Dr. Mark Richter received the University Award for Teaching. Dr. Richter is pictured here with President Nietzel and Dr. Belinda McCarthy, the new Provost.

Dr. Eric Bosch received the Foundation Award for Research. Dr. Bosch is pictured here with President Nietzel and Dr. Belinda McCarthy, the new Provost.

Dr. Nikolay Gerasimchuk Excellence in Service

Dr. Reza Herati Excellence in Research

Dr. Gary Meints Excellence in Research

COLLEGE OF NATURAL AND APPLIED SCIENCES 2006 AWARDS
NOTE FROM THE HEAD - Dr. Paul Toom

There is no better way to start this note than to announce that one of our own--Dr. Tammy Jahnke, Professor of Chemistry--has accepted the position of Dean of the College of Natural and Applied Sciences. After serving as Head of the Chemistry Department for 10 years and working in the Provost’s office last year as an Associate Vice Provost, we all look forward to Tammy’s leadership in this important position.

With a new Dean, a new Provost, and a President in only his second year, this is truly a time of change. For example, most decisions affecting the department are now being made at the College level, rather than by the Central Administration. Clearly the Dean is in a better position to evaluate personnel needs, specialized equipment requests, and various budgeting issues within the College, and we all look forward to working with this new model. The University is also instituting a new merit pay based system. While many details remain to be worked out, most faculty agree that once in place, the new system will be far superior to the current across-the-board salary policy.

Starting in the summer of 2007, the department will institute a Summer Undergraduate Research Fellowship Program. By providing a stipend and housing allowance to undergraduates for the summer between their junior and senior years, participants will be able to undertake a meaningful research project and receive hands-on experience with instrumentation not normally available to undergraduate students. The Chemistry Board of Advisors is helping to fund the first year of this program and is exploring ways to fund the program in future years.

This is an exciting time for the Department of Chemistry. When you’re in the area, please stop by and let us show you some of the changes that have taken place since you were last here.

NOTE FROM THE DEAN - Dr. Tamera Jahnke

Although change seems to be part of my life these past couple of years my core values have remained the same. I am teaching “Chemistry for the Citizen” this fall and plan to teach regularly as dean. I came to MSU as an assistant professor to change the lives of students one at a time and I plan to continue that commitment. My focus this first year is to meet all of the faculty and staff in the college and to learn more about their dreams and goals. I truly enjoyed Homecoming week as I not only met more faculty but I had the opportunity to meet with our emeritus faculty and many alumni. One of my goals is to work on communication and opening up our world of research to the broader community. Another goal is to find appropriate laboratory space to enable faculty and students the opportunity to conduct meaningful research. CNAS is strong - outstanding faculty, great students and the best staff.

CHEMISTRY BOARD OF ADVISORS

As a graduate of Missouri State’s Chemistry program, I’m thrilled to be the current chair of the department’s Chemistry Board of Advisors. Since receiving my BS in 1988 I obtained my MD at Mizzou and completed a Family Medicine Residency here in Springfield through CoxHealth. My love for this campus has continued—I’ve been a physician with Taylor Health and Wellness Center for the last 11 years.

Several members of the Board retired this fall, and one new board member, Scott Workman, was added. Scott received his BS and MS in chemistry from Missouri State University in 1998 and 2000 respectively. He worked for the Missouri State Highway Patrol as a forensic scientist for several years and is presently in Jefferson City training for the “Trace” section of the new Missouri State Highway Patrol Crime Lab in Springfield.

The Chemistry Advisory Board has always tried to find ways to support the students and the department. When the details of the Summer Undergraduate Research Fellowship Program came to light, we gave it our full support and spent most of our Fall meeting searching for ways to fund this fabulous opportunity. We will continue to work closely with the College of Natural & Applied Sciences Director of Development, alumni, friends of the department and the community for this and other needs.

Annette Wardell, Chair

SUMMER UNDERGRADUATE RESEARCH FELLOWSHIPS (SURF)

The primary focus of the program will be on undergraduate chemistry majors between their junior and senior years of study. Priority in the selection process will be on students from area colleges and universities that do not offer graduate degrees in chemistry.

