When Stefanie Ward and Kathryn Barto set out to choose their academic paths, they each sought an institution that could provide both outstanding educational opportunities and financial support. Wright State University emerged as a school with fine faculty, cutting-edge research, state-of-the-art facilities, and challenging academic curricula. Stefanie and Kathryn were impressed with Wright State...and Wright State was impressed with them! Both students earned undergraduate scholarships and quickly proved they were worthy of our confidence and support.

While the cost of post-secondary education is universally high, Wright State remains one of Ohio’s best educational values. Relatively low tuition combined with scholarship funds allowed Stefanie and Kathryn to excel at Wright State and to focus on academics instead of working long hours to pay their quarterly fees. At the 2006 CoSM Awards Ceremony, Stephanie Ward said, “When I was 18, I was offered two choices for college: one which would cost $35,000 a year, and another which offered me a scholarship. Needless to say, I (or my parents!) took the school with the scholarship, which happened to be Wright State.”

Both women also enjoyed the unique opportunity of working in research labs as undergraduates. Wright State is large enough to attract diverse and talented faculty, and small enough to allow those faculty to mentor undergraduates in real-world research projects. Through her work in Dr. Stefanie Smith’s lab, Stephanie Ward realized that her interest in becoming a physician had been supplanted by the lure of research science. “The opportunity for me to do research at Wright State has changed my future. I never realized how fortunate an opportunity [Dr. Smith’s lab] was until I met students at other universities where undergraduate research is not an option. Undergraduate research has opened my mind to other career possibilities, and my journey toward that career pathway began with a scholarship.”

In a time when most students must work to afford the cost of their education, scholarship students have a distinct advantage. Kathryn Barto, a PhD student in the Environmental Sciences program explains, “Getting a scholarship gives you more than a lower cost for school; it gives you more time. Time you can spend doing some extra reading for class so you really understand the material; time to write one more really great draft of your term paper; time to redo that lab exercise and actually get it to work; time to set up a study group and help your classmates get ready for a big exam; time to run for office in a student organization; time to organize a service project and give back to your community; time to join a choir or a band and make some friends you’ll have for the rest of your life; time to really experience everything Wright State has to offer.”

At the close of her speech, Barto summed up a common sentiment among scholarship recipients, “I’d like to thank everyone here today who has ever given money to a scholarship fund, because you have given so many students the very precious gift of time. I’m sure I speak for all the students here when I say we are truly grateful for your support.”

As you know, our Nation desperately needs more trained professionals in the STEM (Science, Technology, Engineering, and Mathematics) disciplines. The College of Science and Mathematics is engaged in a number of initiatives designed to “front load” the STEM pipeline, but we need your help to make a Wright State education an achievable goal for more young Ohioans. The financial support of CoSM graduates like yourself can make a difference and can help ensure that laboratories and facilities are up to the task of producing a new generation of dynamic scientists and mathematicians. Please consider making an investment in the future of our students, our university, and our community. To donate, please use the envelope enclosed or, for more information, contact Stacia Edwards at (937) 775-3180.
The WSU College of Science and Mathematics is undergoing a transformation! As you will discover from the programmatic inserts in this edition of Equation, the changing face of the CoSM is reflected in the recruitment of excellent new faculty members and students. The work of our researchers and educators is transforming the knowledge economy of the region and beyond. In these pages you will read about the accomplishments of our faculty, staff and students.

CoSM Recognition and Awards Ceremony

The college annually celebrates the accomplishments of students, faculty and staff at an awards and recognition ceremony. As the landscape and economic model for higher education change in the State of Ohio, the CoSM has invented creative ways to derive more operating funds from extramural sources. As our Nation and State wrestle with the dilemma of growing the Science, Technology, Engineering and Mathematics (STEM) pipeline to ensure our future quality of life, the CoSM is well-positioned as an agent for change through systemically transforming K-20 STEM education.

Transformation of this magnitude and urgency requires a change in the paradigm for community support of higher education. In this newsletter you will discover an array of opportunities for alumni and friends of the College to support us in our mission. Please consider yourself a partner for change, and help us promote the betterment of our region and beyond.

New building going up!

Construction on the newest WSU building, Biological Sciences III, is rapidly underway. Bio III is located east of the current biological sciences buildings. Check the progress of the construction by logging onto www.wright.edu/cosm and viewing the webcam. Bio III will be home to the Brain Research Center, Biochemistry and Molecular Biology and Biological Sciences. This new centerpiece of biological sciences at WSU will open in September 2007.

Promotions

Five faculty members and one staff member recently retired from the college. Retiring from Mathematics and Statistics were Terry McKen, Manley Perkel, and Robert Craighead. Frank Nagy retired from Neuroscience Cell Biology and Physiology. Phyllis Pablo retired from Biological Sciences. Visit the online department inserts for the biographies on these dedicated faculty members.

Retirements

Three faculty were promoted to full Professor: Ann Farrell and Thaddeus Tarpey from the Department of Mathematics and Statistics and Pamela Tsang from the Department of Psychology. Six faculty members were promoted to Associate Professor with Tenure: Dragana Chalif, Tamera Schneider and Corey Miller from Psychology, Steven Higgins and Suzanne Lunsford from Chemistry and Thomas Brown from Neuroscience, Cell Biology, and Physiology. Two faculty members from the Department of Physics received tenure: Allen Hunt and Sarah Tebbins.

Teaching Awards

Dr. Bryan Gregor from Earth and Environmental Sciences and Dr. Manley Perkel from Mathematics and Statistics received the CoSM Teaching Awards for 2005-06. Trevor Downing from the Department of Neuroscience, Cell Biology and Physiology received the outstanding Graduate Teaching Assistant award.

Student Scholarships

Sixty-three students received scholarships including the Kingston Physics Scholarship and the Professor Krishan K. Gorowara Memorial Scholarship.

KINGSTON PHYSICS SCHOLARSHIP

The Kingston Physics Fund honors the life and work of the late David Lyman Kingston, a research physicist, whose work in solid state physics contributed to the U.S. space program and other Department of Defense projects. Mr. Kingston was a scientist, a community activist, and a patriot, working his entire career at Wright Patterson Air Force Base. His research was instrumental in the development of some of the first computer-automated laboratory experiments, and facilitated collaborations with Wright State faculty for many years. Katherine Yeager, a senior majoring in Physics, received the Kingston award.

PROFESSOR KRISHAN K. GOROWARA MEMORIAL SCHOLARSHIP

Those fortunate enough to have had careers at Wright State overlapping with that of the late Krishan K. Gorowara will remember well the delight that he brought to his colleagues and students, with the familiar smile on his face and twinkle in his eyes. What an inspiration Krishan was to class after class of his mathematics students, decade after decade—nearly forty years in the classroom altogether. Krishan’s family have generously elected to honor his rich contributions and endless dedication in a very tangible way by endowing a scholarship in his honor. Alex Gutman, a senior majoring in Mathematics Education, received the Gorowara scholarship.

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The renovation of Brehm Laboratory is underway and is also expected to be complete in late 2007. Brehm Lab will be the home of the Science Education Center, Earth and Environmental Sciences, and parts of the Department of Chemistry. Orlean Hall is next on the agenda for renovation.
New Scholarships

BAMBIKIDIS SCHOLARSHIP
Family, friends, faculty, and students have created a scholarship to honor long-time Physics faculty member and chair, Dr. Gus Bambikidis. One alumna who helped create this scholarship wrote, “he was a great, supportive teacher and is one of the reasons I went onto graduate school.” Dr. Bambikidis is retiring after 30 years of service to Wright State University.

FARQUER SCHOLARSHIP
Tom Farquer has started a scholarship to honor two retired faculty in Chemistry. Emeritus Professor Fortman and Hess. Mr. Farquer wanted to recognize the influence that these two professors had on his and many other students’ lives during their tenure at WSU.

FIELD CAMP SCHOLARSHIP
Studying science in the field can be a life-changing event in a student’s career at WSU. To ensure that students are not financially hindered from participating in field experience, one of our emeritus professors, Tim Wood, has spearheaded a new scholarship.

Dr. Wood’s experience with other WSU faculty and students at the Duke University Marine Laboratory provided the impetus for this fund. Details about each of these new scholarship as well as all of the other GoSM scholarships will soon be available online at: www.wright.edu/com/
Over the years, we have lost track of many CoSM alumni. Many of our graduates have done exciting, fulfilling, and important work—we want to brag about all of you! We are desperately trying to reconnect with them. A web page has been created at www.wright.edu/cosm/alumni/lostalumni.html that lists those alumni for whom we do not have contact information. If you know of anyone on this list, please ask them to contact us so we can update our database and help them reconnect with their alma mater.

**Dan Voss becomes Associate Dean**

Dr. Dan Voss has replaced retiring Dr. Terry McKee as Associate Dean of the college. Dr. Voss received his BS in Mathematics at the University of Dayton and his MS and PhD in statistics at The Ohio State University. He enjoys teaching the full spectrum of statistics classes from general education to graduate level, has been involved in curricular development at all levels, and has orchestrated and participated in the video-conferencing of graduate statistics courses. He co-authored a textbook on The Design and Analysis of Experiments with Angela Dean of OSU, published applied and theoretical work in experimental design in a variety of journals, provided legal expertise in court, dabbled in statistical consulting, received research funding from AFOSR, and currently enjoys funding from NSF. His research interests are in the design and analysis of experiments and applied statistics, with special interests in adaptive analysis of unreplicated factorial experiments, multiple comparisons, and mixed models.

**Women in Science Giving Circle**

The College of Science and Mathematics recently initiated the Women in Science Giving Circle. This unique donor circle was specifically created because funding is needed to encourage and support girls and women interested in the sciences. Women now make up more than 50% of the undergraduate population on college campuses and according to the Department of Education this number is expected to rise to 57% by 2013. Unfortunately, women are not pursuing advanced degrees in science, technology, engineering and math at a similar rate.

Generic barriers for women in the workplace include: work/family integration, career mobility, climate, organizational policies and procedures (particularly concerning parental leave/part time work), glass ceiling, discrimination, sexual harassment, and mentoring problems. The Women in Science Giving Circle was initiated to address some of these issues.

It would be extremely helpful for the Dean to know more about graduates of the college. Would you take some time soon to complete all or part of the alumni survey at http://www.wright.edu/cosm/alumni/lostalumni.html? Between now and the end of 2007, we will randomly select two alumni (each month) who submit a survey and send each a college pen and travel mug.
### New faces in the Department

Since the previous of these newsletters, the Department has seen a number of comings and goings. Among the latter: Phyllis Pacifico, whose vitality as Director of Clinical Laboratory Sciences brought great success to that program, retired. She remains in Dayton, pursuing a variety of professional and personal projects. Keith Grauman, for 10 years a productive member of the Department and mentor to many students, moved “home,” taking a faculty position at his alma mater, Calvin College. Keith will have even easier access to the Great Lakes for his research from that base. And Allen Burton, member of Biological Sciences for 20 years, has shifted across campus to the newly named Department of Earth and Environmental Sciences (formerly Geological Sciences), where he has stepped into the role of Department Chair.

At the same time, the face of the Biology Department keeps getting younger! We have been able to hire several new tenure-track faculty, providing expertise for diverse elements of our programs.

New faces in the Department include:

- **Lisa Kenyon** is an expert in pre-college Biology Education. Though born in Australia, Lisa earned her Ed.D from University of Houston and joined us after a post-doctoral position at Northwestern University. Lisa’s specialty is understanding how students learn the nature of science. She is committed to developing and evaluating curricular approaches for pre-college education that instill in students a real understanding of how science works.

- **Denene Lofland** is the new Director of the Clinical Laboratory Sciences program. Denene comes to us with a diverse background, including a PhD in Microbiology from Virginia Commonwealth University, previous direction of a Medical Laboratory Technician program, and work in biotechnology research involving development of new antibiotics. Denene will continue her research work in microbiology while directing CLS.

