



UMSL CHEMIST

University of Missouri-St. Louis

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Volume 13

Chairman's Message

It is hard to believe that it is time to write my annual message in the UMSL CHEMIST. This is the eleventh issue written in this format. From the response I have received you seem to be quite pleased with the news you hear annually about your former colleagues, and teachers and also about the department and the institution. We have maintained the same format because I don't have any better ideas. If alumni wish to suggest a different format, or if they would like to contribute an article or letter, please let me know.

I first must comment on the fund-raising activities conducted by the University Relations staff with my help. This activity is going on in all departments and it has been quite successful. In chemistry it has been very successful and I thank those of you who have found it possible to help us. My regret is that I have not been able to write individual letters to those of you who have written to me. I truly appreciate hearing from you and hope that you will stop in the office if you are ever back in St. Louis. I also hope you will seek me out at ACS meetings. As most of you know, much of the information about you, our alumni, that I include in the UMSL CHEMIST does come directly from you but from any source I can identify. My colleagues and I are proud of you and of your achievements and we enjoy reporting them in this newsletter for your former colleagues to read. Please let us know of your activities and allow us to make this newsletter

The development of the department continues and the next months will be very important. All of our new instrumentation facilities will be operational, construction on the Center for Molecular Electronics building will be well under way

DON'T FORGET THE ALUMNI RECEPTION. IT WILL BE HELD ON FRIDAY MARCH 24, FROM 7:00 TO 10:00 PM, IN THE ALUMNI CENTER, 7956 NATURAL BRIDGE ROAD (ACROSS THE STREET FROM WOODS HALL). PLEASE CALL RANDA SCHNEIDER OR LISA JOHNSON AT 553-5311 TO INDICATE WHETHER YOU WILL BE ABLE TO ATTEND. WE LOOK FORWARD TO SEEING YOU.

and we hope to have added a new organic chemistry colleague in the very near future. The campus continues to grow and develop. On the south campus, construction of the new student housing has started and plans for a new Student Center are currently being discussed. The bond issue approved last year will allow Chancellor Touhill to begin implementation of the Master Plan for the campus and several new degree programs have either just been approved or are in the latter stages of the approval process. In the department we are planning, in collaboration with the Biology Department a joint program in biochemistry which will include activities ranging from undergraduate certificates and joint laboratory courses all the way to possible options in the doctoral programs in each department.

A highlight of this past year was that Joyce Corey won the *Chancellor's Award for Research and Creativity*. The award was presented at a function at which Chancellor Touhill described the "State of the University" address. Joyce was also honored at *Founders' Day*. In fact the latter was quite a day for the department and our alumni. Harry Orf, B.S., 1970 was honored with one of 5 *1994 Distinguished Alumni Awards*, Professor Larsen was honored for 30 years of service on the faculty and Betty Eshbaugh was honored for 30 years of service on the University staff. Among the faculty honored for 25 years of service were Drs. Winter and Chickos. Also honored for longevity of service were Drs. Garin and Barton for 28 years of service and Murray and Corey for 26 years of service. The featured speaker

was noted columnist William Raspberry. Several chemistry alumni were present at the function.

The campus has suffered from some minor enrollment problems recently but we in the chemistry department appear to have been spared them. For the sixth year in succession our enrollment, count by total head, count went up last year. Other measures of success and progress are evident. The numbers of graduates from our degree programs continue to increase gradually. The numbers of BS/BA graduates is averaging in the mid twenties again, the MS graduate numbers now average about 10 per year and we just graduated our 60th Ph.D. I mentioned previously how we appreciate the funding contributed by many of you. Our external grant funding has done very well recently. Last year the 16 faculty on board received a total of \$1.165m in eternal research grants and our publication rate continued to be very successful.

The various Scholarship programs are very successful, thanks to all of you for your contributions. In 1991 we established the Armbruster Fellowship program and it continues. The Fellowships are awarded to outstanding freshman applicants to the campus who have already been offered some other support but who had not yet decided to attend UM-St. Louis. One of the first "class" is still here and one of the second class is also still here. The other programs are described at the end of this newsletter. We are proud of those programs and the way they are funded. they have made an enormous difference.

Please continue to send in information about your progress, current status or any new developments in your life or career. your former colleagues, and Professors are very interested in them. If you are near the campus, we would be very pleased to visit with you, to show you our new facilities and introduce you to our new colleagues, and to reacquaint you with some older colleagues. We hope you will be able to attend the Alumni reception and I hope I can get this finished to be in the mail before then. Finally I wish you all the best in your personal and professional lives.

Sincerely,

Lawrence Barton

Alumni Information

1966-1967

Jodie Duke, B.S., who received his Ph.D. degree from the University of Michigan, is a principal research scientist at Dupont-Merck Pharmaceutical Company in Newark, DE. His special area of interest is protein purification. He works on the isolation of diverse proteins of interest to the drug discovery program at Dupont. Last year his group isolated proteins involved in inflammation, cardiovascular disorders and AIDS as well as various monoclonal antibodies. Jodie sends his regards to all and especially to Drs. Garin, Armbruster, and Larsen.

Lloyd Hill, B.A., attended the Alumni Reception this past year and also serves on our Industrial Advisory Council, attending the meeting here last December. Lloyd (Skip) has been at Mallinckrodt Chemical Inc. for several years.

1967-1968

Robert A. Nicolotti, B. S., attended the Alumni Reception this past year. Bob is now with Sigma Diagnostics in St. Louis.

1968-1969

Lee Gori, B.S., is now Quality Assurance Manager at Buse Industries in Granite City. He had been with Emerson Electric for several years.

Jim Reilly, B.S., sent his annual Christmas card with all his holiday cheers. In the Spring of 1994 he received the *Outstanding College Teacher* award from the Lafayette County Lions Club in Lexington, MO. Jim is Professor of Chemistry at Kemper Military Academy in Lexington where he has been for 22 years. his wife Nikki works as a R.N. at the Lafayette Regional Health Center.

Terry Moore, B.S., is at the National Center for Drug Analysis in St. Louis. We wrote a letter in support of a legislative initiative to obtain funds for a new building for the FDA in St. Louis. Passage would have assured continuation of this fine facility as an asset to the St. Louis area. The outcome was a 5-year reprieve for

the Center but the new facility plan has, unfortunately been put on hold. Terry acknowledged the letters of support.

1969-1970

Gene T. Bohn, B.S., is a plant manager for Borden - North America Resins in Aurora, IL. His facility coats numerous different types of sand with proprietary thermoset resins. The products are used as molds for metal castings by the foundry industry. The company is the same Borden which make baby food, etc. Borden also has a large chemical division with plants world wide making plastic resins, adhesives, plastic films and other products. Gene's job is quite remote from the research in the mass

spectrometry of boranes he did with Dr. Barton between 1968 and 1970 but he still uses the technical background he developed then.

Dennis W. Wester, B.S., has four grants with five institutes in Russia to work on collaborative research and development projects. Dennis is a Senior Research Scientist at Battelle Pacific Northwest Laboratories in Richland, WA. He is in charge of a program which supplies ^{90}Y for cancer therapy to hospitals and universities across the country and recently made its first international shipment.