Program highlights:

Fellowships will be awarded for an 8 week summer research experience working with one of the research faculty members in the Department of Chemistry. All participants will receive Missouri State University research credit.

All fellows will receive intensive training and hands-on experience with instrumentation typically not available to undergraduate students.
In addition to learning essential laboratory skills, each fellow will participate in a summer undergraduate symposium where they will learn to effectively communicate their research results.

The Summer Fellowship Program will culminate in a poster session/mixer for undergraduate fellows, existing Missouri State undergraduate researchers and existing Missouri State graduate researchers and their faculty advisors. This mixer will be open to the Missouri State community and fellowship sponsors.

Initial fellowship awards will include a $2,500 stipend, a $1,000 housing allowance and a tuition waiver.

The advantages to Missouri State University:
This program will create the opportunity to strengthen existing relationships and establish new ties with area colleges. Long-term research collaborations between Missouri State University and area colleges will be a logical outcome of these relationships.

Participants in the program will create a highly qualified pool of potential applicants to enter the Missouri State University chemistry graduate program.

MISSOURI INORGANIC DAY
The 20th Missouri Inorganic day was hosted by Missouri State University on May 6, 2006. There were 13 oral talks and 20 poster presentations from the states of Arkansas, Illinois and Missouri. The total number of participants was 58, including 4 graduate students and 3 undergraduate students from Missouri State University. Dr. Tamera Jahnke opened the event with a short presentation about Missouri State. Both Dr. Eric Bosch and Dr. Nikolay Gerasimchuk contributed oral presentations to the meeting.

FACULTY NEWS


Dr. Nikolay Gerasimchuk was granted tenure and promotion to the rank of Associate Professor and had the following presentations:
“Metal-based anticancer Active Complexes,” the Chemistry Department, National University of Ukraine, Kiev, May, 2006.
“Metal-based Anticancer Drugs,” the Pharmaceutical Chemistry Department of the Medical University, Vinnitsa, May, 2006.


Dr. Annette Gordon received a Public Affairs Grant for her project, “The Spread of Infectious Disease as a Homeland Security Issue,” 2006, in the amount of $900.

The 21st Missouri Inorganic Day is scheduled to be held in Kansas City at the University of Missouri-Kansas City in early May of 2007.

Dr. Gary Meints, Monica Kinde and Melissa Smith presented a paper entitled, “Solid State 2-H NMR Investigations of Local Dynamics in Damaged DNA,” at the Experimental NMR Conference, Pacific Grove, CA, April, 2006. He received a Missouri State Faculty Research Grant for Fall, 2006, for his project “DNA-Protein Interactions and the Role of DNA Flexibility,” in the amount of $7,342.

Dr. Mark Richter had the following publications:


Dr. Erich Steinele received tenure.

Dr. James Zimmerman was granted tenure and promotion to the rank of Associate Professor. He co-authored a chapter in a book with C. S. Levesque and G. Roger Sell, “Integrative Model for Learning and Motivation in Higher Education,” in S. Chadwick-Blossey (Ed.), 2006, *To Improve the Academy*, vol. 24, pp. 86-103, Anker Publishing, Bolton, MA.

Missouri Academy of Science Meeting
Kirksville, MO, April, 2006


“Synthesis and Studies of Highly-Colored Anionic Fe(II) Tris(Cyanoximates),” Travis Owen, Konstantin Domasevitch, Charles Barnes, and Nikolay Gerasimchuk.


“Electrogenerated Chemiluminescence of Boron Complexes,” D. J. Vinyard and M. M. Richter.

David Vinyard was awarded Missouri Academy of Sciences, Collegiate Division 1st Place, Chemistry Section II.

232nd National ACS Meeting, San Francisco, CA
September, 2006


Ravikanth Kona


Jessica Ratcliff

“Recent Experimental Investigations Utilizing the Neutron-Halo Nucleus,” J. A. Zimmerman, F. D. Becchetti, J. J. Kolata, P. Deyoung


“Monitoring the Transport of Ions Across Modified Alumina Nanomembranes,” Ravikanth Kona.