- **Tom Rooney** is a Badger no more! Tom has been at the University of Wisconsin for nearly 10 years, first as a PhD student and then as a post-doctoral fellow. Tom’s research interests are in landscape-level ecology. In particular, he is interested in the determinants of community structure in northern deciduous forests, and he has extensively evaluated the influence of deer populations on those forests.

- **John Stireman** has criss-crossed the country (and beyond) en route to Wright State. A native of Utah, John received his PhD at University of Arizona, then was based in New Orleans (Tulane) and Ames (Iowa State) before joining us. Along the way, John’s research has taken him to Ecuador, Mexico, and elsewhere. John is an evolutionary ecologist, with a particular interest in insects and their symbioses with plants, fungi, and other insects. Among John’s favorite study subjects are caterpillars and the flies that parasitize them.

**Note from the Chair:**

The Biology Department has been advancing on all fronts! Several new faculty have joined, bringing expertise in ecology, evolution, cell biology, and education, and establishing new areas of research focus and new opportunities to expand and revise our curriculum. From my office window, I can see the daily progress on the Life Science research building currently under construction, and scheduled to open in Fall 2007. Research funding in the past year has come to departmental faculty from the National Institutes of Health, the National Science Foundation, the Air Force Institute of Technology, the Ohio Board of Regents, and elsewhere. And in just the past few weeks I have received emails from recent Biology graduates relating such excitement as job procurement in the U.S. Patent Office, a medical service trip to Swaziland, and the start of a graduate program in Veterinary Public Health. In 2006-07, Wright State celebrates its 40th birthday. It is remarkable to reflect on how the Department of Biological Sciences has evolved in that short time to achieve its current dynamic status.

—David Goldstein, Chair

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### Genomics Center

A recent grant from the National Science Foundation, spearheaded by Scott Baird, has been the centerpiece allowing us to establish a departmental facility for research in genomics. The instrumentation in this facility—including DNA sequence, real-time PCR, gene array primer and analysis, and more—enables research into the identity and expression of genes in all sorts of organisms. What is the diversity of bacteria in a sample of soil? Can we identify insect species based on genetic signatures? Do physiological challenges, developmental trajectories, or environmental contamination lead to expression of new combinations of genes? What is the pattern of genetic diversity among populations of a species? Ecologists, physiologists, and molecular biologists will all find application for this center.

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**WWW.WRIGHT.EDU/BIOLOGY**
**Focus on Research: Jim Amon**

Wetlands—where land is soaked with or covered by a thin layer of water—are places of great beauty and even greater mystery. Wetlands host an amazing diversity of plant and animal life, they absorb surface waters and control floods, and through the actions of filtration by soil and metabolism by microbes they cleanse those waters, earning the moniker "kidneys of the earth." Only recently has society come to know and appreciate these attributes, and many wetlands present in pioneer days have been drained and turned to "productive" farmlands.

Professor Jim Amon has studied marine and freshwater wetlands for over forty years. Dr. Amon was trained as a microbiologist, and for many years he viewed wetlands largely from the perspective of microbial diversity and metabolism. More recently, Dr. Amon has directed his efforts to a more holistic view of wetlands. He has sought to understand the patterns of water flow that generate different forms of wetlands (fens, marshes, bogs, etc.), and he has worked to restore degraded wetlands and the ecological services they once performed. As part of that effort, Dr. Amon helped to form and lead the Beaver Creek Wetlands Association, a grassroots non-profit organization dedicated to protecting an ecosystem of about 2500 acres containing both high quality wetlands and restoreable fields. The site traverses lands just a few miles from Wright State and has become a living laboratory, supporting research projects in biology, hydrogeology, and environmental chemistry, promoting numerous educational initiatives, and hosting visits by community members seeking natural beauty and solitude.

Much of the Beaver Creek Wetland complex is unusual because of its origin in springs, seeps and the flow of groundwater from the underlying aquifer, rather than from streams and rainfall. Dr. Amon studies the ways in which microorganisms, interacting with peat-rich soils, plant roots many feet below ground, and the constant flux of waters, contribute to chemical cycling and metabolic processing in those wetlands. In the Beaver Creek Wetlands, set amidst a diversity of human activities, some of the microbes’ contributions include removal of excess nitrogen and phosphorus from sewage treatment plants and fertilizer, detoxification of chlorine-rich degrading and dry cleaning solvents, and support for establishing new plants in restored wetlands.

Jim Amon’s tireless efforts have made the Beaver Creek Wetlands into an irreplaceable resource for the community, preserving green space within an ever growing metropolitan region. In the process, Dr. Amon has become recognized as a national expert on wetland ecosystems. He has provided testimony as a witness for the Nature Conservancy and the Audubon Society and served on panels examining the impact of wetland loss on the degradation of state waters for the Ohio EPA. He works with local, state and federal agencies to give guidance on protection and management of wetlands and has made hundreds of presentations, written scores of articles in both lay and scientific formats, and run frequent workshops for local officials and wetland professionals. Dr. Amon teaches courses in microbiology and wetland ecology and works with graduate students from WSU, the Air Force Institute of Technology, and a consortium of regional universities. Care to learn more? Take his course! Schedule a walk in the Beaver Creek Wetlands! Or, in the meantime, visit [http://www.epa.gov/owow/wetlands/](http://www.epa.gov/owow/wetlands/) or [http://www.beavercreekwetlands.org/](http://www.beavercreekwetlands.org/).

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**PhD Students GRO**

Two students in the Environmental Sciences PhD program, both pursuing their degrees with mentors in Biology, have been awarded prestigious GRO (Greater Research Opportunities) fellowships by the U.S. Environmental Protection Agency. Gwyn Isonhouet, working with Stephanie Smith, and Kathryn Batten, working with Don Cipollini, will receive nation, stipend, and research support from these fellowships. The rate of funding for the GRO fellowships was less than 10% this year, so these two students deserve hearty congratulations.

**News from Clinical Laboratory Sciences**

The Clinical Laboratory Sciences (formerly Medical Technology) program recently received another 7 years of accreditation from NAACLS, the national accrediting agency. That represents the strongest possible endorsement and followed a glowing site review. Coming on the heels of that accreditation, the program has also acquired new leadership. Phyllis Pacifico, Director since 1999, retired, and Denene Lofland has taken the helm. The recently entered clinical-year class, a diverse mix of regional and international students, now numbers in the next era for CTS. Dr. Lofland’s background combining academia and industry no doubt will contribute to a continuing record of excellence.

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**Eugenie Scott visits the Department**

In Spring quarter, the Department hosted a visit by Dr. Eugenie Scott. Dr. Scott is Executive Director of the National Center for Science Education, an organization devoted to promoting rigorous teaching of evolution in the U.S. While at Wright State, Dr. Scott presented a department seminar on “problem concepts in evolution”, answered questions from students in a General Education class, and spoke to an audience of more than 500, including many students and off-campus visitors, on the subject of “Creationism, Intelligent Design, Evolution: What Should We Teach?” These topics always elicit much discussion, and the visit was stimulating and exciting to all who participated.

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**Focus on Alumni**

Dr. David Smith has a long affiliation with Wright State. Smith earned his B.S. degree from the Department of Biological Sciences, followed by an M.D. from Wright State's School of Medicine in 1983. Since that time, Dr. Smith has followed a "non-traditional" medical career, including work as a Forensic Pathologist with the Montgomery County Coroner’s Office and as Pathologist and Director of Autopsy Services at Ball Memorial Hospital in Muncie, Indiana. In 2003, Dr. Smith returned to Dayton to join the Community Blood Center/Community Tissue Services (CBC/CTS). Last year, he was promoted to Medical Director of that facility. The CBC, founded in 1964, has grown to serve 25 regional hospitals in 15 counties and collect, tests, and processes more than 75,000 units of blood products annually. The 20-year-old CTS now has branches in Indiana, Texas, Oregon, and California, and provides graft tissues for more than 2,000 hospital and physician clients across the nation. In addition to his work at the CTS, Dr. Smith sits on the advisory board for Wright State’s College of Science and Mathematics.
The Psychology Undergraduate Program

If you graduated a few years ago you may be surprised at how much the Department of Psychology has grown and changed. We now have more than 600 psychology majors, and offer more than thirty psychology class sections in an average academic quarter. Our undergraduate program strongly emphasizes our commitment to scientific principles of psychology grounded in theory and to applications of psychology to businesses, industries, and the well-being of people in the Miami Valley and beyond.

Our Curriculum

Our curriculum provides a broad introduction to current psychological theory and research. Our three-course methods sequence actively engages students in the research process, and senior capstone courses challenge them to integrate and apply their newly acquired knowledge and skills. We are currently developing concentrations in the areas of Human Factors, Industrial/Organizational Psychology, and Behavioral Neuroscience to better prepare our majors for graduate school and careers.

Our program encourages students to become active, lifelong learners involved with their community. Many of our undergraduates participate in faculty research on teamwork, cross-cultural understanding, website design, job satisfaction, occupational stress, personnel selection, perception of color and 3-D motion, virtual environments, technology to assist learners with disabilities, physiological responses to stress, and training, among other areas. Last spring, eight outstanding undergraduates successfully completed honors theses, and one of these students, Cassandra Hostetter, was recognized at the University Honors Research Colloquium. Many of our undergraduates also participate in practicum experiences, volunteering in social service agencies, local government, hospitals, government laboratories, and businesses.

Our Faculty

Excellent faculty are the key to the success of our new curriculum. We would like you to meet three of these faculty. Dr. Pamela Tsang teaches Experimental Methods and Cognition and Learning. She points out the importance of the methods sequence for undergraduates, “The analytic skills derived from research training will not only prepare students for further research work but will enable them to think critically about scientific data in order to make informed decisions such as which psychotherapy actually works, ... and should people talk on the cell phone while driving.” She involves undergraduates in all aspects of her research on attention and aging.

Dr. Nathan Bowling teaches Alternative Research Methods, for example correlation data analysis techniques, and the Industrial/Organizational Psychology core course. He emphasizes that these courses teach principles students can apply to their own workplace. Nathan involves undergraduates in his research exploring how the workplace affects employee well-being, workplace aggression and bullying, and job satisfaction.

Dr. Dragan Claflin teaches a Clinical Neuroscience Capstone course, a Behavioral Neuroscience core course and a Drugs and Behavior course. She points out the knowledge and skills students acquire in the methods and core courses prepare them for the Capstone courses in which they critically evaluate research papers, discuss strengths and weaknesses of the research with their peers, and prepare a final report critically analyzing and integrating a research area. Undergraduate assistants in her lab participate in research on neurocognitive development with both human infants and rat pups.
Our Alumni

Our alumni tell us that the WSU psychology undergraduate program provided an excellent foundation for their careers. Dr. Frank Andrasik graduated from WSU in 1971. His early interest in psychology was encouraged by Dr. Marty Moss, with whom he published his first article. Frank had a distinguished career as a faculty member at the State University of New York at Albany where he assisted in establishing and directing a clinical research unit—the Stress Disorders Clinic of the Center for Stress and Anxiety Disorders. Later he served as Associate Director for the Pain Therapy Centers in Greenville, South Carolina. Currently he is Professor of Psychology at The University of West Florida and Senior Research Scientist at the Florida Institute for Human and Machine Cognition. Frank has published over 200 articles and chapters, has served on editorial boards of several journals as well as editor-in-chief for Applied Psychophysiology and Biofeedback, Behavior Therapy and associate editor for Behavior Therapy and Biofeedback and Self-Regulation.

Dr. Sandra Neargarder graduated from WSU in 1991. She worked with Dr. Allen Nagy as an undergraduate research assistant and honors student and reports the experience helped define her career. She is currently an Associate Professor of Psychology at Bridgewater State College in Bridgewater, MA and is the director of their Honors Program where she encourages a new generation of undergraduate researchers. She is continuing her interest in color vision at Senior Research Associate in the Vision and Cognition Laboratory at Boston University.