1970-1971

John R. Kolb, B.S., sent us a nice letter last Fall. We quote, "I still recall with great fondness the excellent education I received there which stood me in good stead when I packed off for my graduate education at Northwestern. It was my experience that no one from any other university in the United States - and that included MIT, Cal Tech, Illinois, UCLA, ad infinitum - arrived any better schooled or better prepared for postgraduate training than I did. That was due to in its virtual entirety to the commitment of the faculty and the drive to educate students that all of you exhibited". We thank him for his kind words. John is at the Lawrence Livermore Laboratories and has been there since he completed a postdoc with F. A. Cotton at Texas A. and M.

Harold Messler, B.S., was elected Secretary of the Board of the Alumni Association. Harold was involved this year in the exhibit *Science and Crime*, held at the St. Louis Science Center as part of the ACS National Chemistry Week activities.

1971-1972

Dr. Robert L. Lamberg, B.S., practices ophthalmology at his *Eye Institute of St. Louis* in Clayton. He is very active professionally and is Past President of the Washington University Eye Alumni Association, and a member of the St. Louis Metropolitan Medical Society, the American Academy of Ophthalmology, the American Medical Association and the American Society of Cataract and Refractive Surgery. We recently visited his clinic for eye care.

Harry W. Orf, B.S., received the *Distinguished Alumni Award* at Founders' Day last Fall. Harry, his wife Linda and their two children came back for the event. Harry is involved with two commercial ventures. He is a principal with Cambridge Consulting Group and President of Cambridge Laboratory Consultants. His major preoccupation is as Director of Molecular Biology at Massachusetts General Hospital and Principal Associate in Genetics at Harvard Medical School. Harry received his Ph.D. degree from Harvard with E. R. Corey in 1976.

Roger A. Riemann, B.S., is now with Environmental Management Corporation in St. Louis. Roger was Director of Environmental Affairs at Granite City Steel for 15 years and most recently was with Digital Equipment Company in St. Louis. He was in the department recently and we were able to impress him with the new facilities.

1972-1973

Michael Finkes, B.S., (M.S. 1978) should have been included in last year's issue. We were listening to a Spring training Cardinals game at Al Lang Field last March on KMOX when Jack Buck announced that Linda Finkes and her sister in law sent greetings to their husbands Mike and Steve (B.S., 1980), who were slaving away at work in St. Louis.

1973-1974

A. Greg Wall, B. A., (M.S., 1980) is Chairman-Elect of the St. Louis Section of the American Chemical Society. Greg is in technical service at the Sigma Chemical Company in St. Louis. He went with Professor Eric Block when the latter joined the State University of New York at Albany. Greg obtained a Ph.D. degree at SUNY-Albany in 1985.

1974-1975

William Z. Macarthy, B.S., (Ph.D. 1984) is a Senior Research Chemist at Mallinckrodt Chemical. We last saw Bill at Duff's last Fall early one morning at a breakfast meeting of his neighborhood association. Bill lives in Lafayette Square in St. Louis.

Dennis Nagy, B.A., is now full time with the Environmental Service department at Washington University. He manages hazardous waste concerns at the University and is also advising departments on laboratory safety. He was on campus recently for a lab safety meeting.

Steven Villasenor, B.S., is at Mallinckrodt Chemical Inc. He was very active in St. Louis ACS Section's activities in promoting chemistry to children during National chemistry Week. He holds a Ph.D. degree in organic chemistry from Wayne State University.

1975-1976

Sandi (Ross) Mueller B.A., is the 1995 winner the the *ACS St. Louis Section High School Teaching Award*. Sandi will become the Section's nominee for the Midwest High School Teaching Award (also known as the Regional *James Bryant Conant Award*) which is presented at the Midwest Regional Meeting in November. Sandi teaches chemistry and science at John Burroughs High School. She previously taught at Clayton High School and Bishop Dubourg School. She holds a M.A. in education degree from

Washington University and also did graduate work at Lindenwood College.

R. Thomes Solsten, B.S., continues to be very helpful in steering surplus equipment to the department. Tom works in Monsanto and holds a Ph.D. degree in Pharmaceutical chemistry from Arizona State University.

1976-1977

Mollie Freebairn, B.S., works with the Missouri Department of Natural Resources in Jefferson City. She works in the Air Pollution /control Program. Molly has a son.

Lucky Kelley, B.A., is at the Washington University School of Medicine working for S. Bruce Dowton, M.D. the Associate Dean of Education in the Office of Medical Education. They are developing computer aided instruction (CAI) for the medical school curriculum.

William Melchior, B. A., is owner of a Subway Restaurant in St. Louis County. Before going into business, Bill was with Petrolite. the last time we saw him was at a hockey game. He was with Jim Grib B.S., 1976 (M.S. 1982).

Mark Owens, B.S. (M.S., 1982) received the "Extraordinary Performance Award" in recognition of exceptional performance and significant contribution to Mallinckrodt Medical, Inc. Mark also coauthored a paper last year with several Mallinckrodt colleagues. (see Jim Wheatley, 1982). He is an analytical chemist at Mallinckrodt.

1977-1978

Patricia J. Barton, B.A., (B.A., M.A., History) is Director of Sponsored Programs Development at Harris Stowe College in St. Louis. In the five years she has been in that office, she has developed a series of international programs involving faculty exchanges and the recruitment of foreign students. She also writes grant proposals for a variety of other types of programs. The external support raised by the Sponsored Programs Office has increased substantially during Pat's tenure as Director

Jeffrey Blume, B.A., recently wrote to us and told us to "keep up the good work." We appreciate that and will try to do so. Jeff is with Slay Industries in St. Louis.

Michael D. Ennis, B.S., gave a symposium presentation at the ACS meeting in Washington D.C. last August. Mike has been at the Upjohn Research Laboratories in Kalamazoo, MI since receiving his Ph.D. degree from California Institute of Technology.

1978-1979

George Limpert, B.A., is in the Master's Program at UMSL and was awarded the Outstanding Student in the Masters Program in May, 1994. He expects to graduate this May. George is an analytical chemist with Mallinckrodt Chemical Inc. in St. Louis.

Bruce Ritts, B.S., (M.S. 1983) served as Chairman of the Education Committee and member of the Board of Directors of the St. Louis Section of the American Chemical Society. One of the activities he initiated for the Section, *Battle of the Burettes*, is held in the department every year. Bruce has been with Petrolite in St. Louis for several years.

1979-1980

Kevin Criscione, B.S., was at the recent ACS Midwest Regional Meeting in Kansas City. Dennis is employed by the Department of Medicinal Chemistry at the University of Kansas where he received a M.S. degree.

Donna G. Friedman, Ph.D., continues to be very active in the St. Louis Section of the American Chemical Society. The Section won the *Award for Outstanding Performance for a Medium-Large Section* when she chaired it in 1993, and now she serves as a Councilor for the section and has been heavily involved in updating the bylaws of the Section. She is also a member of the Bylaws and Rules Committee at the national level of the society.

Fasihulla Qazi, M.S., sent us Christmas greetings from Kenner, Louisiana

1980-1981

Michael Hauser, B.S., (M.S. 1986) continues to teach at the Meramac campus of the St. Louis Community College. Mike is currently in charge of College Awards for the St. Louis Section of the American Chemical Society. We recently met with Community College faculty on the campus and Mike attended the meeting.

