
◆ FIU Chemistry Newsletter ◆

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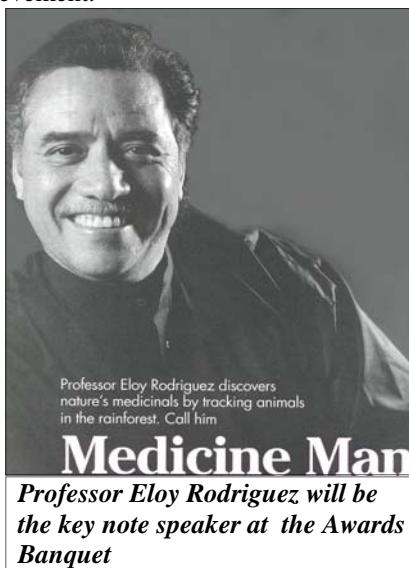
Reception and Awards Banquet

Join the Chemistry faculty for our Second Annual Reception and Mixer! Last year this was a great event for all. We will have hors d'oeuvres waiting so come and enjoy a glass of wine and have some cheese and crackers (for those with a more refined sense of taste we promise sodas, beer and tortilla chips with hot salsa!) Following the reception we will all have the opportunity to hear Cornell University's Professor Eloy Rodriguez (see story page 10) speak about his excursions into the Venezuelan Amazon with his students in search of novel pharmacologically active natural products. We hope you will all be able to attend the Banquet and Professor Rodriguez's talk! (Banquet Attendees **must** RSVP so we can order the meals with the caterer – dinner will cost \$20) The Banquet begins at 7:00 PM followed by Professor Rodriguez's tales of the Amazon and Announcement of the South Florida Section of the American Chemical Society Awards for Academic Achievement.

Place: CP Building
Room: 320
Date: April 10, 1999
Reception Time: 5:30 PM
Banquet Time: 7:00 PM

For Banquet RSVP:

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Fredrick Hoover
(1935-1998)

This year was marked by the loss of a good friend and colleague of many years. Fred Hoover died November 5, 1998 of a heart attack. We will remember Fred for the many contributions he made to our lives during the last 25 years. He was the Laboratory Manager of the Chemistry Department. Fred was a native of Hellertown, Pennsylvania and came to Miami in 1963. He was the first physics graduate from the young Department of Physical Sciences at FIU and earned his BS in 1974. He stayed on in the position of Laboratory Manager and assumed the responsibility of University Radiation Safety Officer. In recent years, he earned a Master of Science in Health Services Administration keeping up his early career interests in medical technology. Most of our alumni will forever remember his stern and somewhat intimidating first day safety lecture which punc

Fred Hoover

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**Chairman's Note,
by Ken Furton**

This year marks the 10th anniversary of the ground breaking for the CP building. Last year was a very busy and productive year for the chemistry department. We approved our first by-laws and made major revisions of our BA and BS curricula, including requiring Biological Chemistry and Modern Analytical Chemistry for all chemistry majors beginning in 2000. We set up a new advising office in CP 338, added new spectroscopic instruments, including a new 400MHz NMR, and purchased over half a million dollars in Mass Spectrometers as part of a Presidential Quality Improvement Program award the "Advanced Mass Spectrometry Facility (AMSF)" located in CP 178. We hired three new faculty and a new staff member in 1998, Dr. Palmer Graves, coordinator of general chemistry laboratories, Dr. Kelly Rein, an organic chemist and Dr. Jose Almirall, an analytical

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Can you identify the four assistant professors in this picture from 1989? (Answer at the end of the newsletter).

***New Faculty -
Class of '98***

Kathleen Rein (Organic, 1998)

Dr. Rein joined the FIU chemistry department in the fall of 1998. She received her Ph.D. in organic chemistry from the University of Miami. She did her post doctoral work at the University of Miami's Rosenstiel School in the Division of Marine Biology and Fisheries and joined the Division of Marine and Atmospheric Chemistry as a Research Assistant Professor in 1994. Her research interests include the pharmacological characterization of marine



natural products that act at membrane bound receptors for gate ion channels. She is particularly interested

in the Florida red tide toxin, brevetoxin and domoic acid, the toxin responsible for amnesic shellfish poisoning. This is accomplished by synthesis of receptor agonists, functional assays and conformational analysis to develop structure activity relationships. Another area of interest is the characterization of

biosynthetic pathways for polyketides in dinoflagellates at the genomic level. Dinoflagellates are marine microalgae that produce some of the largest and most complex secondary metabolites ever identified. In fact, the largest known non-polymeric natural product, maitotoxin, is a polyketide produced

by a dinoflagellate. Because dinoflagellates can be difficult organisms to work with in the lab, very little is known about secondary metabolite biosynthesis. Dr. Rein has recently cloned a polyketide synthase gene from the dinoflagellate *Prorocentrum lima*. A colleague at the University of Minnesota is currently sequencing the gene.