Dr. Elaine Gunnison graduated from WSU in 1996. She was also encouraged in her early interest in psychology by Dr. Moss who taught her "the fundamentals of conducting quality literature searches, the importance of research, and necessary skills needed for anyone working in an academic position." Elaine is Assistant Professor at Seattle University in the Criminal Justice Department, Seattle, Washington. Her research focuses on the applicability of criminological theory to females. Elaine is also a dedicated teacher attempting to inspire in her students the excitement she felt in her undergraduate psychology courses.

Dr. Daniel Gunn, who also graduated in 1996, is a Usability Engineer at Microsoft Game Studios in Redmond, WA. He focuses on increasing the fun and usability of games through the use of controlled psychological research methods. His work can be seen in games such as Forza Motorsport for the Xbox and Rise of Nations: Rise of Legends for the PC. Dan told us "the strong Human Factors presence in the program and the mentorship I received from Dr. Pamela Tsang introduced me to the principles of conducting good Human Factors research and opened my eyes to the importance of user-centered design in systems."

Our Advising Team

Undergraduate advising is now centralized in the new Psychology Undergraduate Program Office. The advising team's goals are to provide current and prospective majors the information they need to make their university experience rewarding and to efficiently progress toward their degree. Team members are Jean Edwards, Ph.D., Curt Pederson, MBA, PHR, Netty Yount, AAS, and Satomi Amster, MS. We are particularly pleased to have Satomi as a team member. Satomi is a Ph.D. candidate in the Human Factors/Industrial Organizational Psychology program, and received the 2006 CoSM Graduate Student Excellence Award. Her guidance on preparation for graduate school is especially valuable to our majors.

Our Invitation

Please visit our website (www.psych.wright.edu) for more information on our program. Also we would like to hear from you and other alumni. Please e-mail psychadv@mail.psy.ch.wright.edu and let us know when you graduated and what you are currently doing with your psychology degree.
Message from the Physics Chair

Time flies! I am now starting my third year as Chair of the Department of Physics. As you will read more about below, the two years since the last newsletter in 2004 have been quite eventful. From our celebration of the World Year of Physics in 2005 to the hiring of new faculty members to the increase in physics students, all point towards a vital and growing department.

As most of you are aware, we recently conducted an alumni survey as part of our program assessment. To those who responded, thank you for taking the time to do so. I would like to also thank all those of you who have supported the department in one form or another. Financial contributions have gone towards developing undergraduate scholarships.

My plan in the coming few years is to help continue the growth of our programs. On the academic side, we are adding new courses in geophysics and nanotechnology and more computational physics content in many of the courses. We are currently looking for sponsors for renovating the computer lab.

2007 marks the 40th anniversary of WSU and we hope to see many of you back on campus to witness where we have been and where we are going. Please visit our web site for information on events in 2007. I would also like to encourage you to update us on you so that we can put on the web site. The current newsletter includes a brief history of the department by Dr. Paul Wolfe and a profile of Chris Johnson (BS, 1982).

Lok C. Lew Yan Voon, PhD
Chair and Professor, Department of Physics
lok.lewyanvoon@wright.edu
August 31, 2006

Department News

We have hired a number of new faculty in the past year in support of the growing science education program. In particular, Kathy Koenig is a new tenure-track faculty and we have added three new instructors (Emily Kelly, Ed Krener, and Bill Lohner).

Further additions to the department include Sanuye Hunt, daughter of Dr. Hunt and his wife Bea. Sanuye was born on June 3, 2005.

Among those joining you as alumni this year, we have: John Callahan (BS EP), David Fultz (BS EP), Stephen Pawel (BS EP), Bill Ford (MS), and Gian Guzmán-Verri (MS). Last year, Amir Motamedi graduated with a BS (Honors).

Pam Wedig (now Sturm) got married to Don in March of this year in Jamaica.

In the Physics department, we have our own Fall festival in the form of a chili cook-off late in October each year. We also choose this moment to reward some of our meritorious undergraduates. This past year, we awarded the Merrill Andrews Memorial Scholarship to Charles Phelps, and the Campus Scholarship Campaign scholarship to Lea Bischoff and David Fultz.

On an international note, 2005 was proclaimed the International Year of Physics by the United Nations. It was timed to coincide with the centennial celebration of Albert Einstein’s "miraculous year’’; in 1905, Einstein published three seminal papers (on light quanta, Brownian motion, and the special theory of relativity). Our celebration included a public talk on “The Physics of Star Trek” by Professor Lawrence Krauss, physics chair at Case Western Reserve University.
Alumni Profile: Chris Johnson

Chris Johnson got his BS in Physics from WSU in 1982. He also got an MS (Physics) and a PhD (Biophysics and Computing) from the University of Utah. In a 15-year career, Chris has held numerous and varied positions such as Assistant Professor of Physics, Research Assistant Professor of Internal Medicine, Associate Chairman of Computer Science and currently still holds a number of positions including Director, Scientific Computing and Imaging (SCI) Institute, Director, NIH Center for Integrative Biomedical Computing and Distinguished Professor of Computer Science, all at University of Utah.

Professor Johnson currently holds faculty appointments in the Departments of Physics, and Bioengineering. His research interests are in the area of scientific computing. Particular interests include inverse and imaging problems, adaptive methods, problem solving environments, biomedical computing, and scientific visualization. Dr. Johnson founded the SCI research group in 1992 which has since grown to become the SCI Institute employing over 100 faculty, staff and students. Professor Johnson serves on several international journal editorial boards, as well as on advisory boards to several national research centers.

Chris Johnson was awarded a Young Investigator's (FIRST) Award from the NIH in 1992, the NSF National Young Investigator (NYI) Award in 1994, and the NSF Presidential Faculty Fellow (PFF) award from President Clinton in 1995. In 1996 he received a DOE Computational Science Award and in 1997 received the Par Excellence Award from the University of Utah Alumni Association and the Presidential Teaching Scholar Award. In 1999, Professor Johnson was awarded the Governor's Medal for Science and Technology from Governor Michael Leavitt. In 2003 he received the Distinguished Professor Award from Governor Dave Heineman.

With the upcoming 40th anniversary of WSU and the Department of Physics, we offer a few pictures from our scrapbook. Enjoy!

New Faculty Profile: Kathy Koenig

Dr. Koenig joined the WSU Physics faculty in September, 2005. She received her bachelor's degree in physics from Xavier University in Cincinnati, OH. She went on to earn a masters degree in physics and a masters degree in education (both in 1993 from Miami University). She taught high school physics in Cincinnati for six years before returning to school and earning her PhD (2004) in physics education from the University of Cincinnati. She served as a visiting assistant professor of the physics department at the University of Cincinnati from 2004-2005.

Dr. Koenig's research is in the area of pedagogy. She continues to work under a National Science Foundation Grant with faculty at the University of Cincinnati on research involving calculus-based introductory physics courses. In particular, she is studying the effect of alternative instruction implemented in various elements of these courses (i.e. lecture, recitation, and lab) on student understanding and retention. Her findings are guiding her efforts in revising the introductory calculus-based physics courses at WSU and she is in the process of transferring her research to these courses at WSU.

Dr. Koenig is very interested in increasing student interest and retention in science at all levels. She continues to coordinate and research a "Girls in Science Program" in the Cincinnati area that targets 6th & 7th grade girls through monthly meetings between women scientists and girls in the program. Due to the program's success, she recently received national funding to start a second program in the Dayton area. For older students, she received a second grant that has enabled her to work on course development at the college level which will potentially increase student interest and retention in their science majors.

Dr. Koenig has gotten involved in the professional development of in-service teachers for which the science education program at Wright State is well known. She, along with several other science educators, recently received a substantial grant from the Ohio Department of Education to offer science content and professional development courses to 180 teachers in the Dayton area. As this program gets underway, part of her research will focus on the effectiveness of these courses at increasing both the content and pedagogical content knowledge of the participating in-service teachers.

Dr. Koenig is married with two children: Maria (9 years old) and Abby (7 years old). She is expecting her third girl in September. Her hobbies include playing volleyball, coaching youth volleyball, reading, and working with her daughters' scout troops.

Professor Johnson founded the SCI research group in 1992 which has since grown to become the SCI Institute employing over 100 faculty, staff and students. Professor Johnson serves on several international journal editorial boards, as well as on advisory boards to several national research centers.
Human Factors and Industrial Organizational Graduate Program

The HFIO graduate program is maturing into an internationally recognized center for research on the human and organizational aspects of work environments. The combination of a major concentration in either Human Factors or Industrial/Organizational Psychology with a minor concentration in the complementary specialization is being recognized as ideal preparation for addressing the challenges of today’s work environments.

Since it began in 1993, the program has awarded more than 80 M.S. Degrees and 11 Ph.D.s. Currently, there are approximately 50 students enrolled in the graduate program. Sixteen faculty members actively participate in the HFIO program. This includes 5 faculty members who specialize in IO Psychology and 11 members who focus on human performance. Areas of research range from the study of basic perceptual mechanisms to the dynamics of coordination and decision-making in large work organizations. This research is supported by state of the art laboratory facilities (e.g., a CAVE virtual reality facility) and by opportunities to work directly with local companies and organizations to observe and measure performance in natural work environments (e.g., the Air Force, HR Chally). The picture shows graduate students April Bennett (MS ’06), Brian McKenna (MS ’05), and Junaid Aas (MS ’05) demonstrating work analysis software to Tom Hughes (MS ’97) from General Dynamics Advanced Information Systems.

Air Force Fellows

From its inception, the HFIO program has greatly benefited through associations and collaborations with researchers at the Human Effectiveness Directorate of the Air Force Research Laboratory. Many of our faculty members collaborate with Air Force laboratories to study human and organizational dimensions of Air Force Systems. Three of our Ph.D. graduates, Terry Stanard (’98), Gena Thomas-Myers (’05), and Joe Lyons (’05), are currently employed as research scientists in base laboratories. Also, 6 current graduate students are being supported by Air Force Research Fellowships to work in Air Force Research Labs [Lisa Douglas, John McIntire, Kelly Neriangi, Mark Palumbo, Daniel Schwartz, and Charlene Stokes]. These students have the opportunity to study state-of-the-art technologies in the context of operational Air Force problems. Many of these students anticipate long-term careers in Air Force laboratories.

Cultural Cognition Laboratory

The collaboration with the Air Force is a two way street. The Air Force recently established the Cultural Cognition Laboratory (CCL) in space provided by Wright State University. This laboratory allows the Air Force to study how the patterns of thought and behavior of different cultural groups impact problem solving and teamwork. The university environment provides easy access to international students who serve as participants in this research.
Graduates of the HFIO program are having an impact well beyond the local Miami Valley. Russell Beauregard (Ph.D., ’00), Mike Payne (MS, ’99), and Asad Ali Junaid (MS, ’05) work for INTEL. Mike and Russ are based in Portland and Junaid is based in India. We recently corresponded with Mike and Russ about their experiences in Portland. Mike Payne is the Experience Definition & Assessment Manager within Intel’s Digital Home Group. He works closely with a team of anthropologists and design researchers who conduct worldwide ethnographic research in people’s homes to identify potential uses for Digital Home platforms. Mike’s team also partners with Russ Beauregard to evaluate consumer experience for the platforms and benchmark against other companies. Some of the more interesting challenges of his job involve international research, engagement with partner corporations to exchange research & thinking, and working closely with a broad set of people and disciplines across branding, marketing, strategic planning and engineering to make the best decisions possible for Intel’s Digital Home initiatives. On a personal note, Mike and his wife Kristin - also a graduate of the HFIO program, Kristin Parker, (MS ’00) - have twin girls, Emily and Abigail (almost 4), and live in the Portland, Oregon area. They spend their time on a variety of activities with the girls, including art, sports and exploring new things around town. The picture on the right shows Mike feeding a pet kangaroo, while taking field observations in a home in Australia.