1981-1982

C. Michael Drain, B.A., presented the seventh *Distinguished Alumni Lecture* last May. He continues his work in collaboration with Professor Dewi Holten at Washington University.

Shelly Kumar, Ph.D., is Professor of Organic chemistry at Governor's State University in Chicago. He recently published an article entitled "Ozonolysis of [60]Fullerene" in the *J. Chem. Soc., Chem. Commun.* He is looking forward to seeing former colleagues from UM-St. Louis at the ACS meeting this Fall in

Chicago. Shelly has been at Governor's State since 1989 and received the **Faculty Excellence in Teaching Award** in 1991.

Sue Jansen, B.S. (Ph.D. 1986) is now Associate Professor of Chemistry at Temple University. Sue and her husband Jim Varnum sent us their greetings early last Fall.

Jerry K. Ronecker, B.S., is now an attorney with Husch, Eppenberger, Donohue et al. Prior to going into law, Jerry was with Monsanto in St. Louis.

1982-1983

Colleen B. Jonsson, B.S., was of two students who received two B.A. degrees (Chemistry/Biology) in 1983. She moved on through Monsanto, Purdue University (Ph.D.) and the University of Medicine and Dentistry at New Jersey (Postdoc Fellow). She is now an Assistant Professor at New Mexico State University in the Chemistry and Biochemistry Department. She sends her regards to Dr. Gutweiler with whom she served as an undergraduate TA when she was here.

James Timper, B.S., (M.S. 1984) is a student in the Master's program in Applied Math in the Engineering Department at Johns

Hopkins University. He reviews "chemistry manufacturing, and controls" for anti-infective drug products, such as antibiotics - at the FDA. He is also the representative from the FDA on the USP-FDA Antibiotic Monograph Subcommittee which writes the monographs for the Federal Register and Code of Federal Regulations in antibiotics. Jim is on the drug product committee in the FDA, Center for Drug Evaluation and Research.

Mark Vilmer, B.S., continues to work with Monsanto in St. Louis. Mark has a M.S. degree from UM-Columbia and a Ph.D. degree from the University of Toledo, both in inorganic chemistry.

1983-1984

Joseph Muo, B.S., continues to be a major supporter of the department in many aspects. Joe appreciates that students are able to "work their way through school" and he speaks for many UM-St. Louis graduates in this respect. His second daughter is a student at Washington University. Joe continues as a research medicinal chemist at St. Mary's Hospital. He says his work is much more chemistry-oriented these days and his generalist chemistry background serves him well.

Shankar Ranavare, Ph.D., received a grant from the ACS/PRF on behalf of the ACS Division of Colloid & Surface Chemistry for support of the symposium: *Liquid Crystals: Fundamentals and Applications*, to be held at the 209th ACS national meeting, Anaheim, CA, April 1995. He is Assistant Professor of Chemistry at Oregon Graduate Institute.

Judy Shih, B.A., sent a Christmas letter to us this year. She and her husband Henry enjoy their daughter Lilli who is now 6 years old.

1984-1985

R. Keith Webber, M.S., was at the ACS meeting in Washington last Fall with his wife **Judy Morris**, B.S., (1986). Judy and Keith both work for Monsanto and first met in Chemistry 342, taught by the editor of this volume. We send them our congratulations, again.

1985-1986

Elyse Bernstein (Gherardini), B.S., now lives in Indianapolis, IN.

Margaret (Whitlow) Rifleman, B.A., is in San Antonio Texas, as a Research Associate at the University of Texas Health Center. She sent us New Year wishes.

1986-1987

Stephen J. Kolodziej, B.S., (Ph.D. 1993) was a postdoc with Professor Garland Marshall at Washington University and he is now a postdoc at Monsanto.

Tom Simpson, B.A., is a forensic scientist at Western Forensic Laboratory, Commonwealth of Virginia. After graduating from UMSL he went to graduate school at the University of Alabama-Birmingham and received his MS degree in Forensic Science in 1989. He worked with the DEA in Miami, FL from 89-90. He relocated to Roanoke in 1990 and worked for 2 years in the drug chemistry section. In June 92 he transferred to the Trace Evidence Section where he acts as the arson resource person for the western region of Virginia. He also analyzes paints, plastics and other polymer evidence for chemical characterization and possible association. Besides his lab work, he is an adjunct faculty member with a local community college and teaches forensic science courses. Tom and his wife, Brenda, have 4 children - Tommy (6), Jennifer (3), Christina (18 months) and a new baby, Matthew born in April, 1994.

1987-1988

Christy John, Ph.D., is an Assistant Professor of Radiology in the Division of Nuclear Medicine at the George Washington University Medical Center. Last year he received a 5 year grant from the NIH "Novel Diagnostic Agents for Imaging Malignant Melanoma." He has published several papers recently. His wife

Vera is busy in her position as a radiologist and also with their children, Joshua 2nd grade and Rachel 1st grade.

William L. Neumann, Ph.D., who has been teaching for us in the evening as Adjunct Associate Professor of Chemistry has taken a leave of absence from this activity. Bill is a research chemist at Monsanto and will be getting married later on this Spring.

Brian Barrett, B.S., who spent 5 years at National Graphics in St. Louis, is now with Geotrace at Mount Vernon, IL. He was with Vanex, Inc. doing environmental sampling and field screening in Cape Girardeau for 2 years. (I may have completely goofed up here)

1988-1989

Alicia Beatty (Rohde), B.S., is now the X-ray crystallographer at Washington University. Alicia received her Ph.D. with Professor John Bleeker in organometallic chemistry at Washington University last year.

Mary (Dudley) Nahm, B.A., is a chemist for the St. Louis County Water Company. Her duties are the daily analysis of Total Organic Carbon in water. She continues to perform quarterly testing for the regulated compounds 1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC/ECD. Mary also analyzes distribution sites for the disinfectant by-products haloacetonitriles, haloketones, chloral hydrate chloropicrin and trihalomethanes by GC/ECD. She supervises UMSL Chemistry undergraduate student Sharon Woods. She and husband Jerry have a 5 year old daughter named Stephanie. In her note, Mary wondered whether we remember her. We don't forget anyone!!

Gary Wester, B.A., (M.S. 1992) is at the Midwest Research Institute working as an analytical chemist. He was in the department recently but unfortunately we missed him.

Jim Wheatley, B.S., published an article in *Investigative Radiology* in 1994 on "New Nonionic Triiodinated X-Ray Contrast Media Containing the N-(2-Hydroxyethyl)Amino-propane-2,3-Diol Side Chain." Among the coauthors was Mark Owens, B.S., (1976, M.S. 1982). Jim is an organic chemist at Mallinckrodt Medical Inc. in St. Louis.

Teresa Hardesty, B.A., continues her work at United Technologies in St. Louis. She is active in the ACS Rubber Chemistry Division.

1989-1990

Brent Cole, M.S., is Manager of the Inorganic Chemistry Laboratory at Environmetrics in St. Louis.

Michael Kopp, B.A., is back with Geneva Pharmaceuticals, in Broomfield, CO where he is a Product Development Scientist. Michael got married on May 7, 1994. Congratulations!!

