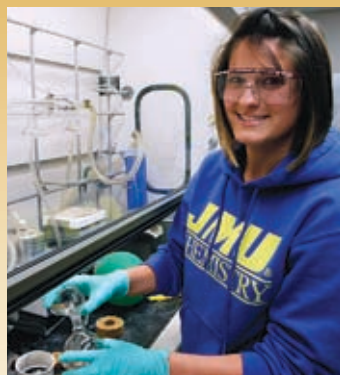


the Bond

Department of Chemistry and Biochemistry

The Department Development Award Research Corp. taps JMU chemistry and biochemistry department



Georgia Stoyanov ('11) prepares heterocycles in Dr. Minbiole's research lab.

THE JMU DEPARTMENT of Chemistry and Biochemistry has earned many accolades over the years, not the least of which is 20 straight years of funding from the National Science Foundation for the Research Experience for Undergraduates program. One of the highest awards ever given to the department is this year's Department Development Award from Research Corp., an independent philanthropic organization. Research Corp. has supported the development of a number of talented undergraduate institutions during transformative periods, aiming to make them some of the truly elite nationwide. Additional award recipients include Western Washington University and the University of Wisconsin at Eau Claire. After receiving an invitation from Research Corp. to apply, a JMU team led by Dr. John Gilje and including Drs. Gina MacDonald, Kevin Minbiole and Debbie Mohler set out to chart a direction of excellence for the department. The first step was to try to document a set of departmental "core values," hallmarks of the department for years.

The JMU Department of Chemistry and Biochemistry's Core Values:

- Our goal is to offer high quality educational programs that prepare students for productive careers after they leave JMU.
- We treasure our diverse academic culture, which allows each faculty member to pursue their own professional interests.



Nick Dugan ('09) and Dr. Daniel Downey adjust a column on their ion chromatograph.

- We strive to develop all students, including those with modest records, into promising scientists.
- We value the positive and collegial environment in which we work.
- Perhaps foremost, we recognize that undergraduate research is a premiere educational tool to help prepare students for a wide range of career paths.

A key step in winning such a prestigious grant is university support, which the department has enjoyed for decades. After months of communication and a very positive meeting with JMU President Linwood H. Rose, Research Corp. decided to grant the department the four-year award, which was then bolstered by a significant fund match from JMU. The overall grant budget is almost \$1 million. Department faculty and administrative mem-

bers have embarked on a plan of development and growth, with four main goals:

- 1) develop biochemistry, materials science and environmental chemistry as departmental focus areas;
- 2) provide more opportunities for students to participate in undergraduate research, and more recognition of those students;
- 3) increase departmental research productivity; and
- 4) increase student and faculty diversity.

As always, faculty members welcome chemistry and biochemistry alumni to return to campus and speak to classes or offer ideas for growth. During the next four years, the department will use grant funds to cultivate its core values and goals into an even more productive and inclusive department.

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Richard Foust Jr., head
Department of Chemistry
and Biochemistry

Getting to know the new department head Richard Foust: quick facts

- B.S. in chemistry from Penn State University and a Ph.D. from the University of California, Santa Barbara, where he worked with Peter Ford
- Faculty member at Northern Arizona University, where he advised more than 120 research students, taught chemistry, and directed the Environmental Sciences Program and the Ralph M. Bilby Research Center
- Program officer at NSF from 2004 to 2006, including responsibilities for the NSF-REU and Undergraduate Research Collaboratives programs
- Environmental chemist with research interests in biogeochemistry of environmental arsenic, atmospheric deposition of metals from coal-fired power plants and geochemistry of springs in the arid southwest

From the Department Head By Dr. Richard Foust Jr.

THIS IS AN EXCITING TIME at the JMU Department of Chemistry and Biochemistry, and I am excited to be in the middle of it. This is my first opportunity to write to you as the department head. It's an unusually tumultuous time in higher education with a number of strong universities and departments nationwide having to make painful cuts and changes due to the recession. I am pleased to report that our department is thriving, courtesy of some careful planning and just a bit of belt-tightening. The chemistry and biochemistry department is in fact growing and looking as strong as ever. Our growth is highlighted by a major Department Development Award given to us by Research Corp. Read about this great news on Page 1.

