

UMSL CHEMIST

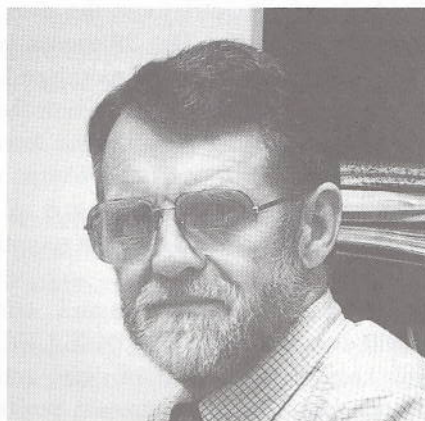


Volume 16

Department of Chemistry
July 1998

Chairman's Message

This is the last time I will write the Chairman's message for this tome as I am returning to full-time research and teaching. Gordon Anderson will assume the position, on August, 15. Sometimes it seemed like "assuming the position" but most of the time for me it has been an enjoyable and rewarding experience. We have seen remarkable changes in just about every aspect of departmental life since I replaced Bob Murray as chair in May 1980. In the fall of 1980, we had just lost faculty colleagues Ken Barnett and Bob Penn to industry and the number of faculty members was 15, including Tom Jones who was a half-time administrator. At the end of that year Eric Block and his wife Judy, decided they preferred the cooler climate of the northeast. We had 12 graduate students on support, at \$4,700 per academic year in fall 1980, but they paid full fees out of the stipend. We



Dr. Lawrence Barton, Department Chair, 1980 - 98

had three postdoctoral fellows in the department and external funding for 1980-81 was \$242K and for 1981-82 \$142K. During the 1997-98 academic year we raised \$1.441 million in external research funds. Next semester we will have 21 faculty members, 12 postdoctoral fellows and the graduate student population will include 40 doctoral and about 25 masters students. Graduate stipends will be \$12,400 with remission of about 50% of fees. Of

DON'T FORGET THE RECEPTION IN HONOR OF DR. ARMBRUSTER. IT WILL BE HELD ON THURSDAY AUGUST 13, FROM 3:30 TO 5:30 PM, IN THE ALUMNI CENTER, 7956 NATURAL BRIDGE ROAD (ACROSS FROM WOODS HALL). PLEASE CALL RANDA AT 516-5311 TO INDICATE WHETHER YOU WILL BE ABLE TO ATTEND.

course the fee structure was vastly different in 1980. For example, it cost \$32.25 per credit hour with a maximum of \$387 for 12 or more hours for undergraduates. Now an undergraduate pays \$128.50 per credit hour with no maximum.

Our facilities and instrumentation were quite meager in 1980, especially NMR, but today we are set up for the major instrumentation to support preparative chemistry very well indeed with excellent NMR, XRD and Mass Spectrometry equipment available in modern or modernized laboratories. In addition we have a better-equipped shop and physical chemists have lasers, pneumatically stabilized laser tables and complex instrumentation in their labs. Our support staff is twice as large as it was in 1980 and the amount of space we have has almost doubled. Actually, at the moment, the face of the campus is changing more quickly than the features I just described above.

There appears to be more construction underway now than at any time since the 1960s. The road on the west side of Benton Hall, West Drive, is being moved so as to line up with the "gate" at the intersection of Clearview and Natural Bridge Road in Belnor. A lake will be situated at the northwest corner of the campus, at Natural Bridge Road and West Drive. A large hole has been excavated where the Physics Annex (the Fun Palace or Library Annex to newcomers) used to be across Bugg Lake, for a new parking garage and the interior of the library is undergoing a major makeover as the materials from the Mercantile Library are being incorporated. On the East Side of the North Campus, construction is underway for the new Student Union and a bridge from it over to the quadrangle and shortly a new parking garage



Dr. Gordon K. Anderson becomes department chair on Aug. 15, 1998

will be built on that side of the campus. The legislature approved most of the funding for the Performing Arts Center, which will go on the north end of the campus, and construction for that is expected to begin soon. There will be a new entrance ramp from I-70 onto the north end of the campus. The current main entrance will become a ceremonial one and the design for it is underway at a local architectural firm.



D.r Dawn L. Shiang after presenting the 1997 Distinguished Alumnae Lecture

On the academic front there have been many changes. A new Vice Chancellor for academic affairs, Dr. Jack Nelson who was Dean of the Graduate School at Temple University, started last fall. Dean Terry Jones was reassigned to teaching and research last summer and Martin Sage has been Interim Dean since then. As mentioned previously I am relinquishing the department chairmanship to Gordon Anderson. No, I am not retiring! My research has gone very well recently and I am looking forward to being able to devote more time to it and to teaching. Furthermore, I am nowhere near old enough to retire! I will be handling two sections of the *Inorganic Reactions* laboratory course next semester and the *Inorganic Problem Seminar*. I have signed a contract to write a book on the *Inorganic Chemistry of Boron*, I am committed to writing a review of our own work (at least I promised the editor) and we have much research to be written up for publication. Thus I applied for and was awarded a Research Leave for the winter 1998 semester. In addition to the various writing projects and spending more time in the laboratory, I will visit my collaborator Dr. John D. Kennedy at the University of Leeds in Northern of England. At the moment, apart from writing this newsletter, I am in the process of moving out of an office that I have occupied for 18 years. The new one, which is much smaller, is in the Center for Molecular Electronics. It is certainly a nice office but it is proving to be very hard to throw out enough so that I will be able to fit into it.

There are other major changes in the department. We are developing some initiatives in biochemistry. The first is an option in the doctoral program in biochemistry and it is being developed jointly with the Department of Biology. The new division of biochemistry will include Drs W. Harris, D'Souza and Welsh and biologists Thiel, Starling and Bussen. Both departments intend to hire two new biochemists. The first of these, **Dr. Donald Becker**, was recently added as Assistant Professor of Chemistry. Don is currently a postdoctoral associate in biochemistry at the Center for Biotechnology and Genetic Materials at the University of Nebraska-Lincoln. Don was born in Grandforks, North Dakota and raised in Nebraska. Don and

his wife Julie have a six-month-old daughter, Sophia M. Becker. The other development is that we are establishing an option in the undergraduate BS degree in biochemistry, which we hope will conform to ACS guidelines for certification. We believe that this will be a very popular option for undergraduates.

A major change in the running of the department, took place at the end of 1997 when our long-time office manager, Betty Eshbaugh, retired. Betty had been with UM-St. Louis since 1963 and was originally in the Chancellor's Office. She served as principal secretary to the department and to chairs Armbruster, Murray and Barton. Former students will remember her organizing float trips, picnics, Xmas Parties, and putting them through their paces when they completed appointment forms, etc., in the office, but Betty's major contribution for so many years was to keep the department running on an even keel and to keep track of the funds. This latter role, although without the advantage of modern computational methods of accounting, she did very well indeed. Lisa Hogue, who has just completed five years with the department, has assumed Betty's role in the office.

Finally, the change that will probably have the biggest impact on undergraduates and alumni will be the departure of Professor Charles W. Armbruster. Charlie is leaving UM-St. Louis and relocating in the Orlando area in Florida. We understand he has made an arrangement to teach chemistry in a local college. There will be a reception honoring his 37 years of service to UM-St. Louis on Thursday August 13, from 3:30-5:30 p.m. in the Alumni Center. Dr. Armbruster, who was Chairman of the Division of Science from 1963-1968 and Chairman of the Department of Chemistry from 1968-1975, is best known among students for his outstanding teaching. He was one of the small number of individuals who helped forge the direction for the developing campus in the 1960s. His colleagues certainly will miss him but he will be missed even more, perhaps, by the students whose lives he has touched. Charlie built the department in the early days here and set the tone for the future. He hired me, and Drs Larsen, Garin, Murray, Corey, Winter, Chickos and Harris and indeed he and I, between us, hired all the current faculty. We hope you will be able to attend the reception.

I will continue to handle alumni affairs in the department and will also be writing the UMSTL CHEMIST. Thus I hope you will keep me informed of your activities, both professional and personal. The most common reaction I receive to the UMSTL CHEMIST is that former students enjoy reading about their former classmates, so please keep in touch. Your reactions to my work with alumni has encouraged me to continue this. Finally and as always I wish you the very best for the future.

Sincerely,

Lawrence Barton

PS. My thanks to Randa Schneider for typing help and Jim O'Brien for photographs.

Alumni Information

1967

Lloyd P. Hill, BS., after 23 years at Mallinckrodt in St. Louis, moved to Florence, South Carolina, where he is now a Research Leader with the *Hoffman-La Roche Company*. He will be involved in process optimization and trouble shooting and has a staff of six people. At Mallinckrodt, he had 75 people reporting to him. We wish Skip all the best in this new venture.

1968

Dennis R. Patterson, BS., has been with *Rohm and Haas* in North Wales, PA, since his postdoctoral fellowship at Sherbrooke University. He obtained his Ph.D. degree with Phil Eaton at the University of Chicago. Dennis has responsibility for two research areas in the company, agricultural chemicals and new product discovery. He manages a group of 78 - 80 people.

Raymond Novak, B.S., is a Councilor in the Society of Toxicology. Ray is Director of the *Center for Chemical Toxicology* at Wayne State University. We often see his name on mailings from the Center. Most recently we saw it on an advertisement describing opportunities for minority undergraduate science students in toxicology.

Robert T. Roither, BS., spent 12 years in the St. Louis County Crime Laboratory following graduation. Then he joined the Anheuser-Busch Technical Center in St. Louis. After two years he was transferred to New York where spent four years. He is now a Superintendent at the Anheuser Busch facility in Williamsburg VA. He and his wife have four children 15-21 years old.

1969

Steven Mestemacher, BA., continues to work with the Dupont Company in Parkersburg, West Virginia. Steve received a Ph.D. degree from Washington University.

Richard Hauhart, BS., (MS., 1982) continues research at Washington University School of Medicine. Rich has been very supportive of the department over the years and we appreciate that.

Jim Reilly, BS., has taught chemistry and physics at Wentworth Military Academy at Lexington, MO., for 25 years. Jim's wife, whose name we forgot, is the nurse at the same institution. Jim visited the department early this summer and was surprised to see how the campus is growing and developing. Jim is always very complimentary about his experience here.

Lawrence E. Payette, BS., still lives in the Pacific Northwest, in Portland Oregon. We had a nice conversation last year. Larry had been at Boeing doing environmental chemistry but after some cutbacks he was able to obtain an appointment in Quality Assurance and he now runs an inductively coupled plasma emission spectrometer. Larry spent some time with the EPA in Kansas City prior to moving to Portland in 1978, to another EPA facility. Larry's wife Barbara works for the local Water Company and their

two sons have kept them busy these past several years. The elder, a sophomore at Pacific University, Forest Grove and the younger one is a senior in high school and is interested in soccer and computers.

1970

Gene Halet, BS., is Technical Director of *Watson Coatings, Inc.* St. Louis, MO. He has 29 years experience in the paint and coatings industry, with research and development expertise in high performance polyurethane, epoxy, water-reducible and water-borne coatings technology. His resume includes development of aerospace coatings for military and private aircraft. We met Gene at the St. Louis Regional Commerce and Growth Association, *Fast 50 Exposition and Dinner Meeting* in September 1997. We had not met since graduation in 1970!