Sid Kamath, M.S., has been at Washington University Medical School for several years working in cell biology. Sid published 3

papers in 1994. He is now in Molecular Biology working on Ca²⁺ transport.

Yong Yang, M.S., is a development chemist for the Benjamin Moore Co. in Flanders New Jersey. He recently received a Ph.D. degree at the University of Cincinnati.

1990-1991

Todd Boehlow, B.S., is in the Ph.D. program working with Professor Spilling. He made a presentation at the ACS meeting in Washington, DC last Fall.

Young June Cho, Ph.D., is a drug designer and theoretical chemist in the research laboratories at Dong-A Pharmaceutical Co., one of the top three companies in Korea. His wife finished her degree and is now working at the University of Michigan Medical School as a postdoc. Young was logged on the internet and saw Dr. H. Harris' name on the UMSL Gopher and decided to send him e-mail--such a small world!!!!

Nursen Coruh, Ph.D., Nursen is an Assistant Professor of Chemistry at the Middle East Technical University in Ankara, Turkey. She was until last summer a postdoctoral fellow at the University of California- San Diego.

Minren Lin, Ph.D., had some of his work featured in an article in Chemical and Engineering News. Minren is a postdoc with Professor Ayusman Sen at Penn State University. The work cited involved a direct process for the catalytic conversion of methane to acetic acid which takes place at 100°C in aqueous solution. We hope to see Minren at the ACS meeting this April in Chicago.

1991-1992

Jim French, B.A., has been with Mallinckrodt Chemical Company for several years and we recently heard that he is now Ioversol Quality Control Manager.

Jack Hammer, B.A., is a graduate student in chemistry at Yale and works with Professor Ken Wiberg. Jack visited Dr. Welsh in the department last summer.

Jean L. Huhmann, B.A., is in her third year in the Ph.D. degree program here. She works with Professor Corey and currently holds the *Mallinckrodt Fellowship*, the top honor in the department for graduate students.

Kathleen M. Talkington (Riordan), B.A., works at St. Louis County Water Company as a Chemist I. She is doing pesticide and herbicide analysis by GC and HPLC. She is also involved in a daily herbicide monitoring program of the Missouri river. Kathy got married in 1993 and is taking biology courses here.

1992-1993

Kathleen Fallis, Ph.D., is now a faculty member at West Virginia College. Prior to that she was a postdoctoral fellow at Baylor University with F. G. A. Stone.

Marc Lord, Ph.D., recently received a tenure-track teaching position at Columbus State Community College in Ohio. He teaches general chemistry, organic and biochemistry and some biology. His wife Susanna and son Nathan (who turned 3 years young last December) are doing fine. Mark had been a postdoc with Professor Paquette at Ohio State University.

Jean Schmidt, B.A., completed her first year in Vet School at UM-Columbia. She received a summer research fellowship from the department of biomedical sciences at the vet school. She will be working with Dr. Lane Clarke who studies cystic fibrosis in genetically engineered mice.

Michelle Van Hee, B.A./B.S. is still officially a graduate student at St. Louis University in the Edward E. Doisy Dept. of Biochemistry and Molecular Biology but on an approved leave of absence through August 1996. She is taking classes at SLU through this May, and then at Wash U the next year and working at Wash U through August 1996 in a Molecular Biology lab as a Medical Research Technician. She is still flying airplanes at the Spirit of St. Louis Airport in Chesterfield and had her sixth knee surgery last May, hopefully her last one. She has two large dogs and four cats in her apartment so is going to buy a house.

Sean Whitt, B.A., is a graduate student in biochemistry at the Enzyme Institute at the University of Wisconsin and works in the laboratory of Professor Perry Frey. Recently they coauthored a paper which appeared in *Science*.

1993-1994

Courtney Aldrich, B.S., works for Beck Flavors in St. Louis and is currently in the M.S. program although we understand he intends to go off somewhere to do his Ph.D. degree next Fall.

Sean Dingman, B.S., is now a graduate student in Materials Science at Washington University.

Mark Elking, B.A., is in the Ph.D. program here and has just started to work in Professor Xu's laboratory.

Bradley Hart, Ph.D. is now a postdoc at the University of Georgia.

Kevin Koeller, Ph.D., is a postdoctoral fellow at the University of Nebraska. We visited at the ACS Regional Meeting in Kansas City last Fall.

Don Ruhl, B.A., works at Mallinckrodt Chemical Inc., in St. Louis

Career Day

Another successful Career Day was held on April 20, on the campus. This year the St. Louis Section of the American Chemical Society and the Department of Chemistry cosponsored Career Day for High School Students as a part of Chemical Progress Week. It was arranged and chaired by Dr. Lawrence Barton and Dennis Parazak (B.S. 1982, M.S., 1987 and currently in the doctoral program). Approximately 204 students from area high school attended the event. Once again the role models were UM-St. Louis chemistry graduates. **Kimberly Story, B.A., 1993**, spoke on *The Chemist in Government Laboratory*. Kim works at the FDA Division of Drug Analysis in St. Louis. **Pauline Bellavance, Ph.D., 1978**, spoke on *The Chemist in Education*. Pauline works at Fontbonne College. **Donald Hesse, Ph.D., 1990**, spoke on *The Chemist in an Analytical Laboratory*. Don is at the Quanterra, formerly I.T.- St. Louis Laboratory. **Harold Messler, B.A., 1970**, spoke on *The Chemist in a Crime Laboratory*. Harold is Chief Criminalist at the St. Louis Metropolitan Police, Crime Laboratory. **Phyllis Bennet, M.S., 1979**, spoke on *"The Chemist in Industry"*. Phyllis works at Protein Technologies, Inc., Checkerboard Square. In addition Dr. Valerian D'Souza and the Chemistry Club presented a chemistry magic show.

Center for Molecular Electronics and Departmental Facilities

We mentioned previously that ground has been broken for construction of the Center for Molecular Electronics Building. This has been delayed for about two years while lawyers have been discussing the environmental impact report. We had been very concerned that inflation would eat away at the funds we have available. That certainly has been the case as what was originally budgeted for about \$5m will now cost about \$7m. The consequence of this is that there are fewer funds available for equipment. We have described the plans for occupancy before so please bear with us if you know all of this. The X-ray lab will be moved from the Research wing and the individual research labs for Professors O'Brien and Stine will move into the new space. Dr. Welsh will also move as the Computational Chemistry Facility will be given about 1,000 ft² in the new facility.

Each of the four laboratories described above will occupy about 1,000 ft². In addition a Polymer Characterization Laboratory will house aspects of the research programs of Professors Welsh, Corey, perhaps Stine, Brown and some colleagues from Washington University School of Engineering. Also physicists Bernard Feldman and Phil Fraundorf will occupy

space in the new building. The new facility will free up space in the existing building and we have an understanding with the Dean that we will not lose any space. In spite of the dramatic increase in space during the past decade, we are still quite cramped.

The new NMR facility is almost complete. At the moment the magnet of the Varian XL-300 spectrometer is being replaced and we expect it to be up and running in a couple of weeks. The new Varian Unity 300 with solids capability is now functional and the students postdocs and faculty are very pleased with the ease of use and the quality of the spectra. I am very pleased that the probe is essentially boron free! The Bruker ARX-500 had been giving us some problems recently but they seem to have been solved so we are now in the enviable position of having superb state-of-the-art NMR facility.