Russell Beauregard is a Research Psychologist within Intel’s Digital Enterprise Group. His current focus is on the development of a cross-organizational capability to assess consumer attitudes, perceptions, and emotions resulting from use of new technology. Some of the more interesting challenges of his job involve designing studies that will have the biggest business impact while balancing methodological rigor with business and practical constraints. Outside of work, Russ spends his time with his wife, Jill, and 2 young children, Josie (age 4) and Max (age 2). As a native to Oregon, Russ enjoys the outdoors and gets away to windsurf and mountain bike ride every chance he gets.

The theme at HR Chally is that “Success CAN be predicted.” Corey Miller, Associate Professor and Area Head for the IO component of our graduate program, is working with his students to help address the challenges associated with this theme. HR Chally is currently funding Corey and his students Suzi Rosenberg, Chad Thomson, and Megan Leasher (shown in the picture at the right). The students serve as interns at Chally while continuing their studies. Chally has recently renewed the grant for Chad and Suzi, and has hired Megan full time as she finalizes her Ph.D. Chally specializes in predicting work performance, or success on the job. They provide personnel assessment and research services for talent management, leadership development, and sales improvement to more than 2,500 customers in 35 countries. Their proprietary pre-employment assessment has been utilized by international fortune 500 companies and local Miami Valley employers. Dr. Miller reports that the most interesting part of the collaboration is the access to real world performance data. The students have used this data for master’s and dissertation research. This has also led to publications in professional journals and presentations at the Society for Industrial/Organizational Psychology’s (SIOP) annual meeting. Chally and the WSU I/O group have recently begun research projects with researchers at Ohio University, University of Akron, Texas A&M, and Virginia Commonwealth University. The project has begun to build the reputation of WSU’s HFIO graduate program as a place for cutting edge research and industry collaboration. The founders of Chally are big supporters of WSU, most notably the theater program and WSU’s foundation board. But Chally reports that this particular collaboration has grown into good business practice more than a philanthropic endeavor.
This past year has been both an exciting and eventful period in the department of Biochemistry and Molecular Biology (BMB). As described elsewhere in this newsletter, Wright State is now in the midst of a building and renovation program, with a new Biological Sciences Building scheduled for completion during the fall of 2007. At that time most BMB laboratories and 3 centers of research excellence, directed by BMB faculty, will relocate to the new state of the art facility. These include, the Center for Genomics Research, directed by Drs. Berberich and Kadakia, the Initiative for Biological Computation, headed by Dr. Alter and the Center for Cellular Dynamics, lead by Dr. Paliy. These new centers complement the department’s long standing Magnetic Resonance Facility, directed by Dr. Res. Obviously, these impending moves have generated a great deal of excitement. Last year also marked a time of administrative transition for the department. After serving for over half of my Wright State career as BMB Chair, I have decided to step aside in favor of new leadership. We hope to have a new chairperson in place when the new building opens. Looking back, I am proud of what has been accomplished and the scientific reputation that the department has developed. For example, BMB has seen a steady increase in extramural funding, to a high of over $3M in 2002. This is due in part to our having established the first outside grant consulting program at Wright State. Second, the department along with the School of Medicine invested in the first departmental post doctoral training program. Support from this program provided training for 3-4 post doctoral fellows each year, and is now self sustaining. Coincidentally, the post doctoral program lead to increased departmental research productivity and fostered the development of several current or former faculty. BMB post doctoral fellows also provide an important “missing link” in the training of graduate students and undergraduates, which remains at the core of the departmental mission. Finally, in the last few years BMB faculty successfully participated in several large multidisciplinary and often multi-institutional research projects. These successes have led to increased extramural support at Wright State and to enhanced scientific collaborations and faculty service. In addition to the important service that our faculty provides in directing research centers, we now routinely serve on study section review panels at both the national and state level as well as for international organizations. I am pleased to have played a part in the development of the department and am thankful for the opportunity to lead a truly outstanding faculty during these last 16 years. I now look forward to seeing the department grow and prosper under new leadership and to having more time to pursue my program in vision research. It has been the best of times and an experience to be remembered with great fondness and satisfaction

—Dan Organisciak

New Bioscience Building:

Construction started in summer, 2006, on a new Biological Sciences building (BioSci III). Occupants include faculty from the department of biological sciences, BMB, the Center for Genomic Research, and the Wright Brothers Institute. The building will create 45,000 square-feet of laboratory and office space in which BMB faculty will occupy the basement and first floor, with additional BMB laboratory facilities on the second floor. Occupancy is targeted for fall, 2007.

Addition to the Fred A. White Center—WSU Boonshoft School of Medicine:

The building of an 18,000-square-foot addition to the existing Fred A. White Center building is ongoing with an estimated completion date of December 1, 2006. The $6.2 million addition is equipped with a 250-seat auditorium and is the first step in the creation of a building dedicated exclusively to medical education. The completion of the addition will enable the SOM to convert current anatomy teaching space to laboratories.

BMB Members Recognized at BMS 25th Anniversary Celebration:

The Biomedical Sciences (BMS) Ph.D. program recently celebrated its 25th anniversary. Two past and present BMB members received special recognition. David James, a BMS Ph.D graduate in BMB, was selected for the Career Academic Achievement Award and Michael Leflak, Ph.D., professor of BMB, received the Faculty Mentor Award for supervising the thesis work of 15 Ph.D. graduates.

Annual BMB Canoe Trip:

More than 20 students, faculty and friends of BMB paddled down the Little Miami River in the Third Annual BMB Canoe Trip. The two hour trek was relaxing, and an excellent teamwork experience as participants helped one another launch their boats, dislodge canoes beached in the shallows, and right overturned vessels.

BMB CD:

BMB has developed a promotional CD featuring our current students, recent graduates, faculty, and facilities. The CD will be sent to potential applicants to BMB and BMS programs, and converted to an updatable internet-based informational display.

The annual BMB Picnic was a great success this year, with attendance by students, staff and faculty.
Berberich
Our laboratory continues its research regarding cellular regulators of the p53 tumor suppressor gene having received a competitive 5 year renewal from the NCI in late 2005. In October 2005 Dr. Berberich "returned to his roots" when he presented at the 3rd International Mdm2 conference in Konstanz, Germany. Outside the world of p53, a collaboration examining the gene expression profiles of human glioma cells with researchers at INSAMS in Delhi, India led to a first author publication for BMS Ph.D. candidate Katherine Heminger in Cancer Biology & Therapy this year. Current gene profiling collaborations are also ongoing with faculty in Pharmacology and Toxicology and the Dayton Veterans Administration Hospital. Finally, over the past year we said fond farewells to some old faces and welcomed some new ones (see coming/goings section).

Leffak
During the 2005/2006 academic year we were joined by (i) Dr. Guoqi Liu, who returned to the lab from Vanderbilt University as a Research Assistant Professor, (ii) postdoctoral fellow Dr. Aaf Chowdhury from the Indian Institute of Technology, (iii) Ms. Xiaomi Chen, a new BMS Ph.D. student, and (iv) Evelyn Kemp, newborn to Emily and Mike Kemp. Dr. Maloy Ghosh moved to the Terry Fox Research Institute at the British Columbia Cancer Research Center, and DJ Vaz graduated with his M.S. degree and moved to Boston for a job in the biotech industry. In the 'cool new toy' category, we obtained multiple Macintosh laptops, a Fuji Gel Documentation system, a Sorvall tabletop centrifuge and a new refrigerator for our tissue culture room. Guoqi Liu, Mike Kemp, Shere’ Myers and Dr. Leffak made presentations at the Cold Spring Harbor Meeting on Eucaryotic DNA Replication; Maloy Ghosh, Guoqi Liu, Mike Kemp, and Dr. Leffak were authors on four papers from the lab, and our NIH grant was competitively renewed.

Kadakia:
Our lab focuses on studying signaling pathways regulated by p63, a homolog of the tumor suppressor gene p53. We presented data at the International Vitamin D workshop (by BMS student Ramakrishna Konnagari) held at Victoria, Canada in April 2006 and at the International meeting on p53 (by BMS student R. Kommagani, BMB M.S. student S. Khokhar and M. Kadakia) held at Columbia University in May 2006. Our work was on the Vitamin D receptor and Sonic Hedgehog project has been published in Oncogene, 2006 and Molecular Cancer Research, 2006 (in press), respectively. We received R21 funding from NIH to study the role of p63 in prostate cancer progression. Additionally, through our collaboration with the WPAFB, we work on two DoD-funded projects involving silk as a scaffold for cell growth and differentiation (presented by M. Gupta, a M.S. student, at the Materials Research Society meeting held in San Francisco in April, 2006) and using nanostructures for studying signal transduction and creating molecular scale diagnostic or sensing devices (to be presented at the 35rd AVS International Meeting to be held in San Francisco in November 2006 by a M.S. student Joseph E. van Nostrand).

Paietta:
We are continuing our studies on the molecular genetics of sulfur metabolism in the filamentous fungus Neurospora crassa. The research has recently been focused at the genome-level with the rapid accumulation of both DNA sequence and gene knockout data. In addition, work is progressing in a long-standing area of interest in the study of photoreception and circadian rhythmicity. Recent work has involved the cloning of genes involved in the photoreception process. As always, there are great opportunities for students (both undergraduate and graduate) to join my group and work on these projects! Finally, we note the success of Ph.D. graduate from our lab, Anuj Kumar, who has obtained a tenure-track faculty position at the University of Michigan.

Paly:
Our lab works in bacterial systems biology and synthetic biology. We are interested in studying gene and protein expression of enteric bacteria during stress and during host-pathogen interactions with human epithelial cells, and in investigating the principles of gene network control by engineering chimeric gene circuits with novel functions. Current projects include i) gene expression studies of E. coli during osmotic and heat stresses, ii) phenotypic analysis of E. coli UTI isolates and commensal strains, and iii) design and implementation of a mnemonic mercury sensing module in E. coli.

Prochaska:
Our lab continues to work on the structure and function of cychrome c oxidase, but has now made the switch to the Rhodobacter sphaeroides form. Ryan Geyer has made a number of mutants in subunit III, one of which mimics a mitochondrial disease. Using mass spectroscopy, he has identified a hydroxylation site in subunit I which destroys enzyme activity and hopes to defend his Ph.D. thesis this fall. T. Czekot authored and presented a poster at the 2006 Biophysical Society Annual Meeting in Salt Lake City. LP finished his term as Study Session Chair for the American Heart Association and was elected treasurer of the Bioenergetics subgroup of the Biophysical Society.

Comings and Goings!

The BMB department welcomes the following new members!
Postdoctoral fellows: Aaf Chowdhury (Leffak lab), Thuithula Gunasakeri (Paliy lab), Mike Kent (Reo lab), Mike Markey (Berberich lab) and Scott Salaman (Prochaska lab).

Research Assistant Professors: Sandra Trott, who studies self replicating systems, Guoqi Liu, who studies the aberrant replication of noncanonical DNA structures in human disease.

Adjunct Faculty: Dr. Barbara Foster who teaches in BMB nursing courses.

BMS Ph.D Students: Teresa Czekot (Prochaska lab), Deirdra Mahle (Reo lab), Shere’ Myers (Leffak lab) and Ramnareesh Pandey (Berberich lab).

Master of Science Students: Maneesha Gupta (Kadakia lab), Nadia Karrangi (Leffak lab), Shama Khokhar (Kadakia lab), Kruthi Murthi (Paly lab) and Joe Van Nostrand (Kadakia lab).

Research Assistant: Svetlana Harbaugh (Paly lab).

Good luck to the following BMB members who are moving on to new positions.
Dr. John Tunchi joined the Indiana University School of Medicine, Walter Cancer Center in Indianapolis in August, 2005.
Eric Romer received his Masters degree in December 2005 and is now working as a Research Associate in the Pharmacology and Toxicology Department.

DJ Vaz also received his M.S. in December 2005 and is now working in the biotech industry the Boston, MA area.

Keven Huang successfully defended his Ph.D. thesis in early 2007 and is now working as a postdoctoral fellow at the National Institutes of Health.

