College of Science and Mathematics Annual Report 2004

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Accomplishments and Events

Outreach

Exploring Science: The Exploring Science program invites Miami Valley classroom teachers to bring their middle school science students to campus for a day of hands-on science demonstrations. Students participate in a variety of modules offered by WSU faculty, staff, and graduate students, designed to get young students engaged in the fun of science. In 2004, more than 500 students participated in this event and more than half of these students reported on an evaluation that they were more interested in science as a result of this program.

Miami Valley Tech Fest: CoSM faculty, staff and students interacted with over 2000 visitors at the second annual two-day science festival at Sinclair Community College. Attendance at this popular event doubled from the first year. Interactive displays and activities showed students, parents and teachers from around the State the excitement of hands-on science at WSU.

Trebuchet Competition: This unique event brings several hundred high school students to the Nutter Center for a wild and action packed day. The Trebuchet Competition requires the students to work in teams and to call upon math, physics and engineering principles to design a machine that will accurately hurl a lightweight squash ball at a target. CoSM partnered with the CECS and participated in the planning, funding and administration of this event.

Take Our Daughters and Sons to Work: The College was instrumental in planning and implementing this university-wide event held in April. Nearly 150 youth came to work with a parent or mentor for the day. CoSM faculty led special sessions for the visitors in Life Sciences, Physics, Chemistry, and Statistics.

Science Fair Judges: Over 50 CoSM faculty, staff and students contributed a Saturday in March to serve as judges at the Miami Valley Science and Engineering Fair. WSU also contributed eight special awards to worthy science projects and provided the registration funds for 17 Dayton Public School students so that they could compete at the district level.

Science Fair 101: In 2004, a group of CoSM administrators, faculty and graduate students developed a program to demystify the science fair process. This program was named Science Fair 101 and the pilot program that was coordinated with Oakwood Junior High school was incredibly successful resulting in one first time participant qualifying for state science day. The students experienced hands-on modules which were designed to strengthen students’ understanding of the Scientific Method and to help them with strategies for developing a high quality science fair project. Each student experienced a session in biology, chemistry, and physics.
Pre-med Day: This event is for high school students that are interested in a career as a physician, pharmacist or dentist. The forum included presentations by several individuals in the CoSM, the WSU School of Medicine, WSU admissions and others departments. In addition, Wright State pre-med, pre-dental and medical students commented on their experiences and education and answer questions. The first program was held on president’s day in February of 2005 and brought more than 100 people to campus.

Events

Second Annual CoSM Awards and Recognition Day: Students were recognized for scholarships received and faculty and graduate teaching awards are conferred. Various departmental awards were distributed as well. Dr. Noel Nussbaum, Neuroscience, Cell Biology, and Physiology, was recognized for 40 years of service to WSU and the College with a commemorative chair.

NSF Distinguished Lecturer: CoSM hosted one of the world's leading experts on seafloor hydrothermal systems and geobiological processes, Deborah Kelley, Ph.D., University of Washington School of Oceanography and Astrobiology. She visited as part of a Distinguished Lecturer Series, sponsored by WSU's Department of Environmental Sciences and the National Science Foundation.

Varandani Memorial Lecture: Nobel Laureate Paul C. Lauterbur, Ph.D., Department of Chemistry, University of Illinois at Urbana-Champaign spoke to an overflow crowd in the Fred White Center on the development of Magnetic Resonance Imaging (MRI).

World Year of Physics: "The Physics of Star Trek" was the title of a lecture given by Dr. Lawrence Krauss (Physics Chair, Case Western Reserve University) in conjunction with WSU's celebration of the World Year of Physics.

Welcome Reception: A welcome reception was held in September to introduce five new departmental chairs to the university and the college community.

- Chris Barton (Geological Sciences)
- John Flach (Psychology)
- Kenneth Turnbull (Chemistry)
- Lok Lew Yan Voon, (Physics)
- Dan Voss (Mathematics and Statistics)

Faculty/Student/Alumni news

Fellow: Jane Fox, Ph.D., Physics was named a Fellow of the American Geophysical Union (AGU). Fox was one of 43 worldwide scientists selected for the honor that is awarded annually.
Elected: Prof. Allen Burton was elected Vice President of the World Council of the Society of Environmental Toxicology & Chemistry for 2006. He will then serve as President in 2007.