John R. Kolb, BS., treated yours truly to dinner at the ACS meeting in San Francisco. John has been at the Lawrence Livermore Radiation Laboratory since leaving Texas A. and M. University where he did a postdoc with Professor Cotton. John and his wife Judy have been very supportive of the department and we are most appreciative of their support.

Harold Messler, BS., Harold and his wife Carol are taking country and western dance lessons at Meramec Community College this summer. Their son Greg is working around TableRock Lake this summer as an intern using his autocad program. Meri spent some time with her class in Spain this summer and the Messler's are hosting a student from Spain for a month. Mark got a new fishing rod and is having fun catching bluegill at the local park. Jeff is enjoying a new group of friends.

1971

Ronald Ackerman, BS., (MS., 1980) has been with Monsanto for 18 years working in industrial hygiene. He was downtown at the plant for some time but has been at the Creve Coeur site for 11 years. His work with the company has involved analytical chemistry, methods development and, recently, industrial hygiene.

Dennis Wester, BS., who has been with his wife Vickie and son Adam in Moscow, Russia, since September 1995, serving as Office Manager for the International Nuclear Safety Program of DOE, is returning, to the US, this summer, to his position at the Battelle Pacific Northwest Laboratory in Richland, WA.

1972

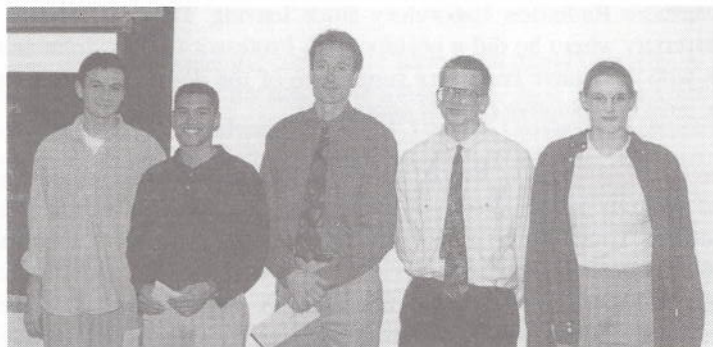
Ken Henderson, BS., has accepted a position with Cannon Instrument Company in State College, PA, as Vice-President, Technology. Ken had been with Castrol, in Piscataway, NJ, for some time following several years with Ethyl Petroleum Additives Division in St. Louis. He was recently elected as First Secretary of the ASTM Committee D-2 on Petroleum Products and Lubricants. He has also been selected to serve on the ASTM Committee on Standards. On the family front, Ken and his wife Mary Ann have two children. Daughter, Hyland, is in her second year of Junior College, majoring in network administration and son, Kent, is back from the Army and has started his first year at a Junior College

with plans to become either a computer or an electronics engineer.

Kerry Lee Martin, BS., is National Sales Manager at Peck Products in St. Louis where he has been since graduation 27 years ago. Kerry had a high draft number when he graduated but was able to start in Quality Control with Peck in 1971.

Linda Sease, BS., continues at Edison Brothers and also continues her strong support of the St. Louis Blues hockey team. We occasionally see her at the games. Since her company declared Chapter 11 bankruptcy, we are concerned for her position.

T. Will Solomon, BS., is the president of *American Technical and Analytical Services Inc.* in Maryland Heights, MO. He was mentioned in an article entitled "Labs' Test Case Can be Survival In Specialty Age" that appeared in the *St. Louis Post-Dispatch*. Will was kind enough to donate some surplus equipment to the department last year.



1998 Undergraduate Monsanto Aid-to-Education Awardees, Denny Elking, Martin Hayes, Jim Christ, Jonathan Stayton and Jennifer Moser.

1973

Dennis Anglim, BA., is a dentist and partner in the *Dorsett Dental Group* in St. Louis.

Larry Justice, BS., is with Standards Labs in St. Louis.

1974

William Goldkamp, BA., was on campus recently and met Dr. Garin. Last time the editor had contact with Bill he was teaching high school, but that was about 20 years ago! Bill was interested in hearing about any festivities honoring Dr. Armbruster (see page 1).

Daniel P. Stueck, BS., has been with *Calgon Vestal*, which is now a division of *Steris Corporation*, for 31 years. Dan is a Principal Scientist in the Process Engineering Group. Dan's wife, **Debbie Tannenbaum**, received a BA in Chemistry, and English, at UM-St. Louis in 1981. Debbie used to be with the company but is now working in Real Estate.

1975

Jan (Rohrbacker) Crowley, BA., who married Mike Crowley, BS Physics here, was at the Murray Lecture and Reception in March. Jan now does mass spectrometry at Washington University School of Medicine.

Daniel Henton, BS., who received a Ph.D. degree from Ohio State University, still works at Dow Chemical Co., in Midland MI. in the Pharma Process Group despite Dow having sold its pharmaceutical assets to Hoechst. Dow is still manufacturing key bulk drugs for Hoechst. Dan received an internal Dow award for developing the commercial process for preparing the active ingredient in *Allegra* the new non-sedating antihistamine. Dan and his wife Joi have three children, Danielle (15), Ashleigh (11) and Nicky (9). The Hentons appear to have a computerized household with an in-home network of four Apple computers and three printers coordinated through an Ethernet hub.

1976

Thomas J. Byrd, BS., who graduated in the evening and had yours truly for the mass spectrometry portion of Instrumental Analysis, has been with Mallinckrodt for 35 years. Tom manages the remediation program for hazardous wastes and radioactive materials, and is involved in training programs in the area.

Robert L. Dittrich, BS., has been at Ralston Purina for many years. He is now involved in the Laboratory Information Management System and serves as the System Administrator. Bob has been very helpful in identifying surplus equipment for the chemistry department, from his company.

James J. Grib, BS., (MS., 1982) is Senior Technical Manager in Quality Assurance at the Anheuser-Busch Company in St. Louis. Among his responsibilities Jim deals with International Licenses in England and China and does much travelling with the company.

Lucky Kelley, BA., works at the Washington University School of Medicine. We understand he runs into Sid Kamath (MS., 1990) quite often as they work in the same area.

1977

Mark Owens, BS., (MS., 1982) is a Senior Analytical Research Chemist at Mallinckrodt in the Medical Products Division. Mark spent some time in Dublin, Ireland last year with the company. He and his wife Theresa are busy home-schooling their two sons. We understand that the older one Paul is getting a driver's license!

Steven Harrison, BS., has been with the Carboline Company in St. Louis since graduation. He is currently Marketing Manager.

Cheryl (Rudloff) Shea, BA., continues her very successful career as President of *Creative Marketing Solutions*. *Creative Marketing Solutions* is a full service agency that provides expert assistance in planning and executing sales growth for immediate and long-term results. The company received three Arrow Awards for creative consumer promotional material her company produces to increase the sales for Watson Coatings and Champion Boats. The company produces brochures and product catalogs that have substantially enhanced the sales of their customers.

1978

Phyllis Bennett, MS., received the *Outstanding Service Award* from the St. Louis Section of the American Chemical Society last year. Phyllis is now retired from the Protein Technologies Division of Ralston Purina.

Joseph Bulock, BS., (MS., 1982) has been working as a patent attorney now for several years. In a previous life he was a Research Chemist at Monsanto.

Dennis Delfert, BA., was in the department this spring for a visit but unfortunately yours truly was on his way to the ACS meeting so we didn't have much chance to chat. Dennis works in the Diagnostics Research and Development Department at *Abbott Labs* in Chicago and received a Ph.D. degree in biochemistry from the University of Illinois-Urbana.

James Foley, BA., works at Environmental Solutions in St. Louis. He recently referred a recruiter who was seeking chemistry graduates to the department.

Brian Gross, BA., is a physician with *Kansas Pulmonary Consultants* in Wichita, Kansas.

Mark R. Williams, BS., had been with *Petrolite* for several years and when we spoke he was weighing his options since the company was sold and moved to Houston. Mark had been involved in trouble shooting in refining and oilfield processes. Mark and his wife have two children, a daughter who was a sophomore in high school and a son in middle school. We hope everything worked out well for them all.

1979

Bruce Ritts, BS., (MS, 1983) accepted an offer of employment from *Steris Corporation*, in the Calgon Vestal Division, as a Principal Scientist in the Analytical R and D group. Bruce had been with *Petrolite Corporation* since graduation and moved after that company was bought and moved. He continues to be very active in the St. Louis Section of the American Chemical Society.

Arlene F. Vogelsang, BS., works for the Metropolitan Sewer District as an Environmental Analytical Chemist. She is currently enrolled in the Masters in Public Policy Administration program at UM-St. Louis, studying environmental policy. We also learned about other former students from Arlene. The others with Metro Sewer include **David Hirsch**, BA., 1981, **Mario DePrimo**, BS., 1969 (MS., 1986), **Ward Longolius**, BS., 1986 and **Alan Sapia**, BS., 1970.

1980

Rushdi Alul, BA., received his Ph.D. degree in 1989 from Washington University in St. Louis. His thesis research, entitled "Design, Synthesis and DNA Binding Properties of a Series of Mono- and Bis(Platinum(II)) Complexes", was done under the direction of Professor John Taylor. Russ did postdoctoral work with Dr. Robert Letsinger at Northwestern in DNA synthesis and he is currently working at Genetrak in Hopkinton, MA.

John Bookstaver, BA., has been an Adjunct Professor at St. Charles Community College for 4 years and has taught at Ursuline Academy in St. Louis for 12 years and for the past four years as Technology Coordinator. John received a Ph.D. degree from Washington University. He will be starting an organic chemistry course in the fall 1998 semester at St. Charles.

Vincent H. Chang, MS., is a Senior Research Chemist, in the Chemical Development area at *Abbott Laboratories* in North Chicago, IL. We saw Vincent at the 1997 Spring ACS meeting in San Francisco.

Kevin R. Criscione, BS., is the Resident Technician in Enzyme and Medicinal Chemistry and Assistant to the Chair at the University of Kansas, where he received his MS degree in Medicinal Chemistry.

Randy F. Johnston, BS., is now Associate Professor of Chemistry at Union University in Jackson Tennessee. We saw Randy at the Dallas ACS meeting where he was presenting a paper.

Marc Lieber, BS., (MS., 1986), is a Senior Research Chemist at Monsanto. When we last spoke he was working on a "hot Roundup project". Marc was in the department for the Murray Lecture and Reception. He and his wife have three children, daughters, 11 and 6 and a 9-year old son.

Ken Owens, BS., was appointed Scientific Glassblower in the department in August 1997. Ken spent some time as a chemist with *Petrolite* after graduation and then about 12 years at *McDonnell-Douglas* but was a victim of a major restructuring in 1994. Between joining the department and leaving *McDonnell-Douglas* he worked at the AVSCOM facility in St. Louis. He learned his glassblowing from Bob Cabaniss and had a desire to continue this avocation so when the opportunity arose, he seized it. (See Staff).



1997 Teaching Assistant Commendation Recipients, Paul McQuade, Peter Forgo, Jeff Scholten and Malcolm Arendse.

Jeffrey A. Ronecker, BS., is a dentist in south St. Louis. He was happy to meet the group representing the ACS on Career Day at the Convention Center in March 97. He was there representing the *Greater St. Louis Dental Society*. He and his wife Lori were blessed with another child, Elizabeth Lorayne. Their son Kevin was, then, already an unbelievable 7 years old. Jeff sent us a nice compliment about the UMSL-CHEMIST. Thanks Jeff!