So, what's new in the department? Frankly, a lot. We were shorthanded during the 2008–09 academic year, but for good reasons. We sent three faculty members on sabbatical: Dr. Brian Augustine taught (courtesy of a Fulbright Scholarship) at the University of KwaZulu-Natal in Pietermaritzburg, South Africa; Dr. Barbara Reisner worked at the Department of Materials Science and Metallurgy at the University of Cambridge in England; and Dr. Deborah Warnaar served as a JMU faculty member-in-residence in London.

Realizing that three simultaneous sabbaticals were sure to cause disruptions, we hired some great talent to fill the gaps. And, we made plans to keep that talent here. Dr. Kevin Davies, fresh from earning a Ph.D. in analytical chemistry at the University of Pittsburgh, worked as a visiting assistant professor and expanded a research group studying new molecules for biological imaging. He will remain in the department for another year. Dr. Alicia James spent half of her time in the

department with the remainder spent as the chemistry coordinator in the Math and Science Learning Center. Dr. Mary Tam completed one year as an instructor in the department and will head to the Math and Science Learning Center as physics coordinator, utilizing her undergraduate physics degree. She will continue to teach half time in the department.

We are especially pleased that Drs. Kevin Minbiole and Kevin Caran were both promoted to associate professor with tenure, and Dr. Gina MacDonald was promoted to full professor. These promotions are highly deserved and recognize the significant contributions each of these individuals has made to the department, and the university, in teaching and scholarship.

This fall, we will strengthen our department considerably with the addition of physical biochemist Dr. Yanjie Zhang, who comes from Texas A&M University, where she worked in Dr. Paul Cremer's research group and was first author or co-author of 10 publications. Dr. Zhang will study cell adhesion to chiral surfaces, chiral recognition at the air/water interface and biomineralization templated by chiral molecules.

We will conduct another search this year and hope to add a creative chemist with research and teaching interests to complement the existing faculty.

Chemistry and biochemistry majors continue to set the standard for academic excellence at JMU, with 22 students on the spring semester Dean's List (GPA of 3.50–3.89) and another seven students on the President's List (GPA of 3.90–4.00). Chemistry will have eight Second Century Scholars on campus this fall: five continuing students (Alexa DeLuca, Seth Ensign, Jennifer Frazier, Misha Salim and Allison Wick-

ham) and three freshmen (Karen Corbett, Rima Januszewicz and Skylar White). Second Century Scholarships pay 75 percent of a student's tuition and fees for four years, as long as the student maintains a GPA of at least 3.5 and continues to major in a STEM field. During fall semester, 19 chemistry majors will be supported with scholarships (eight Second Century Scholars, one Madison Achievement Scholar, one Hoffman Scholar, two Pitts Scholars, two Presidential Scholars, one J.W. Chappell Scholar and four Research Corp. Scholars).

In addition to helping JMU recruit the best students graduating from high school, scholarship money supplements funds JMU receives from grants, permitting our department to offer a vibrant summer research program. This summer, 62 students completed undergraduate research in the department, with support from the NSF, the Research Corp., DuPont, individual faculty grants and many individual donations.

Please consider making a contribution to JMU to support additional scholarships and summer research opportunities. We would love to hear from you and, even better, see you on campus Oct. 16–18 for Homecoming 2009!



Marty Mihay and Tom Gallaher in front of the 600 MHz NMR spectrometer.

The 'new custodian' of JMU's NMR spectrometers Marty Mihay takes over instrumentation

IN 2008, Tom Gallaher ('72) retired from the department after an astonishing 35.5 years of service. Gallaher graduated from JMU in June 1972 and began working in the department July 1 that same year. Then-interim department head Dr. Frank Palocsay convinced Gallaher to postpone heading to graduate school for a year, at a time when Gallaher says, "you couldn't buy a job as a chemist."

Gallaher began as the department's stockroom manager and moved on to teach some laboratories, but began to make his mark in "the fascinating world of instrument repair," in the words of subsequent department head Dr. Ben DeGraff. Perhaps the

pinnacle of his career was the surprisingly smooth transition into the Physics and Chemistry Building. Gallaher remains active in the department's research program, putting his NMR knowledge to use in solving some interesting puzzles. An article on one such puzzle, a natural product structure identification, was published in the *Journal of Chemical Ecology*.