University Awards: Tamera Schneider, Ph.D., Assistant Professor of Psychology received the President's Award for Excellence in Early Career Achievement. Mary Sparks, administrative specialist in the Department of Chemistry at Wright State University, received the President's Award for Excellence in Service. Andy Diller (Biology) was given the WSU Distinguished Senior Leader Award. Kristin Watts was honored with the WSU Student Employee of the Year Award.

Board of Trustees Award: The WSU Board of Trustees conferred the Wright State University Trustees' Award for Faculty Excellence to Prof. K. T. Arasu of the Department of Mathematics & Statistics. This award, the highest given by the university, honors those who serve as the most outstanding of role models for all faculty.

National Award Winner: Megan Leasher, a Wright State University doctoral student in industrial and organizational psychology, has been selected the national winner of the Society for Human Resource Management (SHRM) Foundation Graduate Student Leader Scholarship.

Outstanding Alumni: Gail Brown, physics (1977 and 1979) received the 2005 Outstanding Alumni Award from Wright State University College of Science and Mathematics.

**Relationship-Building and Development**

Annual Dessert with Deans: This fun event was held to promote giving to the Campus Scholarship and Innovation Campaign. Faculty and staff from the College of Liberal Arts also participated in this second annual event.

Annual CoSM Cookout: A “Thank You” event for donors to the WSU Campus Scholarship and Innovation Campaign. The cookout was held to express the college’s appreciation to everyone who participated in the annual employee campaign. Scholarship recipients were also invited to attend and meet those who were funding their scholarships.

CoSM Employee Longevity Lunch: Dean Wheatly hosted a lunch for CoSM employees celebrating 10, 15, 20, 25, 30 and 35 years of services to the University.

Madrigal Dinner: CoSM faculty and staff hosted a table of alumni and friends at the long running annual holiday celebration feast and show in the WSU Student Union.

Alumni Socials: Alumni from Geological Sciences, Chemistry, Physics, and Mathematics and Statistics were invited to events throughout the year to meet the new
departmental chairs. These afternoon socials also provided alumni an opportunity to visit
campus and visit with department faculty.

CoSM Raider Basketball & Mexican Fiesta dinner: This second annual event saw more
than 150 alumni, faculty and staff gather for a pre-game dinner followed by an exciting
basketball game in the Nutter Center.

Golf Outing: CoSM staff and alumni participated in the annual WSU Alumni Association
golf outing.

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**Anatomy and Physiology**

**Faculty Highlights**

Department faculty members published thirty-three refereed journal articles and gave
twenty-nine presentations/invited talks nationally and internationally.

Drs. Thomas Brown, Julian Gomez-Cambronero, Jay Dean and Robert Fyffe chaired a
meeting and/or symposia.

Department faculty were members of 11 granting agency study sections including NSF
and NIH.

Drs. Thomas Brown, Julian Gomez-Cambronero, Jay Dean, Robert Fyffe, Dan Halm and
Robert Putnam were members of editorial boards.

Department faculty held officer positions in professional organizations at both the local
and national level.

Dr. Robert Fyffe organized the Central Research Forum held at Wright State University.
He also organized the Cell Dynamics and Engineering Center of Excellence Opening
Ceremony.

Dr. Richard Henderson presented the APS Featured Topic at Experimental Biology 2004:
“Oxygen sensing by neural tissues,” by Environmental and Hyperbaric Cell Biology
Facility, (Jay Dean lead).

**Awards to Faculty, Staff, Students**

The prestigious "Sembrador" Award, that symbolizes the sowing of knowledge among
one's disciples, was presented to Dr. Julian Gomez-Cambronero, Professor of Physiology
and Biophysics at Wright State University, Dayton, OH, has been awarded the
prestigious "Sembrador" Award by his hometown in Spain, Manzanares, a city in
Castilla-La Mancha, the land of don Quijote. The award was presented at the Winter Courtyard of the 13th century Castle "Pilas Bonas" of the Order of Calatrava.

Dr. John C. Pearson was awarded the School of Medicine Mentor Award.

A Student Travel award was given to Isabel Campos for a national meeting presentation at Experimental Biology Meeting: Campos, I., Di Fulvio, M. and Gomez-Cambronero, J. (2004) Screening of PLD2 expressed exons in human neutrophils by RT-PCR. Experimental Biology. Washington, DC.

Mr. Alfredo J. Garcia III (BMS Ph.D. student) was given the Porter Physiology Development Award, for minority students who are engaged in graduate study in physiology. He also was recognized for an Outstanding Poster Presentation by a Graduate Student, Miami Valley Chapter, Society for Neuroscience, Cincinnati, OH; and was recipient of the American Physiological Society’s Porter Predoctoral Fellowship, 2004.