The development of the X-ray Facility has been coming along more slowly. We took delivery of the new rotating anode system last year but were unable to obtain satisfaction from it. Dr. Rath traveled to Japan to inspect possible replacements and we now have a different system in but it continues to give us trouble. Fortunately Siemens put a "loaner" in the lab so we have had access to structure determination but it has been a frustrating time for us. Another problem has been one of humidity and temperature control. We are almost denied access to low temperature data sets during the summer since humidity is so high. We are currently exploring solution so this problem. In spite of the problems many structures have been solved in the department this last year as indicated by the extent of X-ray structural data in recent faculty publications.

We also upgraded some of the shop equipment this past year. We purchased a computer controlled double axis automatic milling machine. It has already been of great assistance to builders of equipment, such as the physical chemists in the department

Graduates 1994

MAY 1994

Courtney Aldrich, B.S.
Todd Boehlow, M.S.
Helen Y. Chiu, B.S.
Denise Coad, B.A.
Antonette de la Cruz, M.S.
Jeffrey P. Donohue, M.S.
Frank C. Eddleman, B.A.
Mark D. Elking, B.A.
Bradley Hart, Ph.D.
John Johnson, M.S.
John Matthai, B.S.
Lori Pollette, B.A.
Jeffrey Milner, B.A.
Mary Ann Miraflores, B.A.
James M. Openlander, B.A.
Mohammad Shaharuzzaman, M.S.
Shengping Tian, M.S.

Erik C. Wilson, B.A.

AUGUST 1994

Arshia A. Asif, B.A.
Jean Huhmann, M.S.
Abdul R. Khan, Ph.D.
Rafaat Shaltout, M.S.

DECEMBER 1994

Anne Cafferty, M.S.
James Casagrande, B.A.
Kristin Frost, B.S.
Tamara Gahimer, M.S.
Rhea Henderson, B.A.
Sedighah Hosseini, Ph.D.
Xinyu Hu, B.A.
John S. Kretzer, B.S.
Edward T. Keufler, M.S.
Yu Lin, M.S.
Cecilia Marzabadi, Ph.D.
Christianus Odijk, B.S.
Kevin Shelton, BS
Isabel Vasconcelos, M.S.
Chongfu Xu, Ph.D.

The Faculty

Gordon K. Anderson was appointed by the President to the University of Missouri Research Board replacing Robert Murray who had served for two years. He attended the *16th International Conference on Organometallic Chemistry* at the University of Sussex in July. He played a leading role in the acquisition of the new Varian Unity Plus 300 NMR spectrometer. During the past year he published several research papers on the chemistry of bimetallic complexes. He presented an invited paper in a symposium on metal-phosphine complexes at the Southeast Regional Meeting of the American Chemical Society in Birmingham, Ala., in October, 1994.

Charles W. Armbruster continues to teach introductory chemistry and sophomore organic chemistry to large numbers of students. He continues to play a mean racquetball game and looks little different from when he hired many of the faculty members eons ago.

Lawrence Barton will complete his sixth, and last, three year term as chairman of the department next year. He is currently enjoying great success in his research and writing activities. During the past year his research in metallaborane chemistry has resulted in publications in or submissions to the *Journal of the Chemical Society Chemical Communications*, *Organometallics*, *Angewandte Chemie* and *Acta Crystallographica* and review articles in the *Gmelin Handbook of Inorganic Chemistry* and *Comprehensive Organometallic chemistry II*. He presented papers at the *Fourth Boron-USA Workshop* in Syracuse NY and at ACS meetings in San Diego, Washington and Kansas City. His work

has been done in collaboration with graduate student Hong Fang and Postdoc Jonathan Bould and he has received much assistance from Nigam Rath, Lee Brammer, Dong Zhao and Janet Braddock-Wilking. His research group consists of a postdoc, a graduate student and two undergraduates.

Lee Brammer has published papers in the journals *Organometallics*, *Inorganic Chemistry* and *Acta Crystallographica* in the past year, each co-authored with former postdoc, Dong Zhao, who is now at Case Western Reserve University. Dr. Brammer has made presentations at a number of conferences as well as at Purdue University, University of Toledo, Wayne State University, Ohio University, University of Memphis, and Brookhaven National Laboratory. He also maintains his long term collaboration with researchers at Brookhaven National Laboratory where he and his coworkers visit to obtain neutron diffraction data as part of their studies of transition metal-hydrogen interactions. Other collaborators from England and Australia have recently been visitors in Dr. Brammer's laboratory at UM-St. Louis. Dr. Brammer has organized and will chair the lead symposium of the 1995 American Crystallographic Association Meeting (ACA) in Montreal; the symposium will be entitled, "Structural Tools in Organometallic and Coordination Chemistry." He was also recently successful in persuading the ACA to hold its annual meeting in St. Louis in 1997, and he will serve as local chair of that meeting. In August, 1994, Dr. Witek Kwiatkowski, joined Dr. Brammer's group as a postdoctoral associate to work on the electron density studies of organometallic complexes. Dr. Brammer also recently obtained ACS-PRF grants to support the symposium "Hydrogen Bonding to Transition Metal Centers: Solid State Structures and Solution Dynamics". and also one to support his research program.

Ian M. Brown has been with the department for almost one year. He is Research Professor of Chemistry and Physics and a Fellow of the Center for Molecular Electronics. His research program is concerned with improvements in the conductivity, processibility and environmental stability of conducting polymers. Some of his current work here is associated with the formation of metallized polymers for high technology applications. He presented a paper at the NSF Photo-induced charge transfer Conference in Rochester last August and recently he and Bernard Feldman (Physics) submitted an article on ESR in thin films of boron nitride for publication.

James S. Chickos had two of his graduate students, Brad Hart and Sarah Hosseini receive Ph.D. degrees this past year. Brad is a postdoctoral fellow at the University of Georgia and Sarah is at Polymer Testing of St. Louis. Dr. Chickos is the chemistry representative for the "Study Abroad" program. Currently two UM-St. Louis chemistry majors are in the program, one in Norwich, UK, the other in Stuttgart, Germany. His research collaborations in progress include chemists in the UK, Portugal, France, Germany Italy and Russia as well as the US

Joyce Y. Corey, received the *Chancellor's Award for Excellence in Research and Creativity* for 1994-95. She is an invited speaker at the Great Lakes Regional Meeting in Akron, Ohio. Joyce will

take her entire group to the *XXVIII Organosilicon Symposium* in Gainesville, Florida in late March. This past year, she was an invited speaker at North Dakota State University of North Dakota and at Southern Methodist University, Texas Christian University and the University of Texas-El Paso. She will be the Chair of committee to review the Chemistry Department at IUPUI in March of 1995. Her group consists of 3 graduate students, 1 postdoctoral and 1 undergraduate student. The group presented 6 papers at three meetings during the calendar year of 1994

Valerian T. D'Souza is currently advisor the Chemistry Club and has helped set up a listserver on the Internet for chemistry students which has members from all over the world. He was issued a plaque by President Russell for a patent he received for work on an artificial enzyme. His third Ph.D. student, Mr Abdul R. Khan, graduated this past Fall. Dr. D'Souza has been invited to give a talk at a Symposium on Cyclodextrin Chemistry at the ACS Meeting in Anaheim and this summer he will travel to Chile to give a short course on enzyme mechanisms. His research program is going well. He has grant support from the ACS-PRF and the Missouri Research Board and is co-investigator on a ONR grant with Dr. Stine. He has published papers recently in the *Journal of Organic Chemistry*, *Tetrahedron Letters*, *the Journal of the Chemical Society*, *Perkin Transactions* and *Supramolecular Chemistry*.

