We are seeing the closure of our first academic year under a semester calendar. As we celebrate commencement on Saturday, April 27 we can look back on a wonderful year. CoSM faculty, academic advisors, and staff all worked together to ensure the transition to semesters would help our students have a tremendous experience at Wright State. I hope that you will find the students' stories in this volume exciting.

CoSM's vision to "open minds to science" is reflected daily in the work faculty, staff and students do throughout the college. Our Neuroscience Institute has once again demonstrated our faculty’s national reputation by winning a prestigious program project award (see story on page 5). A CoSM biologist is being credited in building the scientific grounds for the 1st gene therapy in the Western world (see Winter issue). A CoSM psychologist is performing cutting-edge research on trust (see story on page 5). Wright State’s College of Science and Mathematics is a remarkable place and we all have much to be proud of. Outstanding teaching and world class research take place every day.

Next year, the college will award over $100,000 in new scholarship funds to high achieving CoSM majors through the “Dean’s Scholarship.” These scholarships are designed to encourage students to attend Wright State in the Fall. The scholarships are renewable for a total of 3 academic years, meaning the university will invest up to $300,000 in new CoSM scholarships. CoSM has a long tradition of believing our students can achieve great things. Our faculty and staff stand ready to help them along the way!

Until the next Newsletter, enjoying reading ...
Celebrating Excellence
Student Recognition

Extraordinary Student, Jonathan Deak

Earth and Environmental Sciences student Jonathan Deak was selected as Student of the Month for March by the Association of Environmental Health Academic Programs (AEHAP).

According to his advisor, David Schmidt, this is the latest of Jon’s growing list of credentials, which includes a solid GPA, two summer internships, and the 2011 Ohio Environmental Health Association’s George Engle Memorial Scholarship.

Congratulations to Jonathan!

The mission of EAHAP is to support environmental health education and to assure the optimal health of people and the environment.

Undergraduate Women in Physics

The Department of Physics was proud to send a group of eight undergraduate physics and engineering physics students to this year’s Conference for Undergraduate Women in Physics. The event was held at the University of Illinois, Champaign Urbana, and is usually attended by one or two women from each school. However this year’s Midwest Conference had a record-breaking attendance, indicating a bright future for growing numbers of women in physics!

By attending the conference this past January, the students were given the opportunity to learn about careers in physics, hear about current research, and meet other women in physics. The students reported having a great time and felt the trip brought them closer as a group. They are eager to attend next year.

Students learn about health careers at Path to Health Professions Day

High School and college students interested in pursuing careers as doctors, dentists, veterinarians or other health professions converged at Wright State for presentations and tours this past President’s Day. Attendees discovered how degrees from Wright State University can open doors to some of the nation’s top professional schools. Besides exploring career opportunities, attendees learned what classes and activities to choose in order to best prepare for their future. Participants also had an opportunity to tour anatomy labs and Wright State’s Boonshoft School of Medicine.

“The purpose of this event was to provide information to future and current Wright State students about the health professions and programs available to them,” said Jacqueline Neal, director of pre-health programs at Wright State. “It also built relationships between Wright State undergraduate institutions and professional schools and admission representatives throughout Ohio.”

Nearly 500 people registered for the event including guidance counselors and parents. The event is held annually on President's Day. For more information about pre-health at Wright State go to: http://www.wright.edu/cosm/premed/
Environmental Sciences Ph.D. student Deah Lieurance, advised by Don Cipollini in the Department of Biological Sciences, was awarded a travel grant by Strategic Environmental Research and Development Program (SERDP). SERDP is the U.S. Department of Defense's (DoD) environmental science and technology program, executed in partnership with DOE and EPA. Deah used the award to present her research at the annual meeting of the Ecological Society of America (ESA) in Portland.

Environmental Sciences Ph.D. student Katlin Bowman, advised by Chad Hammerschmidt in the Department of Earth and Environmental Sciences, won the outstanding student presentation award at the 2012 Ocean Sciences Meeting in Salt Lake City, Utah. Her presentation, entitled “Distribution of mercury across a major ocean basin: Results from the U.S. GEOTRACES North Atlantic Zonal section” was co-authored with Dr. Hammerschmidt and Carl Lamborg of the Woods Hole Oceanographic Institution.

In addition, Katlin was recently awarded a $2500 scholarship from the Great Lakes National Scholarship Program for her Ph.D. studies.

Biomedical Sciences Ph.D. student, Khadijeh Alnajjar, advised by Lawrence Prochaska in the Department of Biochemistry & Molecular Biology, received a Student Research Achievement Award at the 2013 Biophysical Society Annual Meeting for having the best poster in the Bioenergetics Subgroup.

One graduate student from each of the thirteen different subgroups was given this prestigious international award, which resulted from a judged competition.
Kurtz Miller, is an alumnus of EES (MS 2004 Geological Sciences), Physics (MST 2002) and also Education (ME 2008). Mr. Miller will be participating in an oceanographic cruise as part of the Integrated Ocean-Drilling Program (IODP). He and Ms. Mary Palmer, a Ohio Department of Education (ODE) Master Teacher, will be "onboard educators," sharing, in real-time, information about climate, ocean processes, tectonic processes and energy resources. David Dominic, Department of Earth and Environmental Chair commented, "Mr. Miller was an outstanding graduate student in our program; he has since served as an Adjunct Instructor in both Earth and Environmental Sciences and Physics."