Marty Mihay has taken on the bulk of Gallaher's duties, sharing departmental instrument repair responsibilities with Jeff Molloy. Mihay came to JMU in March 2008 from Houston, where he worked for Varian. Mihay's expertise in acronymed instrumentation (AA, FTIR, ICP/MS,

OES, UV-VIS) was a liability when his sales territory covered five states in addition to Texas, but it is a great advantage to the department. Before his stint at Varian, Mihay had a similar academic position at Northern Arizona University, where he became good friends with Rich Foust — and the rest, as they say, is history. When he is not filling the three NMR spectrometers with liquid nitrogen or coaxing the DART-HRMS into good behavior, Mihay can be found cruising up and down the Valley on his Harley.

Homecoming 2008 wrap-up

HOMECOMING 2008 was an exciting affair, as the department welcomed back three esteemed alumni who took diverse career paths after graduation. Once the speakers were finally extricated from conversations with current chemistry majors — 40 minutes later — they presented information about their careers to the department's students and faculty members.

Kevin Krueer ('98) works for the U.S. Patent and Trademark Office and spoke of the ins and outs of his job — one he portrayed as both rewarding and compatible with a life outside of work. He was one of perhaps five JMU students who almost simultaneously headed to the patent and trademark office. Krueer is pursuing a law degree at night, courtesy of the patent office.

Craig Smith ('87) presented a bit of history about how he maintained a high GPA, excelled at intramural sports and had "just a bit of fun" along the way. Smith was part of the only two-man basketball team to defeat the mighty collaboration of Drs. Leary and Crowther in their heyday. Smith inspired the crowd with his diverse work experiences, which took him progressively away from the chemical field and toward the automotive industry and beyond.

Connie Neely Wilson ('70) is making her mark on medicine. Dr. Wilson was a go-getter from her freshman year, serving as president of the freshman student council. After four years of research and learning, she earned an M.D. from the University of Virginia and then headed to Massachusetts General Hospital. She later ran the intensive care units at the hospitals of the University of Pennsylvania and Tulane University. Not one to sit still, she and her husband, Don Wilson, founded Endacea Inc. 12 years ago with the mission to combat endotoxin, which contributes to a wide variety of maladies such as sepsis.



2008
Departmental Award Winners 2008: Back row, (l-r) are Matt Ross, Adam Colbert, Patrick Turner, Wesley Storm, Kevin Jellerson, Nick Dugan and Jeremy Harris. Front row: Stephanie Torcivia, Marita Lawler and Linzy Pattison.



2009
Departmental Award Winners 2009 (l-r): Christian Schwantes, Bobby East, Megan Bumann, Nick Dugan, Kristina Hamill, Tracy Nichols, Stephanie Hall, Nikki Ando, Jeremy Harris and Misha Salim.

Student award recipients

R.D. Cool Award

2008 Winner Jeremy Harris
2009 Winner Christian Schwantes

J.W. Chappell Scholarship

2008 Winner Nicholas Dugan
2009 Winner Megan Bumann

Pfizer Award

2009 Winner Michael Salim

Amenta Award

2008 Winner Marita Lawler
2009 Winner Nicole Ando

Service Award

2008 Winner Stephanie Torcivia
2009 Winner Tracy Nichols

J.W. Chappell Award

2008 Winner Patrick Turner
2009 Winner Nicholas Dugan

American Institute of Chemists Award

2008 Winner Lindsey Pattison
2009 Winner Jen Bon

Degesch America Award

2008 Winner Wesley Storm
2009 Winner Stephanie Hall

ACS-Merck Award

2008 Winner Kevin Jellerson
2009 Winner Kristina Hamill

Hypercube Scholar

2008 Winner Matthew Ross
2009 Winner Jeremy Harris

Palocsay Award

2009 Winner Bobby East

Faculty news

Dr. Donna Amenta is enjoying more teaching and time with students in the lab in her first year after serving as department head. This summer she and Dr. Gilje had three students in the lab, and this number will increase to seven or eight this fall semester. Dr. Amenta has devised an interdisciplinary liberal studies course on chemistry with practical/laboratory applications, including food chemistry. Overall, according to Dr. Amenta, she is still trying to figure out what to do when she grows up.

Sanibona — “hello and greetings to all” — from South Africa! **Dr. Brian Augustine** spent the last term at the University of KwaZulu-Natal in Pietermaritzburg, South Africa, on a Fulbright Scholarship. He taught the lecture/laboratory course, *The Science of the Small: An Introduction to the Nanoworld*, which he developed with Drs. Caran and Reisner at JMU. Last fall, Dr. Augustine worked at the University of Virginia in the lab of Dr. James Landers on rapid prototyping of microfluidic devices. He returned to the U.S. at the end of July.