Palmer Graves (General Chemistry Coordinator, 1998)

Dr. Graves graduated from the University of Oklahoma in 1990 with a BS in science education.



He received his Ph.D. in Chemistry from the University of Oklahoma in 1998.

He worked as visiting instructor and General Chemistry Coordinator at University of Oklahoma during the Spring of 1998 prior to joining the faculty at FIU where he is Coordinator of the General Chemistry Program. He has been occupied with

'Palmer tries to spend his spare moments on the golf course'

organizational aspects of the job during this first year but has begun working with the University Outreach Program to enhance the science education of several 8th grade classes by allowing them to come to FIU and work in the chemistry laboratories here. Palmer and his wife, Gaila, and their children Nicholas, 17, Emily, 16, and David, 13, are adjusting to our 'arctic' weather in South Florida. Now that he has settled in Palmer tries to spend his spare moments on the golf course (its been rumored that he and Kevin O'Shea are considering joining the PGA

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Promotion to Full Professor Congratulations Dr. Joens!

Jeffrey Joens joined the chemistry department as an assistant professor in Fall 1984. He had worked at the University of Indiana with Professor Bair studying the fine-structure of electronic spectra of small molecules before joining our faculty. He was our second physical chemist and was immediately baptized with a teaching assignment including 4 new courses in the first year. Jeff has proven he thrives under difficult conditions and during the years since he joined the department he has published an outstanding 34 papers in scientific journals in the areas of spectroscopy and



charge-transfer complexes. This year Jeff rose the highest level recognized within the University when he was promoted to the rank of Full Professor.

Many of you will remember Jeff as spending long hours in his early years working with his students and making sure the P. Chem lab was ship shape. Nothing much changes except that now he is also seeing to it that his daughter, Barbara (who is seven, and as cute as they come) does her quantum mechanics homework before running off to first grade. Jeff married Ada Palacios in the spring of 1989. Jeff is still a member of the Pre-medical Screening Committee in addition to the many other things he does. Jeff wrote the following short article to give us a sense of what research in the field of physical chemistry has been like.

by Jeffrey Joens

Ozone is an important trace gas in the Earth's

Ozone and Me

atmosphere. In the stratosphere ozone filters out high energy ultraviolet light from the sun, preventing it from reaching the Earth's surface. In the lower atmosphere ozone is a pollutant, especially dangerous to people suffering from emphysema, bronchitis, and other chronic lung diseases.

My interest in ozone dates to the late 1970's. As a graduate student at Indiana University under the supervision of Professor Edward Bair I studied the production and release of vibrational energy in ozone

following its formation by the oxygen recombination reaction. This work made up approximately half of my doctoral thesis. In 1985 I returned to Ed's lab for the summer to complete some experiments on the ozone formation reaction. The results of this work formed the basis of two papers, among the earliest of my publications having an FIU affiliation.

My most recent work on ozone has focused on spectroscopy, the interaction of molecules with light. I spent several years developing theoretical methods for modeling unstructured electronic spectra of small molecules, and was looking for an interesting test case for my theory. The near UV absorption band of ozone, the one responsible for shielding the Earth's surface from solar UV radiation, looked like it could be analyzed by my methods.

This absorption band of ozone does possess weak structure, making the band look like a bell-shaped curve with weak wiggles on the top. Scientists spent over twenty years attempting to explain the origin of these wiggles. I figured that before I committed a lot of time to working on the ozone spectrum I should try to

understand why it was so difficult to explain these features, since it might have implications for the modeling I was planning to do.

The most likely explanation of the wiggles, at least in my mind, was excitation to specific vibrational states in the upper electronic state of the molecule. This had, in fact, been the first explanation proposed for these features, and had been discarded because of the difficulty in

“As a graduate student at Indiana University I studied the production and release of

assigning all of the features observed. It would be nice to say I believed I knew something these earlier people did not - nice, but incorrect. My reason for trying this model was not that I thought that I could get it to work, but that I thought that by failing I would understand the shortcomings of the model.

One night, while my wife and daughter were asleep, I tried to carry out the vibrational assignment. Imagine my surprise when, after an half-hour of work, I was able to fit every wiggle in the spectrum to a particular vibrational energy level in ozone. I was stunned. It turns out that previous scientists had made a reasonable (but wrong) assumption about the nature of the vibrational state involved in the wiggles. By not making that assumption I had managed to explain all the features appearing in the ozone spectrum. I quickly wrote up the results of my work, and the paper, which soon appeared in the Journal of Chemical Physics, represents my most cited work for research conducted at FIU. Even more gratifying, a few years after the paper appeared a French group carried out an experiment suggested in my paper and confirmed my assignment.

Ozone...