**Outreach Programs**

Dr. Robert Fyffe was very active in the outreach area as indicated in the list below.

- Career Mentorship Program – Darke County Educational Service Center
- Centerville High School – Gross Anatomy and Neuroscience
- Health and Wellness Day, Driscoll Elementary
- Miami Valley School – teacher and student visit
- Driscoll Elementary School – project mentor, 5th grade Exploravision (team received honorable mention at national level)
- Various local and regional newspaper interviews and quotations (human genome project, spinal cord injury, stem cells, Christopher Reeve, WBI, BRTT project funding etc)
- Local TV interviews (Channel 7; Channel 22; Christopher Reeve and spinal cord research)

Dr. Richard Henderson was a member of the Xenia Township Water Source Protection Committee

Dr. Nancy Bigley headed the Science Apprenticeship Program (SAP) of which Dr. Dawn Wooley was a participant.

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**Biochemistry and Molecular Biology**

**Faculty Highlights**

Department faculty published, had in press or submitted a total of 37 journal papers or book chapters, and gave 33 national or local presentations and invited talks.
Dr.’s Alter, Organisciak and Prochaska were invited to participate in or chair symposia.

Dr. Organisciak serves on the editorial board for Current Eye Research and Investigative Ophthalmology and Visual Science.

Dr.’s Alter and Paietta are Ad Hoc reviewers for the National Science Foundation.

Dr. Berberich is an Ad Hoc reviewer for the National Cancer Institute (NIH),

Dr. Dennis was an Ad Hoc reviewer for the American Heart Association.

Dr. Leffak is an Ad Hoc reviewer for the Cancer Research Foundation and serves as a regular member of a NIH review panel.

Dr. Paietta served as an Ad Hoc reviewer for the Council for Earth and Life Sciences, Dutch Research Council.

Dr. Turchi, served as an Ad Hoc reviewer for the American Cancer Society Cancer Drug Discovery and NIH SEP for National Cooperative Drug Discovery Group

Dr. Leffak serves as a consultant to two institutions, one local and one in Canada.

Dr. Organisciak serves as an elected trustee in Biochemistry and Molecular Biology for the Association for Research in Vision and Ophthalmology and as a Board Member for the Academy of Medicine, SOM, and the Sinclair Community College Biotechnology Consortium.

Dr. Berberich serves as vice president for the WSU chapter of the National Scientific Association of Sigma Xi.

Dr. Prochaska is co-chair of the American Heart Association Ohio Valley-Southern Consortium peer review study section and serves on the Board of Directors for the Miami Valley American Heart Association.

Awards to Faculty, Staff, Students

Dr. Beth Kuczynski, Ph.D. is currently a postdoctoral fellow at the Helen Wills Neuroscience Institute at U.C. Berkley.

Dr. Jonathan Nuss, Ph.D. was awarded a Kempner Postdoctoral Fellowship at the University of Texas Medical Branch in Galveston, TX.
**Biological Sciences**

**Faculty Highlights**

Twenty-nine refereed journal articles were written by the faculty in Biological Science. Sixty-four presentations and invited talks were given locally, nationally and internationally (Australia, Brazil, China, Hungary, Japan, Mexico, Norway, South Africa, and Tanzania).

Drs. Burton, Carmichael, Cipollini, Goldstein, Krane and Vadeboncoeur were invited to participate in or chair professional symposia.

Dr. Burton serves on the editorial board for Chemosphere and Aquatic Ecosystem Health and Management Journal and Dr. Carmichael serves on the editorial board for the Journal of Applied Phycology, Toxin Reviews and Biomedical and Environmental Science.

Dr’s Burton, Carmichael, Goldstein, Krane, Van’t Hof and Wheatly were granting agency study section members.

Eight faculty members hold offices in twenty-three national professional organizations.

Dr. Dan Krane was a court appointed expert in the areas of molecular biology, forensic DNA testing, bioinformatics and population genetics in numerous criminal proceedings where sworn testimony in court was required. He also organized the national meeting “Expert Forum on The Science of DNA Profiling,” that was attended by nationally recognized scientific experts and attorneys as well as 110 attendees and media representatives from around the country.

**Awards to Faculty, Staff, Students**

Dr. Allen Burton was inducted into the Phi Beta Delta International Honor Society.

**Outreach Programs**

Dr. Jim Amon worked with science fair student Elizabeth Markus through most of winter and spring 2004 on a project that took her all the way to International competition. Dr. Amon is the editor (and article contributor) of Newsletter for Beaver Creek Wetland Association.