Dr. Kevin Caran is happy to report that his application for promotion and tenure was approved, and he will be an associate professor at the start of the fall

semester. Dr. Caran’s 14th and 15th research students graduated this year, and both are going on to Ph.D. programs in organic chemistry. The five students in his current research group are working on two synthetic and supramolecular projects, following up two recent publications in *Langmuir* and the *Journal of Colloid and Interface Science*. One project is aimed at preparing novel gels and supramolecular polymers (in collaboration with Drs. Sabat and Pu at the University of Virginia), and another focuses on studying the colloidal and antimicrobial properties of new multi-headed amphiphiles (which has initiated a budding collaboration with Dr. Minbiole and the JMU biology department’s Dr. Kyle Seifert). Dr. Caran completed a year teaching Organic Chemistry to sophomore chemistry majors, and will teach a large nonmajors section this year. On a personal note, he enjoys performing harmonious folk music with his wife in their band blue stone sky (check them out at www.myspace.com/bluestonesky).

Dr. Tom DeVore served (or perhaps survived?) as director for the 50th-annual Shenandoah Valley Science Fair. In the lab, Dr. DeVore continues his decades-long investigation into the

thermal decomposition of metal catalyst precursors. A newer research project concerns applications of gas-phase NMR, which earned him an invitation to speak at the fall 2008 ACS National Meeting in the NMR in Chemical Education Symposium.

Dr. Dan Downey reports that he has spent a great deal of time working on the chemistry of the Shenandoah River fish kills and on projects with the U.S. Forest Service and the Virginia Department of Game and Inland Fisheries. He continues to teach Analytical Chemistry in the fall and either Nuclear or Environmental Chemistry in the spring. He says he really misses many of the students who have graduated over the past 24 years and hopes that many will return and visit, especially at Homecoming.

Dr. John Gilje served as the “point man” on the department’s efforts to obtain and implement the Research Corp. Department Development Award. His recognition by the College of Science and Mathematics as last year’s Madison Scholar culminated in a seminar that focused on a retrospective of his research (and an admonishment never to write the phosphorus-oxygen double bond!). In the lab, Dr. Gilje

still collaborates with Dr. Amenta, and he reports that his research is moving away from crown ethers and toward more ruthenium chemistry. Dr. Gilje took a break from his thrice-weekly 6 a.m. runs with the ROTC to enjoy a trip to Portugal with his wife 20 years after their last visit.

Dr. Katy Layman is up for tenure this fall semester. To help this endeavor, she anticipates publishing one or two more papers on hydrated ruthenium catalysts in 2009. While Dr. Layman had two students in her research group this summer, she’ll return to four in the fall. Finally, at the expense of her voracious reading habit, Dr. Layman has become “addicted” to dog agility training with her dog Ruthenium, rising quickly to the master’s level of competition.

Dr. James Leary continues working to ensure that the Instrumental Analysis course at JMU maintains its stature as one of the best such courses available anywhere. This year Dr. Leary had the honor of appearing in *Madison* magazine twice. The first was a collaborative work with physics professor William Ingham concerning the how and why of the derivation of Einstein’s famous equation, $E=mc^2$. The second came as a surprise honor to Dr. Leary

STUDENT AWARD PHOTOGRAPHS BY KEVIN CARAN

More than a name change Biochemistry to become a full major

YOU’VE PROBABLY NOTICED by now that the department has been renamed the Department of Chemistry and Biochemistry. Accordingly, the biochemistry minor will become a full-fledged major in the near future. In an effort led by Drs. Gina MacDonald and Vicki Mariani, a model curriculum has been developed and is proceeding through the due diligence of the department and university. Plans are for the major to be an official offering in the 2010–11 academic year.

A handful of potential new classes are being developed for the biochemistry major: PChem for Life Science Majors (a one-semester overview of physical chemistry), Medicinal Chemistry (a mix of natural products chemistry and

interactions with biological targets), and Biophysical Chemistry Laboratory.

