Hello faculty, students, staff and alumni! You have much to be proud of as you read the current issue. Our faculty are out there on the far edge of research, figuratively and literally, as one of our own Biological Sciences faculty, Yvonne Vadeboncoeur, and her team gather important data from a lake in Tanzania, East Africa (page 2). Many of our alumni receive national recognition, either in a high profile position, or more formally through a national award. In this issue, we report that Greg Pitz, a physics graduate, has recently been named by President Obama as an Outstanding Career Scientist, one of only a handful of people across the country (page 4). Finally, so many of our College’s students distinguish themselves in their endeavors that it is hard to keep up. Read about 5 such accomplished graduate students on page 6.

I would like to bring our successful alumni and our extraordinary students together in cyberspace, through a place on the website for alumni career stories. I want students to read about the interesting, sometimes difficult, always remarkable journeys alumni have made to get where they are today. Please share your stories, short or long, by emailing Debbie Garber, at Debbie.garber@wright.edu; a photo would be a great addition. Be sure to include your major and how it contributed to your career trajectory. We want students to consider a wider range of possibilities when making career decisions, and to learn what their degree can do for them. Alumni are our best resources.

We all need these positive moments to get us through the worst winter conditions I’ve experienced since moving from Iowa! Enjoy the diversion and read on….

Best,

Yi Li, Ph.D., Dean

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Open waters of the lake support relatively few species of fish and zooplankton, yet the near-shore waters of Lake Tanganyika support over 280 species of fish, and more than 400 species of invertebrates. The majority of these species are found nowhere else on earth, and over 85% of species live in the narrow band of shallow water at the edge of the lake called the littoral zone. Vadeboncoeur’s group studies the interactions between attached algae and herbivorous fish in Lake Tanganyika. They are trying to figure out how this seemingly nutrient poor lake supports all these fish and this high algal growth.

They are using field and lab experiments to test whether grazing fish increase nutrient turnover and nutrient retention in the littoral zone, and consequently whether fish increase the overall productivity of the littoral zone. In the cyclical nature ecology, the algae growth depends on the fish leaking out nutrients while the algae, using photosynthesis, create carbon compounds that the fish use to meet their energy needs. This tight linkage may explain why high productivity and diversity persists in the face of apparent extreme nutrient scarcity.

The Tuungane Project is a collaboration between The Nature Conservancy, Frankfurt Zoological Society, and Pathfinder International, seeking to address the most significant health and environmental issues within the Greater Mahale Ecosystem in Western Tanzania. Project documentation has been provided by Yvonne Vadeboncoeur from Wright State University, Peter B. McIntyre from University of Wisconsin, Colin Apse and Tim Tear from The Nature Conservancy, African Region, and Ishmael Kimirei from the Tanzanian Fisheries Research Institute.

Read the study>>

Visit Vadeboncoeur’s webpage >>
Earth and Environmental Science graduate published in oil and gas magazine

April Wisebaker, a graduate from the Earth and Environmental Sciences Department, co-authored an article published in the November 2013 issue of The American Oil & Gas Reporter. The article reports on improved phases of horizontal well development and accurate placement of fracture stages as part of the decade-long improvements in shale developments. Both logging-while-drilling (LWD) and measurement-while-drilling (MWD) capture high-quality data and images for evaluation and geosteering using real-time data transmission rates that improve stability, drilling, and quality of production.

Operators plan a well path using a straight line, but the wells rarely end up straight. Drillers use a steering tool to respond to drilling dynamics, navigating sweet spots and attaining a higher rate of penetration, reducing stick slip, shock, and vibration by adjusting the planned trajectory. Data captured through this process provides snapshots that identify rock beds and a variety of fractures. These fractures are thought of as planes of weakness during hydraulic fracturing, allowing the operator to design an effective strategy and produce a more efficient well. Integrating these techniques with existing knowledge is important as the industry continues to explore the shale gas frontier.