Dr. Allen Burton participated in the Centerville College and Career Night, and the WSU Exploring Science High School Day.

Dr. Wayne Carmichael provided expert advice to various governmental agencies and professional publications. He also advised a 7th grade student science project at St Andrew School.
Dr. Don Cipollini presented lectures and laboratory exercises on forensic botany and forensic entomology for the Forensics Summer Institute.

Dr. Barbara Hull served on the Board of Directors and the Admissions Committee for the Honor Seminars of Metropolitan Dayton. She was very active in Science Apprentice Program sponsored by the School of Medicine (board member, mentor, poster judge and speaker).

**Student Clubs and Activities**

Biology Club: Activities include “academic” meetings (e.g., presentations from faculty and others on various topics, such as department research, bioinformatics, or forensic biotechnology), service activities (e.g. promoting recycling, maintaining trails), and “exploration” (e.g. trips to Cincinnati Zoo).

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**Chemistry**

**Faculty Highlights**

Twenty-seven refereed journal articles were written by the faculty in Chemistry. Sixty presentations and invited talks were given locally, nationally and internationally (Italy, Poland, Japan and Denmark).

Drs. William Feld, Steven Higgins and Daniel Ketcha served as organizing members or chairs of professional conferences.

Dr. Paul Seybold was on the Editorial Advisory Board of Chemistry & Biodiversity and also the Editorial Advisory Board of Current Computer-Aided Drug Design. Dr. Turnbull was a scientific editor & Control Board member of ARKIVOC (an electronic journal).

Dr. Roger Gilpin was a member of the NIH Study Section: SSS6 Technology Transfer and Innovative Research Review Committee. Dr. Daniel Ketcha was on the Review Panel for the National Science Foundation's Course, Curriculum, and Laboratory Improvement (CCLI) program (Division of Undergraduate Education). Dr. Kenneth Turnbull was on the U.S. Civilian Research and Development Foundation (CRDF) – Chemistry review panel.

Dr. Daniel Bombick served on the American Chemical Society/Analytical Division Awards committee. Dr. William Feld was chair of the Ohio NMR Consortium. Dr. Suzanne Lunsford was the Ohio Project Director, representing Wright State University on the committee, "Enhancing Undergraduate Education in the State of Ohio."
Dr. Steven Higgins organized the Mineral Surface Reactivity Symposium held at the 2004 V.M. Goldschmidt Conference in Copenhagen, Denmark. Dr. Daniel Ketcha was the Workshop Co-Organizer for the National Science Foundation Workshop in the Chemical Sciences titled “Solid Phase Synthesis and Combinatorial Chemistry.” Dr. Ketcha, was also the organizer for the 2nd Ohio Valley Organic Chemistry Symposium held at Wright State University. Dr. David Portlock served as a Symposium Organizer for the 2nd Annual Ohio Valley Organic Chemistry Symposium (OVOCS).

Awards to Faculty, Staff, Students

Dr Eric Fossum was presented a CoSM Outstanding Teaching Award. Dr. Paul Seybold was named an External Fellow of the Center for the Study of Biological Complexity at Virginia Commonwealth University, Richmond, VA.

Mary Sparks was awarded the Wright State President’s Award for Excellence in Service.

Nine students were recognized with external and internal awards. Laura Bedrossian received a Best Undergraduate Poster award at the Dayton ACS Patterson Awards meeting and a First Place Undergraduate Poster award at the Kentuckiana Student Research Meeting. Other awards and distinctions received:

- Kristen N. Wrenn – American Institute of Chemistry, Analytical Chemistry Award
- James Guyo – Outstanding Chemistry Graduate Teaching Assistant
- Stephanie Makselan – Outstanding Chemistry Graduate Teaching Assistant
- Benjamin Southerland – 2004 Patterson College Award Winner, (outstanding junior WSU chemistry student)
- Kathryn McGinty – “Best Graduate Poster” at the Dayton ACS Patterson Award Meeting
- Chrissy Charlesworth Outstanding Chemistry Graduate Student
- Stefanie Ward – CRC Outstanding Freshman Chemistry Student Award
- Brian Brumfield – Graduate Council Fellowship (2nd year)

Outreach Programs

Dr. Suzanne Lunsford directed teachers around the greater Cincinnati and Dayton, Ohio area with chemistry lessons that were inquiry-based. Dr. Lunsford also organized and taught "Chemistry in Our Everyday Lives" at the WSU "Take your Sons and Daughters to Work Day.