Dennis Parazak, BS., 1980, (MS., 1987; Ph.D., 1996) continues

with Hewlett Packard Company in Corvallis, OR, as an Ink Chemist. He and his wife Lynn have been married for two years and they were blessed with a baby boy; Eric Dennis was born on September 2.

1981

Cynthia Mamer, BS., is the Director of Customer Service at *Micromass* in Beverly, MA. *Micromass* is a mass spectrometer manufacturer (used to be VG) and we are currently meeting with manufacturers. (See Facilities later on in this issue). Cindy was on the team who came to the department to present their product to us this past spring.

Gary Schilling, BS., (BS., Math too) has been managing a systems group for *Wells Fargo Bank* in San Francisco for the last 13 years. Gary contacted us after the ACS meeting in San Francisco in April 1997 and he actually works just across the street from the Moscone Convention Center, where the meeting was held.

Joan Twillman, BA., has been teaching at St. Charles West High School for 14 years. Joan runs the Science Club and the Senior Olympiad at the school. She is working on her MS degree at National Lewis University.

1982

Susan (Moritz) Auinbauh, MS., had been with Monsanto for many years but when we last heard from her she was about to move to Texas. Her husband works for Southwestern Bell and the company moved headquarters to Texas.

Anis Ashraf, Ph.D., visited the department in March. Anis still lives in Sugarland, Texas. Anis had been with Bryzinski(sp?) Labs in the Houston area. She was taking some time off and will be starting her own pharmaceutical validation laboratory. Anis has much experience in the validation of drugs, radiopharmaceuticals, isolation of anticancer agents from human urine and pharmacokinetics.



Dr. Karl Seper receiving commendation as the 1998 Distinguished Alumni Lecturer.

Michael Drain, BA., is Assistant Professor of Chemistry at CUNY-Hunter College where he organized a symposium on *Materials for the 21st Century and Beyond* in April, 1998. The Symposium, and Mike's research, were both featured in the June 8, 1998 issue of *Chemical and Engineering News*. Among a very

distinguished list of speakers was Jean-Marie Lehn, Nobel Laureate whose research was also featured in the article. Mike also spoke in the symposium on "Inspirations from Biology: New Uses of Billion-Year-Old Strategies". The symposium is part of a special series *Research Centers in Minority Institutions Symposia*. We spent some time with Mike at the San Francisco ACS meeting.

Susan Jansen, BS., (Ph.D., 1986) is someone from whom we hear from time to time. Sue has developed a fine research program in analytical chemistry, especially concerning molecular electronics and conducting systems, at Temple University where she is Associate Professor of Chemistry. **Jim Varnum** her husband, who holds a biology degree from UM-St. Louis and made substantial progress towards both BS and graduate degrees in chemistry here, is also in Philadelphia. Jim received his Ph.D. in Structural Biology and Molecular Pharmacology from the University of Pennsylvania. He is currently working as a research fellow at the Kimmel Cancer Center. His research involves the determination of the solution structure of a family of proteins involved cancer development using NMR. He is also involved in structure determination of DNA/RNA hybrid by NMR and development of refinement of parameter sets for modeling.

Shelly Kumar, Ph.D., continues as Professor of Chemistry at Governors' State University in suburban Chicago. He presented a research paper on photooxygenation induced protein cross-linking at an ACS Regional Meeting in Chicago. He also coordinates undergraduate research conferences both for his institution and the several other Illinois institutions. His wife Sangeeta finished her Masters degree in Library and Information Science and now is working part-time as a reference librarian in a junior college. They now have two children, daughter Himani and son Shushome.

Stephen Lawrence, BS., (Ph.D., 1990) is currently Acting Dean at Saginaw Valley State University. He was Program Organizer and presided over all the sessions for the undergraduate activities associated with the 29th American Chemical Society Central Regional Meeting, May 27-30, 1997. We ran into Steve at a recent National ACS Meeting where he had taken a group of undergraduates. Steve has also recently co-authored several articles with Susan Jansen, BS., 1982, Ph.D., 1985 (see elsewhere).

Greg Lumetta, BS., (Ph.D., 1997) was at the Dallas ACS meeting and spent some time with Dr. Anderson and myself. He is doing well at the Battelle Pacific Northwest Laboratory in Richland, WA. and had recently received a promotion.

Ding Rong Ph.D., is living in Flower Mound Texas but we are looking forward to hearing from him and finding out what he is up to these days.

Karl Seper, BS., is a Project Development Specialist at the Technology Center of the Occidental Chemical Corporation, Grand Island, NY. He has been with OxyChem for 11 years at the Niagara Falls plant. Karl supervises the manufacturing/engineering departments. He gave the *Distinguished Alumni Lecture* in May, 1998 (see left and later in this issue). He holds a Ph.D. degree in organic chemistry from SUNY Albany and he did postdoctoral research at the Free University of Berlin.

Chandrasiri (Sam) Somawardhana, Ph.D., is very busy developing his relatively new company ACR Laboratories in San Antonio, Texas. Currently he is negotiating the purchase of a 90 MHz NMR spectrometer and also a HPLC. He tells us he visited **Rajiv Banavali**, (Ph.D. 1983) recently.

1983

Lura (Dee) Lange, BS., (Ph.D., 1991) is returning to St. Louis and will be teaching introductory and organic chemistry in the department for one year as a replacement for Dr. Armbruster. She actually filled in for Dr. Armbruster when he had surgery in the 1980s. Most recently, Dee has been with the California Air National Guard, Van Nuys, CA and teaching in a local Community College. She taught for a few years at Central Missouri State University. We look forward to her returning "home" and joining the faculty.

Martin Mantler, BS., is still working at *KV Pharmaceuticals*. We hear from Marty occasionally though e-mail. Apparently his work involves computation.

David Miller, BA., remains in private practice in the Webster Groves/Crestwood areas. He and his wife, Nikki, recently moved into a new home in Wildwood and celebrated the birth of their first child, a son named Christopher, on January 5, 1998. David, who remains active on the BJC Medical Group Adult Board of Directors and is Chair of their Marketing Committee; was named to the Board of Directors of *Occumed* (an occupational health managed care organization), is currently working to form a Department of Family and General Practice at Missouri Baptist Medical Center (where he is on staff). He served on the Nominating Board for the 1997 edition of *Outstanding Young Men of America*, and will complete his Masters in Health Services Management at Webster University this year. His most recent awards include being named a Fellow of the American Academy of Family Physicians and nominated to the second edition of "Who's Who in Medicine and Health Care".

1984

Irene Drizin, MS., is with *Abbott Laboratories* in North Chicago, IL, as a Research Chemist. Irene was with Monsanto in St. Louis prior to moving to the Chicago area several years ago.

Donald Hesse, (Ph.D., 1990), is now working at the *St. Louis Post-Dispatch* newspaper. We hear he is doing computer work and not chemistry and we do not understand that.

Floris Homan, BS., (Ph.D., 1989) moved back to St. Louis and is now at *Senetek* as the Director of Corporate Research. He and his wife **Peggy Ponzar** (BA., 1984) have two boys, Randy and Rick.

Mary (Bremer) Mierkowski, BS., has been at Monsanto since graduation. We believe she works now at the Chesterfield site.

Shankar Rananavare, Ph.D., still holds an appointment at Oregon Graduate Institute, now in the department of Electrical Engineering. Shankar also holds an adjunct appointment at

Washington State University.

Pam Rush, Ph.D., from whom we had not heard for ages, contacted us last year. Pam, who had previously been with *Hercules*, had most recently served as Executive Director of a Non Profit Organization. She acquired a Delaware high school teaching certificate and was investigating the possibility of college teaching.

Bill Shiang, BA., (Ph.D., 88), who has been at the *Dow Chemical Company* in Midland, MI since he finished his postdoc at Penn State, was selected to receive one of the 1997 Central and New Businesses R&D "Inventor of the Year" Awards for his invention, "Polymeric Light Emitting Diode Materials". Bill was here with his wife **Dawn Shiang** (BA., 1982; Ph.D., 1988) when she presented the 1997 Distinguished Alumni lecture (see elsewhere). Congratulations Bill!

Yuan Di (Judy) Shih, BS., is in Fort Lauderdale working for *Baxter Diagnostics*. Baxter, which is now *Dade International*, merged with the Dade-Behring Company. Judy was promoted to Senior Scientist. Judy has two children and when we spoke last year, Lili was 9 years old and Andy was 7 months. We were pleased to see her brother Sam, whom we remember from his undergraduate days here, when he brought **Tiahne (Tim) Zhu**, (MS., 1986) and Tim's wife Polly, to visit us.

1985

Rajiv M. Banavali, Ph.D., is with *Rohm and Haas* in Houston. We had dinner together at the ACS meeting in San Francisco. He usually goes to the meetings but we have not been able to get together at the last two. Among his colleagues at Rohm and Haas are **Will VanArsdale**, BA., 1978; Ph.D., 1984 and **Sudhir Agarwal**, who was a postdoc with Professor Murray.

Jeanette Henken, BA., has been teaching chemistry at Webster Groves High School for the past four years. My notes are a little garbled but I believe she was redoing the chemistry lab courses.



Alumni Greg Wall, BA. 1974; MS. 1982; Herb Kaiser, Ph.D. 1995; Jerry Hook, MS. 1995; Dr. D'Souza and Mr. John Hale, Human Resources Director, Mallinckrodt, at an ACS Careers Workshop, held in the department in 1997.

Judy (Taylor) Logsdon, BS., is back in school in the Nursing Program at Jewish Hospital (the four-year program) and may go into oncology. Her husband works for *Fleishman Yeast*. Judy had been at the Technical Center at Anheuser Busch for several years and arranged for me to speak to the *St. Louis Section of the*

American Society of Brewing Chemists just as she left the company.

R. Keith Webber, MS., is working at the Monsanto Company in the Pharma-Sector. His wife **Judy Morris**, (BS., 1986) also is there. The Medicinal Chemistry area appears to be doing the most hiring at the company these days, according to Keith.

1986

Peggy (Whitlow) Rifleman, BA., is at *University of Texas Health Science Center* in San Antonio. She was in touch with Hal Harris recently, having got his web site address through the UMSL CHEMIST.

1988

Christy John, Ph.D., been busy with writing papers, reviewing articles, teaching clinical radiopharmacy and doing lab work at George Washington University where he was recently promoted to Research Associate Professor. His research group was the first one to find expression of "Sigma Receptors" in a variety of human tumor cells including melanoma, breast cancer and prostate cancer. They have designed several radio-iodinated compounds for early detection of breast and prostate cancer. This has generated worldwide interest in using sigma receptors as targets for imaging tumors. He tells me that you can read about it in the July 2, issue of the *Journal of Medicinal Chemistry* (Vol. 41, 2445 – 50) where he published the article, "Substituted Halogenated Aryl Sulfonamides: A new class of Sigma Receptor-binding Tumor Imaging Agents". He has also published work very recently in *Nuclear Medicine and Biology*, *Biochemical Pharmacology* and *Bioconjugate Chemistry*, among others. Some of his work involves collaboration with Mike Welch at Washington University in St. Louis on sigma compounds for PET imaging. Christy filed a patent on Tc-99m labeled compounds last year. He has two grants from the NIH and 2 others from industry. His children are growing up. Josh is in seventh grade and Rachel is in fifth grade. Christy's wife Viera is doing fine, juggling between work and motherhood.

Jeanette A. Glaenzer, MS., is employed at Monsanto. The last time we heard from her she was involved in a program that solicited compounds for testing by the company.

