USF
UNIVERSITY OF SOUTH FLORIDA

USF Chemistry NEWS

News of Interest to
Friends of the Department of Chemistry
University of South Florida

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Recognition…

Asprin polymorph found. A research item from the Department appeared the online version of *Chemical & Engineering News,* written by Celia Henry Arnaud [http://pubs.acs.porg/cen/news]. "In the later 1960s, there were indications that aspirin might have a second crystalline form, it continued to escape attention. Now Michael J Zaworotko, chemistry professor at the University of South Florida, Tampa, and coworkers at South Florida and TransForm Pharmaceuticals, Lexington, Mass. have found this elusive polymorph."

The article notes that the second form was obtained as a result of co-crystallization experiments with aspirin and other compounds and describes some of the properties of Form II . The print copy appeared in *C&EN* [November 21, 2005 issue; page 50] as well as in *J. Am. Chem. Soc*. **2005**, *127*, 16802.

Travel Scholarships. The International Center for Materials Science (Santa Barbara) sponsored seven U.S.-based graduate students attend the Third International Conference of AfricaMRS, including **Mr. Jarrod Eubank** and **Mr. Gregory McManus** The scholarships covered all travel expenses associated with the conference including airfare, registration fee and lodging. The conference was held Dec. 7-10, 2005 in Marrakesh, Morocco. Mr. Eubank's doctoral advisor is **Dr.**

Eddaoudi and Mr. McManus's is Dr. Zaworotko (please see below).

Introducing a new faculty member…

Dr. John C. Antilla, an organic chemist, joined the Department this January. Previously he was an assistant professor of Chemistry at The University of Mississippi (2003-2005). Prior that, he had been a NIH Cancer Institute post-doctoral fellow at MIT (2000-2003) where his advisor was Professor Stephen L. Buchwald. He completed earned his Ph.D. in Chemistry (1995) at the University of Chicago, where his advisor was Professor W. D., Wulff. He is the co-holder of four patents and author of several publications.

Out and about…

The Department is seeking another faculty member, and **Dr. David Merkler**, Associate Chair, is chair of the search committee.

Dr. Mike Zaworotko spoke at four Swiss universities in November. In December he gave a seminar at Notre Dame presented two lectures at a conference on pharmaceutical IP, then flew to Singapore to present an invited lecture at the Singapore International Chemistry Conference, then headed to Hawaii an invited lecture at the Pacifichem Conference.

Dr. Mohamed Eddaoudi served on the conference Advisory Committee of the African Materials Research Society that was held December 7-10 in Marrakesh, Morocco. Dr. Eddaoudi also helped

coordinate a workshop on nannoscience where he made a presentation, as did **Jarrod Eubank** (*News* 3:1) and **Gregory McManus**,

Dr. Bill Baker, Dr. Mohamed Eddaoudi, and **Dr. Randy Larsen** also presented papers at the Pacifichem Conference December 15- 20 in Honolulu.

Ralph Salvatore (Ph.D. '01), Associate Professor of Chemistry at University of Massachusetts-Boston returned to give a seminar, "Mild and Efficient Synthetic Routes Toward Carbon-Heteroatom and Carbon-Carbon Bonds" on January 12 as part of the
Regular seminar series

REU News

News from the Assistant Chair, **Dr. Patricia Muisener**: "Our Academic REU Poster competition was held on December 9. We had eleven excellent posters. We would like to thank all the participants for their hard work. The top three posters were as follows:

"First Place Poster by Ryan Centko working for Dr. Bill Baker; Second Place Poster by Joshua Ortiz, Ryan deVito, and Son Cao working for Dr. Ellen Verdel and Third Place Poster by Diondra Hill working for Dr. Mildred Acevedo Duncan

We will be having a short award ceremony for these first, second and third place winners at the beginning of the Spring. Location and time of the ceremony to be announced at the beginning of the Spring."

REU is a research experience for undergraduates and was initiated as an NSF-supported summer program with a three-year grant, as noted in previous issues of *News*. The program was adapted to the fall and spring semesters starting with the fall of 2005 and some 70 students.

Campus changes --- past and future…

A number of changes have occurred since you left. Just how many depends on when you left. Just to pick a couple…

University Library: When some Chemistry faculty want a cup of coffee, they go to the library, go in the main entrance, make a sharp right and find a Starbucks (and no signs about not carrying food or beverages in the library). When we go to the Reference Room, we no longer see books. There is a reference desk, but a large roomful of computer stations and some softer chairs and tables for students to gather about with comfortable lighting. The Copies of *Chemical Abstracts* and other reference works were moved to the basement. Chemical Abstracts is now searched electronically on *SciFinder Scholar.*

Marshall Center (Student Union): This is also scheduled for some remarkable changes. The Special Events Center, constructed during President Brown's tenure, is scheduled for demolition as part of phase one of a new student union, and the old one will be demolished and a large addition is planned. Among the helpful features is a reduction in energy costs for maintenance of the two buildings. Stay tuned.