So, why the push for biochemistry? It is one of the focus areas that the department has chosen for future growth. Inherently interdisciplinary, biochemistry represents a field where a bit of creative thought can bring two or more disciplines together. One example comes from new faculty member Yanjie Zhang. Dr. Zhang is perhaps best described as a physical biochemist; her work at JMU will focus on chiral interactions, spanning from cell adhesion to biomineralization. Biochemistry will serve a role for a hefty number of qualified biology majors who have an interest in and aptitude for chemistry to take on an attractive mix of classes.



Jaleal Sanjak ('10) in Dr. Mariani’s research lab.

in an appropriately named section of the magazine, “Professors You Love,” with kudos from former chemistry student **Gail Clary** ('81).

Dr. Scott Lewis finished his 10th year at JMU. He is looking forward to teaching the Organic Chemistry for majors section again after about a five-year absence from the majors. He continues to work on research projects related to fluoro-benzenes and collaborative projects with his Russian colleague. On a personal note, Dr. Lewis and his wife are adopting two active girls, ages 10 and 6. They hope to have the adoption process completed before the end of the year.

Dr. Gina MacDonald has been promoted to full professor. Last fall she was awarded \$275,484 from the NSF for her project, “RUI: Investigating Salt Induced Effects on RecA Unfolding and Nucleotide Binding.” This summer “Dr. Mac” had seven students and a group alumnus, **Martin Brakke** ('05), plus his student. Brakke now teaches at Towson High School in Maryland. Dr. Mac served as a facilitator in a NSF/CUR-sponsored Transformative Research Summit.

Dr. Vicki Mariani saw her research group expand greatly in her second year on the tenure track with nine stu-

PHOTOGRAPH BY KEVIN MINBIOLE

dents now in the group. Research in the Mariani lab is evolving toward the investigation of extremophilic enzymes — enzymes coming from bacteria that thrive at very high or low temperatures. As faculty moderator for the student associates of the American Chemical Society, Dr. Mariani is developing a clever idea for a National Chemistry Week fundraiser: a wall-sized periodic table for the atrium of the Physics and Chemistry Building, with elements raffled off for prizes.

Dr. Kevin Minbiole was promoted to associate professor in August. Three students in the Minbiole research group are working on organic synthesis and new reaction development. Three other students work closely with Dr. Reid Harris in the biology department on isolating natural products from amphibians. The fourth publication in this arena has just been accepted. Dr. Minbiole is also cooking up a Medicinal Chemistry course with Dr. Mariani, planned for spring semester 2010.

Dr. Debbie Mohler has a bursting research lab, with nine students currently enlisted for the team. One new avenue in the Mohler research group involves producing siRNA’s, small interfering synthetic RNA analogs, to directly inactivate RNA targets of

choice. She has been teaching General Chemistry and “Superchem,” as well as periodic recurrences of Polymer Chemistry and Intermediate Organic Chemistry. Outside of JMU, Dr. Mohler keeps busy with two 125-gallon saltwater fish tanks and an endearing dachshund-beagle mix named P.J.

Dr. Barbara Reisner was on educational leave in the Functional Inorganic and Hybrid Materials group in the Department of Materials Science and Metallurgy at the University of Cambridge in England. She was also a visiting fellow at Clare Hall. During her leave, Dr. Reisner worked to synthesize porous hybrid frameworks and looks forward to recruiting new JMU students to collaborate on projects stemming from this work. Dr. Reisner has had a busy year as the chair of the Solid State and Materials Subdivision of the ACS Division of Inorganic Chemistry. One of her major accomplishments has been establishing and administering the new ACS Division of Inorganic Chemistry Undergraduate Research Award. Dr. Reisner continues to work as a member of the Leadership Council of the Interactive Online Network of Inorganic Chemists to develop the Virtual Inorganic Pedagogical Electronic Resource, an online teaching mate-

rials repository and interactive Web 2.0 environment for inorganic chemistry educators. VIPEr is now one of the top 10 sites in the Chemical Education Digital Library. With the other members of the Leadership Council, she launched a new *Journal of Chemical Education* feature column, JCE VIPEr — An Inorganic Teaching and Learning Community. She is also the column editor. Dr. Reisner looks forward to returning to JMU for the fall to incorporate new materials and activities that have been developed as part of this project into CHEM 470. Learn more about VIPEr at <http://www.ionicvipr.org>.