Shortly after the above

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Faculty News

tuated each student's arrival in the Chemistry Laboratory with a certain knowledge that safety is a serious matter. While his lecture came from a deep personal concern for all of our students most of them knew only this stern caricature of Fred. All of us who worked with him and many of the chemistry majors came to know a complex person with a tremendous sense of humor and a deep personal commitment to his friends and family. He had a great enthusiasm for life which he enjoyed to the fullest extent. His passions included car racing (in earlier years), sailing and motorcycling. Motorcycles had become a tremendous source of pleasure for both Fred and Martha in recent times. Each summer Fred would return after traveling with Martha to some new, picturesque section of the country where they had traveled the back-roads on their bikes to see the quaint and less frequented sites. Fred told many stories of these trips to his lunch time audience over the years.

We will miss them. On November 14, 1998 his friends and family gathered together (as we had on so many warmly remembered occasions) at his South Miami home in a celebration of his life that showed us all how much he will truly be missed. He is survived by his loving wife Martha, his son Kyle and daughter-in-law Penny, his brothers Parke and Jimmy, and his sisters Linda, Brenda, and Paula.

Qian Zhang (1960-1998)

We were saddened to learn of the tragic loss of Qian Zhang. She succumbed to complications after the birth of her second child. She is survived by her loving husband, Mr. Lang, and by her two daughters. We are keeping them in our thoughts and remember them with great fondness. Mr. Lang completed an MS degree under the direction of Professor Jaffé.

David Becker (Organic, 1992) This year has been an exciting one for the Becker group. Five publications on azulenylnitrones have already appeared in chemistry and neurology journals and a review will be appearing shortly. Several of the newly published manuscripts document Dr. Becker's collaborative work with Harvard Medical School and the Pharmacia and Upjohn Company. These studies describe the neuroprotective action and diagnostic utility of azulenylnitrones in animal models of neurodegenerative conditions such as Parkinson's Disease and ALS (Lou Gehrig's Disease). In December 1998, his group was awarded a NIH grant totalling \$332,000 to explore the chemistry and biology of azulenylnitrones over the next three years. Additional funding has been obtained from Roskamp Laboratories at the University of South Florida to investigate



azulenylnitrones as potential Alzheimer's Disease therapeutics. In the Fall of 1998, James Ley joined the group and he is currently pursuing his Ph.D. while conducting research on new azulenylnitrone derivatives. On a personal note Elise and David have become first time parents with the birth of their daughter, Melanie Gilbert Becker (7 Lbs 10 oz, 21 in. January 23, 1999).

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tour).

New Faculty

José Almirall (Analytical/Forensic 1998) Dr. Almirall may be a new faculty member this year but in fact José is returning to us after a sizable absence. Welcome back! José graduated with a BS in Chemistry from FIU in 1983. He joined the Dade County Crime Laboratory in 1986 where he spent the intervening 12 years. José has, in addition to completing a Ph.D. in Chemistry at Strathclyde University in Glasgow, Scotland developed a solid resume of accomplishments in the application of modern chemical analytical methods to forensic science. Dr. Almirall is continuing the extensive work he has done on the identification of glass fragments by isotopic composition and is developing several new projects on the analysis of drugs, drug metabolites, and explosives. His work uses a variety of powerful analytical techniques including gas chromatography/mass spectrometry/mass spectrometry (GC-MS-MS), inductively coupled plasma spectrometry/mass spectrometry (ICP-MS) and liquid



chromatography/mass spectrometry (LC-MS). Dr. Almirall presented results from his research on the isotopic composition of glasses at the SPIE (It really isn't a culinary society!) meeting in Boston last October and has been invited to speak at the Solid-phase Microextraction symposium of the Eastern Analytical Symposium in November 1999 in Somerset, New Jersey. José and his wife, Susanne, have two children Amanda and Joseph ages 11 and 7.

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FACULTY NEWS

Milagros Delgado (Physical, 1989)

Dr. Delgado is very active with the local ACS chapter and serves as a counselor attending the National Meetings. She is also working with the in the area of chemical education. She continues to teach General Chemistry and Survey of Chemistry at the North Campus. Milly recently visited her son's school as part of their Cultural Arts Day Program bringing chemistry to life for the students there. She brought chemical demonstrations of color showing them the importance of the sciences to the arts. She also served as a mentor to a SEED student again this summer developing experiments which incorporate the use of computers in General Chemistry. Three presentations at national meetings have resulted from her recent work.

Yiwei Deng (Analytical/Env., 1992)

Dr. Deng attended the 216th National Meeting of the American Chemical Society held in Boston last August. She presented two papers based upon

1987) 1998 was another banner year. Three of Rudolf's graduate students, Alexandra Gongora, Maria Hernandez, and Julio Lopez graduated this year. Rudolf spent several weeks in France where he visited Strasbourg and the lab of Professor Albrecht where he was able to gain important skills in the use of stable isotope-ratio mass spectrometry. He attended the Latin American Conference on Organic Geochemistry held on Margarita Island in Venezuela in October 1998 where he presented two papers: "Molecular Markers as Indicators of Organic Matter Sources in Sub-tropical Wetland/Marine System" and "Comparison of High Pressure Extraction Methods for Geochemical Application: Implication in Speciation Studies" and taught a short-course on the topic of Environmental Organic Geochemistry. Rudolf also attended and presented papers at both the Dallas and the Boston, National Meetings of the American Chemical Society. Rudolf continues his duties as Associate Director of the Southeast Environmental Research Center, and is the committee chairman for Chemistry's new Advanced Mass Spectrometry Facility (See page 9 for details). Rudolf's group was recently joined by Ph.D. student Ralph Mead and visiting Research Assistant Professor Dr. X. Lu.