Wisebaker is employed as a well placement team lead for Schlumberger, a Texas-based supplier of technology, integrated project management, and information solutions to customers working in the oil and gas industry. She joined Schlumberger in 2007 and has held positions as a software support geoscientist, borehole geologist, and well placement engineer. She holds a B.S. in environmental geoscience, a B.A. in geoscience education, and an M.S. in geology from Wright State University. The article is entitled “New MWD, LWD Services Help Drillers Keep Bit In Formation’s Sweet Spot” and was published in the November 2013 issue of The American Oil & Gas Reporter. Read the full article>>

Earth Science Graduate is selected for NASA’s SOFIA’s program

Tom Jenkins is a graduate of the Earth Science Masters of Science Teaching program. He is a current educator for the Dayton Regional STEM Center and Greenon Local Schools, Enon, Ohio. Jenkins has been selected to participate in one of twelve, two-person teams for NASA’s Stratospheric Observatory for Infrared Astronomy, or SOFIA. His selection news was shared with Earth & Environmental Sciences professor William Slattery, Ph.D. in a message in which he also credits Slattery’s teaching and his Wright State education for “providing him the tools to be successful as an educator.”

SOFIA is a highly modified Boeing 747SP jetliner fitted with a 100-inch (2.5-meter) effective diameter telescope. The aircraft flies at altitudes between 39,000 and 45,000 feet (12-14 kilometers), above the water vapor in the Earth's atmosphere, and collects data in the infrared spectrum. Jenkins will be an active participant in a NASA research mission this spring.

Read the NASA release>>
Wright State scientist/alumnus among those honored by President Obama

Greg Pitz, a Wright State graduate in physics, was among those honored by President Obama as among the nation’s outstanding early career scientists.

Pitz, Ph.D., an associate research physicist at the Air Force Research Laboratory at Kirtland Air Force Base in Albuquerque, N.M., was among 102 researchers who were honored. The award is the highest honor bestowed by the U.S. government on science and engineering professionals in the early stages of their independent research careers.

“The impressive achievements of these early stage scientists and engineers are promising indicators of even greater successes ahead,” Obama said. “We are grateful for their commitment to generating the scientific and technical advancements that will ensure America's global leadership for many years to come.”

Pitz received the honor in the Department of Defense category. Other recipients on the category included researchers from Stanford, Princeton and other top research institutions. The honorees will receive their awards at a Washington, D.C., ceremony later this year.

“It is a huge honor to receive this award,” said Pitz, “but it wouldn't have been possible without the support of my wonderful academic advisors and mentors along the way.”

The awards embody the high priority the administration places on producing outstanding scientists and engineers to advance the nation’s goals, tackle challenges and contribute to the economy. Established by President Clinton in 1996, the awards honor researchers who pursue innovative research at the frontiers of science and technology and are committed to community service through scientific leadership, public education or community outreach.

Pitz received his B.A. and M.S. degrees in physics from Wright State in 2001 and 2004, respectively. In 2010, he obtained his doctorate from the Air Force Institute of Technology, where he conducted research in the development of electric hybrid lasers. His current research interests include optically pumped alkali lasers, hollow core fiber lasers and atomic and molecular spectroscopy.

Congratulations Fall 2013 graduates

Wright State University honored more than 1,700 graduates during its Fall 2013 Commencement ceremony Dec. 14 in the Wright State Nutter Center.

Fall commencement included 1,735 applications for degrees: 1,052 bachelor’s degrees, 570 master’s and 113 other degrees and certificates. The class included graduates ranging in age from 20 to 67, including 146 international students from 25 nations.

View Fall 2013 Commencement photo gallery>>
Appointment of Associate Provost for Faculty and Staff Affairs

Steven J. Berberich, Ph.D., has been appointed Associate Provost for Faculty and Staff Affairs. He assumed his post November 1.

As Associate Provost, Berberich will play a critical role in developing people, a key component of the university's new strategic plan that calls for empowering faculty and staff. His diverse experiences and leadership activities make him extremely qualified to assume the duties of Associate Provost, which include overseeing faculty/staff relations, professional development and support.

Berberich has been a Wright State faculty member for more than 20 years, rising to become chair of the Department of Biochemistry and Molecular Biology in 2008. He helped expand biomedical research on campus and established what is now the Center for Genomics Research, which gives faculty access to cutting-edge genomic facilities.

Master of human anatomy instruction program poised to meet growing need

In anticipation of increasing demand for professionals who can teach anatomy in higher education, Larry Ream, Ph.D. created the Master of Human Anatomy Instruction program three years ago.