Dr. Steve Patrick joined the Department of Biochemistry & Cancer Biology at the University of Toledo in September, 2006.

Reo:
Our laboratory continues to work in the area of NMR-based metabolomics. NR and BMS Ph.D. student Deidra Mahle attended the Metabolism Society Second Scientific Meeting, Boston, MA, June 24-29, 2006 and presented a poster entitled: "Combined urine and plasma metabolic analysis of a-naphthiethanesulfonate (ANIT) liver toxicity in the rat."
Greetings from the Chemistry Department faculty, staff and students. This past academic year has been marked by considerable successes and a few challenges. As I write, I have just embarked upon my third year as Interim Chair and we have started a fresh search for a permanent chair. In addition, we have been given the go-ahead for a search in Environmental Chemistry at the Assistant Professor level. On the renovation front, demolition is underway in the Brehm Labs, where our new teaching laboratories will be located, and we are in the planning phase for our research environment. We are excited about these opportunities to bolster our research and teaching endeavors.

In mid-May, 2006, the rescheduled Procter and Gamble Lecture brought a world leader in materials’ chemistry, viz. Professor Craig Hawker from UC Santa Barbara, to the Department. The planning for the 4th iteration of this stimulating lecture series is underway. Also, the year 2005-2006 was an outstanding one for the recognition of our faculty. In 2005, Steven Higgins was awarded a WSU President’s Award for Excellence: Early Career Achievement and David Dolson and Suzanne Lunsford each won a College of Science and Mathematics Outstanding (CoSM) Teaching Award. This year, Daniel Ketcha was a finalist for the latter competition. Both Steven Higgins and Suzanne Lunsford were promoted to the rank of Associate Professor as of Fall 2006.

Our students continued to garner awards and honors and a partial list appears elsewhere. In alumni news, however, Marc Porter (BS ’77; MS ’80), Professor of Chemistry at Arizona State University, was the recipient of the 2006 CoSM Outstanding Alumni Award. Presumably still flush with the warmth of this Award, Marc was kind enough to sponsor the Department’s annual Posters in the Hall student research event. Marc’s generous gift allowed the department to offer cash awards, snacks and token reimbursements to external judges. We are very grateful for his largesse. We are grateful also to Dr. Edgar Hardy, former Department faculty member, who continued to provide funds for the Hardy Scholarships. The latter are available to incoming Freshman Chemistry majors. Further, thank you to all of you who have been so generous in providing funds for scholarships and other Department initiatives. It is much appreciated. As always, it has been a pleasure to hear from many of you this past year and I hope that you will continue to contact us with your activities and accomplishments. The easiest way for you to do so is via our website (www.chm.wright.edu) by following the Alumni Update Request Form link. If you have an opportunity to stop by the Department, I would relish the opportunity to chat and show you our activities first-hand.

Best wishes,
Ken Turnbull

Message from the Interim Chemistry Chair:

Andrea Burns retired after 14 years with the Chemistry Department. Andrea Burns retired after 14 years as Freshman Lab Manager. She had been with the WSU Chemistry Department since its inception. In 1964, she entered WSU as an undergraduate student then, in 1968, she was a member of the first graduating class, receiving a B.S. in Chemistry and a Comprehensive Secondary Science Teaching Certificate. She remained at WSU and obtained her Master’s Degree in 1971. After working in industry for 15 years, Andrea came back to WSU as an adjunct and in 1972 she returned to the department full-time as Freshman Lab Manager. Although Andrea has retired, and we will miss her daily contributions, we are grateful that she will be returning to the Chemistry Dept. as an adjunct in the Fall of 2006.

Kirby Underwood is the new Freshman Chemistry Lab. Manager. In late June, 2006, the Department welcomed Kirby Underwood as Freshman Lab. Manager. Kirby is a recent WSU master’s graduate from the Chemistry Department. As a master’s student, his research work was performed under Dr. Feld and involved the synthesis of a variety of solid hydrocarbons and subsequent study of their hydrogen storage capability. Additionally, as a M.S. student, Kirby taught in the Organic Chemistry Laboratories as a Graduate Teaching Assistant. He earned his B.S. in chemistry at Wilmington College of Ohio with a research focus on the analysis of biodiesel. Welcome Aboard.

Procter and Gamble Lecture 3—Craig Hawker, May 19, 2006: The rescheduled 3rd Annual Procter and Gamble Lecture was held on May 19, 2006 and featured Professor Craig Hawker from the University of California, Santa Barbara. Professor Hawker, a world-renowned leader in the area of materials’ chemistry, presented an exhilarating talk entitled “Commercial Exploration of Nanostructures: Studies at the Interface of Organic and Materials Chemistry”. Previous prestigious lecturers in the series are Dr. Prof. Jean M. J. Fréchet from the University of California, Berkeley, who spoke on “Functional Macromolecules: From Design to Applications in Chemistry and Medicine” in 2003 and Dr. Ronald Breslow from Columbia University, who presented “Polymers as Enzyme Mimics” in 2004. To see other pictures from the Procter and Gamble lectures visit us at www.chm.wright.edu/ProcterandGamblePics.html

New Faces, Changing Faces

Department News

Andrea Burns retires after 14 years with the Chemistry Department

Kirby Underwood is the new Freshman Chemistry Lab. Manager

Procter and Gamble Lecture 3—Craig Hawker, May 19, 2006

Posters in the Hall

Department's annual Posters in the Hall student research event was sponsored this year by 2006 Outstanding CoSM Alumni winner Marc D. Porter. Winners of Marc Porter outstanding poster awards at the event were Avafia Dossa (Turnbull), Laura Sennet (Fossum), and Sweta Bose (Higgins). The Honorable Mention recipients were Ben Southwell (Ketcha) and Nora Hunter (Feld).

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Steve Higgins receives the President's Award for Excellence: Early Career Achievement.

Steve Higgins, now associate professor of chemistry, received the President’s Award for Excellence: Early Career Achievement for 2005-2006. This prestigious award recognizes outstanding achievement at an early stage of a faculty member's career. Steve was honored for his achievements in research and teaching.

On the teaching front, Steve has been assigned largely to the introductory freshman chemistry courses associated with nursing students. These important classes can be challenging and, accordingly, Steve developed in-class demonstrations to reach visual learners and implemented a number of computational science education tools into his lectures. Such endeavors take enormous amounts of time, but his goal has been to inspire his students about the wonders of chemistry, and give them a firm foundation for future work.

Steve’s research centers on the development of a novel type of atomic force microscope that allows the submolecular study of chemical and physical processes on solid surfaces. This is a unique capability, with importance not only for environmental science, but also for the areas of surface physics and chemistry and for a host of important technologies that deal with surface phenomena. His research has pushed the state of the art to a new level and opened up a host of possibilities for investigation.

In his first three years at Wright State, Steve garnered around $1 million in research funding from the National Science Foundation, the Department of Energy, the Department of Defense and the Petroleum Research Foundation. He has cooperated with other scientists in different disciplines to broaden the scope of his efforts and this experience in teamwork has meshed well with the university’s expanding environmental program, in which biologists, geologists, chemists and physicians must coordinate their efforts in order to study and solve broad-based environmental problems.
The New EES Department

The former Department of Geological Sciences and the Institute of Environmental Quality of WSU were merged into one unit effective July 1, 2006, and renamed the Department of Earth & Environmental Sciences (or EES). This change better reflects the focus of the educational programs in the department and faculty research interests. The department has recognized a need to expand the curricula at the graduate and undergraduate levels to include various sub-disciplines within the broad field of Earth and Environmental Sciences.

It is an exciting period of growth of our department in the following key areas: (a) a multi-million dollar renovation of our building (Brehm Laboratory) to be completed in summer 2007; (b) the hiring of several new faculty and an instructor over the next few years; (c) addition of two staff; and (d) the development of new research laboratories and facilities. We are also updating our graduate and undergraduate curricula by adding new courses, additional cross-disciplinary training and expanding the opportunities for hands-on field experience within the US and abroad.

EES Mission: The Department of Earth & Environmental Sciences offers research and educational programs to explore the dynamic earth processes and complex ecosystems that deal with current and future challenges of resource conservation and environmental quality. We explore interactions among environmental processes that involve the biosphere, lithosphere, and atmosphere and offer a cross-disciplinary perspective and training for sound decision making by earth and environmental scientists, managers and planners.

We have a multi-faceted degree program with many options for students, including Undergraduate Degree Programs in Geological Sciences and Environmental Health Sciences, Master’s Degree Programs in Geological Sciences and Earth Science Teaching, and a Ph.D Program in Environmental Sciences. Our Master of Science in Earth Science Teaching (MST) program is recognized nationally and provides training in the Earth Sciences for teaching professionals.

The research focus areas in the Earth & Environmental Sciences department are as follows: Aquatic Processes and Biogeochemistry, Hydrology and Hydrogeology, Geophysics and Non-linear Earth Systems, Watershed Processes, Geospatial Analysis and Geomorphology, and Paleobiology, Paleoecology and Earth Science Education. These areas reflect the expertise and research interests of our faculty, and they prepare students for careers in various fields and disciplines that have a bright future. Our graduates have the ability to address complex, real-world challenges, since they acquire a strong foundation in the basic sciences and an advanced training in interdisciplinary and emerging fields.

Merging of IEQ and EHS Programs: Many traditional geology departments within the US and abroad have reorganized in recent years into EES programs to better address the interdisciplinary processes and aspects of this field. We carefully surveyed other successful programs at Tier 1 institutions and found many similarities. Most of the EES departments within the US have separate Geology and Environmental Science concentrations or degree programs as we are adopting. However, the union allows for a more practical cross-disciplinary training and research collaborations, and our students will have more options to allow for greater depth or breadth in their curricula, resulting in more successful graduates.

The expertise from within the IEQ brings into the new department its mission of enhancing environmental science research, teaching and outreach programs. In particular we will be better able to recruit and reconnect with our alumni. The B.S. degree program in EHS is one of only two dozen accredited programs since the mid-70s and has been highly successful. Its graduates easily find jobs with business and government sectors in the areas of water/air quality, risk assessment, hazardous materials management, industrial hygiene/occupational health & safety, and public health. An important aspect of this degree is an internship program which will be expanded to the B.S. degree programs in Geological Sciences.

Department Chair’s profile: Professor G. Allen Burton, Jr., Professor of Environmental Sciences, and the Director of WSU’s Institute of Environmental Quality since 1994, has joined EES as Chair in June 2006. Professor Burton has held positions as a NATO Senior Research Fellow in Portugal, Visiting Senior Scientist in Italy and New Zealand, and the Brage G killing Distinguished Professor of Research. His research during the past 26 years has focused on developing effective methods for identifying ecological effects and stressors in aquatic systems where sediment and stormwater contamination is a concern. His ecosystem risk assessment methods have been utilized to evaluate multiple levels of biological organization, ranging from microbial to amphibian effects. Dr. Burton serves on numerous national and international scientific committees, review panels, councils and editorial boards, has had over $7 million in grants and contracts, and more than 200 publications dealing with aquatic system responses to stressors. He also led the effort developing the Environmental Science Ph.D. program at WSU that materialized in 2002.
EES Faculty

New Hires for 2006-2007: Dr. Rebecca Tred joined the department as an Assistant Professor of Science Education. Dr. Tred earned her PhD degree from the University of Minnesota in 1999 and her research interests include Quaternary geology and reconstruction of Paleoenvironment with help from plant spores. She is expanding her involvement in Earth Science Education, and she is setting up her “swing space” research lab in Oldham Hall. In 2007, her research set-up will move to the then newly renovated space on the first floor of Brehm Lab in the Science Educator complex. Dr. Tred plans to continue her ongoing research projects, and also offer a new course on Earth Climate: Past, Present, and Future. Congratulations Rebecca, and welcome aboard!