Project RISE "Rural Integrated Science Education" by Drs. Lunsford and Slattery was presented to teachers (pursuing a masters degree in science) in an over 150-mile radius around Wright State University. Twenty-four teachers were participants, impacting over 5000 students in science education. Also, a web course was developed and attached with the RISE experience to ensure that all science experiences taught in RISE were being utilized in the teachers’ school classrooms.
The Chem Demo Program, led by Profs. Emeriti Rubin Battino and John Fortman, with the assistance of Andrea Burns, students, and staff, reaches roughly 7500-8000 high school, junior high, and grade school students each year with multiple presentations in December and March. It is, so far as we can determine, the largest chemistry outreach program in the nation (and possibly the world). Students are shown demonstrations of exciting chemical phenomena, with a lively dialog of information and humor.

**Student Clubs and Activities**

CLASS Project Club "Developing chemistry lessons for students with physical disabilities", led by Dr. Suzanne Lunsford who coordinating with teachers of education, the college of science and mathematics and the office of disability services at Wright State University.

The Chemistry Club was a highly active student organization. Its activities included 30-minute meetings every other week, a monthly calendar available to all students, presentations of posters at scientific meetings, field trips to chemical companies, an active Demo Team that presented shows to area elementary schools; plus assorted volunteer and social events.

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**Geological Sciences**

**Faculty Highlights**

Twelve articles were published in various refereed journals by department faculty. Nineteen presentations were given around the country.

Dr. Barton was invited to chair the session, Modeling and Forecasting Complexity in Geophysical Systems: Role of Global and Multiscale Processes, at the Fall Meeting of American Geophysical Union. Dr. Barton submitted a proposal to the US-Canada Great Lakes Protection Fund: A Market for Natural Resource Improvements and Water Use in the Great Lakes Basin.

Dr. David Dominic is the Associate Editor of the Journal of Sedimentary Research.

Dr. Robert Ritzi is the past chair of the Hydrogeology Division of the Geological Society of America. He is also on the Committee on External Awards for the Geological Society of America.

Dr. Agrawal was a professional development leave at the NASA Stennis Space Center, Mississippi and John’s Hopkins University. He studied the impact of land use on stream water quality and role of surface characteristics in environmental remediation processes.
Dr. Cindy Carney gave a one-day workshop at Ohio University, titled "An Island as an Environment, the Hydrogeology of Andros Island, Bahamas."

Awards to Faculty, Staff, Students

Karly Howerton was an undergraduate honors student under Dr. Cindy Carney; her topic was Depositional History and Diagenesis of a Pleistocene Core from Andros Island, Bahamas.

Student Clubs and Activities

Sigma Gamma Epsilon Honor Society (SGE) and the American Institute of Professional Geologists (AIPG) were active throughout the year participating in a variety of events.
- AIPG Annual Dinner
- Quarterly Adopt A Highway Cleanup - on off and on ramps of 844 near campus
- Earth Science Week
- Movie Night
- Book Sale
- Booth for student awareness in Quad
- Teaching in local schools
- Student field trips
- Ronald McDonald Penny Drive
- May Daze Booth
- SGE/AIPG Annual Senior Banquet
- Tarr Award
- Field Camp Scholarship

Mathematics and Statistics

Faculty Highlights

Twenty refereed publications and book chapters were written by department faculty. Forty-four presentations and invited talks were made at locations around the world.

Dr. Dan Voss was an invited member to the International Advisory Committee for the International Conference on Design of Experiments held in Memphis, Tennessee.

Dr. K. T. Arasu served as co-chair of the department Colloquium Committee and hosted 13 colloquia on a variety of topics. Several other faculty members were active in hosting colloquium speakers.

Dr. Ann Farrell is a member (invited then appointed) of the Educator Standards Writing Team for the Ohio Department of Education, the Ohio Graduation Test Mathematics Standard Setting 2004 Committee, and the Advisory Committee and the Program Committee of the Wright Air & Space Center, a mathematics and science learning center, currently under development, featuring lessons related to aeronautics and space and Dayton’s aviation heritage. She will report to Ohio’s Educator Standards Board and will set standards for teaching and professional development for Ohio’s teaching profession.