“Local Dynamics of Neutralized Phosphate Sites on the DNA Backbone,” Jeffrey Maskrod.


“New Cytotoxic Bivalent Pd and Pt Cyanoximates,” Jessica Ratcliff.


NEW FACES IN THE DEPARTMENT

Adam Wanekaya was born and raised in Nairobi, Kenya, where he earned both his BS and MS degrees. After coming to the US in 2000, he entered the University of New York at Binghamton where he obtained his PhD degree in Analytical Chemistry in 2004. He then proceeded to the University of California (Riverside) where he performed postdoctoral research fabricating and demonstrating the sensing capabilities of a single conducting polymer nanowires.

Dr. Wanekaya joined the Chemistry Department at Missouri State University in August 2006 as an Assistant Professor. Adam plans to conduct research on the fabrication, and characterization of nanoscale materials. He then intends to integrate these materials into functional devices with specific applications in chemical sensing, biomedical sensing and remediation of heavy metals and other toxins from the environment. He has a total of 11 peer-reviewed publications plus a book chapter. In addition to being a member of the American Chemical Society, and the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Dr Wanekaya was a founding member of the Kenya Chemical Society.

Kathy Shade re-joins the Missouri State community as Laboratory Supervisor for the CHM105 and CHM107 classes and as University Supervisor for secondary science student teachers. Kathy earned a BS in Computer Science from Trinity University in San Antonio and an MNAS (with Geology and Chemistry emphasis) from Missouri State University. She is also a certified middle and high school science teacher. Since 1991, Kathy has worked in different areas of the University-- teaching in the Computer Science Department, directing summer camps for students interested in health care careers for the Biomedical Sciences Department, directing an NSF grant for Dr. Tamera Jahnke (Chemistry Department) and Dr. Georgianna Saunders (Biology Department), and teaching Earth Science for teachers for Geography, Geology and Planning. In between positions at the University, Kathy taught high school science in Walnut Grove and middle school science at Carver Middle School in Springfield. Her husband, Eric, is an Associate Professor in the Computer Science Department and their son, Christian, is in 9th grade at Central High School.

SCHOLARSHIP RECIPIENTS 2005-2006

Chemistry Department Scholarship

Kathleen Greer is a junior chemistry major and has been on the Dean’s List each semester. She works part-time for the CASE affiliate Brewer Science and Orchard Hills Pharmacy.
Sarah Handlang is a senior chemistry major with a criminology minor and a member of Campus Crusade for Christ and the ACS Student Affiliates/Chemistry Honor Society.

Cory Lewis is a junior with a double major in chemistry and cell and molecular biology. He is in the Honors College, is a Resident Assistant, and Multicultural leader.

Alexandra Scheer is a junior chemistry major whose professional goal is to become a forensic scientist/criminologist while working on her masters. Alexandra is a member of the Missouri State Equestrian team, Horsemen’s Association, Lutheran Student Center, and Phi Eta Sigma.

Sarah Stiles is a chemistry major with a minor in biomedical science. Sarah currently works in the Chemistry Department chemical stockroom. She has been on the Dean’s list each semester, is a member of Gamma Alpha Lambda and the ACS Student Affiliates/Chemistry Honor Society.

Erin Godwin is a senior chemistry major with a minor in German. Presently she is studying in Hannover, Germany for a year.

Robert S. Christie Memorial Scholarship

Joshua Alford is a senior chemistry major in the Chemistry Accelerated Masters Program. He is currently a graduate assistant teaching chemistry laboratories.

Jonathan Hardin is a senior biochemistry major in the Accelerated Masters program. Jonathan is a graduate assistant in the department and teaches chemistry labs. Jonathan is a member of the ACS Student Affiliates/Chemistry Honor Society.

Crystal Tomlinson is a senior chemistry major and is in the chemistry Accelerated masters program. As a graduate assistant in the department, Crystal teaches chemistry labs. She is a member of the ACS Student Affiliates/Chemistry Honor Society and the Fencing Society.

