



## Chair's Column

Barbara N. Timmermann,  
Ph.D.

Welcome to this edition of the annual newsletter for the Department of Medicinal Chemistry. I hope that as you read this newsletter you will see it has been an exciting year of outreach and growth in the department.

We continue to take a leadership role in establishing programs to aid interdisciplinary and traditional research in drug discovery. We are helping to lead university and state-wide efforts to establish major programs in cancer research, proteomics and combinatorial chemistry.

We are assisting the KU Office of Therapeutics, Discovery and Development, led by Dr. Scott Weir, in establishing its program. One major step has been to hire a new director of the High Throughput Screening Laboratory, Dr. Rathnam Chaguturu. The laboratory is currently housed in the Life Sciences Research Laboratories building in west Lawrence, but will move into the Structural Biology Center 3, which will be completed in Spring 2008. The building will also house the KU NIH Center of Excellence in Chemical Methodologies and Library Design (KU-CMLD), which Jeff Aubé directs.

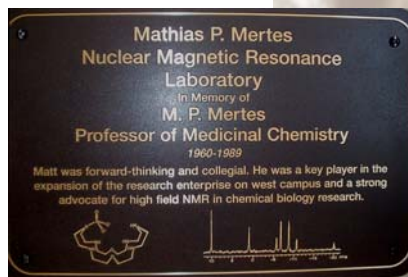
Aubé's laboratories and research group will also be moving into the new building, along with the laboratories and staff of the KU NIH Center of Biomedical Research Excellence for Cancer Experimental Therapeutics, which I direct. Jeff and the CMLD staff have done an excellent job of overseeing the building's design and construction. (cont. page 3)

## Fall Dedication Honored Late Professor

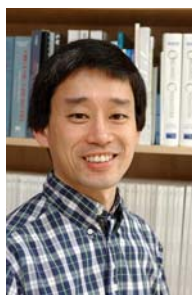
Three events were held this fall to honor the late Mathias P. "Matt" Mertes, a Medicinal Chemistry professor who is considered an innovator in biomedical sciences. Gregory C. Fu, chemistry professor at the Massachusetts Institute of Technology (MIT), presented the 7th Mathias P. Mertes Memorial Lecture Series on Oct. 18-19. A 75th Birthday Symposium was conducted in the Simons building on KU's West Campus on Oct. 19th. Mertes, who died in 1989, would have celebrated his 75th birthday on April 22, 2007. Speakers at the symposium included former

Mertes students Pat Hanna, professor of medicinal chemistry at the University of Minnesota; Christie Brouillette, research professor of chemistry at the University of Alabama-Birmingham; Chris Bigge, research fellow, chemistry lead and discovery project

leader, Pfizer Global Research and Development; and Binghe Wang, professor of medicinal chemistry at Georgia State University. Kristin (Mertes) Bowman-James and Dr. Fu also spoke at the event. KU administrators then joined with attendees to dedicate the Mathias P. Mertes Nuclear Magnetic Resonance Laboratory, which is housed at the Structural Biology Center on KU's West Campus and features a 800 MHz NMR. Mertes is cited as instrumental in establishing high field NMR at KU more than 20 years ago. (See [www.medchem.ku.edu](http://www.medchem.ku.edu) for more details.)



Kristin (Mertes) Bowman-James officially unveiled the plaque while KU Chancellor Robert Hemenway and others looked on.



**Gregory C. Fu** presented two talks in October as part of the Mathias P. Mertes Memorial Lecture Series. The Series was established to memorialize Matt's dedication to excellence in research and scholarship, and to honor scientists who demonstrate that same enthusiasm. Dr. Fu's career reflects this commitment.

- ◆ B.S. degree in 1985 from MIT (mentor K. Barry Sharpless)
- ◆ Ph.D. from Harvard in 1991 (mentor David A. Evans)
- ◆ Two years as postdoctoral fellow, Caltech (mentor Robert Grubbs)
- ◆ Professor of Chemistry at MIT (returned to MIT in 1993)
- ◆ Recipient of the following awards: Springer Award in Organometallic Chemistry (2001); Corey Award, American Chemical Society (2004); Mukaiyama Award, Society of Synthetic Organic Chemistry of Japan (2006)
- ◆ Fellow, Royal Society of Chemistry and American Academy of Arts and Sciences
- ◆ Associate Editor, Journal of the American Chemical Society

## New Faculty join Department

Two new faculty members joined the Medicinal Chemistry department in 2007.

**Thomas Prisinzano**, associate professor, has joined us from the Department of Medicinal and Natural Products Chemistry at the University of Iowa in Iowa City, IA. Prisinzano received his B.S. in chemistry at the University of Delaware, Newark, DE in 1995. He earned a Ph.D. in Medicinal Chemistry in 2000 from the School of Pharmacy at Virginia Commonwealth University, Richmond, VA. He served a postdoctoral in Organic and Medicinal Chemistry at the National Institute of Diabetes and Digestive and Kidney Diseases, NIH, at Bethesda, MD from 2000 – 2003. He was the recipient of the D. John Faulkner Award from the American Society of Pharmacognosy in 2005 and the CPDD Early Career Investigator Award in 2003. Prisinzano's research interests include natural products; CNS drug discovery; synthesis of biologically active molecules; and structure-activity relationships.