Dr. Ann Farrell taught (team taught with Beth Basista) a seminar in Secondary Math and Science Education (ED 829) / Advanced Research and Design Analysis (EDL 851), for the Excel Center grant-funded program. Dr. Ann Farrell also taught the Curriculum and Data Analysis Workshop (ED 670), funded by ODE, with Michelle Reed (M&S) and Tracy Rusch (TED) for 22 teachers. Both were taught off campus.

Dr. Susann Mathews is a member of the “P-6 Specialist Endorsement Standards for Mathematics” Lead Writing Team, Columbus, Ohio.

Dr. Richard Mercer is the WSU Institutional Representative for the Goldwater Scholarship Competition (responsible for publicity, recruiting candidates, selecting nominees).

**Awards to Faculty, Staff, Students**

Mr. Glenn Dahl was given the CoSM Outstanding Teaching Award.

Dr. Harry Khamis was inducted into Gamma Delta Chapter of Phi Beta Delta, Honor Society for International Scholars.

Drs. Ann Farrell and Susann Mathews were named Teaching Fellows, two of 18 in Ohio, by the Ohio Board of Regents for 2004-2006.

Mr. Grady Burkett was given the CoSM Outstanding GTA Award.

Mr. Micah Fuerst was given the Outstanding Senior Award, for undergraduate mathematics majors. He was also the recipient of a prestigious Barry M. Goldwater Scholarship.

Ms. Amber Heini, an undergraduate mathematics major, was given the Outstanding Junior Award.
Adelaide Shultz received the Outstanding Senior Project Award, for best project in the Undergraduate Mathematics and Statistics Seminar.

**Outreach Programs**

Dr. Ann Farrell mentored five Dayton Public School mathematics teachers conducting original research on the effectiveness of mathematics and curriculum coaches.

Dr. Kimberly Kinateder served as a mentor (Middle School Youth Leader) to two young women.

Dr. Richard Mercer was a volunteer for the Math Pentathlon for Beavercreek Schools at Valley Elementary School. He was the director for the K-8 Chess Club for Beavercreek Schools.

Dr. Michelle Reed was an advisory Board invited member for “Prompt Intervention in Mathematics Education (PRIME): Research and Best Practices”, a project of the Ohio Resource Center for Science, Math, and Reading, being conducted at the request of the ODE.

Dr. Michelle Reed proctored the “Ohio Council of Teachers of Mathematics” mathematics contest for 150 high school students on campus. She was an elected member and Secretary for the Board of Trustees at St. Joseph Montessori School. Dr. Reed was also the treasurer for Central Ohio Writers of Literature for Children conference.

Dr. Munsup Seoh is the webmaster for the American Statistical Association Dayton Chapter. He assisted the AAYAT state-wide-survey project with consulting and managing data.

Dr. Tom Svobodny facilitated WSU student participation in the Mathematical Contest in Modeling, a national competition.

Dr. Thaddeus Tarpey serves as Secretary-Treasurer for the American Statistical Association Dayton Chapter.

Dr. Larry Turyn is active in the Temple Sholom; JAM (Justice Action Mercy) Interfaith Social Action Group.

Dr. Dan Voss is the President of the American Statistical Association Dayton Chapter. He also is on the Board of Directors of the Honor Seminars of Metropolitan Dayton, Inc.
Student Clubs and Activities

Putnam Mathematical Competition: Dr. Manley Perkel recruited students and conducted study sessions. Dr. Phan Loi proctored the exam, facilitating WSU student participation in this annual national mathematics competition.

Physics

Faculty Highlights

Fifty-three articles were published in refereed journals. Thirty-nine presentations and invited talks were given by the faculty. Thirty-two seminars were hosted by the department.

A Research Experience for Undergraduates (REU) program, funded by the NSF was held at WSU under the supervision of Dr. Doug Petkie. Ten students participated as part of the REU.

Awards to Faculty, Staff, Students

The Physics Department awarded two scholarships for 2004-2005; the Merrill Andrews Scholarship went to Amir A. Motamedi and the Physics Scholarship – CSC went to Mark A. Cross.

Outreach Programs

W. Wagner developed and taught a module for “Take your Daughter and Sons to Work Day”.

Dr’s. G. Farlow and Lew Yan Voon supported “Exploring Science”, organized by the College, with a module on “Building electric motors”. The Society of Physics Students served as facilitators for the Physics Department’s participation.

Six students were inducted into the Sigma Pi Sigma Physics Honorary Society (L. A. Blank, M. Considine, A. Garcia, A. Henderson, W. Ford, J. Pitz).