JOIDES Resolution (JR) is a seagoing research vessel that drills core samples and collects measurements from under the ocean floor, giving scientists a glimpse into Earth’s development, climate and environmental change over a period of time. In 1985, JR started work in the Ocean Drilling Program, and continues the work under the current program (IODP).

JR’s complement can consist of 50 scientists and technicians and 65 crew members. The crew consists of marine professionals and ocean drilling specialists, among others. The JR’s science party is specific to each mission, with skills and science disciplines chosen especially to best achieve the mission’s goals.

Mr. Miller is a faculty member at the University of Dayton, School of Education and Allied Professions as a STEM Clinical Educator, Woodrow Wilson Liaison, and an ODE Master Teacher.

"I help to operate the university’s 3-D virtual reality lab at Wright Patterson Air Force Base. The lab is designed to advance technology that makes soldiers safer in hostile environments. Almost every class I’ve taken at Wright State is directly related to something I’ve done at work, and it’s helped me to do my job better. I owe pretty much all of my success to Wright State."
CoSM Spotlight

Wright State lands $4.6 million neuroscience research grant

Wright State University has won a $4.6 million National Institutes of Health (NIH) grant aimed at improving the movement of badly injured limbs—funding that will accelerate the growth and productivity of the rapidly developing neuroscience research on campus and support the research and graduate training programs that will be housed in the new $37 million Neuroscience and Engineering Collaboration Building (NEC). The grant was one of only two of its type awarded this year by the National Institute of Neurological Disorders and Stroke, which is part of NIH.

Timothy Cope, Ph.D., Brage Golding Distinguished Professor of Research and director of the Wright State University & Premier Health Partners Neuroscience Institute, said there is a growing national awareness of the success in neuroscience at Wright State.

“One of the benefits is that we’re attracting first-rate students and training very highly skilled technicians, such as experts in microscopy, who have become vital assets to the community,” Cope said. “We not only have the knowledge and core facilities necessary to do top-flight research, we also have the scientists, graduate students and technicians necessary to conduct research that will improve people’s lives.”

The five-year grant is for research titled “Synaptic Function: Effects of Nerve Injury, Repair and Altered Activity.” Wright State investigators involved in the project include Cope; Robert Fyffe, Ph.D., vice president for research; and Mark Rich, M.D., Ph.D., professor in the Department of Neuroscience, Cell Biology and Physiology. Also collaborating is Francisco Alvarez, Ph.D., of Emory University.

Research focuses on the psychology of trust

Wright State psychology professor Tamera Schneider has embarked on a research project designed to investigate existing research on trust, perhaps refine its definition, and throw the spotlight on ways to strengthen trust among employees and soldiers.

“It can help people who need to understand how you can enhance trust, to be able to implement those things more prudently without spinning their wheels, without wasting their time,” said Schneider, Ph.D. “If you had more trust, you would be able to be more collaborative. You would be able to be focusing on the group goals and problem solving.”

The literature on trust paralleled that on emotional intelligence, which began to get deeper scientific study following publication of psychologist Dan Goleman’s best selling book *Emotional Intelligence*. Goleman developed the argument that non-cognitive skills can matter as much as IQ for workplace success and leadership effectiveness. “The idea is that you can have someone with a very high IQ, but they can be dysfunctional,” Schneider said. “You can have someone with an average IQ who can be extremely functional complemented by levels of high emotional intelligence.” And many people believe that emotional intelligence in a leader is required to develop trust in teams.

The research is the result of a three-year, $125,280 grant from SRA International, Inc., a Fairfax, Virginia-based company that supports government clients in civilian, defense, health, intelligence, law enforcement and homeland security agencies.

Click here to review Dr. Schneider’s CV
Meet undergraduate student, J. Chika Morah

Hello! My name is J.Chika Morah and I am a Biological Sciences major at WSU. My name is actually a combination of two names because I was named after my grandmothers. I graduated from Xenia High School in 2009 as one of four valedictorians. I am an only child and a vegetarian! I was a girl scout for 14 years and received my Girl Scout Gold Award, which is the highest award that a girl scout can earn. I was then promoted to a lifetime Girl Scout ambassador.

Throughout my four years at Wright State, I have been a member of the Wright Math Program, Visions Mentoring Program, Wright State University Clarinet Choir, Symphonic Band, Alpha Lambda Delta Honor Society, Golden Key International Honour Society, and president of The National Society of Collegiate Scholars WSU Chapter. I am also a student-athlete and have been on the WSU Varsity Track and Field team for the past three and a half years. I was a recipient of the Arthur Ashe, Jr. Sports-Scholar Award in 2011 for outstanding academic and athletic achievement and I am a member of the Horizon League All-Academic Team.