Dr. Deborah Warnaar spent the spring 2009 semester as JMU faculty member-in-residence in London. She taught a nonscience majors class, managed the academic and cultural experience for 27 JMU students, and had a great time enjoying London with the students and her family. This four-month program complemented her two previous summer short-term London experiences, most recently in May 2008. Back at JMU, she still advises incoming freshman chemistry majors, teaches General Chemistry and the majors lab, and works with Dr. DeVore in the applied PChem lab.

Alumni news

1976

Pat Fitzgerald is a physician in Portland, Ore., and works for Kaiser Permanente, an integrated health care provider. He reports that he has fond memories of working on his honors thesis with advice from Frank Palocsay and Jim Leary in the then-brand-new Miller Hall. He fills some of his off-duty hours by playing bass fiddle in a number of jazz bands.

1979

Bob Elliott is a founding partner of MD Resource, a practice-management service whose goal is to give small- to mid-sized medical practices the tools to maintain successful independent practices. Elliott says, "Practice independence was our highest priority; we went into the [medical] field to care for patients, and our challenge was to find a way to do that without being overwhelmed by ... management requirements." Based in Forest, Va., MD Resource serves clients throughout the South-Atlantic region.

1983

From 1996 to 2002 **Marie Boadle Sanders** lived in Kuwait, where her late husband, Walter, was a petroleum engineer. "Five years, nine months and 11 days, but who's counting?" she writes. Prior to that, she worked in analytical, environmental and oil-industry labs, and completed epitaxial gas work and vacuum dis-

tillations in non-earth atmospheres. When Sanders and Walter went overseas she "sort of retired" to raise their daughter Jennifer. She home-schooled four American high school-level students for two of the five years she lived in a remote oil camp on Sumatra. As if that experience wasn't sufficiently scary, she also reports that she had "close encounters" with tapirs, pig-tailed macaques, simiangs, orangutans and a "very sleepy Sumatran tiger," for which she "almost became a hot lunch." Sanders lives in Texas and loves it because you can buy "really big fireworks" there. Classmates may remember her senior seminar on pyrotechnics, which concluded memorably with a live demonstration.

***Editor's Note:** Faculty and staff members of the chemistry and biochemistry department express sincere sympathy to Marie Sanders and her daughter, Jennifer, on the loss of their husband and father.

1984

John W. Powers is director of R&D recruiting for ConocoPhillips, the country's third-largest integrated petroleum company, at their corporate technology center in Bartlesville, Okla. He has worked in the areas of alternative energy, specialty chemicals and carbon fibers. John and his wife, **Carol Cresswell Powers, ('84)** have relocated to Tulsa from Houston, and are enjoying being "empty-nesters" with

a rising junior at Baylor University in Waco, Texas. He and Carol plan to attend their 25th class reunion during Homecoming 2009.

1988

Mike Zerbe, an associate professor of English and humanities at York College of Pennsylvania, held a Fulbright grant to teach in Bulgaria for the spring 2009 semester. The prestigious Fulbright grants are awarded by the U.S. State Department to college professors to conduct research or teach in foreign countries. Zerbe taught three courses at South-West University, "Neofit Rilsky," a 12,000-student institution in Blagoevgrad, Bulgaria, and he was invited to present the keynote address at the Bulgarian American Studies Association Conference in Sofia, Bulgaria's capital. During his Bulgarian adventure, he was accompanied by his wife, Carmen, an adjunct professor of Spanish, and their 4-year-old son, Alejandro.

2002

Jenny Oran Osment earned a Ph.D. in analytical chemistry from the University of Tennessee-Knoxville in 2008. She is a research chemist for LyondellBasell Industries in Newtown Square, Pa., where she runs the IR/Raman lab.

2005

Martin Brakke works at Dale House, a relational transition program geared

toward directing youth into learning independent-living and decision-making skills, in Colorado Springs, Colo. He describes his responsibilities there as "parent, teacher, Young Life leader, friend, coach and mentor" for clients who have been referred by Colorado's Division of Youth Corrections or Department of Human Services.

2006

Jessie Glass earned a master's degree in food science from Clemson University. Last summer she completed an internship with Bush Brothers, a company known for baked beans. Currently she is working on an organic farm in rural Tuscany, Italy. She will return to the United States in September to pursue a career in sensory science or product development.

2007

Karolina Roszak is finishing the physician's assistant program at Drexel University in Philadelphia. She hopes to work in Roanoke after her final rotation.