Yong Cai (Analytical/SERP, 1997)

Dr. Cai had a busy first year. His work on the use of ferrocene labels for teaching electrospray mass spectrometry is getting wide spread attention. He spent the summer at Oak Ridge collaborating with Dr. Gary van Berkel on this work. He continues his romance with the field of porphyrin chemistry and is writing a chapter, "Mass Spectrometric Analyses of Porphyrins" for the inclusion in Smith's epic "The Porphyrins", a 12 volume work to be published by Academic Press in 2000. This work will be the definitive reference in this field for the next 10-20 years. Beyond these activities Martin has taught organic chemistry at the North Campus this year making it possible for many students to

developments of novel methods for mercury analysis and its biogeochemical cycling. Yong has just returned from presenting a paper at the annual Pittcon '99 meeting which was held in Orlando this March. He has three papers published so far this year in the journals of Applied Organometallic Chemistry and Int'l. J. Environ. Anal. Chem. and three more including a book chapter for the Encyclopedia of Analytical Chemistry (John Wiley & Sons). His current group includes Joseph Moore and Myron Georgiadis and is applying many advanced techniques to understanding biogeochemistry of heavy metals in South Florida Ecosystems. Yong and his wife, Yin, are proud to announce that their son Peter is expecting to become a big brother in August!

Kevin O'Shea (Organic, 1987) Kevin spent last year on sabbatical at The Georgia Institute of Technology working with Professor Gary B. Schuster. He worked on photodimerization of thymines incorporated in peptide nucleic acids (PNA's) and a paper is in submission to J. Am. Chem. Soc. He published several papers on work from his group at FIU including a book chapter. Kevin was co-editor of a book published by Wiley and Sons, entitled "Environmental Applications of Ionizing Radiation". On March 11, 1998 Audrey gave birth to their first child, John Thomas O'Shea. John was a healthy 7 lbs 5 oz, 20.5 in. at birth.

Martin Quirke (Organic, 1983) Martin is, as usual, loaded up with new projects. His work on the use of ferrocene labels for teaching electrospray mass spectrometry is getting wide spread attention. He spent the summer at Oak Ridge collaborating with Dr. Gary van Berkel on this work. He continues his romance with the field of porphyrin chemistry and is writing a chapter, "Mass Spectrometric Analyses of Porphyrins" for the inclusion in Smith's epic "The Porphyrins", a 12 volume work to be published by Academic Press in 2000. This work will be the definitive reference in this field for the next 10-20 years. Beyond these activities Martin has taught organic chemistry at the North Campus this year making it possible for many students to



From Left: Dr. Len Scinto, (SERP), Dr. Yong Cai, X. Fang, and X. Zhao.

her recent work at FIU; 1) Solid-phase extraction and capillary electrophoretic determination of phenolic acid in natural waters, and 2) Factors affecting the levels of hydrogen peroxide in rainwater collected in South Florida. She published three papers in 1998 in the field of environmental and analytical chemistry.

Rudolf Jaffé (Environmental/SERP

Preparation" which he taught during the Fall 1998 term. This course was made 'real' by a field trip to Everglades National Park where students put their skills to work (see photo, above) Yong and his students Sugunya Monsalud and Jesse Hidalgo, attended the ACS national meeting last August where they presented three papers regarding

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Faculty News

meet their chemistry requirements without traveling to the University Park Campus.

Gary Hoffman (Physical, 1987)

Gary is taking a sabbatical this year and is working on a variety of projects at Los Alamos National Laboratory in New Mexico. His graduate student, Gretchen Penske was able to travel to Los Alamos for a couple of months this winter where they finished work on one major project. He has also finished work on a comparison of the electron density in the nickel, copper and zinc metalloporphyrins which has now been submitted for publication.

Ramon Lopez de La Vega (Inorganic, 1986)

Two new graduate students have turned the Lopez lab into a bee-hive of activity measuring heats of reaction of metal insertion into porphyrins. Ramon is serving as graduate coordinator but plans to pass on the reins over the summer so he can invest more time in the lab with his students.

Len Keller (Organic, 1972)

Len has recently completed re-writing all of the lab manuals used in Organic Chemistry. His oldest son, Daniel, is planning to attend the University of Nebraska in the fall (I hope he likes the cold!).