Faculty you should know

Spotlight on…

Dr. Roman Manetsch (Assistant Professor) joined the Chemistry Faculty in August, 2005. He and his wife moved from La Jolla, California where Dr. Manetsch was a post-doctoral fellow and research associate with Professor K. Barry Sharpless at the Scripps Research Institute for the last three years.

Dr. Roman Manetsch

"I was born and raised in a little village in the Swiss Alps. At the age of 12 years, my parents decided to send me to a private school in a monastery. Half of the faculty at this school were monks and I can especially remember one monk, Brother Ansgar. He was my first chemistry teacher and, although he did not teach a sophisticated and most updated chemistry course, I entirely enjoyed participating in his classes. During this period, I then evolved the idea to get a Diploma in Chemistry. In 1994, I therefore moved to Basel, a Swiss city located right at the border to France, Germany and Switzerland, to start my studies in Chemistry and Biology. Soon, I developed a passion for especially organic and bioorganic chemistry. After my Diploma in Chemistry, I decided to continue with a Ph.D. at the Department of Chemistry at the University of Basel. I joined the group of Professor Wolf-Dietrich Woggon, who at the time just joined the department. His research deals mainly with enzyme mimetics and with the study of enzymes important for the biosynthesis of vitamin A and vitamin E. When I joined his group, Professor Woggon put me on a project on the enzyme tocopherol cyclase. Tocopherol cyclase is a key enzyme in the biosynthesis of vitamin E and it catalyzes a stereospecific cyclization reaction. The main idea of my thesis was to develop transition-state analogues of this particular enzymatic reaction and to utilize these compounds to generate antibodies showing tocopherol cyclase activity. This project was a collaborative effort with Professor Jean-Louis Reymond at the University of Berne, Switzerland, who has experience with catalytic antibodies. A third of my Ph.D. time I was working in the laboratory of Professor Reymond in Berne. I was fortunate enough to obtain two antibodies showing catalytic activity similar to the original enzyme tocopherol cyclase. Looking backwards, I realize that I was very fortunate in the sense that I gained experience from two completely different laboratories."

"At the end of my Ph.D., I started discussing with Marlen (at that time my girlfriend) about leaving Switzerland for a while to gain experience as a postdoc. For such postdoctoral stays, Swiss chemists commonly choose an Institution in England or in the United States of America. Since both of us were used for many years to long, cold and wet winters, we wanted to combine our employment abroad with a lifestyle in a warmer environment. In November 2002, two weeks after my Ph.D. defense, I started my new employment at the Scripps Research Institute in La Jolla in the laboratory of Professor Barry Sharpless.

Initially, I had an unlucky hand in working on good projects, however after nine months (and after six unsuccessful projects), Barry asked me to re-start a target-guided synthesis project termed in situ click chemistry. This unique approach enables the target protein to select and assemble its own potent inhibitor from a pool of building blocks bearing complementary reacting functionalities. Though initial success with the enzyme acetylcholine esterase, the in situ click chemistry lay fallow for more than a year due to serious experimental hurdles. Immediately after being involved in this target-guided synthesis approach, I finally began to collect promising results and I continued to work on this particular project till the end of my postdoctoral stay in July 2005. This project was a collaborative effort with the laboratory of Professor Palmer Taylor at the University of California in San Diego."

"In the end 2003 and beginning of 2004, Marlen (we got married in 2003 in Maui) and I gradually realized that we prefer to stay for longer in the States. I then started to apply at several schools for a faculty position and after my job interview tour in January 2005, I finally accepted the offer from the University of South Florida. In July, we then loaded the entire household on a white Penske truck and drove the 3000 miles from San Diego, arriving in Tampa right on the week-end with the first hurricane of the season. In August, I then started working at USF. Due to Professor Jung's unexpected leave, I had the opportunity to occupy his office and one of his labs in NES."

