, Assistant Professor, Director, Neuroengineering & Neurorehabilitation Laboratory**

Sherif M. Elbasiouny, Ph.D. is researching the fields of neuroengineering and rehabilitation neuroscience. He combines computer modeling and electrophysiological recording techniques to study the role of spinal neurons in integrating the sensorimotor signals at the cellular and system levels for movement control during health and in neurological disorders. Examples are after spinal cord injury, and in the neurodegenerative disease amyotrophic lateral sclerosis, ALS. Elbasiouny investigates the cellular mechanisms regulating neuronal excitability and their contribution to the motor system output in the healthy state, and studies the changes in these mechanisms after neurological injury or disease.

**Psychology: Joseph Houpt, Assistant Professor of Psychology, mathematical cognitive modeling.**

Joseph Houpt, Ph.D. is researching mathematical cognitive modeling, particularly models of configurable perception, as a framework for both understanding the underlying processes and for measuring human performance. His research uses Systems Factorial Technology (SFT), a methodology for assessing the basic characteristics of cognitive processing, a framework. Although SFT is based on rigorous mathematical modeling, it lacked a mechanism for quantitative hypothesis testing. To address this problem, Houpt developed nonparametric null-hypothesis-significance tests and nonparametric Bayesian tests for use with each of the SFT measures. Houpt extended the range of cognitive processing models that are testable within the methodology.

**Psychology: Ion Juvina, Assistant Professor of Psychology, high-level cognitive processes.**

Ion Juvina, Ph.D. spent almost seven years at Carnegie Mellon University where he completed two postdoctoral fellowships (supervised by Niels Taatgen and Christian Lebiere within the ACT-R research group lead by John Anderson) and also conducted independent research. He studied Industrial Psychology in Romania (Master thesis in Human Reliability) and Information Science in the Netherlands (Ph.D. dissertation in Human-Computer Interaction). His research focuses on high-level cognitive processes such as strategic thinking and executive control of cognition and emotion, combining empirical research and computational cognitive modeling.

**Mathematics: Gengxin Li, Assistant Professor in Mathematics and Statistics**

Gengxin Li, Ph.D. is originally from Beijing, China and now resides in Fairborn with her spouse Shengqi Yao. She earned her Ph.D. in statistics from Michigan State University, and spent the last two years as a postdoc fellow in the Department of Epidemiology and Public Health at Yale University before coming to Wright State University. Li will work on developing the graduate program and collaborative research in the area of biostatistics.
Up-Coming Events

Apollo Room
Free & Open to the Public

Neil deGrasse Tyson - March 7, 2013
Astrophysicist, Hayden Planetarium Director, and Science Communicator

Neil deGrasse Tyson was born and raised in New York City, where he was educated in the public schools clear through his graduation from the Bronx High School of Science. Tyson went on to earn his B.A. in physics from Harvard and his Ph.D. in astrophysics from Columbia. In 2001 and 2004, Tyson was appointed by President George W. Bush to serve on commissions that studied and implemented space exploration policy. In addition to dozens of professional publications, Tyson continues to write for the public and serves as on-camera host for the PBS_NOVA mini-series Origins and for the program NOVA ScienceNOW, which looks at the frontier of science that shapes the understanding of our place in the universe.

Van Jones - April 16, 2013
President and Co-Founder of Rebuild the Dream, Champion of People Power and the “Green Collar Economy”

A Yale-educated attorney, Van Jones has written two New York Times bestsellers: The Green Collar Economy, the definitive book on green jobs, and Rebuild the Dream, a roadmap for progressives in 2012 and beyond. Jones is currently a CNN contributor. In 2009, Jones worked as the green jobs advisor to the Obama White House. There, he helped run the inter-agency process that oversaw $80 billion in green energy recovery spending. Jones is on the board of several organizations and nonprofits, including National Resource Defense Council (NRDC), Presidio, and Demos.