David Chatfield (Physical, 1995)

David spent six weeks at NIH during the summer of 1998 doing research on NMR dynamical observables for protein side-chains. He was recently invited to the University of Cincinnati to speak on this topic. During 1998 he has had two publications appear in print; "Molecular Dynamics of Staphylococcal Nuclease: Comparison of Simulation with ^{15}N and ^{13}C Relaxation Data", *JACS* **120**, 5301, 1998; "HIV-1 Protease Cleavage Mechanism; A Theoretical Investigation Based on Classical MD Simulation and Reaction Path Calculations using a Hybrid QM/MM Potential", *Theochem*, **423**, 79, 1998.

John Landrum (Inorganic/Biomedical, 1980)

John received a grant last spring to study the uptake of lutein in human subjects and will be presenting the results at the up-coming national meeting of the Federation of American Societies for Experimental Biology (FASEB) in Washington, D.C. A paper co-authored by past students Linda Moore and Christina Gomez on the analysis of zeaxanthin stereoisomers from individual human eyes appeared in *Methods in Enzymology*, **299** in January of this year. He currently has two graduate students, Yin Chen and Christian Herrero. He is also preparing a poster for the upcoming National Meeting of the Association for Research in Vision and Ophthalmology (ARVO) in May. He has been invited to present a paper on Carotenoids in the Human Eye at the 12th International Symposium of Carotenoids to be held in Cairns, Australia in July. The paper will be published in the *Journal Pure and Applied Chemistry*. John reports that his son James, 15, recently became a blackbelt in Tai Kwon Do and is learning to drive. Elizabeth, 12 is an honor roll student at Carrollton School and won a Superior on her science project this spring. Jeffrey, 10, also a Tai Kwon Do enthusiast is preparing for a school trip to St. Augustine.

Stan Wnuk (Organic, 1997)

Stan attended the France Round Table Conference on Nucleoside and Nucleotides in Sept. where he presented a paper on Development of New Inhibitors of S-Adenosyl-L-homocysteine Hydrolase. Stan's students, Carlos Valdez, J. Khan, P. Moutinho, J. Oliva, N. Sanchez, and E. Henandez are traveling to Anaheim in March for the National ACS meeting where they will present a poster at the Undergraduate Research Division on the "Synthesis of Chain extended Adenosine analogues from D-glucose". Stan is collaborating with Professor Robins at BYU and Professor Borchardt at U. Kansas on the design and synthesis of novel inhibitors of S-Adenosyl-L-homocysteine hydrolase. S-Adenosyl-L-homocysteine hydrolase is important because it regulates the methylation of viral DNA and is

Faculty News

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paper was finished I made a second discovery concerning another of the electronic bands of ozone. This was a weak, structured absorption that plays a role in ozone chemistry in the lower atmosphere. The assignment of the structure in this band had been carried out in the early 1980s and was now generally accepted as correct. One puzzling aspect of the assignment was that all vibrational states in ozone appeared in the assignment, even though a simple symmetry argument showed that half of the vibrational states should be missing. The person who carried out the assignment was aware of the symmetry argument, but "proved" that the spectrum could not be assigned without using all the vibrational states of ozone.

I am a big fan of symmetry and found the argument that half the states should be missing convincing. I therefore decided to try to reassign the spectrum without use of the symmetry forbidden states. As in my earlier work on ozone, I expected to fail but learn something useful in my failure. However, after a few hours of work I was able to show that the "generally accepted" assignment of the spectrum was incorrect, and that an assignment consistent with the symmetry argument could be done. Once again I quickly wrote up the results and submitted a paper to the *Journal of Chemical Physics*, where in it was published.

Having been sidetracked by purely spectroscopic puzzles in ozone, I am now planning to return to my original goal of using my spectral modeling methods to analyze the continuous electronic spectrum of ozone. Earlier attempts by myself and others to carry out such modeling have failed, but my recent successes with "failed" models has encouraged me to make an attempt. It may not work out (and will therefore be useful in identifying flaws in my modeling methods), but then again maybe it will work. In either case, I expect it will be fun to make the attempt. For me, fun is what research is all about.

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Recognizing Academic Achievement...

Each year Florida International University College of Arts and Science presents awards recognizing academic excellence. On April 4, 1998 the following awards were received by students at the annual Chemistry Awards Banquet.

Outstanding Academic Achievement by a student completing the Bachelor of Science Degree in Chemistry

Veronica P. Carullo

Outstanding Academic Achievement by a student completing the Bachelor of Arts Degree in Chemistry

Emi P. Kenyon

Outstanding Academic Achievement by a student completing the Master of Science Degree in Chemistry

Alexandra Gongora and Julio L. Lopez

College of Arts and Sciences Award for Outstanding Service to the Department

Arold Norelus and Clifford Sanders

The Local Section of the American Chemical Society and The Florida International University Chemistry Club make several awards to students in the areas of academic excellence and service.