Further, the EES department is seeking applications to fill two tenure-track positions at the rank of Assistant Professor for September 2007. For one position, the preference will be given to candidates focused on watershed processes that includes but is not limited to surface and subsurface hydrology, contaminant transport, geomorphology, and biogeochemistry. For the second position, preference will be given to candidates focused on the theory and applications of geophysical and remote sensing methods. The EES department has hired Dr. Jamie McDonald as a non-tenure track instructor this fall quarter to support the undergraduate graduate education. This is a one-year position with possible renewal.

Welcome aboard, Jamie!

Faculty Highlights: Numerous articles were published in refereed journals by department faculty. In addition, there were 38 presentations given at local to international meetings.

• Dr. Burton was a keynote speaker at the Australasian Society of Ecotoxicology meeting in Melborne, Australia, followed by 2 invited talks in Sydney (CSBRO) and Adelaide (Adelaide University). He was elected Vice President of the World Council of the Society of Environmental Toxicology & Chemistry. He was appointed to the National Research Council’s Committee on Dredging Effectiveness at Superfund Mega-Sites and to the Science Advisory Board of the U.S. Environmental Protection Agency on Ecological Effects and Processes. He served on the Editorial Board of two journals. Dr. Burton became interim-chair of the Geological Sciences Department in October 2005.

• Dr. Christopher Burton presented an invited lecture at Columbia University’s Lamont-Doherty Earth Observatory and served as a Trustee of the Hubbard Brook Research Foundation in Hanover NH.

• Dr. Cindy Carney has served several presentations locally and nationally regarding Oakes Quarry, a local geological resource for research and educational programs.

• Dr. David Dominic was invited to conduct sediment flume experiments at State University of New York at Binghamton on a joint project with Dr. John Bridge. Dr. Dominic is also an Associate Editor for the Journal of Sedimentary Research.

• Dr. Robert Ritzi was a guest editor for an issue of Geosphere titled “Modeling Flow and Reactive Transport in Physical and Chemical Hydrogeology”. Dr. Ritzi will be away during 2006-07 academic year on a Sabbatical leave to the Pacific Northwest Laboratory and to the University of Rochester.

• Dr. Abinash Agrawal expanded his research and cross-disciplinary collaboration with scientists from USGS and Smithsonian Institution in a novel application of constructed wetlands for the facile destruction of toxic chlorinated organic pollutants commonly found in the groundwater.

• Dr. William Slattery continued to establish a strong science education program with presentations at national meetings in Salt Lake City and San Francisco, and web publications.

Awards to Faculty: Dr. Robert Ritzi was elected a Fellow of the Geological Society of America based on his contributions to research in the field of Hydrogeology.

Alumni Forum

New Initiatives: The EES department plans to reconnect with all of its alumni and update the data-base of its alumni with the help of a consultant. The department is requesting alums to keep in touch with current address information. Please send an e-mail to the department office [cindy.harrison@wright.edu] to let us know what you are doing these days! The department is putting together a semi-annual newsletter and will also post news and updates including alumni news on its website [www.wright.edu/ees].

Profile of an Alumnus: Michael Zebrowski a native of Dayton Ohio was first to student graduate from WSU with the specialized Geology-Geophysics Option. Michael worked as a student employee in the Physical Plant department while attending WSU during 1971-1975, where he assisted in drafting of campus buildings and worked to survey portions of the campus topography to assist with the ongoing construction.

After graduating from WSU in 1975, Mr. Zebrowski was employed by Amoco Production Company as a geophysicist, then with Mitchell Energy Corporation, both in Houston, Texas. Mr. Zebrowski joined Amerada Hess Corporation, a global energy company, in 1998 where he has been employed for over 25 years, currently as Manager of Geoscience Development. Over the years, Mr. Zebrowski has maintained contact with WSU and he was instrumental in obtaining Scholarship Grants from the Hess Foundation for WSU Amerada Hess Corporation has recruited and hired several graduates from the WSU geosciences program since 1980s, and 5 WSU graduates are currently employed at Hess. Mr. Zebrowski was also able to aid WSU in the way of equipment and software over the years, and he is currently in the initial stages of developing several collaborative projects between Libya, WSU and Hess. While working at Hess, Mr. Zebrowski has been an innovative scientist working both as a geologist and geophysicist in the global search for energy, successfully contributing the discovery of many oil and gas fields and advancing the science of geology and geophysics working projects within the USA and around the world. While serving on Hess Corporations Exploration Expert Team, Mr. Zebrowski studied many prospects for finding energy in the North Sea, Libya, Africa, Peru, Brazil, and SE Asia.

Mr. Zebrowski also serves on the advisory board of Knowledge Systems, Inc., a company providing technical services to the energy and drilling industry; and he has presented papers at Industry Conferences and Universities, as well as providing training to geoscientists. At Hess Corporation, Mr. Zebrowski is also responsible for recruiting through campus interviews, as well as professional development of the newly recruited geoscientists at Hess Corporation. He gave a presentation at the department colloquium this fall quarter. In 2006, Mr. Michael Zebrowski has been nominated for an Outstanding Alumnus Award at Wright State University.
The Environmental Sciences PhD program accepted its first students in the Fall of 2002 and is now home to 21 environmental researchers doing original work across 8 departments in the College of Science and Mathematics and the School of Medicine. Currently the program has 42 program faculty from the departments of Biological Sciences, Chemistry, Geological Sciences, Physics, Pharmacology/Toxiology, Biochemistry and Molecular Biology, and Mathematics and Statistics.

Programmatic strength lies in the unique blend of faculty expertise, the strong emphasis on interdisciplinary training, and the combination of theory and application of laboratory and field based research. Understanding and resolving the complex environmental problems that face society at this time can best be addressed by research strategies that incorporate interdisciplinary approaches. In almost all environmental science fields, the cutting edge research advances come from laboratories with a group of collaborating scientists that bring multiple perspectives and techniques to bear on selected problems. Doctoral students in our program will be trained through a core of academic courses that focus on the complex interdisciplinary environmental issues in biology, toxicology and risk assessment/communication, chemistry, earth sciences, environmental policy and environmental statistics.

Research topics in the doctoral program range from studies of molecular mechanisms and cell structure and function through examination of ecosystem structure and function effects. Although quite diverse, ongoing research by ES program faculty have common themes (Environmental Biology: Genes, Organisms and Ecosystems, Environmental Earth Science and Environmental Chemistry), and students benefit from supervisory committees that include experts from different departments and disciplines.

At the local level one of the program's missions is to provide educational opportunities to employees of local business and government, including large industries, environmental consulting firms, Ohio and U.S. Environmental Protection Agencies, and Wright Patterson Air Force Base (WP4AB). In support of this mission we maintain up-to-date research laboratories and share their use with the local community via collaborative projects. In addition, we have access to laboratories maintained by WP4AB.

At the state level the program mission includes a number of cooperative activities with other universities, industry and government. Many of the program faculty members have long-standing collaborations with key faculty in other Ohio universities. This includes teaching on grants and publications and team-teaching courses and workshops. Our environmental faculty members have had research collaborations with numerous faculty members at 15 state universities in recent years.

Since Ohio is both a highly industrialized state and a significant agricultural producer, it provides the setting for developing numerous academic-industrial partnerships. Active partnerships are in areas related to environmental management (e.g., development of novel adsorbents for air and water purification), food production (e.g., identification and measurement of pesticides and herbicides), chemical, pharmaceutical, and petrochemical manufacturing (e.g., measurement of volatile and nonvolatile compounds produced and released), ground water hydrogeophysics, bioremediation projects (e.g. through monitoring and removal of toxic monomers, intermediates, and by-products), and national defense (e.g., decontamination and detoxification). For further information on all that we do please see our website at: http://www.wright.edu/academics/envsci/ or contact our program office at: 937-775-3273.
Student News

Sweta Bose (Chemistry-2002) received the Society for Applied Spectroscopy outstanding poster award at the Dayton Section of the American Chemical Society Poster Session and Patterson College Chemistry Awards, March 7, 2006. Her poster entitled: “Dissolution kinetics of mineral Celestite (Strontium Sulfate): Studied on (001) surface by Atomic Force Microscopy” was one of 6 posters selected for awards at the annual poster session. Sweta was also selected on a scholarship for an intensive training in the National School on Neutron and X-ray Scattering at Argonne National Laboratory for 2 weeks (August 14-28, 2005). Her most recent accomplishment was receiving the Marc Porter Research Award for an Outstanding Research Poster at Wright State University (Dept. of Chemistry) on May 26, 2006. Her poster is entitled “Dissolution kinetics of mineral Celestite (Strontium Sulfate): Studied on (001) surface by Atomic Force Microscopy.”

Gwyn Isenhouer (Biological Sciences-2003) won the 2006 Rhonda and Paul Sipp Wetland Award of $1,000 from the Ohio Center for Wetland and River Restoration at The Ohio State University for her proposed research on trace pollutant biodegradation in constructed wetlands.

Kathryn Barto (Biological Sciences-2002) and Gwyn Isenhouer (Biological Sciences-2003) received highly prestigious US Environmental Protection Agency GRO fellowships. These 3 year awards provide stipends and supply funds for their research projects.

Ms. Isenhouer’s topic is “Expression of microbial genes involved in the reductive dehalogenation of PCE and its degradation products in a PCE-contaminated constructed wetland.” Ms Barto’s topic is “Allelopathy as an invasive mechanism for the plant Alliaria petiolata (garlic mustard): Implications for restoration.”

Katherine Kapo (Biological Sciences/Earth and Environmental Sciences-2004) was awarded a one-year membership to Sigma Xi as a result of her academic performance during her first year in the program. She also spent the months of April and May in the Netherlands as an invited guest researcher at the Dutch Institute for Public Health and the Environment (RIVM). She collaborated with scientists in the institute’s Laboratory for Ecological Risk in the development and cross-validation of eco-epidemiological models for aquatic ecosystems using GIS technology. RIVM is a recognized leading research institution in human health and environmental protection, providing service for the Dutch government as well as international bodies such as the EU. In addition to her work at RIVM, Katherine also presented her research at the SETAC Europe conference in The Hague during her visit.

Jeffrey Smigelski’s (Physics-2003) presentation, “Scaling analysis of water level records from the North American Great Lakes,” was recognized as among the best of a strong group of student presenters at the 2005 AGU Fall Meeting held this past December in San Francisco.

Alumni Accomplishments

We hope for our first Ph.D. program graduates in 2007. So in future news articles for Equation we expect to report on the accomplishments of our graduates! For further information on our program its curriculum and faculty areas of research please see our website at http://www.wright.edu/academics/envsci/ or contact our program office at: 937-775-3273.
Message from the Mathematics & Statistics Chair:

It is my pleasure to serve as acting Chair of the Department of Mathematics and Statistics for the 2006-07 academic year, replacing Dan Voss who has moved to the position of Associate Dean. We certainly wish Dan well as he assumes his new duties in the College. Dan Voss replaced Terry McKee, who retired at the end of July. There is more information below about all three of our recent retirees — Robert Craighead, Terry McKee and Manley Perkel. Each has contributed to the growth of the Department in a significant and unique way. We wish them all the best as they begin this new phase of their lives. And so it seems to be a year of change, and new beginnings. Over the years it has been exciting to watch the University and the Department grow and mature. The Department is proud of its undergraduate and graduate programs, of its strong research faculty, and its involvement in mathematics education. Examples of recent accomplishments of both faculty and students are highlighted below. We look forward to a successful academic year and a promising future. —Joanne Dombrowski

Majors Event

All the department’s undergraduate majors finish their studies with a capstone course, the senior seminar, in which each student makes a presentation near the end of the term. After all those presentations have been given, the department hosts a celebration in which students and faculty gather. This year’s event was held on June 7, and—as the photographic record reveals—much fun was had by all.

Welcome Aboard!