Emilie Smith-Heberer, BS., who holds a MS. degree in polymer science from the University of Akron, has been working for *Morton International*, and living in McHenry IL. She and her husband Dan, who has a Ph.D. in polymer science, are moving to Detroit. Emilie was doing graphic arts chemistry at Morton and will look for a job when they get to Detroit in August. They have two sons, Neil 3 and Ethan 1. The Heberers spent 18 months at the University of Bristol, in England, after graduation where Dan was a postdoctoral fellow.

Gary Wester, BS., (MS. 1992) continues as a Staff Chemist/Group Leader in the Atomic Spectroscopy Facility at the Midwest Research Institute in Kansas City. Gary's clients include the US Fish and Wildlife Service, EPA and *Pharmacyclics*. In the work with the latter they are analyzing clinical tests for residual metals in tissue and body fluids. Gary has been looking into new

opportunities as the Wester chemists tend to do. Gary's children are in college. Melanie is in her second year of Veterinary Medicine at the UM-Columbia and David is starting his sophomore year at Central Missouri State University.

Jim Wheatley, BS., is working at *Metaphor, Inc.* with Dr. Wes Harris' former postdoctoral fellow Dr. Leonard Rosik. We frequently see Jim in the department consulting with Dr. Harris.

1989

Ken Braig, BS., is working for *Reidel Environmental Services* in Chesterfield, MO.

Gregory Duncan, BS., who holds a Ph.D. degree from USC and did postdoctoral work at Stanford, is back in St. Louis working at *Warner Jenkinson*. He is also collaborating with Bill Welsh, something he continued since his undergraduate days here.

John Phipps, BA., is with *Meridian Medical Technology Corporation* in St. Louis.

1990

Todd Boehlow, BS., (Ph.D., 1997) returned recently from the UK where he did postdoctoral research with Dr. Brian Marples at the University of Loughborough. He is now working as a postdoctoral fellow with Professor Cynthia McClure at Montana State University. We understand he will be seeing his former advisor, Professor Spilling at the *International Conference on Phosphorus Chemistry* in Cincinnati this month.

Michael Crowley, BS., is working at *Mission Pharmacal* in San Antonio, TX. He and his group are trying to obtain FDA approval to market a new drug that treats osteoporosis. Another drug is pending approval for kidney stone treatment. Mike was recently promoted to Assistant General Manager and has responsibilities for production, research and development. He lives on a small ranch about an hour outside San Antonio in a fairly remote area. He appears to be surrounded by animals, both domestic and feral.



1997 Undergraduate Monsanto Aid-to-Education Awardees, Benjamin Redihephi, Matthew Lanham, Greichen Hoel and Andy Briete.

Siddharth Kamath, MS., still works at Washington University Medical School. He recently was involved in a study involving the cloning of a human cationic amino acid transporting gene, which seemed to be involved in regulating amino acids concentration in

the fetal blood. Sid has been a fine supporter of the department over the years and that we certainly appreciate.

Bo Liu, MS., is with the *Merck Company* in West Point, Pennsylvania. Bo and her husband **Shuguang Wu** (MS., 1989) spent several years in Los Angeles where Shugang received his Ph.D. degree at UCLA. Shuguang is working at *Rohm and Haas* in Spring House, PA.

Michael Kopp, BS., is Project Manager involved in product development at *Geneva Pharmaceuticals* in Broomfield, CO. He manages one quarter of the generic product development pipeline, and a development group of 27 people. At the time Mike sent us a very nice note, he had openings for analytical chemists.

1991

Christopher S. Mallory, BS., has been with the Upjohn Company as a Laboratory Analyst since graduation. Also at Upjohn are **Dr. Michael D. Ennis**, (BS., 1978) with whom we had a nice conversation at a recent ACS meeting and **Ann (Mayhan) Reynhout** (BS., 1972) who was instrumental in identifying the position to us that Chris eventually took.

1992

Kim (Wein) Gorman, BA., is DNA Supervisor for a new company she helped establish in Columbia, MO called *Paternity Testing Corporation*. After graduation here, Kim worked on the Human Genome project at Washington University School of Medicine and then spent a couple of years as the DNA expert in the St. Louis City Crime Laboratory prior to her latest venture. Her toll-free number is 1-888-TEST DAD.

Phillip Ordoukhanian, BS., received his Ph.D. degree from Washington University in 1997. His thesis research, entitled "Caged DNA" was carried out under the direction of Professor Taylor. Phil is a postdoctoral fellow working with Dr. Gerald Joyce at the *Scripps Institution* in La Jolla, CA.

David T. Stratmann, BS., is working at *Bodycote Testing Laboratories*, the company that used to be *Industrial Testing Laboratories*, and he has been there since graduation doing trace analysis work. He and his wife are busy with a three-year-old son.

Hongping Ye, Ph.D., is the owner of *D and J Scientific Inc.* in St. Louis. Their principal activity is analysis and custom synthesis.

Jean (Huhmann) Vincent, BA., (Ph.D., 1996) continues as a postdoctoral fellow at the Los Alamos National Laboratory. She lives in Santa Fe with her husband John who recently graduated with a degree in engineering from UM-St. Louis. We saw Jean at a recent ACS meeting and she stopped by the department during the Christmas holiday to visit Dr. Corey, with whom she did her thesis research. Even more recently, Jean called me and provided an update on her activities. John is currently working in Albuquerque for a company that makes high vacuum equipment for Intel, Sandia and Los Alamos.

1993

Kathy Fallis, Ph.D., moved to the *Naval Weapons Center*, China Lake, CA, in August 97. She is doing materials chemistry. We saw Kathy at the ACS Meeting in Dallas. Her husband **Steve Fallis** (Ph.D., 1992) had been at Washington University School of Medicine's Mallinckrodt Institute of Radiology, working with Mike Welch, but he recently also moved to China Lake where he is doing postdoctoral work.

E. Thomas Keuffler, Jr., BA., (Ph.D., 1997) has a faculty appointment at a community college in Poplar Bluff, MO.

Jeff Siria, Ph.D., has joined the staff of *Global Environmental Laboratories, Inc.* as Vice-President and Chief Operating Officer in Green Park, MO. In fact Jeff and a colleague from the former *Industrial Testing Laboratories*, Ray Narconis, who is President/CEO of Global, started the business and they are very busy establishing it. Jeff spent many years at Industrial Testing Laboratories. His new company is involved in environmental chemistry, indoor air quality analysis, asbestos and lead analysis, microbiological analysis, airborne and surface allergens, etc.

1994

Dan Feddersen, BA., is Quality Control Director at *Forest Pharmaceutical*. Dan was kind enough to donate an atomic absorption spectrometer to us recently.

Sarah Hosseini, Ph.D., is with *Polymer Testing* in St. Louis.

Kevin Koeller, Ph.D., is now working at Monsanto, having spent a couple of years doing postdoctoral research at the University of Nebraska, Lincoln, since completion of his Ph.D. degree with Professor Spilling.

John Mathai, BA., is working at the St. Louis Water Department in Chesterfield. He and his wife have a baby named Austin and a second one was due last April.

Lori (Metz) Polette, BA., finished her MS degree in chemistry at the University of Texas-El Paso and now is in her second year in the Ph.D. program there majoring in materials science and engineering. She is working with Dr. Russell Chianelli who is famous for all his catalysis work. She had a patent resulting from her work in phytoremediation. She did most of her research at the Stanford Synchrotron Radiation Laboratory near San Francisco. She is now working on an ancient nonotechnology started by the Mayans about 500 years ago. They made an incredible material called "Maya Blue" using clay and indigo. We remember when Lori transferred to UM-St. Louis from the Community College and worked in the REU Program with Professor D'Souza. She has certainly done very well since then.

Raef M Shaltout, Ph.D., who was at LSU working with Peter Rabideau and George Stanley, with whom he published an article in the *Journal of the American Chemical Society* entitled "The First Crystallographically Characterized Transition Metal Buckybowl Compounds", is now at Sandia Labs, in New Mexico.

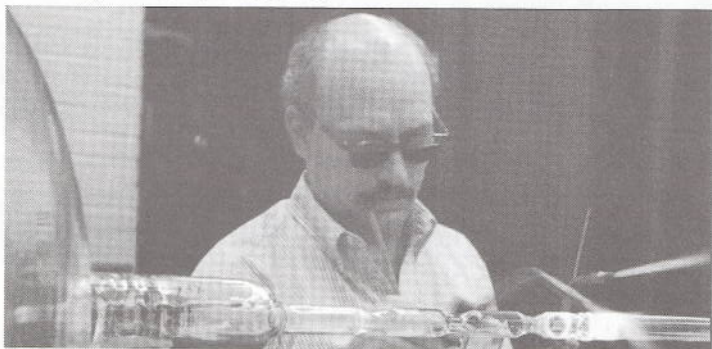
1995

Patricia Chernovitz, Ph.D., who was teaching at the University of California-Bakersfield, joined Park College in Parkville, MO, near Kansas City, last August.

Kevin McHugh, BA., is working in the Discovery Research Department at *KV Pharmaceuticals*.

Michael Pasiaka, BS., was working at Scientific Associates here in St. Louis. Mike informed us that the *Celsis Laboratory Group*, which is based in the UK, purchased Scientific Associates. He informed us that he expected to be leaving Celsis-SAI in May. He was planning to travel in Europe and Africa and hoped to be able to stop in Leeds, England to see Dr. Jonathan Bould with whom he worked when Bould was a postdoctoral fellow in the Barton research group here. Mike also hoped to stay in Galway, Ireland, with a friend of Jonathan.

Tracy Schweitzer, BS., is also working at Celsis Laboratory Group, the former Scientific Associates. She was doing wet chemistry but we understand she was promoted and is now doing atomic absorption spectroscopy. Tracy is also a volunteer at Christian Northwest in the nursery department. Tracy is engaged to William Booth and will be getting married in September 98. Congratulations Tracy!!!! Others at Celsis-SAI include **John Blair** (BS., 1996), **Wade Benny** (BS., 1996) and **Angel Hayakawa** (BS., 1996) although we heard Wade has moved to *Forest Pharmaceutical* and Angel may have moved to Washington University School of Medicine.



Ken Owens (BS. 1980) who returned "home" to become the departmental Scientific Glassblower in September 1997

1996

Elizabeth Amin, BA., (MS 1997) has just accepted a job offer at Plantation Botanicals in Florida. She will be working in natural products, an area she worked in with Dr. Winter as an undergraduate here, on extracting and analyzing constituents in Palmetto berries, St. John's Wort and some new experimental crops. The offer includes time and resources to finish her Ph.D. degree nearby. They wanted a chemist with a natural products background, but also with a physical/analytical focus. She is very excited about getting started. If she does complete her Ph.D. it will be her second one because she already has one in German literature from Washington University.

Hong Fang, Ph.D. who completed her thesis research with Dr.

Barton, spent a few months doing postdoctoral work with him and then spent about 18 months working in the St. Louis County Crime Laboratory, started work at the National Center for Toxicological Research, in Jefferson, AR, in Oct. 1997. She lives in Little Rock with her husband Weida Tong, former postdoc with both Drs D'Souza and Welsh, and daughter Lillian. She enjoys Little Rock and her work in biochemistry, which is very different from the metallaborane chemistry she did at UM-St. Louis. When we last communicated she was busy writing a paper comparing different assays for endocrine disruptors, such as environmental estrogens. She was planning to attend the *Gordon Research Conference on Environmental Endocrine Disruptors* in New Hampshire in July 1998. Daughter Lillian was 5 in June and ready to enter kindergarten this fall.