The South Florida Section of the American Chemical Society Award for Outstanding Senior at FIU

Veronica P. Carullo

The FIU Chemistry Club Awards included

The Jesus P. Lopez Award

Ana Maria Molina

Master of Science Academic Excellence Award

Julio Lopez and Alexandra Gongora

Outstanding Service Award

Arold Norelus and Clifford Sanders

Most Active Officer Award (Fall Semester)

Neysa Sanchez

Most Active Officer Award (Spring Semester)

Ana Maria Molina

Most Active Member

Doris Aguilar

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relevant to disease processes. His wife, Elzbieta, has recently accepted a position with Club Med, she will work in group accounting. Stan's son, Leszek, is now in his third year at University of Utah majoring in Business.

Zaida C. Morales-Martinez (Analytical 1973) In addition to teaching Quantitative Analysis Ms. Morales has assumed many of the advising duties in the department making sure all of our new students have an accurate SASS report. The result of her efforts is that students are finding graduation checks are proceeding without surprises. She was able to secure funding for many of our students to attend the recent National Meeting of the American Chemical Society in Boston where they were able to present posters at the Presidential Event. Ms. Morales is also the Coordinator for the University Pre-medical program and has made the process of preparing for pre-med Committee interviews a smooth and uneventful conclusion for our continually expanding pre-med student population. This year Ms. Morales was included in Who's Who Among America's Teachers 1998.

Kenneth Furton (Analytical 1988) Ken is finishing a second very busy year as chairman of the chemistry department. In addition to his administrative job he has spent a lot of effort developing the new International Forensic Research Institute based in the chemistry department (see www.fiu.edu/~ifri). Ken has a sizeable cluster of graduate students working on problems including of forensic explosive residue detection, dye detection on stolen currency (No, Ken didn't steal it! The bad guys did!) and canine alerts to cocaine decomposition products. (See the **Chairman's Note**, p. 2 for more)

Stephen A. Winkle (Biochemistry/Biomedical, 1988) Steve is actively working on the problems of DNA conformation and currently has 3 students. He recently returned from the National Biophysical Society Meeting in Baltimore, MD where he presented results showing that DNA sequences which can activate or deactivate genes

can be turned on or off by the binding of drugs to the DNA. As always, Steve is active at the schools of his daughters Cassie and Marylin. He presented Chemistry shows at Flagami and Oliver Hoover Elementary Schools this semester and reports that a sizable crop of budding biochemists is under careful cultivation. Recently, Steve was seen on Channel 17 where he appeared on the "Dial a Teacher" program.

Piero Gardinali (Analytical 1998) Dr. Gardinali has several projects and is looking for students who will be able to assist on them. He and his group, including Xu Zhao, Cindy Rao, and Manolo Plasencia are looking for polar metabolites of polyaromatic hydrocarbons in biological fluids using LC/MS, working on a new method for the detection of haloacetic acids in water samples, using GC with atomic emission detection developing fast screening methods for pesticides, and is working on the determination of triazine herbicides in near-coastal marine environments. He has two publications out this year appearing in the Journal of Marine Pollution Bulletin, "Baseline Study of the Levels of Organic Pollutants and heavy Metals in Bivalves from Morrocoy National Park, Venezuela", **36**, 925-929 and "Contribution of PAH's, PCB's, and PCDD/PCDF's to the Total Induction Equivalents (Σ IE's) in Mollusks", **37**(1-2), 27-31. Piero presented work on the uptake of chlorinated compounds by oysters at

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the direction of Professor Sherwood Rowland (Nobel prize 1995) in the field of Atmospheric Chemistry. She is completing her fourth year. Jimena passed her qualifiers and so she is in the home stretch! She spends a lot of time traveling. This spring she will visit Hawaii, Fiji, Tahiti, Easter Island and Costa Rica in order to obtain air samples for the project on which she is working, the Global Tropospheric Experiment.

Yuk Yin Sham (BS '94) Yuk is finishing his Ph.D. at the University of Southern

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Have You Heard?

Dr. Hong-Xie Wang our freshman coordinator for the last four years left us last August to join her husband in Detroit. He took a position at Wayne State University. George is apparently thriving on the cold winters – he published 30 papers last year! Hong-Xie is currently working as an industrial organic chemist doing custom synthesis. She says that it is a little different than working at FIU, mostly it is hard adjusting to the 9 to 5 working schedule after having the flexibility of university class schedules. The move north has been exciting for Anna who is enjoying her first white winter. Daniel is now a one year old and is reported to be walking. Hong says that since her mother returned to China in December she has found a nanny who helps out with Anna and Daniel.

From Our Alumni

Linda Moore-Boyett (BS '94, MS) Linda and her husband John now live in Ohio. In January they had their 1st child, a boy, Jordan Alexander, weighing 6 lb 14 oz.

Jimena Lopez (BS '94) Jimena is a Ph.D. student working at the University of California, Irvine under



A farewell party was held for Hong Xie last August in attendance were, left to right: (back) Rudolf Jaffé, Palmer Graves, Piero Gardinali, Stan Wnuk, Yong Cai, Len Keller, Ramon Lopez de La Vega, David Chatfield, (front) Rosa Espindola, Judy Whitt, Martha Ortiz, Yiwei Deng, Zaida Morales, and the guest of honor Hong Xie Wang.