Graduate Students

Mullin, Paul S. “Modeling Optical Absorption of Nanoparticles” (advisor: G. Kozlowski)

Pitz, Greg A. “Singlet Oxygen Kinetics in and Around a Double Microwave Discharge” (advisor: D. Petkie)

**Psychology**

**Faculty Highlights**

Fourteen refereed publications and book chapters were published and forty-four presentations and invited talks were given by the faculty. Four faculty received invitations to participate or chair nine different symposia sessions. Eleven faculty members participated on 18 Granting Agency Study Section Memberships (e.g., National Science Foundation, National Institutes of Health).

Drs. Kevin Bennett, Herbert Colle, John Flach, Michael Hennessy, Robert Gilkey, Larry Kurdek, Debra Steele-Johnson, and Scott Watamaniuk serve on editorial boards of journals.

Dr. Michael Hennessy was on a professional development leave to the University of Muenster, Germany where he studied behavioral endocrinology.

Dr. Debra Steele-Johnson was on a professional development leave and researched the “Examination of a representation of team tasks”.

**Awards to Faculty, Staff, Students**

Dr. Kevin Bennett was awarded “Fellow” status in Human Factors and Ergonomics Society. This award recognizes career contributions to the discipline of human factors that are “extraordinary, outstanding, and meritorious.”

Dr. Kevin Bennett is the WSU principal for “The Advanced Decision Architectures Collaborative Technology Alliance” which is a major research program in the Army Research Laboratory’s Human Research and Engineering Directorate. Dr. Bennett’s research program was designated as one of three top technical objectives within the program. WSU was also elected as an Associate Academic Partner of the ARL ADA CTA in 2004 which provides high-level exposure to Army personnel and decision-makers. WSU joins a small group of elite institutions (e.g., Ohio State University, Massachusetts Institute of Technology, Carnegie Mellon University) in the CTA.

Dr. Dragana Claflin was nominated for listing in “Who’s Who Among America’s Teachers.” She received the Psi Chi Faculty Advisor Research Grant 2003-2004 ($2000 for research with undergraduates).
Dr. Herbert Colle was listed in Who's Who in America 2004, 58th edition.

Dr. Tamera Schneider received the President’s Award for Faculty Excellence: Early Career Achievement Award, 2004.

**Outreach Programs**

Dr. Dragana Claflin and Curt Pederson prepared materials and participated along with 2 other faculty/staff, 6 grad students and 2 undergrads at the Miami Valley Techfest.

Dr. Watamaniuk hosted a student as part of the Science Apprenticeship Program. He also instructed a graduate student on how to present demonstrations/lectures as part of CoSM Exploring Science Week.

**Student Clubs and Activities**

Dr’s. Dragana Claflin and Corey Miller assisted the Psych Club/ Psi Chi with various activities including the Graduate School Preparation & Resume-writing workshops, Mock GREs, supporting the annual trip to Chicago for Midwestern Psychological Association Meeting, and attending the annual Honor Society Induction and Undergraduate Awards Ceremony.

Dr. Martin Gooden gave a workshop to the Psych Club/Psi Chi on "Applying to Graduate School."

Dr. Corey Miller was a guest speaker to the Wright State University Human Resources Club.

Sarah Jensen, a senior psychology major, won the 2005 Midwestern Regional Psi Chi Award.

**Statistical Consulting Center (SCC)**

The SCC staff worked with 125 clients in 2004. The School of Medicine was the heaviest user of our services (25% of consulting hours), followed by the College of Science & Mathematics (24%), the College of Nursing and Health (21%), and external clients (9%).

Kettering Medical Center, Huffy Corporation, Wright-Patt Air Force Base, Rogosin Institute, Mercy Medical Center, Montgomery County Children’s Services and Anova Ltd are some of the external clients with whom the SCC worked.

The SCC provided presentations to incoming faculty, incoming graduate students, and all Biomedical Sciences Ph.D. students. A presentation was also made at the Thesis and
Dissertation Preparation Workshop sponsored by the School of Graduate Studies and the Associate Provost for Research in November, 2004.

The SCC presented a 0.5-credit hour short-course entitled “Advanced Statistical Methods for Nursing Research” to graduate students in the College of Nursing and Health two times a year. This course was offered on-line for the first time this year. The SCC also presented a 1.0-credit hour course entitled “Survey of Statistical Methods for Biomedical Sciences Researchers” to the Biomedical Sciences Ph.D. students in December. A Continuing Medical Education (CME) course entitled “Practical Statistics Without Tears for the Clinician” was successfully offered for the first time in February, 2004; it was a two-hour course held on each of three consecutive Wednesdays in February, 2004. Finally, a proposed course requirement in biostatistics will be offered in winter quarter, 2005 as a part of the new Master of Public Health (MPH) program.