The department is pleased to report that our newest professorial faculty member is Xiaoyu Liu. Xiaoyu will be the department’s first faculty member with a Ph.D. from Cal Tech where she has recently completed the defense of her thesis, written under the direction of Professor Richard Wilson. Her research interests focus on information theory and error-correcting codes studied by means of algebraic combinatorics, and thus place her squarely in the department’s strong research group in discrete mathematics. While at Cal Tech, Xiaoyu served as a teaching assistant in calculus, linear algebra, differential equations, and probability and statistics. Her home is in China, where in 2001 she earned her B.S. in mathematics at the Peking University. The department is delighted to have such a promising young mathematician join us, and we look forward to great things from her in the years to come.

Community Outreach!

The department faculty and staff are engaged in a remarkable variety of outreach and community activities. One recent example is provided by the work of statistics professor Dr. Munsup Seoh in the Science, Technology, Engineering & Mathematics S.T.E.M. Symposium 2005, “Unleashing Your Power of Determination, Dedication and Discipline!” The photograph to the left depicts Hazel Rountree, assistant director of Affirmative Action, and Dr. Seoh receiving a Quest for Community Award from WSU’s President, Dr. Kim Goldenberg, and Provost, Dr. David Hopkins.
Dr. Robert L. Craighead joined our department in 1991, having just completed his mathematics Ph.D. at Ohio State. Prior to that, he had served as an officer in the United States Air Force for twenty years, during which time he earned his M.S. in mathematics and taught at both nearby AITF and the Air Force Academy.

Among his many contributions to the department, perhaps Dr. Craighead’s most notable is his leadership of our WrightMath program. WrightMath, initiated in the fall of 1994 under the joint guidance of Dr. Craighead and department chair Dr. Edgar Ratter, was conceived as an enrichment program for high-achieving minority students in the first year of college; it aimed at addressing the severe under-representation of minority groups in mathematically-based disciplines including not only mathematics itself but also business, the sciences, and engineering. Over the years, Dr. Craighead has authored instructional materials and taught countless WrightMath sections of mathematics courses, first-year seminars, and the like, consistently earning accolades of his students. But he has also devoted countless hours mentoring students one-on-one – an intangible contribution but possibly the most important of all.

Dr. Craighead tells us that his retirement plans include a little teaching, a little mathematics, and a little carpentry. With regard to the first of these three, we are pleased to report that our esteemed colleague “Bobby” will continue to teach in the WrightMath program whose success owes so much to him.

Following his mathematics Ph.D. in 1974 at Wisconsin, Dr. Terry A. McKee was at Western Illinois University for two years. The rest of his career has been right here at Wright State, including milestones in 1979 (promotion to Associate Professor), 1981 (tenure), and 1985 (promotion to Professor). Over the years, Terry’s path of scholarship has taken him from model theory in mathematical logic, the field of his doctoral studies and his most recent contributions to the discipline and that they are likely to continue.

Manley’s expectations for the future begin with his appointment as department chair, having been appointed to a three-year term – all he wanted – and having been asked for two more years because the dean wants.

Bon Voyage!

Three of the department’s professional faculty have elected to retire during the summer of 2006.

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Terry is likewise a smashing success in the classroom. In fact, his outstanding teaching was recognized in awards from the College of Science and Mathematics, the President of Wright State University, the WSU Alumni Association, and SOCHE – the Southwestern Ohio Council for Higher Education.

In 1991, Terry garnered the Presidential Award for Outstanding Faculty Member university-wide. Ten years later, he was tapped to become Associate Dean, a position Terry held until his midsummer retirement.

Thus, Terry’s career at Wright State has spanned thirty years, throughout which he has been active and productive in research. Happily for the department that productivity will continue, and will continue here, as Terry has moved back to the department from the CoSM offices and is hanging away today on his graph theory.

A telling note about the man appears on the wall of his small, windowless office – not the teaching awards, not the certificates recognizing his decades on the faculty, not even his Presidential Award. Instead, we see a plaque bearing his name from Dayton’s Community Blood Center, thanking him for being a very gallant blood donor.

Dr. Manley Perkel, a native of South Africa, completed his mathematics Ph.D. at Michigan in 1977. In a manner of speaking, he then followed in Terry’s footsteps, taking a faculty position at Western Illinois and thence coming to Wright State. Following his initial appointment in 1978, Manley earned promotion to Associate Professor with tenure in 1985 and promotion to Professor in 1995.

Exemplary teaching has been a hallmark of Manley’s career from start to finish. Indeed, while he was still an Assistant Professor, he won an award for outstanding teaching from what was then WSU’s College of Science and Engineering; and won the 2006 CoSM teaching award. A student in his Spring 2006 Modern Algebra class who heard of his forthcoming retirement wrote on an evaluation form, “Don’t let him retire: Give him all the money he wants. Throw in a bigger office and a car, too.” Alas, Manley has indeed retired – but he will have an opportunity to continue his classroom success this fall, serving as Distinguished Visiting Professor at Miami University, as he co-teaches a course preparing the brightest students there for the 66th annual Putnam Exam.

Manley’s scholarship, focused on algebra, combinatorics, and graph theory, has taken him far and wide over the years. For example, on a six-week visit to Australia and New Zealand, he lectured at universities in Perth, Adelaide, Melbourne, Canberra, Sydney, and Auckland – and took a gigantic bungee jump along the way, the photographic proof of which resides on his office wall. Moreover, Manley’s international outlook and expertise have led him to guest lecture three times in Regional Studies classes and the like, and in nearly twenty Spanish classes, all just in the past three years.

Due to the confidence of his colleagues, Manley has filled key leadership roles throughout his tenure at WSU. As a small sample, witness his repeated election to the department’s Steering Committee, the university Academic Council, and the university Senate. Among other accomplishments, his creativity and ingenuity were critical for the university’s very creation of both the faculty rank of lecturer and the university Senate. Notably, Manley served a five-year term as department chair, having been appointed to a three-year term – all he wanted – and having been asked for two more years because the dean.

Manley’s expectations for the future begin with his appointment this fall at Miami University and his expectation to teach and pursue his research during that time. Beyond that, Manley tells us that his plans are less clear, though they will surely feature the international travel of which he is so fond, and may also include more teaching or research or both. We certainly hope at least some of that will occur at WSU!

Faculty Research Supported by Federal Grants

Continuing a well-established tradition, the department’s faculty engage in mathematics and statistics research that brings both prestige to the university and progress to the academic disciplines. Moreover, several have been awarded grants from federal agencies to support their research. Among these are:

- K. T. Arasu, supported by the National Science Foundation, “Array over small phase Alphabet having Desirable Correlation Properties”
- Qingbo Huang, supported by the National Science Foundation, “Reflector Problem, Equations of Monge-Ampere Type and Fully Nonlinear Equations”
- Richard Moser (and Michael Bremner, David Reynolds, and Kiddip Rattan of the College of Engineering and Computer Science), supported by the National Science Foundation, “A National Model for Engineering Mathematics Education”
- Dan Slilaty, supported by the National Security Agency, “Signed Graphs and Dyadic Matroids”
- Tom Svobodny, supported by the National Science Foundation, “Mathematical Modeling of High Temperature Semiconductors”
- Thad Terpe, supported by the National Institutes of Health, “Identifying Plasma Respondents in Drug Treated Subjects”
- Dan Van and Weiren Wang, supported by the National Science Foundation, “Adaptive Analysis of Sparse Factual Designs and Microarray Analysis”

These research grants provide summer salary to the faculty, support for students, and funding for the department and the college alike. Obtained in intense competition with mathematical scientists and universities through the U.S., the grants represent the agencies’ recognition that each funded faculty member has already made highly significant contributions to the discipline and that they are likely to continue.
Message from the NCBP Chair:

Neuroscience, Cell Biology & Physiology is the engaging, if possibly cumbersome title that represents the broad range of research and education interests of our newly formulated department. We are the fusion of a diverse faculty, and an exemplary illustration of strength in diversity. Over the past year we have collectively: (1) published 26 peer-reviewed articles, with 8 of these listing two or more of our faculty as co-authors; (2) won approximately $2.5 million in extramural funding for research; (3) delivered several invited presentations of our work nationally and internationally; (4) served on national review boards; (5) educated more than 500 students, including medical, graduate, and undergraduate students; (6) matriculated 19 master’s degree and PhD students; (7) served on virtually all committees in the College of Science and Mathematics and Boonshoft School of Medicine. This past year we worked together on a number of vital departmental projects, including new bylaws, expansion and reinvigoration of our master’s programs, and search for new faculty to replace those who retired or moved to new positions. In these tasks, several faculty members assumed leadership and all exercised support and collegiality.

All considered, the reputation of our composite department, and by extension, the status of its predecessor is strong, and indeed advancing to higher levels of success and visibility. This achievement will undoubtedly benefit those alumni who can point to their association with us.

News From the Faculty

• A group of faculty led by Dr. Paco Alvarez were successful in their application for a Small Instrumentation grant from NIH. Dr. Alvarez has received a new confocal microscope (an Olympus FV 1000) that has now been installed in the Center for Brain Research Imaging Suite. This new confocal microscope will be of significant help in the progress of several NIH funded projects in the department.

• Dr. Julian Cambronero is currently doing a research collaboration in the laboratory of Dr. Mary Dinan at the Wells Center for Pediatric Research, Indiana University-Purdue University School of Medicine, Indianapolis, Indiana. Her laboratory has created a series of knock out transgenic models and cell lines from which Dr. Cambronero plans to study a possible connection between Rac and PLD signaling as they relate to cell chemotaxis. Dr. Cambronero will also be giving an invited talk at the 39th Annual meeting of the Society for Leukocyte Biology entitled “Phagocyte Cell Migration is Mediated by Phospholipase PLD” in San Antonio, TX in November.

• Dr. Adrian Corbett is putting together a professional Development Leave for Summer and Fall of 2007 to work with Dr. Barry Connors, Brown University, and Dr. Steve Levison, University of Medicine and Dentistry of New Jersey. Her work will focus on the flow of endogenous newly born interneurons to the site of brain injury and whether these neurons integrate into the normal brain circuitry.

• In January, Dr. Kathy Engisch attended a meeting on “Chromaffin Cell Biology” in Pucon, Chile.

• Dr. Robert Putnam will be giving an invited talk at a symposium entitled “pH, CO2 and Brain Function” in Helsinki, Finland in September.

• Dr. Mark Rich will present his work on sodium channels at a meeting in Germany this September.

• Dr. Dawn Wooley has two collaborative proposals funded through the Air Force Research Laboratories and the Defense Threat Reduction Agency on biodiagnosis projects aimed at generating therapeutics and diagnostics against bacterial and viral agents.

• In July, Dr. Robert Fyffe was invited to present his research findings on “Reorganization of Membrane Ion Channels in Motoneurons Following Anatomy” at the Copenhagen Motoneurone Meeting in Copenhagen, Denmark.

New Faces in the Department

Kathy Engisch, Ph.D. (Washington University), associate professor in the NCBP Department, has been at Wright State for one year. Previously she was in the Department of Physiology at Emory University in Atlanta. The Engisch laboratory uses a variety of sensitive electrophysiological techniques to probe the characteristics of neurotransmitter release. Currently her laboratory is studying neurotransmitter release in transgenic animals in which a single protein has been deleted or mutated. By examining multiple preparations from these animals, including adrenal chromaffin cells, neuromuscular junctions, and hippocampal neurons, the function of the synaptic protein can be elucidated.

Dan Micks is an anatomy instructor in the NCBP Department. He earned a Bachelor’s Degree in Sports Medicine from Marietta College and a Master’s Degree in Anatomy from Wright State University. Dan teaches the undergraduate Basic Human Anatomy I, Basic Human Anatomy II, and Selected Topics in Anatomy courses as well as the laboratory portion of the Human Structure course for first year medical students.

Christopher Wyatt Ph.D. will be joining the NCBP department in January of 2007 as an assistant professor. Dr. Wyatt is a graduate of the University of Leeds where he received his degree in Pharmacology and is currently working as a postdoctoral research scientist in the School of Biology, St. Andrews, Fife, Scotland. His primary research objective is to discover the mechanism responsible for oxygen sensing in the mammalian cortical body during health and disease. He is experienced with electrophysiological, immunocytochemical, and molecular biological techniques.