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Alumni

California in the area of computational chemistry and biophysics. Yuk has been working under the direction of Ariel Warshel one of the leading theoretical chemists in the US. Yuk recently married Wai-Tak Ko who is also an FIU alumni (BS, '94 Biology). Wai-Tak is in her last year of Optometry also at USC.

Ivelitza Garcia (BS, '98) Ivelitza is currently a graduate student at the University of North Carolina, Chapel Hill. She has received one of the coveted NSF pre-doctoral fellowships.

Ailette Aguila (BS, '98) Ailette is now a graduate student at UNC. Working for Professor Royce Murray.

Sari Mabjish (MS, '98) Sari is employed by a local pharmaceutical company.

Martha Aguilar (MS, '98) Martha recently became the proud mother of a beautiful baby girl.

Lilia Fernandez-Coppa (BA, '87) Lilia received her M.D. in 1991 from Stanford University and specializes in Pediatric Medicine. She is married and has one child, Ramon, born in 1996. She and her husband currently live in Ventura, CA.

Lili Wang (MS, '93) Lili recently moved from South Florida to the Washington, D.C. area where she is currently employed.

Arold Norelus (BA, '98) Arold is currently working for Hewlett Packard.

Weili Wang (MS, '92) Weili has recently completed a Ph.D. in the area of Molecular Biology at Texas A&M University. He and his family now live in the Bethesda, Md area while he works as a post-doc at the NIH.

Veronica Carullo (BA, '98) Veronica is currently in her first year of medical school at the University of Miami.

Kelly Sprague (BS, '95; MS, '97) Kelly is currently working in the D.C. area, she does organic synthesis and analytical chemistry.

Donghui Cui (MS, '92) Donghui is still at Merck and is working toward a Ph.D. in pharmacology. His research is on nephrotoxicity of an antifungal compound. He presented some results at the Society of Toxicology meeting in New Orleans. He will to graduate in 2000.

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the 6th Latin American Congress on Organic Geochemistry in Venezuela last October. Piero spends spare moments with his new baby, Piero Alejandro Gardinali, born September 29, 1998 arriving right in-between hurricanes Georges and Mitch!

Dr. Xiaoqiao Lu - Visiting Research Assistant Professor '99 - Dr. Lu has recently joined the department and is working with Dr. Jaffé's research group. Dr. Lu comes to us after spending time as a Post-doc in Australia. Dr. Lu will be spending most of his time in the lab but is looking forward to teaching in the Modern Analytical Chemistry Laboratory. He has settled in comfortably already and has become the long missed member of a tennis foursome including Dr. Wnuk, Dr. Cai, and Dr. Chatfield.



The Advanced Mass Spectrometry Facility

By: Rudolf Jaffé

The Chemistry Department maintains a new Advanced Mass Spectrometry Facility (AMSF) thanks to a grant from the office of President Mitch Madique. The departmental Mass Spectrometry Committee (composed of Drs. Almirall, Cai, Furton, Gardinali, and Jaffé) have ordered equipment and supplies for setting up the AMSF with input from the faculty in other departments that will use the instruments. Major instruments that have already been purchased and are set up and running are: a Finnigan LC/MS, a Hewlett Packard ICP/MS and a Hewlett Packard GC/MS with Electron Impact and both Positive and Negative Chemical Ionization. The GC/MS comes with three sample introduction systems; a headspace autosampler, a liquid-tray autosampler and a CDS Pyroprobe to perform pyrolysis-GC/MS analyses. The AMSF is housed in the CP 178 and will provide analytical support for research and service activities as well as for teaching of advanced analytical courses. The Department wishes to express its gratitude to the University for the support for this important facility. The AMSF is planning to provide MS services on a contract basis to local industrial and university researchers in the near future. For more information on the AMSF please contact either Dr. Rudolf Jaffé, ph. (305)-348-2456, email Jaffer@FIU.edu or Dr. Kenneth G. Furton, ph. (305)-348-2292, email furtonk@fiu.edu.

Send us the latest! We are looking for news about you. Drop us a short note at the Chemistry Department or Just send an email or a fax.

**Email: landrumj@fiu.edu
FAX: (305)-348-3772**

(Continued from page 2)

Chairman's Note

chemist, and Mr. Jing Wang an instrumentation engineer. The International Forensic Research Institute (IFRI), based in the chemistry department, runs FIU's undergraduate Forensic Science Certificate Program and will run a new M.S. in Forensic Science beginning in August 1999. For the fourth year in a row, our ACS student affiliate chapter received ACS's top award being named an "Outstanding" chapter.