Gary A. Nichols, BA., has been in the MS program in the department since graduation and will join the doctoral program in the fall of 1998. He has been working at the Monsanto Company. Gary was in the first group of UM-St. Louis freshmen to receive *Charles W. Armbruster Scholarships*. These latter are awarded, on a competitive basis, to outstanding freshmen or Junior College transfer students. The funds are derived from alumni contributions.

Michael J. Welsch, BS., continues to work in the *Analytical Sciences Center* at Monsanto. Mike has been working with in Scanning Electron Microscopy and was using new equipment when we spoke with him last year.

Shengping Tian, Ph.D., is a postdoctoral fellow at SLU working with Professor Ruh. He has been there for two years and we understand that he has had his permanent residency petition approved. Recently, his supervisor presented his work at conference on endocrinology. Two manuscripts on his research will be submitted shortly and he is considering a move in the near future.

Sherry Ann Teemul, BS., is working at *PPG Industries* in St. Louis.

Kelly Herries, BA., works at *G. S. Robins* as a sales representative. Kellie was with *Dennis Chemicals* prior to moving to G. S. Robins.

Siu Wa Au-Yeung, BA., sent us greetings at Christmas. He is a graduate student at the University of Massachusetts-Lowell.

1997

Anne Cafferty-Turnbough, Ph.D., is a Marketing Analyst in the Marketing and Business Development Division of *Air Liquide America Corporation* in Houston, Texas. She does some traveling and says that her job is a strong meld of inorganic chemistry, database research and market research. Anne and her husband Joe are building a gorgeous home in Houston. We heard recently that she has been roped into training for a marathon!

Xaiopeng Sang MS., is on a leave of absence from the Ph.D. program and working at *Bristol-Meyers Squibb* in Connecticut

Kristen Talir, BS., whose married name we cannot recall, was

working at *Quanterra* in St. Louis, but we heard recently that she would be going to work in the *Mallinckrodt Institute of Radiology* at Washington University School of Medicine.

Michael Washington, Ph.D., is at *Sigma Chemical Company* in St. Louis. Mike who completed his Ph.D. degree with Dr. Larsen in May 1997 had been with *Monsanto* in St. Louis.

1998

Ali Kasiri, Ph.D., who completed his dissertation on "The biomimetic synthesis of taspinoids" with Dr. Winter and was awarded his degree in January, took a position at *ABC Laboratories* in Columbia, MO.

Darrin Lauritzen, BS., is working now at *Aerofill Tech.* in quality control in Sullivan, MO. The company is a packager for aerosols etc. Darrin was establishing policies to assure GLP guidelines were followed in his operation.

Nathan Borgmeyer, BA., is a project chemist at *Progressive Inks* in St. Louis. Among his colleagues is Kevin Hupp, who although not a graduate spent two summers working with Dr. Barton while he, Kevin, that is, was at Florissant Valley Community College.

Department Graduates who are Physicians were Featured in the UM St. Louis Magazine

The winter 1998 issue of the UM St. Louis Magazine featured five alumni who are physicians, three of them were chemistry alumni.

Robert L. Lamberg, BS., 1972, is Medical Director of *Clarkson Eyecare* in Clayton and several of my colleagues are his patients. Bob gave the *Distinguished Alumni Lecture* in 1996 and has sponsored an undergraduate research fellowship in the department for several years. **Phillip Asaro**, BS., 1977, is a family physician in the Souldard Neighborhood and also a staff member at Lutheran Medical Center in South St. Louis. Phil studied medicine at St. Louis University. **Louis Crepps**, (BS., 1971) who took Quantitative Analysis from the editor in 1969, is a diagnostic radiologist at St. John's Mercy Medical Center. Louis obtained his MD. from the University of Missouri-Columbia.

Departmental Facilities

The Center for Molecular Electronics is now occupied and operational. Faculty members including Drs. Barton, Brammer, Rath, Stine, Welsh and Xu have offices in the building and the individual research labs of Drs. Brammer, Stine Xu and H. Harris are located there as are Dr. Welsh's computational chemistry facility and the x-ray diffraction laboratory. Dr. O'Brien is planning to move when he completes his latest set of experiments. This addition provided an excellent boost to the quality and quantity of space available for student and faculty research. The official opening will take place on August 5. The one area wherein we have not seen improvement but are hopeful for that taking place is the undergraduate laboratory space in Benton Hall. They are more than 30 years old and, we had hoped that a state appropriation would allow renovation last year. This was the highest priority for renovation projects on the campus but it was

bumped by the Communication Arts Facility project. However the administration is making efforts to do some temporary renovation in the interim and the initial results on one of the labs on the second floor look very good.

The area of instrumentation is one that we continually try to improve. This past year we purchased a new HPLC principally for use in the Instrumental Analysis course. We also took delivery of a Scintag X-ray Powder Diffraction system from Monsanto. The person who operates the system is Frank May. In addition we also were given a VG ZAB-HF high resolution mass spectrometer. Joe Kramer and Dr. Winter have been setting up the system and learning how to use it. The system, which is located in the old ESR Lab, formerly occupied by Tom Jones, will be used principally for FAB measurements. We are allowed this luxury of so limiting the instrument because we were successful in securing funds from the NSF Chemical Instrumentation Program to purchase a new high-resolution system. Dr. Winter, with help from Dr. Barton, wrote the proposal for \$250K, which is matched by \$100K from the Missouri Research Board and a similar amount from the campus. Thus we are in the process of selecting the instrumentation which we will purchase for electrospray and atmospheric pressure ionization applications. Along with the Hewlett Packard GC-MS, we will be set up very well for much of the range of modern mass spectrometric measurements.

Graduates, 1997 through May 1998

MAY 1997

Phyllis Bick, BA	Eric L. Bruton BS
Matthew K. Clark BA	Melissa D. Haymon BA
Mary E. Hasler BA	Susan M. Keenan, BA
Scott Kraatz BS	Yanina Levchinsky BA
Jeffrey Scholten, BS	Julie A. Morley BA
Kirstin J. Talir BS	Kidane Weldemichael BA
Brian Grimmond MS	Juan Mareque MS
Balazs Kalmar MS	Michael Washington Ph.D.

AUGUST 1997

P. W. Troutman BA	Douglas A. Dawkins BA
Anne Cafferty Ph.D	

DECEMBER 1997

Nathan R. Borgmeyer BS., BA	Melissa D. Haymon BS
Rhea Hunt BA	Darrin J. Lauritzen BS
Chad Musser BA	Gerard Stutte BA
Jennifer A. Slaby BA	Elizabeth A. Amin MS
Peter Forgo MS	Diane Oliver-Maher MS
Zhepeng Wang MS	Tamara Gahimer Ph.D
Ali Kasiri Ph.D.	Tom Kuefler Ph. D
Todd Staley Ph.D	Isabel C. Vasconcelos Ph.D

MAY 1997

Douglas A. Dawkins BS	James A. Gray BS
Gretchen R. Hoel BS	Gerald R. Riehl BA

Pamela Schweitzer BS
 Kevin A. Trankler BS
 Shadonna Shaffer, MS
 Hossein Shabbany Ph.D.

Jason Sondgeroth BS
 Malcolm Arendse, MS
 Todd Stich, MS

The Faculty

Gordon K. Anderson has been spending time planning for his new role as chair of the department for the period 1998 – 2001. He has reorganized the departmental committee structure. This past year he was appointed to the Advisory Board of the ACS journal *Organometallics*. He is visiting Scotland this summer where, in addition to seeing his family, he will be attending and presenting a paper at the *International Symposium on Homogeneous Catalysis* in St. Andrews. Unfortunately he doesn't play golf! Dr. Anderson's research is going well. He has National Science Foundation support for his group, which consists of four graduate students and two undergraduates.



Participants in the 1987 ACS-St. Louis Section Undergraduate Research Symposium organized by Dr. Welsh at UM-St. Louis

Charles W. Armbruster, provided more than 37 years of service to UMSL as an original member of the group that established the institution, as the first chair of the Division of Science and also of the Chemistry Department and most important as one of the most popular and successful teachers in the institution's history. Charlie will discontinue teaching here as he has decided to leave the St. Louis area and settle near Orlando, FL. Charlie actually took (very) early retirement in 1992 but continued to teach introductory and organic chemistry in the department as well as serve as Pre-Med advisor for the College of Arts and Sciences. We are organizing a reception in his honor. (see page 1)

Lawrence Barton has been trying to move out of his office to make room for Dr. Anderson. This is not an easy task as 18 years of accumulated material is found in piles on the floor, in filing cabinets and on the bookshelves which cover the largest amount of wall space in the office. He was assigned a new office in the Center for Molecular Electronics Building into which he has been slowly moving books, etc. In addition to his activities as department chair, this has been a busy and successful year for Dr. Barton. He taught the new inorganic chemistry course, 241, Basic Inorganic Chemistry as well as the upper-level course 341, Inorganic Chemistry. His research program is going quite well. He received a grant from the National Science Foundation to support his research in metallaborane chemistry. Among his publications this past year were articles in *JACS*, *Chem Comm*, *Organometallics*, *Dalton Transactions* and a special publication of the Royal Society of Chemistry. He visited Britain this spring and gave research

seminars at Heriot-Watt University in Edinburgh, and the Universities of Leeds and Loughborough. He and his research group attended the Sixth Boron-USA Workshop where they presented four papers.

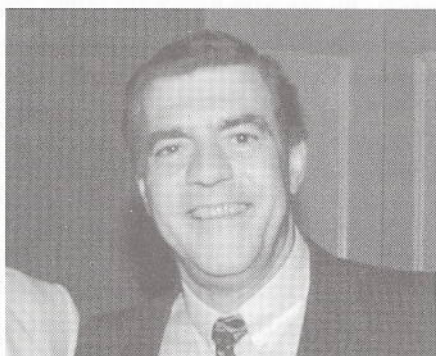
Lee Brammer was granted a research leave for the fall semester of 1997, much of which time was devoted to writing papers. He has published papers in *Organometallics*, *Chem Comm*, and *Acta Crystallographica* in recent months and has a review article with graduate student Juan Mareque scheduled to appear shortly in *Coordination Chemistry Reviews*. He continues to serve as a co-editor for the journal *Acta Crystallographica*, and was recently elected to the US National Committee for Crystallography. Dr. Brammer was an invited speaker at an international conference in Sicily in May 1998, and also gave lectures at universities in Milan, Bologna, Florence and Pisa. In Dr. Brammer's research group, the past year has seen the departure of postdoc Dr. Yuri Abramov, who is now Research Associate Professor at SUNY Buffalo, and the arrival of Dr. Reinaldo Atencio-Fuenmayor, who is from Venezuela. Graduate students, Juan Mareque and Eric Bruton will both be giving talks this summer at national meetings of the American Chemical Society and American Crystallographic Association, respectively. Juan Mareque was also jointly awarded the department's *Mallinckrodt Fellowship*.

James S. Chickos, as I write this, is on a bicycling trip in Ireland with Professor Garin. Their postcard indicated that the seats were hard but the cider compensated for that problem. Dr. Chickos continues to be a major international figure in the development of data and standards for thermochemical data compilations. He will be presenting his work at conferences in Hungary and Portugal this summer and he continues productive collaborations with colleagues in France, Portugal, Russia, Great Britain, Spain, Israel, Japan, Italy and Germany, as well as in the US. He goes on to Hungary and Portugal after the biking holiday.