David L. Garin was named to the Board of the new National Center of Environmental Information and Technology (NCEIT) headquartered in St. Louis. He continues to direct the Center for Science and Technology as well as the research of three graduate students. In what may have been a foreboding of current American politics, Dr. Garin's essay, "Absorbed into the Revolution of 1980" which was just published by AAAS, deals with his recognition of the dramatic changes brought about by the Republican congressional victory of 1980. The essay in *From the Lab to the Hill: Essays Celebrating 20 Years of Congressional Science and Engineering Fellows*.

Harold H. Harris has been appointed as Editor of two sections of the Journal of Chemical Education. "Inventory Control" is about unique equipment for chemical teaching laboratories and demonstrations, and "Chemical Principles Revisited" concerns the application of well-known chemical topics to new situations and

technologies. He has just finished his year as Chairman of the American Chemical Society, St. Louis Section and join Lol Barton and David Garin as an "Elder Statesman" of the organization. "Chemistry Textbooks in Print - Online!" continues to provide an up-to-date archive of textbooks for the use of teachers of chemistry around the world. The project is supported by most of the chemistry publishers and is located on the Department's Gopher at slvaxa.umsl.edu. Chemistry students are paid to do the library and computer work that has created and maintains the information. Plans are afoot to upgrade the archive to a World-Wide Web page soon.

Wesley R. Harris continues research on serum transferrin, funded by the N.I.H., but has just begun his first studies on recombinant proteins. This begins a systematic study of mutant proteins to determine the effect of specific amino acid side chains on metal binding and iron removal kinetics. This work is in collaboration with Dr. Ross MacGillivaray's molecular biology group at the University of British Columbia. His former colleagues are doing well. Dr. Pawan Bali (postdoc 1988-89) has taken a new postdoc position at Duke Medical School, Dr. Gang Bao (Ph.D. 1993) and his wife are both working for a small biotech company in San Diego and Dr. Yong Chen (Ph.D. 1993) has received an NIH postdoctoral fellowship to continue his research on retinal proteins at the Cornell University Medical School in Ithaca NY with Professor Noy.

David W. Larsen continues his research in methods for the treatment of hazardous wastes. He and his collaborator Dr. Stan Manahan of UM-Columbia have a pilot study underway on the gasification of hazardous materials which is funded by the Department of Energy. This is the *Chem Char* process and it is patterned by Larsen and Manahan. He is also working on the treatment of specific industrial wastes and also recycling methods towards polymer and carbon fiber composites. Basic research is underway on the study of solid carbon surfaces and modeling of gasification processes.

Robert W. Murray continues to develop the chemistry of "Murray's Reagent" dimethyl dioxirane. He is a coinventor on a US Patent entitled "Bleaching of Lignocellulosic Material with In-Situ Generated Dioxirane" which was issued Nov. 22, 1994. It is related to his work funded by the Pulp and Paper Industry of Canada which involves an effort to replace chlorine containing

bleaching materials with environmentally benign substances. Dr. Murray recently received renewal of his MERIT research grant from the National Institutes of Health for \$783,340 for 5 years. His research group currently comprises two postdocs and a graduate student.

James J. O'Brien, continues work with the intracavity laser spectroscopy systems - one system for methane overtone absorption spectral measurements in experiments conducted in support of NASA's Planetary Atmospheres Program and the other system devoted to investigations of gas phase intermediates formed during the RF plasma Chemical Vapor Deposition of diamond-like film material. He published three papers with postdoc Kuldeep Singh concerning measurements on methane; two papers with postdoc Magnus Lipp concerning excited state hydrogen in RF plasma discharges, and one paper with Dr. Leah O'Brien of SIU-Edwardsville, on the Raman Spectroscopy of diamond materials. In October-November 1994 he attended three conferences, the 47th Annual Gaseous Electronics Conference, the 6th International Conference on Laboratory Research for Planetary Atmospheres and the 26th Annual Meeting of the Division for Planetary Sciences which were held in Washington, DC He and his postdocs presented three papers at the meetings.

Nigam P. Rath, with more than one diffractometer to use, was able to complete his 100th structure determination in the last calendar year. The facility is still undergoing expansion and is scheduled to be completed in 1995 but Dr. Rath will have his hands full if the facility is completed soon. He is still involved in helping faculty and students with various computational needs. He has signed collaborative research contracts with local chemical industry and is happy to help anyone with single crystal structure determination needs.

Christopher D. Spilling, has just completed a productive 6th year at UM-St. Louis and was recommended for promotion with tenure by his colleagues. His second Ph.D. student, Cecilia Marzabadi, graduated in December and is now a postdoc at CUNY Hunter College with Professor Richard Franck. The Summer Undergraduate Research Program (REU) received a two year (95-97) special creativity extension from the NSF. Dr. Keith Stine will take over as program director during the next period. Chris has been invited to present a paper at the *Organic Reactions and Processes* Gordon Conference this coming summer. His group have made several presentations at both the regional and national ACS meetings, and have published five papers in the past year.

Keith J. Stine, continues his research in surface chemistry and is now pursuing a project under the support of the Office of Naval Research concerning films of modified cyclodextrins for potential chemical sensor applications. The project is a collaboration with Dr. D'Souza. During the 1994 year, Dr. Stine published 4 articles and has 3 more in press. His group now has two postdocs and two graduate students. During 1995, Dr. Stine will be the Director of the Summer *Research Experiences for Undergraduates* program. Dr. Stine presented seminars at SUNY -Buffalo and at Illinois State University during the past year.

William J. Welsh, continues to expand his research activities in computer-aided molecular modeling. His research group has grown to eleven including two postdocs, six graduate students, and three undergraduates. He recently received NASA funding to study polymers (in collaboration with Mike Grayson at McDonnell Douglas - St. Louis) targeted for the so-called High-Speed Civilian Transport aircraft. He also expects NIH funding to begin soon for the design of anticancer drugs that inhibit the enzyme cathepsin B. This project is a continuation of work with UM-SL Chemistry graduate Gregory Duncan who is now finishing his Ph.D. dissertation at the University of Southern California. Prof. Welsh is also collaborating with both the FDA and USDA in St. Louis on projects to design computational neural networks for "fingerprinting" drug formulations as well as classifying microorganisms in food products. In the classroom, he has taught graduate courses in computational chemistry in each of the past two years with large enrollments.

Janet Braddock-Wilking, has completed her first year as a research assistant professor and NMR specialist. She has set up and installed a number of experiments on the Bruker ARX-500 spectrometer. She is a co-author on several publications from collaboration with other faculty in the department. Just recently, the new Varian Unity-Plus 300 MHz wide-bore NMR spectrometer was installed and Janet will be training students and postdocs on the instrument in the near future. The new instrument will also have solid-state NMR capabilities. Janet has an undergraduate student enrolled in the REU program do research with her last summer and has just submitted a paper to the *Journal of Organometallic Chemistry* describing some of the results. In August, she was awarded a research planning grant from the NSF and in October was awarded a grant from the Research Board of the University of Missouri to conduct research on the synthesis of polyhedral clusters of silicon containing transition-metal substituents. She currently has two undergraduate students working on this project.