On a more personal note, in spite of my increased administrative duties as chairperson, my research group has continued to be productive and last year I graduated 5 M.S. students and served as co-major professor for 2 additional M.S. students. I now have 5 M.S. students and 3 Ph.D. candidates working in my lab. My wife, Debby, and my two children Robert and Courtney, are all doing well having overcome the major medical challenges of the last few years. Robert and Courtney have grown from 26 week preemies to become healthy 4 year olds

Professor Eloy Rodriguez

Professor Rodriguez will present the keynote talk at this years SFLACS Awards dinner, April 10, 1999 at 7:00 PM. He is the James A. Perkins Professor of Environmental Studies in Cornell University's Liberty Hyde Bailey Hortorium and Section of Plant Biology in the Division of Biological Sciences. Rodriguez travels into the tropical jungle of the Venezuelan Amazon to obtain plant specimens in search of biologically active natural products. He has been taking students with him every year for the last 10 years. Last year he took 14 students with him to this remote part of the world and was able to identify several new plant species.

which its graduates may aspire.

Ricardo Irizarry (BS, '99)

University of Miami
School of Medicine

Christina Geraldo (BA, '99)

University of Miami
School of Medicine

Christina Romanach (BS, '98)

Colorado State U.Dept. of
Chemical Engineering

Editors Corner

Another academic year has almost past, March is here and finals aren't far away! Every year is exactly the same as the year before in many superficial ways and yet each is different in many ways that can't be easily seen. The students who arrive to start class each term are still young, curious, and excited. The faculty seem the same, but are subtly different. You see it in their faces and around the temples, sometimes even at their wastebands. Of course, we are all growing up (and older) together. We aren't a family in the regular sense but we have become close and we do have students who, for a time, depend on us, then grow older, wiser and move on. We think fondly back on all of you who have been our students. Hopefully, this newsletter will help answer the questions you may have about those of us you haven't seen in some time. We hope to hear from you too in the near future!

**Students
on the Move**

The following is a list of the BA and BS students who have, at the time of this writing, received acceptances to Medical, Graduate, and Professional Schools for the upcoming year. We are all gratified by their achievements and all of the faculty wish them the best as they set out upon their chosen careers. We hope to be hearing from them frequently during the next few years and beyond. In the years to come they will provide inspiration for our students who have yet to graduate from high school. These students will choose to attend FIU because it is a proven institution where there are no limits to the heights to

Graduate Programs

This year marked the first full year for the new Doctor of Philosophy Degree program in Chemistry. It is off to a fine start. Currently there are nine full time graduate students working toward candidacy in the program. They have chosen to work on a number of projects, carrying out research in several diverse fields.

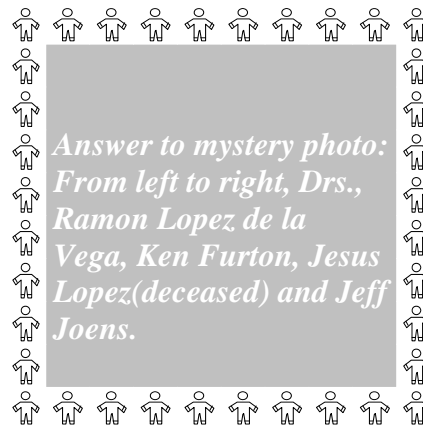
The Master of Science Program is still going strong, and just recently we have been approved by the Board of Regents to offer a Master of Science Degree Program in Forensic Science. Our stipends are now more competitive since they have been increased to \$15,000/year plus tuition. Our total graduate population is close to 30 students. We hope to see that double during the next five years.

This past year we have had success in attracting major research funding. Three new major grants

have been awarded to faculty members, two from the National Institutes of Health and one from the National Institutes of Justice. The research productivity of the department continues to grow at a steady pace. This year our faculty published 33 original peer reviewed papers in scientific journals and books. Faculty and students presented more than 50 papers in scientific meetings and conferences.

The research facilities here in the chemistry department have improved dramatically. The 400 MHz multinuclear NMR is a real workhorse. Additionally, the mass spectrometry facility has just been completed and is now fully functional.

This year Dr. López de la Vega, who has been serving as graduate program director for the past two years, has decided to step aside in order to be able to devote more time to his research laboratory. This summer Dr. Kevin O'Shea will be taking the reins. If you have any questions concerning the graduate program, or have an interest in an advanced chemistry degree, please contact any of the faculty at 348-3596, or visit our website at www.fiu.edu/orgs/chemistry.



If we used an out of date address we need to up-date our files. Please send us a FAX using this response sheet. Let us know how you are doing and we'll include you in the next Newsletter. We hope that many more of you will be able to join us this year at the annual reception. See you there!

Name _____	Degree/year _____
Address _____ _____	Present Employer _____
	Phone No. _____
	FAX No. _____
	E-mail _____

Are you planning to attend the Alumni/Faculty Reception April 10? **yes** **no**

Will you be able to join us for the award ceremony and dinner afterward? (\$20 fee for dinner) **yes** **no**

**Send FAX to: John Landrum at 305-348-3772
or send an email: landrumj@fiu.edu**

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