**Blake Peterson** will officially join us as a new professor in 2008. He formerly taught at Penn State University in the Department of Chemistry. Peterson was awarded his B.S. from the University of Nevada, Reno in 1990. He was granted a Ph.D. from the University of California, Los Angeles, in 1994. He served as a Damon Runyon-Walter Winchell Postdoctoral Fellow at Harvard University from 1995-1998.



He was an American Cancer Society Research Scholar in 2003 and a Camille Dreyfus Teacher Scholar in 2004. His research focuses on the design, synthesis, and evaluation of biologically active small molecules.

## Best Wishes

The Department's contribution to teaching and research in medicinal chemistry has spread to Minnesota and Florida. Gunda Georg, who had served as a Distinguished University Professor at KU, has accepted the position of Professor and Department Head of the Department of Medicinal Chemistry, Robert Vince Endowed Chair, and McKnight Presidential Chair in Medicinal Chemistry at the University of Minnesota School of Pharmacy, Minneapolis, MN.

Ernst Schönbrunn, formerly an associate professor at KU, is now an associate professor in Interdisciplinary Oncology and part of the Drug Discovery Program at the H. Lee Moffitt Cancer Center and Research Institute at the University of South Florida in Tampa, FL.

## Faculty Honors and Awards

**Jeff Aubé** will serve as a member of the Department of Health and Human Service's synthetic and biological chemistry A study section, in the Center for Scientific Review. His term runs until 2011.

**Jane Aldrich** has begun her term as past president of the American Peptide Society, having served as the society's president from 2005-2007.

Among the promotions and awards of tenure approved by the Kansas Board of Regents in April 2007 were those for **Brian Blagg** and **Apurba Dutta**, who were promoted from assistant to associate professors.

**Gary Grunewald** was named a founding member of the hall of fame of the American Chemical Society, Division of Medicinal Chemistry. He is one of only three individuals to receive the honor. The honor is given to members of the society's Division of Medicinal Chemistry who have made outstanding contributions to medicinal chemistry through research, teaching and service. Grunewald and his fellow inductees were recognized at the society's fall meeting Sept. 13, 2006 in San Francisco.



**Les Mitscher** received the Norman Farnsworth Research Achievement Award of the American Society of Pharmacognosy during its 48th annual meeting July 14-28, 2007 in Portland, ME. Mitscher was given the award for his continued contributions and achievements in pharmacognosy. Mitscher was also inducted into Medicinal Chemistry Division of the American Chemical Society Hall of Fame this year.

**Tom Prisinzano** received the 2006 Jack L. Beal Award. The award recognizes outstanding papers published in the Journal of Natural Products, and was presented to Prisinzano at the 48th annual meeting of the American Society of Pharmacognosy July 14-28, 2007 in Portland, ME.

**Barbara Timmermann** was elected to the Executive Committee of the American Society of Pharmacognosy in 2007. She was honored in November 2006 by the faculty of the Department of Botany at the Pontificia Universidad Catolica de Chile, Santiago, Chile, for outstanding achievement in the field of natural products and medicinal chemistry, and for her significant contribution to the development of the botanical and chemical sciences in Chile. Timmermann was also among those selected as a KU Women of Distinction in August 2006 by the KU Student Involvement and Leadership Center. This is the fourth year for the program, which honors women of diverse interests, disciplines and backgrounds to emphasize the importance of providing opportunities and role models for women to achieve their goals and follow their dreams.

## Medicinal Chemistry Faculty Outreach Efforts on Six Continents This Year

The Department's 2007 major outreach efforts began when Lester Mitscher joined with other KU School of Pharmacy faculty last March to visit Jiddah, Saudi Arabia. Group members included Pharmacology & Toxicology professor Elias Michaelis; Pharmacy Associate Dean and Pharmaceutical Chemistry professor John Stobaugh; and Pharmacy Associate Dean and Pharmacy Practice professor Harold Godwin. Michaelis's former doctoral student Abdulaziz Al-Yahya, now at IBN Sina National College in Jiddah, invited the group to see the university's new pharmacy school. The group reviewed the school's setup and gave suggestions about how it could be improved. "They wanted us to talk about what our approach is to undergraduate education," Mitscher said. "Some of their students might come to KU's graduate school in the future."

Chair Barbara Timmermann in March traveled to Kampala, Uganda to participate in an Ugandan consultation briefing to cabinet ministers on what laws its government should pass to preserve biodiversity and human health, and how to handle bioprospecting as an economic development effort. Timmermann was invited due to her pioneering experiences regarding biodiversity exploration for drug leads in Latin America and the 1993 UN Convention on Biodiversity, and her experience regarding intellectual property rights, informed consent and indigenous knowledge.

Timmermann and Mitscher traveled to Panama in May in their roles as co-investigators with principal investigator Professor Mahabir Gupta, University of Panama, Panama City on the grant "Discovery of Drugs through Bioprospecting in Panama." The Organization of American States issued the grant. KU lab directors David Vander Velde and Todd Williams along with KU Medical Center staff also serve as collaborators. The visit allowed the scientists to discuss research strategy and intellectual property agreements between the two universities. Plant samples from Panama have already arrived at KU and are currently being studied in Timmermann's laboratory.