Rudolph E. K. Winter has again taken on the duties of Director of Graduate Studies for the department. He is also teaching, once again, Chemistry 364 for which he is best known among his teaching duties in the department. His research interests continue to emphasize structurally and biologically interesting natural products and biomimetic reactions of naturally occurring substances. Many of these substances derive from local (midwest) plants such as purple cone flower (*Echinacea*), golden seal (*Hydrastis*) and wild ginger (*Asarium*). His research group consists of one postdoc, two graduate students and three undergraduates.

Dr. Zhi Xu, joined the faculty of the Chemistry Department last July. He is a physical chemist with expertise in surface science, ultra-high vacuum technology, molecular spectroscopy, and nonlinear optics. His research interests are in the fields of nonlinear optics and new optoelectronic materials. Although this is his first year at UMSL, he has recruited a graduate student. He received UMSL research award last December for his proposal "Development of Picosecond Optical Switch Using Surface Based Molecular Engineering". His lab for nonlinear optics has already

been established and he and his student are busy in getting some interesting results of second harmonic generation (SHG) from silicon (111) surface. He recently was awarded funding by the UM Research Board, UM-St. Louis and the department through the Monsanto postdoctoral fellowship funding which will allow him to recruit a postdoc for two years..

Adjunct Faculty

Daniel Connolly continues to teach biochemistry in the department. He replaced Joe Feder several years ago and is now Adjunct Associate Professor of Chemistry. Dan actually has a Ph.D. degree in biology but has worked in biochemistry at Monsanto for several years.

Donna Friedman (Ph.D., UM-St. Louis 1981) continues to teach quantitative analysis during the summer.

John L. Gutweiler has been with the department longer than most of the regular faculty. John's appointment is split between the College of Arts and Sciences and the Evening College. He continues to enjoy piloting his own plane and hiking in the wilderness.

Dennis Moore has recently become a regular fixture in the Evening College and this year is actually teaching two courses in the same semester, chemistry 1 and 2. Dennis is at Mallinckrodt Medical Inc. and received his Ph.D. degree at Washington University.

William Neumann (Ph.D. 1987), as we mentioned previously, is taking a leave of absence from teaching organic chemistry in the evening for us. His classes had been very large recently such that we had begun to split them into two sections. Bill is to be married later on in the Spring and we wish him all the best.

Robert Orth is another colleague who is now a regular fixture in our evening offerings. He has had some problems balancing a work schedule and teaching so he took a leave from teaching last Winter but he is again teaching physical chemistry for us. Bob is an analytical chemist at Monsanto.

Raghavan Rajagopalan has taken over the 261/262 sequence in the evenings. Raghavan is employed by Mallinckrodt Medical Inc.

William Ridley has decided to discontinue his teaching of the biochemistry course for the School of Optometry but he will continue to share the teaching of Chemistry 372 with Dan Connolly in the Winter semesters.

Robert Stearns, our longest serving adjunct colleague continues to handle chemistry 11 and 12 in the evenings. Interestingly, the enrollments have grown during the past several years such that we now offer two sections of each course. Bob is retired from his position as Director of research at Lorvic Corporation. His successor was Dr. Francine Longcor, B.S., 1969; Ph.D. 1983.

The Staff

Betty Eshbaugh was recognized at the Founder's Day Dinner for her 30 years of service to the university. Betty is delighted to announce that her daughter Lilo will present Betty and Ken with a grandchild later on this year.

Bob Cabaniss had a difficult year but he was eventually discharged from hospital after removal of a tumor in his lung. He has encountered some additional problems recently but is undergoing treatment and we all wish him the very best.

Lisa Johnson has been with the department for almost two years. She recently informed us that she is planning to marry Dan Hoguet in June this year.

Gordon Kerschmann has been very busy as we have been setting up the new NMR spectrometers. We understand he is a real expert at square dancing.

Joe Kramer was recognized for 15 years of service at the University recently. Joe has become very adept at maintaining computers in the department.

Donna Palmer continues to do an outstanding job running the stock room. She runs a very tight ship, as we all have noticed, but the stock room is in as good a shape as it ever has been.

Randa Schneider would like to return to her native Lebanon but is waiting for the political situation to stabilize. Her husband Mike was recently promoted to Chief Psychologist at the Juvenile Court in St. Louis. Mike has a Ph.D. degree in psychology from UM-St. Louis.

Ted Windsor is thrilled to bits with the new computer-controlled milling machine we purchased earlier this year. He continues to introduce himself to departmental guests as "general flunky" but that really means that he does just about anything one could imagine to help the department.

Postdoctoral Fellows

Jonathan Bould, who received his Ph.D. degree from Leeds University works with Dr. Barton, **Elizabeth Callantes** who received her degree from the University of Illinois-Chicago, works with Dr. Welsh as does **Weida Tong** who received his degree from Fudan University. **Yiwei Ding**, who works with Dr. Corey received his degree from Iowa State University, **K. Iyanar** who works with Dr. Murray received his degree from Annamali University and **Abdul Khan**, Ph.D., 1994 has remained in the department and is now a postdoc associate working with Dr. Stine. **W. Kwiatkowski**, who works with Dr. Brammer is a Fullbright Scholar and was educated at the University of Lotz, Poland. **Yuejin Li** who works with Wes Harris received his degree from XXXXXXXX. **Megh Singh**, who received his Ph.D. degree for the University of Jodhpur continues to be a mainstay in Dr. Murray's group, **Kuldip Singh**, who works with Dr. O'Brien, received his Ph.D. degree from the University of Bombay and **Jack Uang**, a Ph.D. graduate from UM-Rolla is still a postdoc in the department and works with Dr. Stine while also pursuing consulting activities through his company 'Colloid Tech'.

Support

Contributions 1993-94

Below we list all the chemistry alumni who made contributions to the university last year. The list includes those whose contributions went into general accounts in addition to those which went into the chemistry account, and it also includes those who made payments as part of larger pledges. The list is very impressive and we are most grateful for your support, especially during these very difficult times. There are some names included who are alumni of other departments but who returned to UM-St. Louis to take the prerequisite chemistry courses prior to applying to medical school. the listing may not be up-to-date since many of you have made contributions quite recently. If we missed out your name, we apologize and hope you understand that this newsletter is written by an amateur who does it in his spare time.