Wyman and Sue Grindstaff

Chemical Education Scholarship

Ed Bolton is a senior chemical education major who aspires to teach chemistry at the high school level. He has three publications resulting from research done with Dr. Mark Richter. Ed is also a recipient of the Dr. and Mrs. Vernon Thielmann Chemical Education Award.

Louise and Roland Hartshcock Scholarship

Wesley Robinson is a senior chemistry major. He is a student leader at Chi Alpha Christian Fellowship and a member of Phi Eta Sigma and Gamma Pi Alpha honors fraternities.

Foundation for Immunotoxicology Scholarship

Angela Bolin is a senior majoring in chemistry and biology. She is a member of the Premedical Society, the ACS Student Affiliates/Chemistry Honor Society, Tri-Beta Biological Honors Society, Phi Eta Sigma Honors Society, The National Society of Collegiate Scholars and Natural High Club. Angela also received the Eugene T. Scafe Memorial Scholarship.

Doris C. Lorz Scholarship

Ashley Coffelt is a junior chemical education major. She is a Peer Leader, member of the PSU Student Advisory Board, Secretary of the ACS Student Affiliate/Honor Society and tutors chemistry.

Emil Lorz Memorial Scholarship

Nicholas Greenhagen is a chemistry major. He is a member of Sigma Phi Epsilon Fraternity and is consistently on the Dean’s List.

Eugene T. Scafe Memorial Scholarship

Aaron Momose is a senior chemistry major pursuing the Accelerated Master’s Degree Option. Aaron also was the recipient of both the ACS inorganic and organic awards.

David Vinyard is a senior chemistry major in the accelerated masters program. He is a member of the Springfield News-Leader Editorial Advisory Board and ACS Student Affiliates/Chemistry Honor Society. Currently David is a graduate assistant in the department and teaches chemistry labs. David also received the ACS Analytical Award.

Dr. and Mrs. Vernon Thielmann

Chemical Education Award

Sarah Young is a senior chemical education major. She is currently a University Ambassador and involved in Gamma Alpha Lambda.
Kevin Godber has finished the requirements for his Master’s degree in chemistry and has started a PhD program at the University of Kansas. Jessica Ratcliff is a graduate student in the Department of Chemistry.

OUTSTANDING STUDENT AWARDS 2005-2006

OUTSTANDING BIOCHEMISTRY AND PHYSICAL CHEMISTRY AWARDS

Patrick Casey is a senior chemistry major. He is member of Phi Kappa Phi Honor Society, National Society of Collegiate Scholars, Omicron Delta Kappa Honor Society and the ACS Student Affiliates/Chemistry Honor Society. He has consistently made the Dean’s List.

OUTSTANDING ENVIRONMENTAL CHEMISTRY STUDENT AWARD

Geri Olmstead graduated in May with a chemistry major. Geri is working on a master’s degree at the University of Illinois - Urbana-Champaign.

CRC FRESHMAN CHEMISTRY ACHIEVEMENT AWARD

Alex Hardin is a sophomore chemistry major.

OUTSTANDING SENIOR FOR 2005-2006

Travis Owen graduated from Missouri State University in December, 2005, with his BS in chemistry. He has begun a PhD program at the University of Iowa.

SPRING AND SUMMER 2006 GRADUATES

BS Degree:
Laura Adelsberger  Jonathan Ernst  Sol Park
Christa Anderson  Amy Loden  Michael Sallee
Carl Cheadle  Geri Olmstead  C. J. Tolani
Lauren Dean

MS Degree:
  Christopher Kabonic, “Determination of Mercury (II) and Nitrate Concentrations in Natural Waters Using Ion-Selective Electrodes and Atomic Emission Spectroscopy.”
  Monica Kinde, “Investigating Local Motions in Damaged DNA Base Pairs Using Solid-State NMR.”
  Daniel Robertson, “Thallium (I) Coordination Polymers Based on Monosubstituted Aroycyanoximes.”