“However healthcare reform turns out, it seems likely that a bunch of uninsured people are going to be getting primary care for the first time,” said Ream, anatomy, physiology and neuroscience programs director. “That means the need for physicians assistants and nurse practitioners will rise, and in turn the demand for people who teach anatomy to these kinds of students will rise.”

Anticipating the trend, Ream sought to create a program that didn’t just teach anatomy, as so many other programs do across the country, but one that also teaches students how to teach.

“The number of schools that are producing anatomy and physiology degrees is going down, which is a funny thing because there is a steady need for people to teach anatomy in med schools and a growing need in allied health schools that educate physician’s assistants, nurse practitioners and physical therapists,” said Ream. “I think in the next 5-6 years the physicians assistant programs are going to pop up in mass too just like nursing programs—the Allied Health schools—did all over Southwest Ohio over the last ten years.”

The Wright State program is unique because of the pedagogy students obtain in their second year. In their first year of study, students learn about anatomy just as their medical school counterparts do from identical curriculum. But in the second year, students begin studying how to conduct a class. Field experience—what was formally known as student teaching—is a big part of the instruction. Students must join off-campus anatomy classrooms and conduct review sessions, give lectures and most importantly, receive feedback from experienced anatomy professors.
CoSM Spotlight, Cont.

Wright State among top universities for industrial organizational psychology

Wright State University is among the top third of universities worldwide in faculty research productivity in the field of industrial organizational (I-O) psychology, a new study shows.

Wright State ranks No. 20 out of 62 universities with I-O psychology Ph.D. programs, according to I-O psychology researchers at Auburn University. The findings were published in The Industrial-Organizational Psychologist, the newsletter for the Society for Industrial Organizational Psychology. “We were quite pleased to see that,” said Nathan Bowling, Ph.D., a psychology professor who directs Wright State’s I-O psychology Ph.D. area. “It’s nice to get some objective verification of what we already knew by researchers at a university that have no connection to us.”

Industrial organizational psychology is the science of applying research and the principles of psychology to solving the everyday problems in the workplace and making employees more productive, healthier and happier. “We are interested in things like helping organizations hire people who have the personal qualities that would make them good employees, a scientific approach to hiring people,” Bowling said.

In similar rankings 10 years ago, Wright State was ranked No. 43. The new rankings, which evaluated the publication records in the top 10 scientific journals within the discipline from 2003 to 2012, place Wright State on par with several top schools such as Penn State and North Carolina State. “Whenever I go to our conference, people know about Wright State,” Bowling said. “We have a national reputation within the field.”

Student Spotlight

Khadijeh Alnajjar – 5th year biomedical sciences student, in Dr. Lawrence Prochaska’s lab, was awarded the professional development grant for $400 to present her poster at the Biophysical Society meeting in February. The title she submitted is: REMOVAL OF ENDOGENOUS PHOSPHOLIPIDS OF RHODOBACTER SPHAEROIDES CYTOCHROME C OXIDASE AFFECTS THE FLEXIBILITY OF THE ENZYME.

David Ellis – 5th year biomedical sciences student in the labs of Dr. Saber Hussain and Dr. Courtney Sulentic, has been awarded a $1000 Graduate Student Travel Support Award from the Society for Toxicology (SOT) Awards Committee for travel to the SOT 53rd Annual Meeting in Phoenix, AZ on March 24-27, 2014. He will be presenting a poster, "Low-level exposure to silver nanoparticles induced hypertrophy, multinucleation, and senescence in lung epithelial cells."

Dhawal Oswal – 5th year biomedical sciences student, in Dr. Heather Hostetler’s lab, was awarded an Original Grants Award from the Graduate Student Assembly amounting to $678 for conducting research in Hostetler’s laboratory. The title for the grant he submitted is: THE ROLE OF DIETARY FATTY ACIDS IN ENERGY BALANCE.

Caitlan Rizzardo and Elizabeth McGregor, two human factors psychology Ph.D. students, are recipients of the American Psychological Association, Division 3 (Experimental Psychology) New Investigator Award! Herb Colle, Ph.D. is their advisor and co-author on the paper that resulted in the award.