ALUMNI CONTRIBUTIONS

Mr. Ronald E. Ackerman
Mr. John C. Ackermann
Dr. Razia Ahmed
Dr. Phillip V. Asaro
Ms. Susan M. Auinbauh
Dr. Rajiv M. Banavali
Dr. Ali A. Bazzi
Ms. Dorothea M. Bean
Mr. Gerard R. Beasley
Ms. Phyllis R. Bennet
Dr. Debora F. Bergstrom
Mr. Paul G. Blystone
Dr. John D. Bookstaver
Mr. Ralph J. Bryan
Mr. Joseph W. Bulock
Mr. Thomas J. Byrd
Mr. Gussie I. Carpenter
Mr. Brent T. Cole
Dr. Jodie L. Duke Jr.
Mr. Michael J. Finkes
Mr. Lee L. Gori
Dr. Dorothy C. Greco
Mr. James J. Grib
Dr. Brian M. Gross
Mr. Jack D. Hammer
Mr. Ronald B. Harris
Mr. Richard E. Hauhart
Mr. Kenneth O. Henderson
Dr. Gary Henley
Dr. David E. Henton
Dr. Daniel R. Henton
Dr. Donald G. Hesse
Dr. Virginia L. Houserman
Dr. Gary S. Jacob
Dr. Christy S. John
Mr. Larry A. Justice
Dr. John R. Kolb
Mr. Michael C. Kopp
Dr. Shailendra Kumar
Dr. Robert L. Lamberg
Mr. Ross W. Larson Jr.
Mr. Gerald C. LaMotte III
Mr. George W. Limpert III
Dr. Minren Lin
Mrs. Judith L. Logsdon
Mr. Lawrence S. Lynn Jr.
Mr. Thomas G. Makara
Mr. Kevin G. Mallon
Mr. Michael K. Maxwell
Dr. William Z. McCarthy
Mrs. Judy Mei
Mr. Michael C. Merriman
Mr. Thomas J. Mertle
Ms. Suzanne Metz
Mr. Fredrick R. Mitchell
Mr. Michael H. Mohl
Ms. Mary C. Mohr
Ms. Sharon J. Moran

Mr. Richard J. Morfing
Dr. Richard G. Mrad
Mr. Joseph O. Muo
Ms. Mary C. Nahm
Dr. William L. Neumann
Mr. Donald O'Neal
Dr. Harry W. Orf
Mr. John A. Phipps
Dr. Janet D. Place
Mr. John K. Pratt
Mr. Michael G. Provance
Mr. Gregory W. Przygoda
Dr. Gregory A. Pucel
Dr. Shankar B. Rananavare
Ms. Sherry P. Rascover
Mrs. Ann M. Reynhout
Mrs. Peggy G. Rifleman
Mr. Bruce E. Ritts
Dr. Suzanne E. Saum
Mr. Alan Schneider
Mr. Richard J. Sconce
Dr. Dawn L. Shiang
Dr. Judy Shih
Dr. Jeffrey W. Siria
Dr. R. Thomas Solsten Jr.
Ms. Jennifer B. Speer
Mrs. Deborah J. Sprinkle
Mr. Steven R. Staat
Mr. Daniel P. Stueck
Ms. Kathleen M. Talkington
Dr. Charles V. Tatosian
Mr. James M. Timper Jr.
Mr. Dan C. Tucker
UM-St. Louis Alumni Association
Ms. Michelle L. Van Hee
Mr. Angelo W. Vangel Jr.
Dr. Susan A. Varnum
Ms. Arlene F. Vogelsang
Mr. Gregory R. Webb
Dr. Dennis W. Wester
Dr. Janet Braddock-Wilking
Mr. Richard C. Wisneski

NON ALUMNI

COMPANY/ORGANIZATION/FOUNDATION

Abbott Laboratories Fund
American Chemical Society
Anheuser-Busch Foundation
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Mallinckrodt Medical, Inc.
McDonnell Douglas Foundation
Monsanto Agricultural Company
Monsanto Company
Monsanto Fund
National Medical Enterprises, Inc.
Occidental Petroleum Charitable Foundation
Petrolite Corporation
Prentice-Hall Publishing
Ralston Purina Company
Rohm and Haas Company
G. D. Searle & Company Charitable Trust
Southwestern Bell Foundation
Texaco Foundation
VCH Publishers, Inc.
John Wiley & Sons, Inc.

We are also pleased to acknowledge alumni **Ronald Harris** and **Steven Brawley** whose contributions allowed us to fund a minority scholarship this year.

ALUMNI AGENTS

A special group of alumni are the Alumni Agents. These are individuals who make a commitment to contribute at a certain level and also to recruit other chemistry alumni to join them. These are the *Alumni Agents* and the chemists are very well represented among this group. There is no other departmental major with more members of the Alumni Agents group than the chemists. Listed among the Alumni Agents are:

Phyllis Bennet, (M.S., 1979)
 Michael J. Finkes, (B.S., 1973; M.S. 1978)
 James K. Grant, (M.S., 1982)
 Dorothy Greco, (B.S., 1971)
 Lloyd. P. Hill, (B.S., 1967)
 Robert L. Lamberg, (B.S., 1972)
 Richard G. Mrad, (B.A., 1981)
 Janet (Dobbins) Place (B.A. 1975)

Dawn L. Shiang, (B.A., 1983, Ph.D., 1988)
 Bill Shiang, (B.A., 1984, Ph.D., 1989)
 Gregory W. Przygoda, (B.A., 1973)
 Angelo Vangel, (B.S. 1983)

Departmental Awards

Undergraduate

The award for the *Outstanding Student in Introductory Chemistry* was **Wanna Janwatanagool**. She received a certificate and a Handbook of Chemistry and Physics from the Chemical Rubber Company. The *American Chemical Society for Analytical Chemistry* went to **Courtney Aldrich**. Courtney received a certificate and a one-year subscription to *Analytical Chemistry*. The *American Chemical Society - St. Louis Section's Outstanding Junior Award* went to **Tracy Schweitzer**. The award was presented at the annual Awards Night during the ACS St. Louis Section's Chemical Progress Week. **Courtney Aldrich** was the outstanding senior and as such received the *Alan F. Berndt Outstanding Senior Award* and also the *American Institute of Chemists* medal. **Tracy Schweitzer** received the *Eric G. Brunngraber Fellowship* for 1993-94 academic year. The *William and Erma Cooke Scholarship* for 1994-95 went to **Michael Groaning**. The 1994 *Undergraduate Chemistry Awards sponsored by the Monsanto Company* went to: **Renee King, Achilles Karakas, Bihn Lam, Lisa Meyerkord, Gary Nichols, Christianus Odjik, Donna Palmer, Tracy Schweitzer and Elizabeth Sloan**

Graduate

The 1994-95 *Mallinckrodt Fellowship* went to **Jean Huhmann**. The *Alumni Summer Graduate Fellowship* went to **Shengping Tian, Dennis Parazak, Raafat Shaltout and Isabel Vasconcelos**. The *Graduate School Summer Fellowship* was awarded to **Yu Lin, Hong Fang, Todd Boehlow and Jean Huhmann**. The *Outstanding M.S. Student* award went to **George Limpert**. The *Outstanding New Graduate Student* (sponsored by Accounts of Chemical Research) was awarded to **Jean Huhmann** for 1993 and to **Isabel Vasconcelos for 1994**. The *Graduate Teaching Assistant Commendations* went to Todd Boehlow, Antoinette de la Cruz and Yu Lin.

Alumni

The Seventh *Annual Distinguished Alumni Lecture* was presented by **Dr. C. Michael Drain**, B.A. 1982. Mike received a Ph. D degree from Tufts University and did postdoctoral research at Rockefeller University and was a Guest Investigator at The University of Strasbourg prior to coming back to St. Louis to work with Professor Holten at Washington University.