I chose to do research because I pictured it as being like the cartoon “Dexter’s Lab.” (That's still how I picture myself when I am in the tissue culture room). For the past two years, I have been working under Dr. Christopher Wyatt in the Department of Neuroscience, Cell Biology and Physiology. I have been exposed to many more specific facets of science that I would have never learned about in my classes. I began my research experience in the STREAMS summer program, and I am currently in the BioSTAR* program. These two programs have allowed me to experience various seminar presentations, travel to conferences, and most importantly, develop my presentation skills. My first project focused on the effects of various oxygen levels on the mitochondrial volume and proliferation rate of cancerous kidney cells, and for the past year I have been experimenting with neuroblastoma cells. I presented my scientific poster at the STREAMS Biomedical Research Program Poster Symposium in 2011 and I won third place in the Scientific Poster Competition. I also presented at the Miami Valley Society for Neuroscience Day at Miami University in 2012. I received an outstanding rating on my poster presentation at the 2012 Annual Biomedical Research Conference for Minority Students in San Jose, California and my research abstract “The Importance of Cell Culture at Appropriate Ambient Oxygen Levels,” was approved for presentation at the 2013 National Conference on Undergraduate Research at the University of Wisconsin-La Crosse. I will defend my honors thesis on Monday, April 22. My future goals include becoming a physician and possibly even pursuing an MD/PhD.

New journal spotlights undergraduate research

The new publication: Exploration: Undergraduate Research, Scholarship and Creativities features research papers by Wright State’s undergraduate students and faculty advisers. Topics cover a wide range such as: integrating premature babies into family life, using hybrid technology for jet engines, studying technological changes in art history, and analyzing the stock market.

“Explorations enables our undergraduate students to reveal the outcomes of their research to fellow students, faculty members, the research community and the general public,” said Dominique Belanger, director of undergraduate research and STEM activities. “This is a way for undergraduates to share their knowledge and be recognized for their exciting work. We hope to publish the research of many Wright State students.”
Wright State hosts Ohio Mathematics Contest

Saturday, April 13, 2013 students in grades 4-11 from across the region came to Wright State to compete in the Ohio Mathematics Contest. There were 25 different questions for each grade, all designed to be challenging. The questions were prepared by experts appointed by the National Mathematics & Science Competition (NMSC). The contest could also result in national recognition for area students, culminating in an awards ceremony in the Washington, D.C. area, and a cash prize of up to $500. And this year, the first-place winners of the event can count on an offer of up to $10,000 in scholarship money to attend Wright State University. The first-time offer is designed to reward math achievement and plant a seed with the winners.

The National Math & Science Competition is organized by the Korean Scientist and Engineers Association (KSEA) nationwide and locally by KSEA-Dayton Branch, and hosted by the Department of Mathematics and Statistics. The purpose of the contest is to stimulate interest in mathematics among upper elementary, middle and high school students and to recognize those who exhibit exceptional talents in mathematics. Furthermore, the National Mathematics and Science Competition helps students to understand the algorithm and logic needed to discover better ways to perform science projects and meet the challenges of everyday problems. It fosters teamwork and collaboration which are needed to achieve success in today’s workplace. In Dayton, students learn about math and science while having fun which should cultivate more interest in STEM careers.

“We really like to encourage high-level students—which, by definition, the winners of these contests are—to think of Wright State as a place to come.” said Kathy Engisch, associate dean for undergraduate education and outreach at Wright State. “We consider this a way to communicate with the community and to get students who are at the younger levels to begin to know what Wright State is.”

Each of the 9th, 10th and 11th grade first-place winners were given $2,500 in annual scholarships each year to be used for tuition to Wright State for up to four years. In addition, the first, second, and third-place winners in grades 9 through 11 received $150, $100 and $50 in prize money, respectively; the same place winners in grades 4 through 8 received $100, $75 and $50.

Last year, over 130 students took part in the Ohio Mathematics Contest at Wright State. For the past several years the contest has been organized under the leadership of Munsup Seoh, statistics professor and president of the Dayton branch of the Korean-American Scientists and Engineers Association. Seoh said, “parental support is crucial in helping develop the math skills of students.”

“If someone has some basic skills in mathematics up to a level, then the doors are open; otherwise, doors are shut,” said Yi Li, Dean of the College of Science and Mathematics. “Math skills provide opportunities, and the thing this nation cannot afford is to have the doors shut for our children in career possibilities.”

Please click on the link for more details. http://iis.stat.wright.edu/OMC/
May 6-9, 2013

Hosted by
Wright State University
In Collaboration with the
Air Force Research Laboratory
Human Effectiveness Directorate
Dayton, Ohio

The International Symposium on Aviation Psychology was first convened in 1981 for the purpose of:

- presenting the latest research on human performance problems and opportunities within aviation systems;
- envisioning design solutions that best utilize human capabilities for creating safe and efficient aviation systems;
- and bringing together scientists, research sponsors, and operators in an effort to bridge the gap between research and application.

The symposium is aerospace oriented, and anyone with basic or applied interests that generalize from or to the aviation domain that are relevant.

For details visit: http://www.wright.edu/isap/