The SCC provided numerous data sets (with client permission) to serve as examples and exercises in the new 8th edition of Wayne Daniel’s classic text, “Biostatistics: A Foundation for the Health Sciences” (copyright 2005); as a result, the WSU Statistical Consulting Center is cited numerous times in the book.

An SCC consultant developed, coordinated, and conducted an on-line distance learning short-course in statistics for the College of Nursing and Health.

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**Institute for Environmental Quality (IEQ)**

The Institute for Environmental Quality (IEQ) was formed in 1994 by the Board of Trustees with the following mission: To enhance the environmental academic, research and service programs at Wright State University and promote environmental awareness and expertise in the public and private sectors. Since its inception, the IEQ has successfully addressed all aspects of its mission, as evidenced by the evolving undergraduate and graduate curriculums, success of graduates, evaluations of our students by their supervisors, new M.S. concentration, new Environmental Sciences (ES) Ph.D. program, additional program faculty, increased recruiting efforts, foundation gifts from Mead and YSI corporations, and the high productivity of the program faculty (averaging $2.96 million per year for the past 3 years).

During 2004, the ES program faculty in Biology, Chemistry and Geology again had a remarkably successful year obtaining extramural funding, given the high degree of competition for limited funds. The Director of IEQ, Allen Burton had over $611,000 in newly funded grants and contracts from the U.S. Environmental Protection Agency, industry and the City of Dayton. He also presented keynote lectures at international meetings of environmental toxicology in Mexico and Brazil. IEQ staff taught short courses at the University of Aveiro, Portugal and in Alicante, Spain, with several presentations at international meetings.
IEQ has increased their recruiting program in a multi-faceted approach. A high quality DVD-CD was produced describing the graduate programs (M.S. and Ph.D.) at WSU. In addition, the web site was enhanced as were flyers and brochures for use at College Days, Career Fairs, and professional meetings.

During 2005, the recruiting and development activities will continue to increase with a focus on raising funds for an environmental research and education facility. The purpose of this facility is to enhance environmental research and teaching capabilities at WSU and increase our understanding of critical physical, chemical, and biological interactions which occur in a variety of ecosystems. This facility will be multi-functional, allowing for teaching at all levels, providing the capacity for state-of-the-science research, and serving as a showcase for the public.
Summary Statistics

COSM Faculty Productivity

235 refereed journal articles and book chapters
328 presentations and invited talks
65 faculty were invited to participate or chair symposia
42 faculty are members of editorial boards
52 faculty are study section members of a granting agency
(detailed information by faculty and department available at www.wright.edu/cosm/facts)

COSM Research Funding

College Departments
211 proposals submitted for a total of $17,962,794
130 proposals funded for a total of $5,148,056

Matrix Departments
75 proposals submitted for a total of $11,931,999
32 proposals funded for a total of $4,748,544

COSM Enrollment Data

Undergraduate degree programs

2.95 CoSM undergraduate majors mean GPA
7 undergraduate programs, including 9 majors and 8 minors
1550 students enrolled with a major in an undergraduate CoSM program
412 students graduated with honors, including 13 general studies honors scholars, 4 departmental honors scholars, and 4 university honors scholars
63 students graduated with a minor in CoSM

Masters degree programs

3.75 CoSM graduate majors mean GPA
14 masters program in the college
244 students enrolled
41 students graduated
Scholarships

438 CoSM undergraduate students received a scholarship
$1,393,745 awarded to undergraduate CoSM majors

84 CoSM graduate students received a scholarship
$456,770 awarded to graduate CoSM majors

Ph.D. Program Information and Statistics

Biomedical Sciences Ph.D. Programs

51 students were enrolled in the BMS Ph.D. program
9 students graduated in 2004
14 students entered the program 2004 (two of which are MD/Ph.D.)
9 students made program-sponsored trips to present research at national or international meetings

Human Factors and Industrial/Organizational Psychology Ph.D. Program

35 students were enrolled in the I/O and HF Graduate Program
8 students entered the program Fall 2004
21 students received support from sources including departmental support and faculty grants
2 students graduated
1 student was awarded a Graduate Council Scholarship
22 students made program-sponsored trips to attend or present at national or international conferences.

Environmental Sciences Ph.D. Programs

6 students accepted into the program
27 students enrolled in the program
6 students are on assistantships