Joyce Y. Corey continues to be the tireless worker she has always been in her teaching and research. She was an invited speaker at the 1997 *Organometallics Gordon Conference*, in Newport, RI, in July 1997. She also presented papers at conferences in London, Ontario, and Midland, MI, this past year. Her research group consists of two graduate students and the *Chemical Reviews* article she is writing jointly with Dr. Janet Wilking recently has consumed her time. Dr. Corey was recently elected secretary of the UM-St. Louis Senate.

Valerian T. D'Souza very recently presented a paper at the 9th *International Symposium on Cyclodextrins* in Santiago de Compostella, Spain. During that trip, he and his wife Phyllis also visited France, Germany, Italy and UK. Vally is guest editor of a special issue of *Chemical Reviews* on cyclodextrins, which will include his article on "Methods for Selective Modification of Cyclodextrins". The issue is scheduled to be published in August, 1998. His research group comprises three graduate students, Henghu Zhu, Peter Forgo and Jijumon Chelliserrykattil and an undergraduate Adekumbi John. A new feature in his research is the unraveling of structures of cyclodextrin derivatives using NMR done in collaboration with Peter Forgo, a graduate student who brought much expertise in NMR skills with him when he joined the

group two years ago.



Dr. Charles W. Armbruster

David L. Garin will return to full-time duties in the department after spending ten years as Director of the Center for Science and Technology. The Center was the victim of the recent campus budget cuts. For the 1998-99 academic year, Dr. Garin will take a combined sabbatical leave and development leave in New York. Along with colleagues Chickos and D'Souza, Dr. Garin has developed an on-line textbook for use in organic chemistry laboratory courses. It is available on the World Wide Web and Garin will describe it at the upcoming *Biennial Conference on Chemical Education*, to be held in Ottawa in August. The three co-authors filed a patent on this novel idea two years ago. He went to a NSF sponsored Chautauqua in Philadelphia, June 11-13 on Workshop Chemistry Project: Peer-Led Team Learning. This dealt with the new methods being developed for both introductory and organic chemistry.

Harold H. Harris is editor and writer of the *Chemical Education Resource Shelf* which is found on the WWW at (<http://www.umsl.edu/~chemist/books>). It is now accessed by 16,000 chemical educators per month and provides bibliographic information about 1100 chemistry textbooks, several hundred commercial software packages, publishers' addresses and hyperlinks. Professor Hal Harris and chemistry majors continuously update the online archive and provide all of the data for the biannual "Book Buyer's Guide" published by the *Journal of Chemical Education*. Professor Harris also writes the popular "Hal's Picks of the Month" for the Resource Shelf and is working with Professor Patricia Simmons, *Orthwein Professor of Science Education* on a series of workshops for elementary teachers in the St. Louis area. The project PHUSE (Physics in Urban Science Education) is headquarters at the St. Louis Science Center and will follow two weeks of day-long workshop in June 1998 with curriculum development and activities through the 1998-99 school year. For summer reading recommendations, see the web site.

Wesley R. Harris has been appointed to a two-year term on the Missouri Research Board. He recently visited collaborator, Professor Ross MacGillivray, Professor of Biochemistry and Molecular Biology at the University of British Columbia, in Vancouver. He managed to make the trip more interesting by forgetting to bring along any proof of citizenship. Fortunately, the Canadians have a sense of humor and the American border officials were too bored to care. He will be attending a conference in Szeged, Hungary on "Biological and Medicinal Aspects of Metal Ion Speciation", August 23-25 where he will present an invited talk

"Binding and Transport of Metal Ions by Serum Transferrin". He just returned the page proofs for a review article on metal transport by transferrin for the journal *Structure and Bonding*. His most recent Ph.D. graduate, Anne Cafferty, recently visited department. She is very happy with her job with *Air Liquid* in Houston but she hates Houston traffic and humidity. Wes cannot understand how the humidity can be that much worse than St. Louis. Anne's first paper, "Binding of Monovalent Anions to Human Transferrin", co-authored by Sohrab Abdollahi (Ph.D. 1996) and current undergraduate Kevin Trankler, just appeared in *Biochimica et Biophysica Acta*.

Dr. David W. Larsen is currently negotiating for commercialization of the *Chem Char Process* which he and Stanley Manhattan, of UM-Columbia, developed. Technology Innovators of Knoxville, TN are representing the interests of Larsen and Manahan. Grants in the range \$1.3 - \$1.5 million have been submitted for support of the project. Two of Dr. Larsen's doctoral students, Todd Staley and Michael Washington, graduated this past year.

Robert W. Murray continues his successful research program. He has been asked by the *National Cancer Institute* to submit samples for testing as possible anti-cancer agents. He and his postdoc Dr. Megh Singh submitted 17 samples and 15 were selected for testing. The rationale associated with the possible use of these materials as anti-cancer drugs is that they suspect that all of them are likely to be carcinogens. Their work for the National Institute of Environmental Health Sciences has to do with determining the source of carcinogens in polluted atmospheres and it led them to synthesize the materials being tested. It is frequently true that carcinogens may also be useful as anti-cancer agents. Carcinogens are cytotoxic and when used as anti cancer agents one depends upon the kinetic effect for the carcinogens to be useful against tumors. Since tumor cells are growing more rapidly than normal cells they are more likely to be exposed to the cytotoxic effects of the carcinogens. One of his former undergraduate research students, Hazel Moncrieff (a native of the Shetland Islands) spent a summer with him while she was a student at the University of Glasgow. She went on to receive a Ph.D. at Queens University in Belfast, Ireland with Professor Anthony McKervey. She then did a postdoc at the University of Geneva. She has recently taken a position with *Bristol-Meyers-Squibb* in Dublin, Ireland. Bob and Claire Murray had a chance to visit with Hazel during their visit to Ireland in April.

James J. O'Brien's research continues with the NASA supported project which entails collecting intracavity laser spectra of methane at low temperatures to serve as reference spectra in the analysis of data from the outer planets such as Neptune. This research was mentioned in a feature article of April 4, 1998 issue of *New Scientist*, a weekly science journal. Students that were associated with this project, **Balazs Kalmar** (MS., 1997) returned to Hungary and **Elizabeth Amin** (BA., 1996, MS., 1998) moved to California, and thence Florida. Over part of the 1998 summer he has also have been involved in a collaborative project with Leah O'Brien, an Associate Professor in the Chemistry Department at SIU in Edwardsville. This project entails using intracavity laser spectroscopy to measure the absorption spectrum of CuO in the ground electronic state, a transition that has never been

observed in absorption previously. A NSF Young Scholar, Nathan Newbold from Wentzville High School, is also associated with this project. Another NSF Young Scholar, Jackie Holschen from Francis Howell High School, who worked in the lab during the summer of 1997, won the *Pfeiffer Prize* for her Research paper entitled "Calibrating a monochromator/multi-channel detector system for use in intracavity laser spectroscopy measurements of methane bands."

F. Christopher Pigge has been very busy trying to establish a research program. One project under investigation concerns the use of arene-transition metal complexes in organic synthesis. Graduate student Shiyue Fang has had some success in this regard and they currently have two publications in press. Additionally, this research has been funded by the ACS-PRF. Graduate student Ahmed Alzamy continues to work on the synthesis of novel macromolecular host compounds. Both students will be presenting their results at the Midwest Regional ACS meeting in November. Chris had his first (and thankfully very pleasant) experience teaching the Chemistry 263 (Organic Lab) this past year. He also coordinated the outside seminar program during the spring semester. He attended the *Southwest Organometallic Chemistry Workshop* held in May at the University of Oklahoma and will also spend a week at the upcoming *Organic Reactions and Processes Gordon Conference* in what he hopes will be cool New Hampshire. On the personal front, his wife Beth Anne and daughter Katie (almost 2) are doing wonderfully. In addition, Beth Anne and Chris are expecting their second child in late November.



Dr. William J. Welsh, recipient of the 1998 St. Louis Award of the American Chemical Society.

Nigam P. Rath, we are sorry to say visited his home in India this year when his father passed away. Dr. Rath runs a very efficient and productive X-ray Diffraction Laboratory. This is clear from the fact that he has more than 45 refereed articles in print or in press since January 1997. He runs one of the more productive X-ray Diffraction facilities in the US. He participated in the *American Crystallographic Association Annual Meeting* in St. Louis last year and also attended meetings and courses in La Jolla, CA and Madison, WI.

Christopher D. Spilling just completed a successful year having returned from a sabbatical leave at Cambridge University in England. Two of his graduate students received Ph.D. degrees this year, but he still has one of the larger research groups in the department with five graduate students, a postdoctoral fellow plus some undergraduates. Dr. Spilling has been invited to submit an article to a Symposium in Print for the journal *Tetrahedron* and, along with some of his students, he will be presenting papers at the

International Symposium on Phosphorus Chemistry in Cincinnati this summer. Chris and his wife Kathy are proud parents of a new baby boy William, born June 13.

Keith Stine's research group consists of three graduate students and he has active collaborations with Sam Achilefu and Richard Dorshow of Mallinckrodt and Bob Friedman and Jimmy Liu of Monsanto. He is continuing his efforts in cooperation with colleague D'Souza to develop the surface chemistry of cyclodextrins and flavins with the financial support of the Office of Naval Research. In the past year, he contributed a chapter section to a book *Physical Chemistry of Biological Interfaces* to be published by Marcel Dekker. He is now sharing the running of the summer undergraduate *Research Experiences for Undergraduates* program with Chris Pigge, who is slated to take over the program next summer with Dr. Stine continuing as co-director.

William J. Welsh has remained active and productive this past year. His research group has swelled to now include 5 postdocs, 6 Ph.D. students, 1 MS student, 2 undergraduate students, and a system administrator. His group also includes two visiting scientists: **Dr. Gregory Duncan** (BS., 1989) who works full-time at Warner Jenkinson Company in St. Louis and Dr. Randy Zauhar who works full-time at *Tripos* also in St. Louis. Prof. Welsh's computational chemistry laboratory is constantly expanding in space and equipment. His primary laboratory, located in the Center for Molecular Electronics, houses 12 Silicon Graphics (SGI) workstations as well as an SGI Origin_200 Server with 4 CPUs. Prof. Welsh, together with his students, coworkers, and collaborators, have over 12 research articles in print or in press over the past year and over 30 abstracts from presentations made at professional meetings including the recent National ACS meetings in San Francisco, Las Vegas, and Dallas as well as the Midwest Regional ACS meeting in Tan Tara, Lake of the Ozarks, MO. His research has been generously funded by the federal agencies including the EPA, NIH, FDA, and NATO as well as by industrial partners such as Monsanto, Mallinckrodt, and Seppracor. Prof. Welsh was honored as the recipient of the 1998 St. Louis Award of the American Chemical Society. He received a plaque along with a cash award at the St. Louis Award banquet.

Janet Braddock-Wilking continues to supervise the NMR Facility in the department and also carries out independent research in organometallic chemistry. She recently presented lectures at the annual Missouri Inorganic Day in Columbia, MO and at the *31st Organosilicon Symposium* in New Orleans, Louisiana in May 1998. She is a co-author on an extensive review with Joyce Corey on the "Reactions of Hydrosilanes with Transition Metal Complexes: Formation of Stable Transition Metal Silyl Compounds" which was recently forwarded to *Chemical Reviews*. Currently, she has three students working with her: Yana Levchinsky, a master's student and two undergraduates, Erik Williams and Joe Ocheskey.