Timmermann flew to the Saïd Business School at the University of Oxford, UK, to present an invited lecture at the Oxford Conference on Innovation and Technology Transfer for Global Health: Bridging the Gap in Global Health Innovation—From Needs to Access September 9-13. Topics included managing innovation for neglected health needs, such as what structures and incentives would work; ensuring access; and financing and infrastructure innovations needed to address critical gaps.

A KU School of Pharmacy delegation traveled to China in October to visit Shandong University. The executive dean for the School of Pharmaceutical Sciences at Shandong University, Wenfang Xu, invited the group to visit them in Jinan, China. Representatives Timmermann, Dean Audus, and Associate Dean Stobaugh presented lectures about their respective departments and discussed collaborations between the two institutions. A collaborative agreement between the two schools, which includes plans for short- and long-term student and faculty exchanges, should be signed in early 2008.

Jane Aldrich saw many Australian cities in November while giving talks at meetings that included the 4<sup>th</sup> International Peptide Symposium, held in conjunction with the 7<sup>th</sup> Australian Peptide Symposium; and the 2<sup>nd</sup> Asia-Pacific International Peptide Symposium.

### Chair's Column *(cont. from page 1)*

The Center for Cancer Experimental Therapeutics is in the third year of its five-year renewal grant. The CMLD is in the fifth year of a five-year grant and its researchers are preparing its five-year competitive renewal application. The Department also hosts the COBRE in Protein Structure and Function headed by Robert Hanzlik, which has completed its initial five-year funding and is awaiting word on its competitive renewal application. Jane Aldrich joined with four other investigators from three institutions, The University of Kansas, Creighton University and Northeastern University, to write a five-year \$2.2 million grant proposal entitled 'Peptidic Kappa Opioid Receptor Ligands as Potential Treatments for Drug Addiction.' The proposal was submitted to the National Institute on Drug Abuse and was funded this fall. The KU School of Pharmacy remains third in the nation in the amount of NIH federal funds it has been awarded, and the Medicinal Chemistry department has contributed 68% of the school's funds for the last four fiscal years. I congratulate our faculty, staff and students for this continuing success.

We are excited about our participation in outreach efforts, both departmental and with the School of Pharmacy, to find new partners in education and research, particularly with China, Costa Rica and Panama this year.

Our department has experienced growth and change, as you will see in this newsletter. We have welcomed Thomas Prisinzano and Blake Peterson, and said goodbye and best wishes for success to Gunda Georg and Ernst Schönbrunn. In the past four years, annual admission of graduate students has grown from three to five each year to 10 to 12 a year. This year we were pleased to welcome 15 students into our graduate program. These students are joining us in the second year of a change in our curriculum where we now offer dual tracks, in organic chemistry and in biochemistry.

As drug discovery evolves, we are working to meet those needs and challenges. We are looking forward to another successful year in 2008.



Xu, Audus and Timmermann taking a brief break while visiting Shandong University.

## Fulbright Scholar from Costa Rica Studying Medicinal Chemistry

The Department of Medicinal Chemistry welcomed Fulbright scholar Juan Jose Araya from Costa Rica to its graduate program this fall. He said his wife, Angie Leon, and he are adjusting to Kansas winter temperatures. "Thanksgiving was pretty cold, but we are surviving," he said with a smile.

Araya said one reason he wanted to come to The University of Kansas was KU's affiliation with his home institution, the University of Costa Rica. But his main reason for selecting KU was his previous interactions with the Medicinal Chemistry Department chair Barbara Timmermann. Timmermann visited the University of Costa Rica in 2005. "The presentation she gave on her work and her descriptions of the new Multidisciplinary Research Building (at KU) were very interesting to me," Araya said.

Araya completed his undergraduate degree in chemistry in 2002 and a master's degree in chemistry with an emphasis in natural products in 2005. While completing his master's degree, he served as a lecturer at the University of Costa Rica and the manager of the NMR facility at the Costa Rica Biodiversity Research Institute, which has ties to the University. The facility has one of the only two NMRs in Central America.

While he was planning for his Ph.D. studies, his professors told him that he had two options where to study: Europe or the United States. He said his professors told him that in Europe he immediately would begin research in his area of specialization, while in the United States he would receive a more expansive education before focusing on his area of research interest. "When I saw the rotations and all the coursework offered at The University of Kansas, I knew that this broad knowledge would be very good for my future," he said.

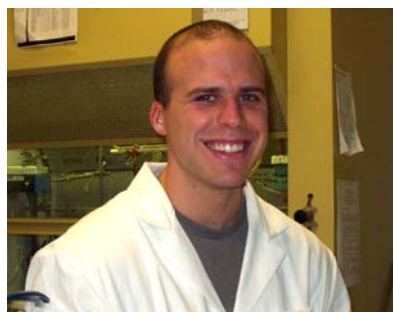
Once he received the Fulbright scholarship, he immediately wrote to Timmermann to discuss future research projects. These projects include searching for new anti-cancer agents in Costa Rica native plants, especially focusing on the family of plants "Apocynaceae." The Apocynaceae, or dogbane family, is a family of flowering plants, including trees, shrubs, herbs, or lianas (vines).

"We know there are plants in this family that have alkaloids that have proven to have anti-cancer agents. We will explore others within this family," Araya said. "We also hope to discover and study some of the microorganisms that live in plants within this family, such as endophytic fungus."