Dr. Sapna Varia, a recent biomedical sciences graduate from Dr. Paula Bubulya’s Lab, presented results from her dissertation project this week at the annual meeting for the American Society for Cell Biology. Her talk titled "Genome maintenance by pre-mRNA splicing factors Btf and TRAP150" was selected for the Regulation of Genome Expression in Development and Disease Minisymposium.
Michael Leffak, Ph.D., is appointed Interim Chair of the Department of Biochemistry and Molecular Biology.

Michael Leffak earned his B.S. in Chemistry from the City College of New York and his Ph.D. in Biochemistry from the City University of New York. Leffak did his post-doctoral work at Princeton University before coming to Wright State as an Assistant Professor. Leffak has served as Vice Chair of the Department of Biochemistry and Molecular Biology and Full Professor with primary research interests in the mechanism of DNA replication initiation, and pathogenic DNA damage during replication in human cells. Leffak has been an invited speaker at national and international scientific conferences, and has served as grant proposal reviewer for the American Cancer Society (Ohio), the American Heart Association (Ohio), the National Science Foundation and the National Institutes of Health. He is an elected Fellow of the American Association for the Advancement of Science, and named to the editorial boards of DNA Repair and The Journal of Biological Chemistry. His laboratory is funded by the NIH.

Weiwen Long Ph.D., Department of Biochemistry and Molecular Biology, Assistant Professor

Dr. Weiwen Long received his Ph.D. in 2005 from Tulane University. His research interests and expertise have been directed to the fields of growth factor signaling, steroid receptor/coactivator signaling, and the interplay between these two signaling pathways in cancer progression and metastasis. Current research is focused on 1) ERK3 kinase signaling in cancer progression and metastasis and 2) the Role of SRC-3∆4, a splice isoform of steroid receptor coactivator 3 (SRC-3), in anti-hormone resistant breast and prostate cancer progression and metastasis.

Long Qu Ph.D., Department of Mathematics & Statistics, Assistant Professor

Dr. Long Qu, obtained his Ph.D. degree (2010) co-majoring in Statistics and Bioinformatics from Iowa State University (ISU). Qu joined BioStat Solutions, Inc. in 2011 as a statistician working on pharmacogenomics. He returned to academia as a post-doctoral researcher in statistics at ISU in 2012 and became an Assistant Professor of Biostatistics at Wright State University starting Fall 2013. Qu has broad interests in statistical problems in biomedical sciences and enjoys collaborations with medical, animal and plant scientists. His current research includes developing novel statistical methods for analyzing gene expression profiling data from microarray and next-generation sequencing experiments, genome-wide association studies, dependence modeling in systems biology, and resampling statistical methods.

Debra Mayes, Ph.D., Department of Neuroscience, Cell Biology & Physiology, Assistant Professor

Research interests focuses upon mechanisms controlling neurodegeneration and cancer. She has discovered changes in oligodendrocytes, the myelinating cells of the brain, cause non-cell autonomous effects upon the surrounding neurons, astrocytes, and vasculature within the nervous system - causing the manifestation of neuropsychiatric behaviors and changes in the blood brain barrier. Both cellular and behavioral phenotypes could be reversed with the administration of an antioxidant. Her goal is to define the role of reactive oxygen and metabolism dysfunction in neurodegeneration and neuropsychiatric diseases.
**Presidential Lecture Series**

Michio Kaku, Ph.D.
March 19, 2014

Lecture: 7 p.m. Wright State University Nutter Center

Michio Kaku is an internationally recognized authority of Einstein’s unified field theory, and trends affecting business, commerce, and finance based on research in science.

**College Events: Learn more>>**

Friday, 2-28-14 “So You Don’t Forget...Alzheimer’s Disease. Kaleb Cox, Wright State University Graduate Student. 3:30pm to 4:30pm, 165 Brehm Laboratory

Thursday, 3-6-14 “Unraveling the Mysteries of Melanoma using Mouse Genetics”, Dr. Christin Burd, College of Arts and Sciences, Ohio State University, 11:00am to 12:00pm, 158 Rike Hall

Friday, 3-21-14 “Sens-able prosthetic limbs: somatosensory micro-stimulation to restore touch and proprioception” Douglas J. Weber, Ph.D. associate professor of bioengineering, University of Pittsburgh, and Program Manager, Microsystems Technology office, Defense Advanced Research

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