ALUMNI NEWS

H. Robert Bergen (BS ‘77) is Co-Director, Mayo Proteomics Research Center, Mayo Clinic in Rochester, MN.

Brad J. Broyles (BS ‘88) practices psychiatry at Lifestream in Florida.

Matt Hulvey (BS ’03) is working on a Master’s in chemistry at Saint Louis University under the direction of Dr. Scott Martin (BS ’94, MS ’96).

Jeff Killeen (BS ’00) is a Clinical Pharmacist at the University of Iowa Hospitals/Clinics.

Jami (Heidbrink) Larson (BS ’03) is an Associate Chemist with Midwest Research Institute in Kansas City, MO.

Amy Loden (BS ’06) has started medical school at the University of Missouri-Columbia.

Tiffany Maher (MS ’04) is working on a PhD at the University of Kansas. She recently returned to the department to give a seminar to faculty and students entitled, “Diisocyanoarene-bridged Low-Valent Organometallics.”

Steve Minor (BS ’68) is Quality Assurance Officer with the City of Tulsa.

Craig Teague (BS ’98) and his wife Mary Anne recently became the proud parents of a baby girl. Craig, an Assistant Professor at Cornell College, is a member of the Department of Chemistry Board of Advisors.
CONTENTS

Faculty:
Richard Biagioni  RNBiagioni@missouristate.edu
Eric Bosch  EricBosch@missouristate.edu
Bryan Breyfogle  BryanBreyfogle@missouristate.edu
Dean Cuebas  DeanCuebas@missouristate.edu
Nikolay Gerasimchuk  NNGerasimchuk@missouristate.edu
Annette Gordon  AnneGordon@missouristate.edu
Reza Herati  Sedaghat-Herati@missouristate.edu
Tamera Jahnke  TameraJahnke@missouristate.edu
Gary Meints  GaryMeints@missouristate.edu
Mark Richter  MarkRichter@missouristate.edu
Chad Stearman  CJStearman@missouristate.edu
Erich Steinle  ESteinle@missouristate.edu
Shujun Su  ShujunSu@missouristate.edu
Dian Thomas  DiannThomas@missouristate.edu
Paul Toom  PaulToom@missouristate.edu
Anthony Toste  AnthonyPToste@missouristate.edu
Adam Wanekaya  Wanekaya@missouristate.edu
James Zimmerman  JAZimmerman@missouristate.edu
Linda Allen  LAllen@missouristate.edu
Judy Ewer  JudyEwer@missouristate.edu
Brian High  BrianHigh@missouristate.edu

Staff:
Note from the Head  2
Note from the Dean  2
Faculty News  3-5
Undergraduate News  5-7
Alumni News  7

Molecules & Moles
The Newsletter of
Missouri State University
Department of Chemistry

Design and Layout: Judy Ewer
Editors: Paul Toom and Judy Ewer

Missouri State University is a community of people with respect for diversity. The University emphasizes the dignity and equality common to all persons and adheres to a strict nondiscrimination policy regarding the treatment of individual faculty, staff, and students. In addition, in accord with federal law and applicable Missouri statutes, the University does not discriminate on the basis of race, color, religion, sex, national origin, ancestry, age, disability, or veteran status in employment or in any program or activity offered or sponsored by the University. In addition, the University does not discriminate on any basis (including, but not limited to, political affiliation and sexual orientation) not related to the applicable educational requirements for students or the applicable job requirements for employees. This policy shall not be interpreted in a manner as to violate the legal rights of religious organizations or military organizations associated with the Armed Forces of the United States of America. The University maintains a grievance procedure incorporating due process available to any person who believes he or she has been discriminated against. Missouri State University is an Equal Opportunity/Affirmative Action employer. Inquiries concerning grievance procedure, Affirmative Action Plan, or compliance with federal and state laws and guidelines should be addressed to Jana Estergard, Equal Opportunity Officer, Sichel Hall 206, 901 South National, Springfield, Missouri, 65897, (417) 836-4232.

Printed on recycled paper...Please recycle