Mark Rich M.D./Ph.D. (Washington University) was appointed as an associate professor to the NCBP Department June 1, 2005. His research focuses on two areas. The first involves study of sodium channel abnormalities underlying paralysis in a muscle disease occurring in critically ill patients. The second involves study of synaptic plasticity at the neuromuscular junction. Dr. Rich is active clinically at the Dayton VA hospital where he performs nerve conduction tests for the neurology service. Dr. Rich did his neurology training at Johns Hopkins University, completed a fellowship in neuromuscular disease at the University of Pennsylvania and was an assistant professor in the Neurology Department at Emory University prior to joining the faculty at Wright State University.

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One of the image's text reads as follows:

Antonio, TX in November.

Christopher Wyatt Ph.D. will be joining the NCBP department in January of 2007 as an assistant professor. Dr. Wyatt is a graduate of the University of Leeds where he received his degree in Pharmacology and is currently working as a postdoctoral research scientist in the School of Biology, St. Andrews, Fife, Scotland. His primary research objective is to discover the mechanism responsible for oxygen sensing in the mammalian cortical body during health and disease. He is experienced with electrophysiological, immunocytochemical, and molecular biological techniques.

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The three areas listed in our departmental title recognize our strengths and plans for future growth. We are heavily invested in educating undergraduate, graduate, and/or medical students in these areas. In our research laboratories current efforts are outlined below (for specific interests of individual faculty see Faculty Scholarly Activities).

Neuroscience: investigation of mechanisms underlying communication between nerve cells at specialized connections called synapses, particularly those in spinal cord. Attention is given to normal processes as well as those expressed with changes occurring during development, with altered activity and after injury in the nervous system. We apply electrophysiology, immunofluorescence imaging, and related methodologies.

Cell Biology: investigation of cellular and molecular mechanisms involved in inflammation, infection, HIV, cancer, and cell death. Much effort is directed at developing diagnoses, drugs, and therapies for these pathological conditions. Techniques include cutting-edge molecular biology methods such as viral vector gene transfer, analysis of protein-protein interactions, and diagnostic analysis of bioterror agents.

Physiology: investigation of mechanisms involved in controlling the cellular electrical behavior underlying physiological regulation of organ functions such as respiration and fluid secretion. In particular, responses of ion channel activity are examined during physiological perturbations as well as for pathophysiological conditions such as sleep apnea, sudden infant death syndrome and inflammation. Techniques used include electrophysiological recording, live cell microscopy of fluorescent reporter molecules, immunofluorescence imaging, analysis of signal transduction cascades, mathematical modeling, and animal models of clinical syndromes.

These areas help in describing our broad interests, but they are not hard-line divisions. There is indeed considerable overlap among these areas and interaction among our faculty. For example, our neuroscientists use tools from cell biology to gain insight into function and dysfunction of the nervous system, our cell biologists discover processes and factors that are essential to understanding function of multiple tissue and organ systems, e.g. respiratory and immune systems.
The Department of Neuroscience, Cell Biology, and Physiology provides Anatomy Lab Tours to thousands of high school and technical college anatomy students each year. The hands-on Anatomy Lab Tours provide a great opportunity for the students to further their understanding of anatomy. Students are presented with an overview of the structure and function of the major organ systems of the body using healthy and diseased organs. Anatomy Lab Tours are offered in the winter, spring, and summer quarters. Anyone interested in a tour should contact Dan Miska at (937) 775-2126.

**Summer Groups in the Anatomy Labs**

**Horizons in Medicine**
The Horizons in Medicine program is an exciting summer program for high school students. This year students had the opportunity to study a variety of topics. Histology was definitely one of the more challenging topics. Many of these young men and women had never before used a microscope. They were fascinated at how different tissues and cells could look under a microscope. From the blue waves of tendon fibers, to onion shaped Pacinian corpuscles, from the "cotton candy" of Meissner's corpuscles to the intricate circles of the osteon, students gained an appreciation of how unique parts of the human body look through the lens.

The highlight of the course, for many students, was the gross anatomy lab. Many were nervous when we first went into the anatomy lab to see the donors and prosections. Would they be able to handle the fact that they were looking at real people? Would the smell of lab ever leave their clothes? Once inside the lab, they quickly became fascinated by the ability to touch, hold and feel what they had only seen in textbook drawings. Those of us teaching could barely keep up with their questions as they passed around hearts and lungs, examined nerves and muscles, and quizzed us about everything they could see. And their hands-on learning was effective, as the anatomy grades were the highest of the course.

**Prematriculation Medical Students**
The prematriculation program is an excellent opportunity for incoming medical students to get a head start on the first medical school course, Human Structure. Over the course of four weeks, the participants are introduced to the gross anatomy lab, dissections, team based learning, and anatomy lectures.

This summer there were sixteen participants in the program. Many of them were glad to have participated for several reasons. First of all, it gave them the opportunity to befriend some of their classmates before classes began. Also, they became more aware of what will be expected of them once the academic year begins. Furthermore, participation in prematriculation allowed them to calm fears concerning what medical school would be like.

Now that the year has started, the students who were in prematriculation are able to help their classmates adjust to medical school. Overall, prematriculation has benefited those who participated in it, and also indirectly helped those who were unable to do so.

**Part of the Department Moves to White Hall**

After thirty years, a familiar laboratory in the basement of the Biological Sciences Building will be moving this winter to a new anatomy area in White Hall named after a donor, Dr. William A. Bernie. The William A. Bernie Anatomy Learning Center will be a state-of-the-art laboratory and classroom addition complete with wireless connections. The large gross anatomy lab, with modern ventilation and surgical lighting, will be flexible space that can accommodate as many as 16 dissection tables or as few as 8 tables, with one-half of the space converting to two classrooms that each seat 24 students. The gross anatomy lab will be used by our anatomy graduate students, our undergraduate anatomy students, as well as medical students.

Offices for four anatomy faculty and the anatomy and physiology graduate teaching assistants and a classroom that will seat 25 graduate students are located within the addition. Both the Anatomy Graduate Program and the Physiology and Biophysics Graduate Program will be located in the new addition as well. This new expanded space provided with modern communication technology will allow the department to continue to deliver a high quality education to our graduate, undergraduate, and medical students.

**Anatomy Lab Tours**
The Department of Neuroscience, Cell Biology, and Physiology provides Anatomy Lab Tours to thousands of high school and technical college anatomy students each year. The hands-on Anatomy Lab Tours provide a great opportunity for the students to further their understanding of anatomy. Students are presented with an overview of the structure and function of the major organ systems of the body using healthy and diseased organs. Anatomy Lab Tours are offered in the winter, spring, and summer quarters. Anyone interested in a tour should contact Dan Miska at (937) 775-2126.
Health Professions. Katie plans to retire in June of 2007 after 35 years of teaching at WSU.

Katie Mechlin is retiring

Katie Mechlin first came to WSU as a laboratory instructor for human physiology. She helped teach a two-quarter sequence human physiology course for the students in the new School of Nursing. In 1978 she was promoted to assistant professor and took over as course director for the two human physiology courses. Since that time the courses have grown to include students interested in medicine, exercise science, veterinary medicine, dentistry and other fields. She has won the Award for Teaching Excellence from the WSU Alumni Association and a teaching award from the College of Science and Mathematics. Katie has also been active for the past eleven years as the Pre-med advisor for WSU where she has taught freshman learning community courses for pre-med students, assisted students in getting into medical careers, developed high school outreach programs and served four years on the regional board of the Central Association of Advisors for the Health Professions. Katie plans to retire in June of 2007 after 35 years of teaching at WSU.

Interested in Med School?

Interested in going to medical school one day? If so, it is highly likely that the first medical school class that you will take will be Gross Anatomy. The Department of Neuroscience, Cell Biology, and Physiology offers three undergraduate anatomy courses that will better prepare students for medical school. Basic Human Anatomy I (ANT 201) is the first of a two-quarter look at the structure and function of the human body. Topics covered include anatomical terminoligy, cells, tissues, integumentary system, skeletal system, articulations, nervous system, and muscular system. Topics covered in Basic Human Anatomy II (ANT 202) include special senses, endocrine system, cardiovascular system, lymphatic system, respiratory system, digestive system, urinary system, and reproductive system. The laboratory sections of both courses give undergraduate students the opportunity to use human cadavers (donors) to learn anatomy.

Wright State University is one of a very limited number of schools in Ohio that provide this opportunity. Undergraduate students can also take Selected Topics in Anatomy (ANT 499). ANT 499 is a unique course in which students perform various dissections of the human body and TA the ANT 201 and ANT 202 lab courses. Anyone with questions about the ANT 201, 202, or 499 courses should contact Dan Miska at (937) 775-2126.

College Moving On

Jay Dean Leaves

After 15 years at Wright State University, Dr. Jay Dean has departed for the University of South Florida. Dr. Dean established an internationally recognized research laboratory at WSU studying the cellular signaling pathways of central chemoreception, specifically the brainstem neurons that control breathing and are involved in diseases such as sudden infant death syndrome (SIDS) and sleep apnea. In addition, he developed and was director of a unique research facility, the Environmental and Hyperbaric Cell Biology Facility. This facility, recognized by the Office of Naval Research as one of three national centers of research excellence, employed unique hyperbaric chambers for doing microscopy and electrophysiology to study the effects of a wide range of oxygen levels on neuronal tissue. Dr. Dean also conducted research into the history of high-altitude physiology studies, especially the work related to high altitude flying during World War II. His outstanding scholarship lead to Dr. Dean being recognized as a Brage Golding Distinguished Professor of Research. Dr. Dean was also an active teacher, being involved as a lecturer and course director in numerous medical and graduate school courses.

Frank Nagy has Retired

Dr. Frank Nagy has retired after teaching gross anatomy and embryology to first year medical and graduate students for 30 years at Wright State. During this same time, he also taught medical residents in the Departments of Emergency Medicine, Surgery, OB-GYN, and Orthopedics. He has held numerous workshops for several local hospitals and Premier Health Care, been an instructor in many EMS/Paramedic training courses, and participated in MiniMed School. For most of those 30 years, he was the Director of the Donated Body/Anatomical Gift Program for the Medical School. Dr. Nagy was also an active researcher investigating the fine structure of the male reproductive tract in mammals.

Noel Nussbaum has Retired

Dr. Noel Nussbaum came to Wright State University as an assistant professor in Biological Sciences in 1965. He was one of only nine faculty from the Department of Biological Sciences to become charter members of the basic sciences departments in the School of Medicine in 1972. Over the years, Dr. Nussbaum helped develop the basic sciences curriculum for the medical school and taught graduate and undergraduate courses for the Department of Physiology. He also helped develop the BMS Ph.D. program and continuously worked on the medical school curriculum. He did research with the Biodynamics Branch of the Division of Biomedical Sciences at Wright Patterson Air Force Base for 15 years where he studied the metabolic and dynamic injuries of bone under flight conditions. He was the Director of Medical Informatics in the School of Medicine when he retired from WSU in July of 2005.

Katie Mechlin first came to WSU as a laboratory instructor for human physiology. She helped teach a two-quarter sequence human physiology course for the students in the new School of Nursing. In 1978 she was promoted to assistant professor and took over as course director for the two human physiology courses. Since that time the courses have grown to include students interested in medicine, exercise science, veterinary medicine, dentistry and other fields. She has won the Award for Teaching Excellence from the WSU Alumni Association and a teaching award from the College of Science and Mathematics. Katie has also been active for the past eleven years as the Pre-med advisor for WSU where she has taught freshman learning community courses for pre-med students, assisted students in getting into medical careers, developed high school outreach programs and served four years on the regional board of the Central Association of Advisors for the Health Professions. Katie plans to retire in June of 2007 after 35 years of teaching at WSU.