He said that they want to see if there is a symbiotic relationship between these microorganisms and the plant that might create anti-cancer agents. Another goal is to develop dereplication methods to allow a quicker review of crude extracts from this plant family to identify novel pharmaceutical lead compounds for further study.

The Fulbright Program is an international educational program sponsored by the U.S and designed to increase mutual understanding between the people of the United States and those of other countries. Araya's studies also are supported by a scholarship from the Latin American Scholarship Program of American Universities (LASPAU). "Part of the requirements to qualify for the program was the commitment by the University of Costa Rica of a teaching position," he said. "That's the nice thing about the program, how the whole picture is considered. It supports study, but it also looks for a return to share the knowledge." So a position as a professor at the University of Costa Rica awaits Araya upon his return home.

## Scott Received Irsay-Dahle Award This Fall



Scott A. Grecian received the 2007 Irsay-Dahle Award this fall and gave the accompanying presentation on August 30. His talk was titled: "Development of Double Conjugate Additions for the Synthesis of Natural Products." The Irsay-Dahle Award is named in

memory of two graduates of the KU Department of Medicinal Chemistry, Dr. Robert Irsay (Ph.D. 1964) and Dr. Norman Dahle (Ph.D. 1965), both of whom studied under the late Edward E. Smismman. The award is given to recognize outstanding contributions in academics, research activities and citizenship by a senior graduate student in the department. Grecian is now serving as a postdoctoral research associate at the Scripps Research Institute in La Jolla, CA.



## 45th Annual MIKI Meeting in Lawrence

The students at the Department of Medicinal Chemistry hosted the 45th Annual MIKI Meeting this year. Each year, the Departments of Medicinal Chemistry and Pharmacognosy of the Universities of Minnesota, Iowa, Kansas and Illinois at Chicago participate in the Medicinal Chemistry Meeting-in-Miniature, better known as the "MIKI" meeting. 2007 MIKI Student Coordinators Tim Ribelin and Donna Lubbers worked with faculty advisor Emily Scott to organize the event, which was held April 15-17. More than 200 students attended this successful event.

Dr. Albert Padwa, who has served as the William Timmie chair of chemistry at Emory University, Atlanta, GA, since 1979, was the keynote speaker at the meeting.

## News From Our Faculty Members

### Jane Aldrich Research Group

A major accomplishment this year for Jane Aldrich and her group was the funding of a 5-year \$2.2 million dollar NIH grant to identify possible treatments for cocaine abuse. Aldrich heads the project "Peptidic Kappa Opioid Receptor Ligands as Potential Treatments for Drug Addiction." Collaborators are Ken Audus and Susan Lunte, KU; Thomas Murray, Creighton University; and Jay McLaughlin, Northeastern University. The team is investigating peptides designed and synthesized in Aldrich's lab for potential application in treating cocaine abuse.

Aldrich and five group members traveled to Montreal in July to attend the 20<sup>th</sup> American Peptide Symposium. Aldrich presided over several activities as President of the Society. A poster presented by graduate student Bhaswati Dattachowdury was selected from more than 60 posters as one of seven finalists in the meeting's poster competition. This fall Aldrich gave an invited presentation at the 41<sup>st</sup> Western Regional ACS Meeting in San Diego. She then flew to Australia to give talks at the Modern Solid Phase Peptide Synthesis meeting in Port Douglas, Queensland; the Peptide Users Group meeting in Melbourne; the 4<sup>th</sup> International Peptide Symposium, held in conjunction with the 7<sup>th</sup> Australian Peptide Symposium; and the 2<sup>nd</sup> Asia-Pacific International Peptide Symposium, in Cairns, Queensland.

Two of Aldrich's students completed their degrees this year. Angela Peck completed her masters' degree this summer and now works for a small company near Seattle. Xin Wang completed her Ph.D. degree this fall, and continues to work with Aldrich.

### Jeff Aubé Research Group

The Aubé group will remember 2007 as a year of change. In May the group moved from one set of temporary laboratories on West Campus to different temporary labs in Malott Hall. Needless to say, we look forward to changing our nomadic ways and settling down in wonderful new labs in the Structural Biology Center on West Campus in April.

Our work in 2007 continued to concentrate on the development of new reactions involving alkyl azides, the further exploration of novel effects and novel molecules (pi-cations and twisted amides being at the forefront), library syntheses using home-grown chemistry, and finally some natural products efforts as well. We hope that interested readers will bookmark the group's web page at [http://www.medchem.ku.edu/faculty\\_aube\\_group.shtml](http://www.medchem.ku.edu/faculty_aube_group.shtml) for updates.

Big changes were in store for some group members as well. Scott Grecian received his PhD degree this summer, took a postdoctoral position at the Scripps Research Institute with Barry Sharpless, became a new father, and also received the department's Irsay-Dahle Award. Postdoc collaborator Sze-Wan Li took a position at the Campbell Family Institute for Breast Cancer Research in Toronto, while long-time research associate Soo-Ho Ban returned to Korea.

Several group members did external research activities this year, including Erin Hirt, who did collaborative research with Oliver Reiser in Regensburg, Germany. She also received a P.E.O. Scholar Award for 2006–2007. Tim Ribelin spent the summer at Abbott Laboratories in their externship program. In the other direction, the group hosted Julica Nöth and Bettina Quade from Regensburg for their Diploma research. Finally, Van-Ahn Hoang worked with us as a McNair Scholar before joining the KU School of Pharmacy this fall.

### Apurba Dutta Research Group



**Research Group (Summer 2007)**

Right to Left: James Clark; Kevin Poon; Rongti Li; Apurba Dutta; Daniel Jansen; Kimberly Lovell; and Kendra Dresner.

Christina Stauffer became the first Ph.D. student to graduate from our research group. In recognition of her outstanding achievements as a graduate student, Christie received the 'Marnie and Bill Argersinger Award for Outstanding Doctoral Dissertation for 2007.' Christie is a postdoctoral researcher at the University of North Carolina, Chapel Hill. Juhienah Khalaf also successfully completed her thesis work and Ph.D. defense in late spring. Juhienah has a postdoctoral position at the University of Texas Medical Branch in Galveston, TX.

Three of our postdoctoral colleagues, Kausik Panda, Manoranjan Behera, and Kevin Poon, completed their postdoctoral stints with us and moved on to accept research positions in pharmaceutical companies. Both Kausik and Manoranjan now work as 'Senior Research Scientists' at GVK BioPharma, Hyderabad, India, while Kevin is a research chemist at Chemica Technologies, Inc., Beaverton, OR. (*cont. page 6*)



## Dutta Research Group (cont.)

Driven largely by the efforts of Rongti, Dan and Kimberly, we started a new research project investigating the intramolecular version of the well-known azide-alkyne 1,3-dipolar cycloaddition. Initial results are quite interesting; we hope to build on these early studies.

Kendra and Kimberly achieved their first graduate research publication (in *J. Org. Chem.*) this year. We are confident that this publication will be cited in future editions of 'Greene's Protective Groups in Organic Synthesis!'

## Gary Grunewald Research Group

Gary Grunewald's last three graduate students have finished over the past several years. Since receiving his Ph.D. from KU, Anthony Romero completed a postdoc with Dale Boger at Scripps Research Institute and is now in the target validation group at Merck & Co. Jian Lu is doing a postdoc with Val Stella in the KU Department of Pharmaceutical Chemistry. Mitch Seim completed his dissertation earlier this year. Gary, along with Kevin Criscione, longtime technician in the lab, attended the Winter Conference on Medicinal & Bioorganic Chemistry in Steamboat Springs, CO in January. At the 2009 meeting the featured department will be KU's Medicinal Chemistry Department, and Gary will organize a session highlighting some of our outstanding faculty research programs.

Last year Gary was one of the first three inductees into the ACS Division of Medicinal Chemistry's Hall of Fame. He was also elected a Fellow of the American Association of Pharmaceutical Scientists.

Mike Rafferty (Ph.D. with Gary 1982) last year taught a very successful and very innovative course in 'Industrial Medicinal Chemistry.' Mike, upon retiring from Pfizer, has returned to the Kansas City area and is currently Vice President for Preclinical Development at Deciphera Pharmaceuticals, a Lawrence company founded by alumnus Dan Flynn (Ph.D. with Les Mitscher, 1981).

## Robert Hanzlik and Research Group

Bob Hanzlik notes that he just completed his 36<sup>th</sup> year as a faculty at KU and is still enjoying what he does immensely (well, most of it, anyway). His last graduate student (Matt Cerny) finished and defended in March 2005, so his research group now consists of a senior research associate and two postdocs, supported by an NIH grant (currently in year 30) and other miscellaneous sources.

Two main projects still focus on reactive metabolites and drug toxicity, and on cyclopropylamine metabolism, but the protease inhibitors project has been quiet for several years and is essentially done. However, the slack generated by having a smaller research group has been taken up other ways. For the past seven years Bob has been the "science department" for a small nutraceuticals company in Kansas City specializing in products for the renal community. This has led to Bob designing and managing several studies of calcium formate absorption and metabolism in humans (e.g., JPET 313, 1217-22, 2005). Since 2003 he has been on the Scientific Advisory Board for Aryx Therapeutics, which specializes in re-designing drugs that ran into problems in the clinic to eliminate the snags (usually PK, but sometimes off-target pharmacology), which has provided many interesting experiences.

Perhaps the greatest extent of uptake in slack (well past the 100% point) is attributable to the COBRE Center in Protein Structure and Function that Bob has directed for the past six years (<http://psf.cobre.ku.edu>). This program, co-directed by Mary Lou Michaelis, helped launch the careers of 11 junior tenure-track faculty members at KU (including Brian Blagg and Emily Scott in Medicinal Chemistry), and provided a significant part of the impetus to KU to build Phase I and II of the still-expanding Structural Biology Center on West Campus. Working on planning that entire structure and building the COBRE core laboratories inside it was quite a project, but the results have been really good for KU and Kansas.

By comparison to earlier years, the above activities have cut into time for recreational travel. Nevertheless, Bob and Lois were able to log a few enjoyable trips to ISSX meetings and other destinations here and there [e.g., Maui (10/04 and 10/05), Big Bend National Park (3/05), Tucson (1/06), Puerto Rico (10/06), California (10/07);]. Bob also got to do a five-day backpacking trip in the Sierras with Matt Cerny in September 2005. They tried again in 2007 but got driven back out early by highly unseasonable rain and lightning. They are busily planning another attempt for next year. Otherwise, Bob's still running at noon on most days, and gets out to windsurf at Clinton Lake whenever he can.



Bob with Matt Cerny entering the Ansel Adams Wilderness, Sierra Nat. Forest, southeast of Yosemite Nat. Park, August 2007.

## **Some Events in the Les Mitscher Group During 2007**

Having been born in summer 1931 (you can do the math) I have gone into phased retirement. This means taking a half-time appointment to allow for more time to travel with Betty and to enjoy the children. I can detect only a bit of difference in my life and less pay from the state for much the same load although the teaching has reduced and a new undergraduate course in herbal medicines shared with Prof. Timmermann. Research concentrates on natural product studies in distant lands in collaboration with Dr. Timmermann, combinatorial chemistry work with the KU CMLD, and running the COBRE synthesis lab along with Paul Hanson.

Having outlived much of the competition, I am very pleased and humbled this year to be elected to the Medicinal Chemistry Division, ACS, Roll of Honor (along with Gary Grunewald) and to receive the Norman Farnsworth Research Achievement Award from the American Society for Pharmacognosy.

In January Betty and I planned to cruise around the tip of South America from Chile to Argentina with stops in the Falkland Islands and Uruguay. Bad weather in Dallas caused us to miss the connecting flight to Chile and thus miss the cruise. This was finally rebooked in February (near the end of the summer down there). As anticipated, the seas were very rough and the scenery was spectacular. Going into the Straights of Magellan the ship was hit by a forty-foot rogue wave during dinner which dumped us onto the floor along with our table mates and all of the crockery and food. Fortunately none of us were more than bruised. The ship, however, lost 600 bottles of Argentinean red wine. A real disaster!

Just before going south, we attended the Winter Conference on Bioorganic and Medicinal Chemistry in Steamboat Springs, CO, where I organized a symposium on Orphan Drugs. At Spring Break, I went to Saudi Arabia along with a delegation of other profs from the school. A new College of Pharmacy is opening there and they wanted to “profit” from our experiences. Culturally this was very interesting but very tiring due to the shortness of the time. Among the more interesting happenings was a visit to the microbiology labs. The women and the men are not allowed to take courses together (or even be in the same part of the building at the same time). Having to use flames for sterilization purposes, the women cannot take this course in burka (all encompassing head to toe black veils). It was the women students’ time for the lab so we had to have special permission to enter. When we did, the women were all lined up against one wall with their notebooks in front of their faces so that we would not see or lust after them. I can only barely imagine an exchange of KU students with our students insisting on their right to go around in short skirts and belly shirts!

Prof. Timmermann and I have an active research grant with the University of Panama so in May we journeyed thither with our spouses to settle administrative problems. Among other pleasures, I just missed being peed on by a howler monkey who was annoyed at being disturbed in his leafy habitat by all us gringos.

In June Betty and I cruised from Papeete, Tahiti, to the distant Marquesa Islands. These are not visited much by tourists although they have given up on their hobby of cannibalism. The islands are really beautiful although small. The cruise ship is half freighter and half given over to tourists. The tourists were roughly half English speakers, half French and a sprinkling of Germans as well for spice. I gave six lectures. My English is significantly more understandable than my French but after a few bottles of wine no one seemed to mind much. The lectures were on navigation, geography, history, art and medicine. If you have been “everywhere” and are looking for a thoroughly enjoyable and exotic trip this is it. The ship is the Aranui 3 and has a web site for those who might be interested. Then in July, Betty and I took an Eastern Caribbean cruise just for fun and found this to be very relaxing.

In November I went to China and Korea for a week on a mission from the Global Alliance for Tuberculosis Drug Development (Bill and Melinda Gates’ money). Scientifically and culturally this was very interesting but extremely tiring (16 hour flights!).

One of the pleasures of my line of research is that it is in significant demand in distant and exotic lands. My guilty secret about not fully retiring is that I cannot afford to pay for my own travel to such fascinating locales!

## **Thomas Prisinzano Research Group**

After four years at the University of Iowa, the Prisinzano Group has relocated to Lawrence, KS. After a busy summer of traveling to Quebec in June, then Berlin and Portland, Maine in July, we arrived in Kansas just in time for a record August heat wave.

We are working hard on a grant from the National Institute on Drug Abuse to develop novel stimulant abuse medications derived from the hallucinogen natural product salvinorin A. This research has been a strange trip so far, and has gotten us into looking for new CNS active natural products and novel opioid receptor ligands. Some of this work was presented at the ACS Meeting in Boston in August 2007, where I was part of the Smissman Award Symposium honoring my postdoctoral mentor, Kenner C. Rice. It was also a great opportunity to meet and talk to proud KU alumni.

In December 2007, my first PhD student from Iowa, Kevin Tidgewell successfully defended his dissertation and is off for a postdoctoral fellowship with Bill Gerwick at the Scripps Institution of Oceanography and UCSD School of Pharmacy. The group is currently rotating 1<sup>st</sup> year students and is excited about the prospects of being the training ground for new KU alumni.

## Emily Scott Research Group

The second half of 2007 has seen a lot of changes in the Scott Lab. In July, Brian Smith, the original Scott lab member and lead author on the CYP 2A13 structure, left the lab to take a Research Scientist position in the Drug Inhibition Department at Xenotech. Although we all miss the sports updates and his sense of humor, he is doing great in his new position. We especially missed him on our lab canoe trip down the Current River in August. While the 'official' goal was to find watercress, which contains the cytochrome P450 2A13 inhibitor phenethyl isothiocyanate, a good time was had by all. This was despite a fair bit of rain the first night that led to guest Jedidiah's famous quote from the trip, "Yeah, but at least MY pants are dry."



Brian Smith with P450 2A13 cake at his farewell party.

At the beginning of August we moved from labs on the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> floors of Malott into adjacent labs on the southeast corner of Malott that were previously occupied by Dr. Schönbrunn's group. Repairs and painting took a while and renovations of the student offices are yet to come, but having everyone in one space is a significant boon to productivity. Scientifically, this fall has brought a lot of cool new crystals of 2A13 and other proteins, some informative changes in phenacetin and para-nitrophenol metabolism in site-directed mutagenesis studies, exciting NMR leads, and identification of new selective P450 inhibitors from our HTS studies.

We've enjoyed a full slate of first year graduate students rotating through the lab this summer and fall, including Michael Urban, Linda Blake, Matt Axtman, Kyle Bailey, Laura Peterson, and James Clark.



Left side, front to back: rotation student Linda Blake, graduate student Melanie Blevins, guest Jedidiah Hastings, graduate student Patrick Porubsky, rotation student Michael Urban; Right, front to back: Aldrich student Wendy Hartsock, graduate student Natasha Michno and fiancée Matt DeVore, and undergraduate student Naseem Nikaeen.

## Barbara Timmermann Research Group

This is the first year of research for Barbara Timmermann's group after moving to the brand-new Multidisciplinary Research Building (MRB) on West Campus. Her group currently consists of: Gemma O'Donnell who moved from England in March to take up a Post Doc position; Graduate Student Juan Araya who moved from Costa Rica with a Fulbright Fellowship during the summer along with his wife, and Undergraduate Jay Collins. This summer we were visited by REU Student Tyler Goetz from Washburn University, Topeka, who was working on a project with *Vassobia breviflora* (Solanaceae), and Graduate Student Xiaoqin Tong who completed her first rotation with us, working with *Piper tuberculatum* (Piperaceae), at the beginning of the autumn semester.

Our work involves isolating and identifying bioactive compounds from plant biomass through modern chromatographic and spectroscopic techniques. To aid our research we are building collaborations with groups at KU Medical Center who focus on different drug targets in liver, thyroid and other diseases. We have promising preliminary results from the thyroid cancer screening which were presented at the Medical Center Cancer Symposium in early December.

Our main focus is on plant biodiversity from different parts of the world aimed to develop natural-product drug leads linked to ethnobotanical and biological inventory, and promote research training, benefit sharing and biodiversity conservation. In a collaboration started this year, with the University of Panama, we are assessing native Panamanian plants with ethnobotanical use in liver and biliary disease, a number of which have not previously been studied.

In addition we have two ongoing projects with Prof. Lester Mitscher; one to determine the immunostimulatory components of *Echinacea purpurea*, which are the subject of a long-standing debate between phytochemists, and the other to develop a new economically and environmentally friendly extraction procedure for plant samples collected in the wild.

## Medicinal Chemistry Alumni News

### **KU alumnus establishes planned gift for Department of Medicinal Chemistry**

Three decades after graduating from the University of Kansas with a doctorate in medicinal chemistry, Peter Ruenitz still values lessons learned at KU. To show his gratitude, the former professor has established a gift as part of his estate plans to provide funds for KU's Department of Medicinal Chemistry in the School of Pharmacy. "I felt like it was the gateway to the career I had at the University of Georgia," said Ruenitz, who in 2001 retired from teaching. "I left KU, I came to Georgia, and I originally didn't think I'd be there that long. But in Kansas, the education I got enabled me to have that career. So I thought it would be appropriate for me to help out the Department of Medicinal Chemistry."

Barbara Timmermann, chair of the department, said the gift will have a profound impact on the continued success of her fellow researchers, faculty members and students.

Ruenitz said he appreciated KU faculty members, including the late Edward Smissman. "He had a great impact on my life as a grad student and, as it turned out, as a faculty member," said Ruenitz, who earned his doctorate in 1974. Also Ruenitz knows how important it is to have private support. "You can get a lot of grant money, but support from private contributions can really be good," Ruenitz said. "It can fit into some of the places where you can't get support any other way. That's kind of my driving force in making this gift." KU Endowment will manage the gift. (*KU Endowment release*)

### **Former Smissman Student Honored**

Thomas Pazdernik, a 1971 graduate of the Medicinal Chemistry program and former student of Edward E. Smissman, was among those selected to receive a 2007 W.T. Kemper Fellowship from The University of Kansas. Pazdernik, who is a professor of pharmacology at The University of Kansas Medical Center, was among the 18 awardees honored at a recognition ceremony Oct. 2, 2007 at the Kansas Union on the Lawrence campus. This year's winners received \$5,000 to further their teaching efforts. (*OREAD, Office of University Relations, University of Kansas*)

### **Notes from MedChem Alumni**

**James Zielenski:** I was Mathias Mertes's first graduate student; but not his first Ph.D. At age 68 I am still working as Principal Scientist with the ExxonMobil Chemical Co. I recently 'celebrated' my 40th anniversary with this prestigious oil company. I still live in New Jersey and unfortunately will do so the rest of my life. Oh, give me back wonderful Wisconsin, especially Milwaukee, or intriguing Lawrence (location for the great cult classic movie "Carnival of Souls" starring Candace Hilligos.) I have 2 daughters and 5 granddaughters and I swear there was something in the chemicals I worked with that predisposed me to fathering females and grandfemales. I wish all of my fellow grad students successful and happy retirements and remind them that you are not as old as you feel but are as old as you want to feel.

**Ki Kim:** After working at ImClone, NY, I have been enjoying my early retirement in Illinois. By the way, I left ImClone along with all the chemists, biologists, and others when they decided to close the small molecule drug discovery division. August 2007 I began working part time at the Medicinal and Pharmacognosy Dept., Univ. of Illinois at Chicago.

**Gary Chappell** (1968 Graduate under Smissman): Retired from South Dakota State University in 2000. Enjoying retirement with my wife Rosemary (married 45 years) in the beautiful Black Hills.

**Danny Lattin:** I am retired and living in Lawrence, KS. I am enjoying every second of retirement--hunting, fishing and traveling.

**Ann Warner** (1970 Graduate under Grunewald): In a Christmas letter from his very first Ph.D. student Gary learned that her retirement career of becoming a published novelist has been realized. Her novel "Dreams for Stones" will be out in e-Book format the end of this year and in print in October 2008. She explains it all on her website ([www.annwarner.net](http://www.annwarner.net)). The publisher's website is [www.samhainpublishing.com](http://www.samhainpublishing.com).

**Karen E. Eichstadt:** The ad hoc Ohio Chapter of the Med Chem Circa '66-'71 Alumni Group met on January 13 in Cincinnati with Ann Bowman Warner (Grunewald '70), Vic Warner (Smisssman '70), Larry Powers (Mertes, '69), Carol Calhoun Powers (Chem., Everette '69), Karen Ely Eichstadt (Wiley '70) and Frank Eichstadt (Chem. Eng., '69) attending. Stories that will live forever were rehashed over some fine wine and plenty of laughter. The group vowed to meet again soon. Four are recently retired, two are still employed.

**Brenton Smith:** I am still married to Brenda Smith Ph.D. (Pharmacology and Toxicology KU alumna) and now have two children, our son Logan (4) and our daughter Avery (7 months).

**Matt Cerny** (2006 Graduate under Hanzlik): All is well in San Diego after a pretty interesting fall with the fires here. Nothing near where I live, but it was interesting to be around another natural disaster different than the "usual" floods and tornadoes of the Midwest.

*Notes from MedChem Alumni (cont. from page 9)*

**Keisuke Ikehata:** I'm currently working at the University of Alberta where I was before I came to KU. I am still a research associate here, although hopefully I will be getting a faculty position soon. I'm working hard and being patient.

**Angie Peck** (Graduate under Aldrich 2007): Shortly after my defense we sold our house and have relocated back to Washington State to be close to our families. We are currently settling into our new home in the Seattle area!

**Brian Smith:** I am currently working as a Study Director in the P450 Inhibition Department at XenoTech LLC in Lenexa, Kansas. The knowledge that I gained of Cytochrome P450 structure and function from Dr. Emily Scott has been extremely helpful in my new job!



Our newly-admitted graduate students in Fall of 2007 joined the department's faculty, staff and other graduate students at the annual picnic at Centennial Park in Lawrence. Temperatures that evening dipped to the upper 80s. Our new students (and institution where they received their undergraduate degree) are: (*Left to right; front row*): Ruzhang Liu, Qingdao Univ. of Science and Technology, China; John Woodard, Florida State Univ.; Matthew Axtman, Valley City State University, ND; Michael Amolins, Augustana College, SD; Laura Peterson, Univ. of Colorado; Linda Blake, Seattle Pacific University, WA and Xiaoqin Tong, China Pharm. Univ. (*Back row*): Michael Urban, Benedictine College, KS; Juan Jose Araya, Universidad de Costa Rica; Anand Joshi, National Inst. of Pharm., India; Rushi Trivedi, Purdue Univ., IN; James Clark, Southern Utah University, UT and Christopher Kimmell, Drury College, MO. (Not pictured: Kyle Bailey, Univ. of Washington, WA.)

### ALUMNI INFORMATION UPDATE FORM

We would like to know where life has taken you since you left The University of Kansas. Please complete the following form and return it to us, or send us an email message with this information (jbuttenhoff@ku.edu).

We look forward to hearing from you!

Medicinal Chemistry Alumni  
Attn: Jane Buttenhoff  
Department of Medicinal Chemistry  
The University of Kansas  
1251 Wescoe Hall Drive, 4070 Malott  
Lawrence, KS 66045

Name: \_\_\_\_\_

Degree and Date: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Country: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Email (to send announcements and annual newsletters): \_\_\_\_\_

News, updates, comments or suggestions: \_\_\_\_\_

May we include this information in the next Medicinal Chemistry newsletter? Yes  No