Rudolph E. K. Winter brought honor and distinction to himself and to the department this year by receipt of the *Chancellor's Award for Outstanding Teaching*. This is the single award given campus-wide annually for teaching. His last doctoral student, Ali Kasiri, completed his dissertation on the biomimetic synthesis of taspinoids and was awarded his degree in January. A patent

application (with Professor Walter Lewis, Washington University) is pending on some of the their new compounds which have potential use as cicatrizants. Dr. Winter and Joe Kramer are working to resurrect the VG ZAB-HF donated by Monsanto for FAB MS as well as evaluating newer high-resolution instrumentation by JEOL and Micromass for eventual purchase. Dr. Winter co-wrote, with Dr. Barton the successful proposal to the NSF which will allow this purchase.

Dr. Zhi Xu presented a paper entitled "In-site Characterization of Molecular Adsorption at Solid-Liquid Interfaces Using Transmission Second Harmonic Generation" at 214th American Chemical Society National Meeting in Las Vegas last September. His group moved into the new Center for Molecular Electronics last summer. During the past year they had two important achievements. The first is the in the field of solid-liquid interfacial chemistry where they developed a unique nonlinear optical molecular probing method, which enables them, for the first time, to obtain molecular level information of chemical processes taking place within 20 Å at the interface. Their research is expected to have impact on many research fields of industrial importance including separation of organic molecules and proteins using HPLC, tribology and lubrication, corrosion inhibition, heterogeneous catalysis, and electrochemistry. During the past year, his group published four research papers in the *Journal of Physical Chemistry*, *Langmuir*, and *Journal of Chemical Physics* on the subject of probing chemistry at solid-liquid interfaces using nonlinear optical molecular probes. Xu was invited to give a talk on nonlinear optics in a symposium at the 32nd Midwest Regional ACS Meeting at Osage Beach, Missouri last October, and his student Ying Dong gave two poster presentations at that meeting. This fall, he and his student, Ying Dong will present two more papers on the subject of probing interfacial chemistry using the new nonlinear optical molecular probing method in the 33rd Midwest Regional ACS Meeting at Wichita, Kansas. Their second important achievement is in the development of new optical storage media. Together with Dr. C. D. Spilling and Dr. S. V. Pappu (who joined Dr. Zhi Xu's group last October) of the Chemistry Department, and Dr. V. Lakshminarayanan of the School of Optometry at UM -St. Louis, they have developed a new strategy that will enable



Dr. Rudolph E. K. Winter, recipient of the 1998 Chancellor's Award for Excellence in Teaching with the other winners of the 1998 Chancellor's Awards.

them to store over 10,000 gigabytes of information on a disk smaller than the size of a penny. Dr. Xu will present a paper on the related subject at the annual meeting of the *International Society for Optical Engineering* in Québec City, Canada this summer.

Adjunct Faculty

Daniel Connolly, who has taught biochemistry for several years in the department, is taking a break from teaching for the next couple of years.

Joseph Dence continues to teach in the department and in the Mathematics department while maintaining activity in writing in both areas.

Donna Friedman (Ph.D., 1981) has taught Quantitative Analysis in the summer now for many years.

John Gutweller continues splitting his time between UM-St. Louis and Logan Chiropractic College.

Dennis Moore has been teaching general chemistry and general organic chemistry in the evenings since 1991. Dennis is with Mallinckrodt in St. Louis.

William Neumann (Ph.D. 1987) is back teaching organic chemistry courses and continues at Monsanto in St. Louis.

Robert Orth in addition to teaching physical chemistry has been helpful to us in setting up a new mass spectrometer which we recently obtained from Monsanto. Bob is with Monsanto in St. Louis

Raghavan Rajagopalan has been teaching organic chemistry for us now for five years. He is employed as a research chemist at Mallinckrodt.

Robert Stearns after teaching in the department continuously since January 1996, has decided to retire and spend some time travelling with his wife Sandy in the camper they purchased for that purpose. Bob has taught Chem. 11 and 12 in the evenings every year since 1966 except for a couple of instances when he handled quantitative analysis. Last summer Bob and Sandy spent several weeks in Britain.

The Staff

Betty Eshbaugh retired in December 1997 after 34 years with the University. However, she is not letting any grass grow under her square-dancing feet! She is still very active in her square-dancing club and enjoys traveling around the country to various conventions. We just hope she still has time to drop by and visit us sometime. We certainly appreciate all the years of service she contributed to the department and wish her well.

Lisa Hoguet was promoted to Administrative Secretary and assumed Betty's responsibilities in January. She has been busy learning the ropes. Lisa enjoys her new position but will welcome a break this summer in Cancun, Mexico.

Joann Jolly is our newest staff member. She accepted the position of Secretary in April. Joann was recently accepted into the MIS program in the School of Business and is pursuing her master's degree. Currently, Joann is recovering from surgery for carpal

tunnel syndrome. However, we expect to hear her cheerful voice back in the office soon. She is the daughter of Dr. James Jolly who took chemistry courses in the late 1960s/early 1970s with several faculty including the editor.

Gordon Kerschmann recently installed some new software in the NMR laboratory. Being the electronics expert who deals with the NMR spectrometers can be very challenging and that has been the case with one of the instruments recently, but Gordon has been up to the task. He has done considerable work with Dr. O'Brien's research which resulted in his name, along with that of Ted Windsor, being included on one of Dr. O'Brien's publications on diamond-like film deposition. He looks forward to additional involvement in faculty research projects.

Joe Kramer has been busy setting up the ZAB-HF mass spectrometer we obtained from Monsanto last year. More recently he visited the University of Iowa and the JEOL Facility in Boston Mass with Dr. Winter in their efforts to identify the best mass spectrometer to purchase for the department.

Frank May joined the department last summer as Research Investigator. Frank had spent many years at Monsanto in the Analytical Sciences Center, prior to his (very) early retirement.

Donna Kramer has one class to complete for her degree in chemistry and will graduate in Dec '98. Donna is preparing to attend a conference for the *National Association of Scientific Materials Managers*, which will be in Portland, Maine this summer. She and her husband Joe Kramer are in the process of selling their houses, they are looking for a new home to purchase, possibly in the Maryland Heights area.

Ken Owens joined the staff as the full time Scientific Glassblower last July. Ken had filled this position, as a part time employee, for the last three years. He worked evenings in the glass shop after working a regular forty-hour week elsewhere. We were pleased to regain the full time status of this position. Ken has become quite involved with the *American Scientific Glassblowers Society*. He has attended the last five national meetings and several regional meetings. He presented a poster and demonstrated a quartz working technique at the most recent national meeting in Minneapolis MN. We look forward to a long and mutually beneficial relationship with Ken. He would enjoy hearing from his old colleagues and can be reached at 516-5492.

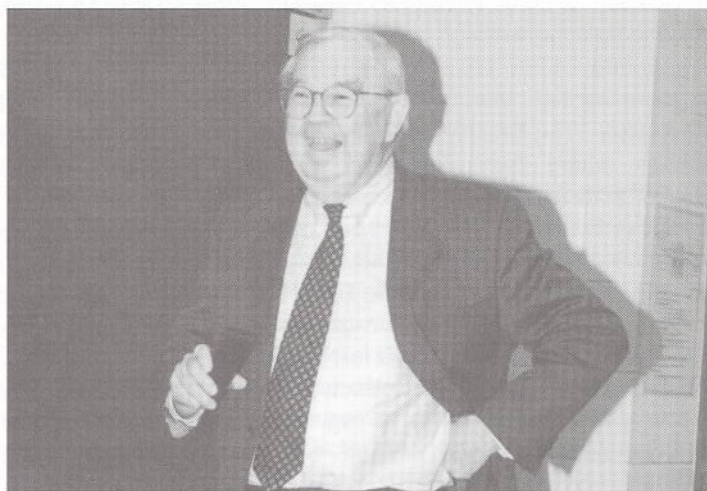
Randa Schneider tells me she is still with the department. She is now working 75% time and has been helping me put together the UMSL CHEMIST. As we write this Randa is taking a well-deserved break vacationing with her husband Mike in Florida.

Ted Windsor continues to be a valuable and most cheerful colleague. In addition to his various departmental activities he has been helping Dr. Barton move from the chair's office. His hobby is studying the history of the American Civil War and he enjoys visiting the battlefields. A recent trip involved visiting confederate cemeteries in the Midwest. On his last trip to Kansas City he discovered a grave from the 1860s that belonged to a relative of his.

Postdoctoral Fellows

Dr. Yuri Abramov, who was with Dr. Brammer, is now Research Associate Professor at SUNY-Buffalo.

Reinaldo Atencio-Fuenmayor joined Dr. Brammer's group in January 1998. He obtained a Ph.D. from University of Zaragoza, Spain and holds a junior academic position in his home country of Venezuela. His research interests are in the area of supramolecular organometallic chemistry and crystal engineering, which is a good match for Dr. Brammer's present research focus.



Professor Robert Murray during his presentation of the inaugural Robert W. Murray Lecture

Anil Nair is a relatively new postdoc with Dr. Welsh. He obtained his Ph.D. degree from Banaras Hindu University in Vanarasi, India. He is working on Dr. Welsh's NIH-funded project on HIV protease inhibitors.

Sastry Pappu is a Senior Research Associate in Chemistry and Adjunct Professor of Physics. He is collaborating with Dr. Zhi Xu on photon activated charge transfer in organic systems for optical storage.

Joong-Youn Shim is beginning his third year with Dr. Welsh and he continues to work on in the computer-aided studies of the structure and functions of cannabinoids, in collaboration with colleagues at St. Louis University School of Medicine.

Megh Singh is now the only person working directly with Dr. Murray and this coincides with one of the most productive periods of research in Dr. Murray's career. That reflects very well on Megh who continues to work on several projects in the oxidation chemistry of dioxiranes simultaneously. They published recently a communication on the synthesis of two heretofore-unknown tetraepoxides of cyclooctatetraene using dimethyldioxirane. In preparation for publishing the full paper on the subject Megh has used a variety of techniques to show that the oxidation proceeds through the intermediate formation of three diepoxides and two triepoxides of cyclooctatetraene. In a very nice experimental accomplishment Megh used a combination of separate oxidations of the intermediate materials to reveal the relationships between all of the products.

Yuejin Li, had been with Dr. Wesley Harris for three years and recently did some joint work for Harris and *Metaphore* in St. Louis and is now pursuing a career in computing.

Ramon Macias continues to work with Dr. Barton on metallaborane chemistry and recently they had a communication published in *Chem. Comm.* and another was submitted to *Angew. Chem.*, both co-authored by Dr Nigam Rath. The former was on platinaborane chemistry and the latter on rhodathiaborane chemistry.

Rhodri L. Thomas, who had been working with Dr. Barton on metallaborane chemistry, left in May to take up a postdoctoral position with Dr. Martin Bennett at the Australian National University. Rhodri is funded by a Royal Society Fellowship (UK), only two of which are awarded for inorganic chemistry annually.

Peter Wolohan who hails from Liverpool, England, has been with Dr. Welsh for about two years doing some *ab initio* calculations on some catalyst systems but he is looking for a position and expects to leave soon.

Seong Jae Yu, who started work this spring with Dr. Welsh, and received his Ph.D. degree from Chungnam University in Taejeon, Korea, is working on endocrine disruptor chemistry funded by EPA and also on a project funded by Mallinckrodt.