"Looking backwards, I think that, since my arrival at USF, quite everything developed in an unexpected but positive way. For instance, I am amazed how easily I got students in joining my group. At the moment, I have a fairly large group of four graduate students and five undergraduate students. Together, we work in giving real lab life in the newly equipped room. Since I developed over the last eight years a passion for proteins, I strongly believe that my group has to continue to investigate protein-related problems by utilizing organic chemistry. The group will initially mainly focus on the further development of target-guided synthesis. Since this approach is a relatively unexplored science for drug discovery and drug optimization approach, there is plenty of scientific questions to experimentally be answered. The long-term goal of our research is to attack prevalent problems of conventional drug discovery programs by establishing target-guided synthesis as an inexpensive and highly reliable tool complementary to contemporary drug discovery techniques."

Staff members you should know….

Michael Piazza, Senior Storekeeper (Chemical Inventory Clerk)**,** is perhaps the only person in the Department who gets Mets baseball on a regular basis on his cable TV hookup. We asked him about this and other aspects of his life.

"I was born in Queens, New York where I spent 30 years of my life before I moved to Florida in March 2003. I grew up in Ridgewood, which is a predominately German/Italian neighborhood and a stones throw away from Williamsburg, Brooklyn and a view of lower Manhattan. I attended Martin Luther H.S. in Maspeth, NY and went on to college at Adelphi University in Garden City, LI where I received my bachelors in Business Management in 1996. Soon after graduation, I worked as a Health and Safety supervisor at United Parcel Service for 7 years. There I was in charge of the Health and Safety of over 3,000

employees and 7 buildings. My job to say the least was quite vast in all areas of workplace safety, from meeting National

Mr. Piazza in his office in NES

safety codes and regulations to local fire and police mandates. I received extensive training in Hazardous Material Response (HAZMAT), workplace safety according to OSHA standards and training in power industrial truck operations in accordance with the National Safety Council. After 2 years at United Parcel Service I became the district Hazmat response trainer."

"In 2002, I decided it was time to leave the stress of everyday life of living in New York and the cold winters. So I decided to research jobs in Florida that were in the realm of my experiences. Luckily for me after a month, a position in chemical inventory management at the USF chemistry department looked inviting. So I applied and was hired as the chemical inventory clerk for the department of Chemistry. My position entails receiving, logging and tracking all chemicals from cradle to grave while following all local, state and federal safety laws. The university developed the 'HITS' or Hazardous Materials Inventory Tracking System to handle such large quantities of chemicals used by varies departments through out the campus."

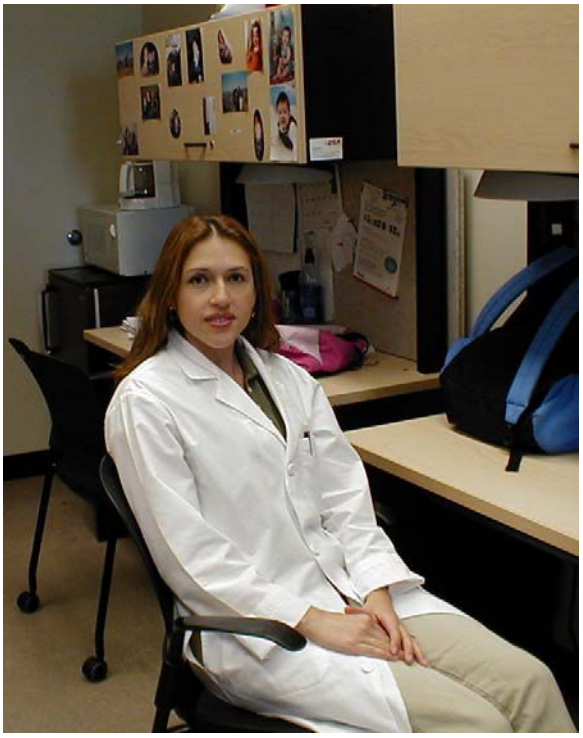
"Currently I live in Wesley Chapel. I have one lovable cat 'Toby' who is my best friend. I enjoy working out at the gym, bike riding and annoying my neighbors with my surround sound theater system. Lastly, I must mention that I am a die-hard New York Mets fan. During the start of the baseball season it would have to take drastic measures to move me away for my ball game." [Photo]

The joy of our present, the hope of our future…

[a continuing series on current graduate students]

Laura Anderson wrote "I was born in Montenegro, a small town located in the coffee-growing region of Colombia. I began my Chemistry studies at the University of Quindio; in 1996, I received a degree in Chemistry with emphasis in natural products. This was possible thanks to the effort of my parents and to a scholarship I obtained playing Basketball for my college and State teams."

"I moved to the United States in 1999 and after a few years of learning and practicing English, I started at USF as an undergrad in the Spring of 2001. Initially, I wanted to pursue a degree in Pharmacy; after completing all pre-Pharmacy requirements and having transferred some credits from Colombia, I graduated with a B.A in



Ms. Anderson at her NES desk

Chemistry in the Spring of 2004. As an undergrad, I had the pleasure to work with Dr. and Mrs. Martin for two years. With them, I learned a lot about Environmental Chemistry, lab and report techniques, and I even got a job analyzing samples for a project with the Southwest Florida Water Management District under Dr. Martin's supervision. While working in his group, I obtained a couple of recognitions: I was the recipient of the 2003 Outstanding Undergraduate Student Paper, Florida Academy of Sciences and the recipient of the 2003-04 Outstanding Undergraduate Researcher at a Ph. D.-Granting Institution, Sigma Xi: The Scientific Research Society. I was also the co-author of a paper in the *Florida Scientist*. However, the most important thing I achieved from his guidance and help was an increased self-confidence and the building of my skills to pursue what I always have wanted to do professionally. Thanks to Dr. Martin's advice, I decided to forget about Pharmacy and pursue a graduate degree at USF, where research was the main objective (I'm glad I did it)."

" I was accepted in the Ph.D. program in Fall 2004 and since I have always been fascinated with the chemistry of drugs, I was accepted to work under the supervision of Dr. Mark McLaughlin. I am currently working on a project that involves the synthesis of amino acid derivatives that could mimic the α-helical conformation of peptides to disrupt certain cellular processes and potentially become anticancer drugs. I really enjoy the type of chemistry done in this lab and I'm very happy and thankful for the opportunity of being at USF."

"Besides my graduate studies I also allow some time to spend with my husband, Patrick, who I have been married to for six years. I love visiting my family and friends in Colombia every time I can, and of course, I enjoy a good cup of coffee prepared by my mother."

Scott Lewis, an advisee of **Dr. Jennifer Lewis,** wrote that he was "originally from Carlisle, Pennsylvania, a nice, quiet suburb of Harrisburg, and moved to Tampa when I

Mr. Scott Lewis, who recently successfully defended his dissertation.

was nine where I've lived since then. My family, whom I'm close to, still live in the

area. I went to King High School, just down the road from USF, as a member of their inaugural International Baccalaureate class, a pretty involved college preparatory program. Among the principal benefits from attending the program have been a pretty solid background for beginning college, an unusually high number of fascinating and diverse friends and a willingness to be a guinea pig when it comes to joining programs that have just begun. I started USF in the fall of 1997 and did my undergraduate work in chemical engineering (though I took additional chemistry and physics classes when I could fit them in, which was rare). The approach and techniques used in chemical engineering were very clever and interesting, but the application side may not have appealed to me as much as it should have. I decided to pursue chemistry in graduate school (beginning in Fall 2001) and unsure of a research area I chose to remain at the USF, after interviewing at a couple other schools."

"During my first semester in graduate school I was introduced to a recently started Chemical Education group at USF. Since I have always been very curious about teaching and learning chemistry, one of the first questions somebody might ask me about chemistry is how does that stuff make sense to you, and I admit I have never had a very good answer, I joined the Chemical Education group. Of course playing the part of a guinea pig again also had a certain appeal. Currently, in my work in Chemical Education Research, I'm interested in the evaluations of teaching reforms, both in terms of methodology (how do you evaluate a teaching reform) and application. The latter can include any, or all, steps from designing a reform, implementing the reform, collecting and analyzing data and interpretation of the analysis. This also includes investigating the appropriateness of statistics techniques to see if they are well suited for the situation at hand."

"Additionally, I'm interested in the assessment of chemistry understanding students have. Research in this area can investigate the properties and qualities of a test. Some questions might be, is the test valid, is it reliable, is it biased, and what information can the test tell us about those taking it. Particularly my work has focused on the first semester general chemistry course at USF, which is an area of interest for a large number of students and is also similar to courses taught across the country. I also at one time had a goal of knowing every graduate student in the department, but have long since failed miserably in that task. "

"Other non-school interests are a love of classic cars, in particular the first few years of the Mustang. I love everything about them, and frequently go to car shows or other events. I'm currently working on a 67 Mustang, but far from being proficient I limit myself to small jobs and leave anything serious to professionals."

We get letters…

Frank S. Adamo (M.S., '68) of Frank S. Adamo Enterprises (Cypress, CA) wrote that he is going to be hosting a weekly talk show soon, which will have as its basic theme "Success Through Communications". "It will deal with public speaking skills, personal communications, business presentations…and other forms of communications." He also serves as the chairperson for district speech contests in both Rotary and Toastmasters. And he added that he is involved with video productions, educational programs and video commercials.

Curtis Anderson (Ph.D. '87) , Principal Materials and Process Engineer, Coralville, Iowa (near Iowa City) wrote, " I'm currently working for Rockwell Collins. I've been focusing on microelectronics packaging over the past few years with research and development that has gone fairly well. I currently hold 6 patents and have another 5 in the patent pending process. Much of my current work is spent implementing the patented processes into high volume production. This is not always easy but we've had some good success. "

"Chris is finishing her doctorate (Ph.D.) at the University of Iowa in curriculum for behavior disorders. We currently have 3 of our children at ASU with 2 graduating soon. We've moved around the last six years including moves from Florida to California, then Arizona and now Iowa."

Charles Asowata (B.A. '80**),** Major U.S. Army, is the Special Assistant for Army Arms Control and Systems Acquisition Programs. He is part of the Office of the Army Treaty and Implementation and Compliance Review Manager, and is stationed at the Pentagon. He wrote that it has been very rewarding and that there is a lot to learn being on the Army Staff.

Kathleen Carvaolho-Knighton (Ph.D. '00) Assistant Professor of Environmental Science & Policy, USF St. Petersburg, is Chair of a search committee for a chemist.

Melissa Derby (Ph.D. '02) accepted a position as a research assistant at Harvard University in the Department of Organismic and Evolutionary Biology, Harvard University. She works mainly with Dr. Chris Marx but also collaborates with Dr. Peter Girguis. She sent pictures of favorite places in Boston that brought back good memories.

Bibi Ephraim (Ph..D. '95) sent his best wishes at Christmas.

Maria Flynn, M.D. (M.S.'89) sent her Christmas wishes and a picture of her and son, Camden. Her husband is currently serving in the Middle East.

Craig Foreback (Ph.D.,'73) has been elected Chair-Elect of 6he Chicago Section of the American Association for Clinical Chemistry. This is a three-year commitment serving as Program Chair for 2005, Chair for 2007, and continuing on the Board of Directors for 2008.

He also remembered when the Science Center basement had a coffee shop and a cafeteria. (This is now part of the site of the Department of Biology main office and in part space occupied by College of Arts and Sciences Computing). Now many chemists who want coffee seem to go to the Library where there is a Starbucks on the first floor.

Maria Gallardo-Williams (Ph.D. '99) sent a picture of her children, Victoria and Nicholas.

Elsie Gross (Ph.D. '94) is state President of Delta Kappa Gamma**,** a women's academic professional organization.

Ken Hewes (M.S.'83) has completed 22 years service at Texas Instruments….

Dr. Marylyn Lupton, who had a serious operation last May, was seen up and around original Carrollwood last November and wrote that she is now fully recovered and that she appreciated all those who sent her their good wishes.

Suzette Michele Marteny (B.A '00) has moved her law practice to Ackerman Senterfitt in Tampa.

Venkatraj V. Narayanan (Ph.D. '97) wrote that like many of us, he was hoping to clear away things by the end of the year. He is in Bangalore, which was one of the stops that President Judy Genshaft and a development team made looking for possible sides for a USF-affiliated medical center. Indian students would work at the center and receive degrees from USF.

Young Chul Park (Ph.D. '04) sent his good wishes for a happy holiday season from his home in Palm Bay, Florida. He continues as a post-doctoral research associate at Harbor Branch.

Mick Perez-Cruet, M.D. (M.S. '86) sent Christmas greetings from Michigan. He sent a picture of him, his wife, two daughters and two sons, and his thanks for the newsletters and updates.

Dilojan Senanayke (M.S. '96) wrote from Sri Lanka that he has been very busy with post-tsunami activities of the Water and Habitat Section of the International Committee of the Red Cross. "From digging tube wells to ensuring water quality are some of the many activities of the Red Cross."

Chuhua Wang (Ph.D. '97), Senior Analytical Chemist at Technic, Inc. (Providence, RI) wrote that he had seen Dr. Dongxin Wang when visiting in China, and he also described the new product areas his firm is interested in.

Dongxin Wang (Ph.D. '00) is a faculty member at Najing Normal University, Nanjing, PRC.

What are they up to?

Please look at our web page ("Graduate Alumni") and see if you (and or your friends and fellow alumni) are accurately listed. It is hard to keep up with the growing list of alumni (would you believe over 275 graduate alumni). We would be grateful if you could bring us up-to-date on what you or some of your friends are doing.

News and feedback

For additional information on faculty, staff, students, and programs, please look at our Department Home Page : http://chemistry.usf.edu

For past issues you may have missed, please see the Home Page.

News for us or comments? Please write to dmartin@cas.usf.edu