Karen Ahrens Wheatley ('80), director of development



Discussion on Endowments — the gift of a lifetime

Endowed gifts are important to JMU because they 'give' in perpetuity. Endowments that fund scholarships can be merit or need based. Merit scholarships enable the university to recruit and retain students of the highest academic caliber. Deserving students who might otherwise be unable to attend college due to financial constraints are helped through need-based scholarships, which help cover the cost of tuition.

While JMU's endowment gifts primarily take the form of student scholarships, gifts also support professors. During their careers, professors have a far-reaching impact on hundreds of Madison students. Endowment gifts provide essential support for faculty members. That is how Madison achieves its promise as an institution of higher education.

Endowments also provide research/seminar enrichment and can help expand these programs when state appropriations are simply unavailable. And, a donor's gift can be enhanced significantly with employee match programs where applicable. Endowed gifts can be structured over a period of five years so an amount, for example \$5,000, can be given each year until the endowment level is reached. Support is needed at all levels, so any gift amount is greatly appreciated.

Contact Wheatley by calling (540) 568-6605 or e-mailing her at gunthaka@jmu.edu to explore the possibilities of supporting chemistry and biochemistry's top needs.

Share the news

Full Name (include maiden): _____ Class Year/Degree: _____

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What's New? _____

Respond to:
Department of Chemistry and Biochemistry, *The Bond*, Alumni Notes, James Madison University, MSC 4501, Harrisonburg, VA 22807
Email: minbiokp@jmu.edu

Reaching out

Chemistry majors and professors support American Cancer Society

The chemistry majors continue a tasty tradition in the department, for a good cause. Each year, Pie the Professors, in conjunction with a 24-hour Relay for Life event at Bridgeforth Stadium, raises money for the American Cancer Society. Drs. Donna Amenta and Dan Downey were "lucky" pie recipients.



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Dr. David Brakke, dean

Dr. Richard Foust Jr., department head

Dr. Kevin Minbiole, editor

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Thank you for thinking of chemistry and biochemistry



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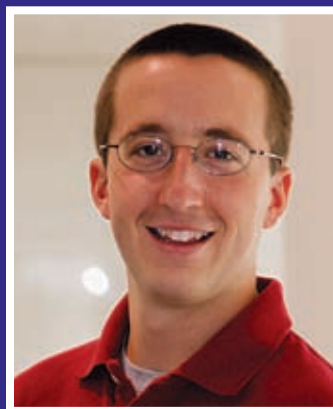
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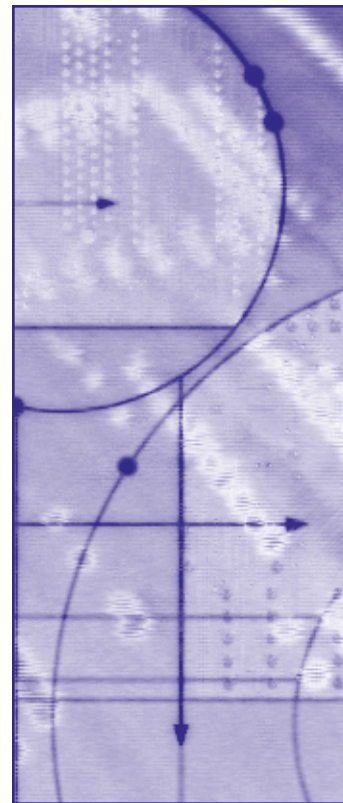
Christian Schwantes

Changing the conversation – in a chemical kind of way



Christian Schwantes wants to change the conversation about chemistry. “Science is becoming more interdisciplinary,” says the senior who plans to be a research chemist, possibly in education. “Labs hire biologists, chemists, physicists to work on the same problem.” Each uses a different language. “In chemistry we decant instead of pour. In medicine, we perform phlebotomies instead of testing blood. Language drives the gap between scientists and everyone else.” At JMU, the double major in math and chemistry has learned the importance of communication while working on a multidisciplinary problem. His team is researching chemistry’s role in a symbiotic relationship between bacteria and amphibians. From the important work, he’s co-authored and published in the *Journal of Chemical Ecology* and the *International Society for Microbial Ecology Journal*. In September, he’ll present at the International Society of Chemical Ecology conference in Switzerland. “I love chemistry,” he says, “and I want to share that with the world.”

“I hope I can change how people regard chemistry. JMU has helped me realize that change, however small, is important.”



the Bond

JAMES MADISON UNIVERSITY