Li Xing who had been working with Dr. Welsh is now employed by *Tripes* in St. Louis as an Applications Scientist.

The Robert W. Murray Lectureship

We continue to appeal for contributions to the fund that supports the *Robert W. Murray Lectureship*. Many of you have heard from us on this subject. We are almost one half of the way towards raising our goal of at least \$50,000. Thus we are looking for some rather substantial contributions from alumni, faculty colleagues, other faculty and administrators on the campus and colleagues of Dr. Murray in his field. If you have already made a contribution, perhaps you would consider making another one. If you find these requests to be too much, all at once, perhaps a commitment to contribute over an extended period would better suit your situation.

The Inaugural *Robert W. Murray Lectureship* was held on March 9, 1998. Dr. Murray presented a seminar entitled "Ubiquitous Oxidation Chemistry". After the lecture a reception, attended by about 75 people, was held at the Alumni Center.

Donors to the Murray Lectureship

Dr. Ali A. Bazzi	Mr. & Mrs. Mark H. Owens
Dr. & Mrs. David A. Armbruster	Ms. Sharon J. Moran
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Dr. & Mrs. Lawrence Barton	Dr. Harry W. Orf
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Mr. Robert L. Dittrich	Dr. Frank E. Stary
Dr. Wen-Yuan Lu	Dr. Rudolph Ernst K. Winter

Departmental Awards

1996-97

Undergraduate

The award for the *Outstanding Student in Introductory Chemistry* was **Jonathan Stayton**. He received a certificate and a Handbook of Chemistry and Physics from the Chemical Rubber Company. The *American Chemical Society for Award for Analytical Chemistry* went to **Yanina Levchinsky** who received a certificate and a one-year subscription to *Analytical Chemistry*. The *American Chemical Society - St. Louis Section's Outstanding Junior Award* went to **Andrew G. Breite and Gretchen Hoel**. The award was presented at the annual Awards Night during the ACS St. Louis Section's Chemical Progress Week. **Yanina Levchinsky** received the *Alan F. Berndt Outstanding Senior Award*. **Andrew G. Breite** received the *Eric G. Brunngraber Fellowship* for 1996-97 academic year. The *William and Erma Cooke Scholarship* for 1996-97 went to **Jessica Ricca**. The *Robert Lamberg Fellowship* 1996-97 was awarded to **Gretchen Hoel**. **Nnameka Okafor** and **Benjamin Radihephi** received the *Harris Fellowships* for 1997-98. The 1996 *Undergraduate Chemistry Awards sponsored by the Monsanto Company* were awarded to the following: **J. Michael Bills, Andrew G. Briete, Shawn D. Faulkingham, Mark H. Hathaway, Gretchen R. Hoel, Matthew A. Lanham, Benjamin Radihephi, Anjanette P. Smith and Katrina L. Warmann**.

Graduate

The 1997-98 *Mallinckrodt Fellowship* went to **Robert A. Stockland**, and the 1997 *Alumni Summer Graduate Fellowships* went to **E. Thomas Kuefler, Jr., Juan C. Mareque Rivas, and Xiaopeng Sang**. The 1997 *Graduate School Summer Fellowships* went to **Brian Grimmond and Todd A. Staley** and the 1996-97 *Outstanding M.S. Student* awardee was **Todd M. Brown**. A 1996-97 *Graduate School Dissertation Fellowship* was awarded to **Isabel C. Vasconcelos**. The 1996-97 *Commendations for Excellent Performance by a Teaching Assistant* were awarded to **Malcolm Arendse, Peter Forgo, Paul McQuade and Jeff Scholten** (actually an undergraduate). The 1996-97 *Graduate Teaching Assistant Award in Memory of Jack Coombs* went to **Elizabeth A. Amin**.

Alumni

The 1997 *Distinguished Alumnae Lecture* was presented by **Dr. Dawn Shiang** (B.S., 1983, Ph.D. 1988). Her title was "*Process Research at Dow: An Application of Physical Organic Chemistry*". Dawn is involved in process chemistry at Dow chemical company in Midland, MI.

1997-98**Undergraduate**

The award for the *Outstanding Student in Introductory Chemistry* was **Adam Panagos**. He received a certificate and a *Handbook of Chemistry and Physics* from the Chemical Rubber Company. The *American Chemical Society Award for Analytical Chemistry* went to **Jason Sondgeroth** who received a certificate and a one-year subscription to *Analytical Chemistry*. The *American Chemical Society - St. Louis Section's Outstanding Junior Award* went to **Martin Hayes**. The award was presented at the annual Awards Night during the ACS St. Louis Section's Chemical Progress Week. **Andrew G. Breite** received the *Alan F. Berndt Outstanding Senior Award*. **Jennifer Moser** received the *Eric G. Brunngraber Fellowship* for 1998-99 academic year. The *Robert Lamberg Fellowship* went to **James Laird**. The *William and Erma Cooke Scholarship* for 1998-99 went to **Eric Williams**. The 1998 *Undergraduate Chemistry Awards* sponsored by the *Monsanto Company* were awarded to: **Michael Bills, Jim Christ, Denny Elking, Martin Hayes, Lawrence Lawless, Jennifer Moser, Benjamin Radihephi and Jonathan Stayton**.

Graduate

The 1997-98 *Mallinckrodt Fellowship* went to **Brian Grimmond** and **Juan Mareque Rivas**. *Summer Graduate Fellowships* went to **Yahia Hamada and Paul McQuade**. The 1997 *Graduate School Summer Fellowships* went to **Robert Stockland and Juan Mareque Rivas**. The 1997-98 *Outstanding M.S. Student* was **Gary Nichols**. Although we had excellent nominees the department received no 1997-98 *Graduate School Dissertation Fellowships*. The 1997-98 *Commendation for Excellent Performance by a Teaching Assistant* was awarded to **Manjula Rajendran**, and the 1997-98 *Graduate Teaching Assistant Award in Memory of Jack Coombs* was awarded to **Paul McQuade**.

Alumni

The 1998 *Distinguished Alumni Lecture* was presented by **Dr. Karl Seper** (B.S., 1982). His title was "*Nickel Catalysis and Other Methods for forming New Carbon-Carbon Bonds in Aromatic Compounds*." (See under Alumni Information).

Contributions 1997-98

Below we list all the individuals, chemistry alumni and friends of the department, who made contributions to the university last year. The list is very impressive and we are most grateful for your support, especially during these very difficult times. We have

done our best to assure that the listing is up-to-date. If we missed out your name, we apologize and hope you understand that we are fallible. Recent gifts will be listed next year. We have not included industrial matching funds because that list is more difficult to assemble.

CONTRIBUTIONS FROM ALUMNI AND FRIENDS

Dr. Teresa M. Blase	Dr. Christy S. John
Dr. Pauline L. Bellavance	Dr. Ali D. Kasiri
Ms. Kelli R. Herries	Dr. & Mrs. Robert W. Murray
Mr. Ralph J. Bryan	Dr. & Mrs. Thomas C. Kuechler
Dr. Donna G. Friedman	Dr. Cecilia H. Marzabadi
Dr. & Mrs. Lawrence Barton	Dr. E. Terrence Jones
Dr. Phillip V. Asaro	Dr. Gary S. Jacob
Dr. Donald G. Hesse	Dr. Harry W. Orf
Dr. David L. Beach	Dr. Herbert J. Kaiser
Mr. Kenneth H. Braig	Dr. Kevin J. Koeller
Dr. & Mrs. John G. Boylan Jr.	Dr. Mark A. Knollman
Mr. Kevin R. Criscione	Dr. Minren Lin
Mr. Ronald E. Ackerman	Dr. Sedigheh Hosseini
Mr. Roger W. Buchanan	Dr. Shailendra Kumar
Dr. Hong Gu	Dr. Steve A. Mestemacher
Mr. & Mrs. Dennis M. Delfert	Dr. Yu Lin
Mr. Richard E. Hauhart	Mr. & Mrs. Charles E. Mueller
Mr. Lance G. Hellwig	Mr. & Mrs. Joseph O. Muo
Ms. Phyllis R. Bennett	Mr. & Mrs. Lucky K. Kelley
Ms. Joan K. Horn	Mr. & Mrs. Mark H. Owens
Mr. Joseph W. Bulock	Mr. Binh V. Lam
Mr. Jeffrey L. Evans	Mr. Christopher S. Mallory
Mrs. Katherine H. Carr	Mr. Dale E. Lanser
Mr. Brian M. Gross	Mr. Harold R. Messler
Mrs. Susan M. Auinbauh	Mr. Hyoryoon Jo
Mrs. Janet S. Harris	Mr. Jeffrey L. Milner
Mr. & Mrs. Andrew J. Hilliker	Mr. Jerry F. Orlando
Mrs. Jeanette A. Glaenger	Mr. John K. Mathai
Mrs. Lois Brunngraber	Dr. John R. Kolb
Mr. James C. French	Mr. Kerry L. Martin
Mr. James F. Essinger Jr.	Mr. Kevin G. Mallon
Dr. Ali A. Bazzi	Mr. Larry A. Justice
Mr. Charles M. Copper	Mr. Mark A. Leiber
Dr. Dennis M. Anglim	Mr. Mark H. Jackson
Mr. James K. Grant	Mr. Michael C. Merriman
Mr. Lee L. Gori	Mr. Michael K. Maxwell
Mr. Steven J. Harrison	Mr. Richard J. Morfing
Mr. & Mrs. Michael D. Hasser	Mr. Russell W. Moutray
Mr. Jack M. Dougherty	Mr. Scott A. Long
Drs. A. O. & Dorothy C. Greco	Mr. Steven J. Mertens
Dr. Mary K. Hays	Mr. Steven R. Mumm
Mrs. Irene Drizin	Mr. Thomas G. Makara
Mr. James J. Grib	Mr. Thomas J. Mertle
Ms. Patricia Ann Clay	Mr. Thomas P. Lavelle
Mrs. Kristin J. Frost	Mr. Tim A. S. Marzan
Mr. Anthony G. Herzing	Mr. Victor L. Nelson
Dr. Razia Ahmed	Mr. Xinyu Hu
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Mrs. Janice Dittrich	Mrs. Judith L. Logsdon
Mr. Yahia Z. Hamada	Mrs. Mary J. Mierkowski
Mr. Robert L. Dittrich	Ms. Bo Liu
Mr. Thomas J. Byrd	Ms. Lori A. Lankow
Mr. Ronald B. Harris	Ms. Mary C. Mohr
Dr. Charles R. Granger	Ms. Melinda F. McCann
Mr. & Mrs. Michael J. Finkes	Ms. Nina M. Marten
Dr. Wesley R. Harris	Ms. Sharon J. Moran

UM-St. Louis Chemistry Alumni Fund

Enclosed is my contribution of \$ _____ Yes I work for a matching gift Corporation.

Designation for funds:

Robert W. Murray Lectureship _____

E.G. Brunngraber Fellowship _____

Undergraduate _____

Graduate _____

Unrestricted _____

Please make check payable to UMSL. "Chemistry Alumni Fund" and return to:

Lawrence Barton
Department of Chemistry
University of Missouri-St. Louis
St. Louis, MO 63121

INFORMATION UPDATE-SUMMER 1998

Please respond to this questionnaire. We have mentioned previously how important it is for us to keep track of what you are doing, both professionally and personally.

Name _____ UMSL Degree _____ Year _____

Current mailing address: _____

Employer: _____

Current Position: _____

Recent Activities:

Other News:

