

chemistry@wwu

Chemistry Department • Western Washington University

Newsletter for Alumni and Friends of the Chemistry Department

Number 4 Winter 2003

High Field NMR Spectroscopy comes to WWU

In July of 2002, the department received funding from the National Science Foundation for a 500 MHz nuclear magnetic resonance (NMR) spectrometer. The funding of this proposal was made possible by the contributions of many chemistry faculty and staff: Jim Vyvyan (Principal Investigator), Lisa Gentile, Mark Wicholas, Gary Lampman, Spencer Anthony-Cahill, George Kriz, and Charlie Wandler. In addition, there will be a significant matching contribution from WWU, required for submission of this proposal. The faculty are very excited, as this instrument will allow us to perform structural and dynamics experiments that only a small handful of predominately undergraduate schools can do.



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We plan to incorporate high field NMR spectroscopy into many laboratory-based courses, including the organic series, the integrated senior level physical/inorganic laboratory, as well as the biochemistry laboratory. This will ensure that all graduating seniors (chemistry as well as biochemistry) have hands on experience with high field NMR spectroscopy. The 500 MHz field strength is important for sensitivity (necessary for experiments where only small amounts of material are available or soluble) as well as chemical shift dispersion (necessary for samples with many overlapping resonances). For the first time, this will allow larger biomolecules to be studied by NMR spectroscopy at WWU.

The new instrument will also be used by the research groups of the contributing faculty to study such things as: total synthesis of allelopathic natural products, characterization of novel d10 metal isoindoline complexes, structural characterization of mutant proteins involved in early-onset familial Alzheimer's Disease, molecular recognition of neurosteroids, structural characterization of circular permuteins of myoglobin, structural elucidation of novel sesquiterpenoid natural products from a South American tree, and the application of cobaloximes in organic synthesis. The instrument is being purchased with an assortment of probes to ensure it will be ready for use by newly hired faculty. For example, Chris Daley, a new bioinorganic chemist, will make use of the 500 MHz NMR spectrometer to study the structure and reactivity of metal ion binding sites in biomolecule analogues as well as in the design of new ligands for catalysis and mechanistic studies of the catalyst systems

The instrument is currently slated for installation during the early summer months of 2003. Our expectations are that it will be fully operational by the end of the summer and ready for incorporation into our curriculum for the 2003-2004 academic year.

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Greetings:

The year 2002 marked the 9th anniversary of our “new” Chemistry Building and was also the year of our first remodeling project (described in a separate note by Don Pavia). It was a year in which John Miller and Bill Wilson retired, each after 36 years of service. Two new faculty, Chris



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Daley and Steve Gammon, joined the department and Jim Vyvan, hired in 1997, was granted tenure and promoted to the rank of Associate Professor. The department remains in a very healthy state, and I would assert that we are the strongest by far of the science departments at WWU. We are aggressively courting external agencies for support of curricular development, instrument acquisition, and undergraduate research. We now

have an active summer research program for our undergraduates funded through grants from external agencies. In 2002, 23 of our majors received summer stipends to work with faculty on research projects; in contrast, only two undergraduates were supported with summer funding ten years ago.

We continue to buy new instrumentation with funding from external agencies. Recent acquisitions include two AA spectrometers, a GC/MS, and a HPLC system. With a grant of \$454,000 from the National Science Foundation we are purchasing a 500 MHz NMR spectrometer (total cost = \$606,000) for delivery in June 2003. In order to prepare our students for the workplace and graduate school, we want them to work with current instrumentation, hence the need to continually upgrade and replace older equipment.

In May 2002 we held an evening alumni reception at the Columbia Winery in Woodinville. Attendance was good as was the wine, hors d'oeuvres, and conversation. We will do this again in a future year and hope to see more of you next time. In May 2001 our department initiated “Scholars Day,” a day devoted to oral and poster presentations by our undergraduate and graduate research students. In 2003, the date is Friday, May 16. If you would like to learn about current research in the department and see what our students are accomplishing, we welcome you to visit and attend.

Mark Wicholas

Message from the Editor

I want to thank everyone who made contributions to the text. Gary Lampman, George Gerhold, and I planned the Newsletter. Kelly Heese



Kelly Heese / WWU Publishing Services

took many of the photographs while Aaron Logue and Laurie Rossman of Publishing Services were responsible for design and production. In addition, we gratefully acknowledge the Western Alumni Association and Research Corp/Murdoch Trust who paid for the printing. We invite you to fill out an alumni questionnaire that you will find on the penultimate page or use other ways of staying in contact with the Department.

Sal Russo

Summer 2002

Summer has traditionally been a quiet time in the Chemistry building with a small enrollment in summer classes, and a few graduate students and faculty working on research projects. That pattern was broken last summer, probably forever. The big change was undergraduates doing research. Twenty six undergraduates joined six graduate students and many faculty for a summer of research. The opportunity to spend several months working full-time on projects allowed the students to experience what graduate school or a laboratory job is likely to require, and of course it allowed them to make major progress on their projects.

Most undergraduates count on making some money during the summer. Twenty three of them were able to do so because of the generosity of a variety of foundations, granting agencies, and industries. Most grant submissions from the department now include requests for undergraduate summer stipends; eighteen of the students received funding from grants awarded to their faculty research director. The departmental Research Corp/ Murdoch Grant, which focuses on undergraduate research, includes stipends for undergraduates working with faculty who are in their first year at WWU; two students received support from that source. In addition, two northwest biotech companies, Immunex and Zymogenetics, provided summer stipends for biochemistry students.

By working full time for a summer a student is able to spend about as much time on a project as they can spend during an academic year. This means that student projects are likely to be larger and of higher quality. We also see the development of a research atmosphere in the department, for a majority of our seniors are heavily involved in their projects as they enter their senior year of classes. Thus, we will be trying to raise support for continuation of this activity, and we hope to extend it to include all interested majors.



BCCE Conference

The 17th Biennial Conference on Chemical Education was held from July 28 through August 1, 2002. It was the largest conference ever on Western's campus and by all accounts, it was a complete success. Participants came from secondary schools, two-year colleges, and four-year institutions. There were 1331 total attendees with representatives from 18 foreign countries.

The conference featured a wide variety of lectures, presentations, workshops, and other events. The first plenary lecturer was Ronald Breslow, Professor at Columbia University, whose talk was entitled "Let's Not Waste the Opportunity to Inspire in College and High School Chemistry." Michael Doyle, Professor at University of Arizona and President of Research Corporation, spoke on "Misconceptions in Teaching and Research — No Time, No Money." George "Pinky" Nelson, Director of the Science, Mathematics, and Technology Education Center at WWU, talked about "Basic Chemical Literacy For All: What Should Everyone Know?

What Skills Should Everyone Have? Are We There Yet? How Can We Get There?" Finally, Karen Morse, President of WWU, gave a talk entitled "Undergraduate Research: Why Should an Administrator Even Care?"

Another program highlight was the Varian Environmental Analytical Challenge: "What's Flowin' Through Rowan?" This was an extended program

featuring teams of students from several institutions who investigated an environmental problem and developed a court case based on their results. A day-long symposium honored Gilbert Haight. A continuing theme of the conference, in plenary lectures, symposia, and other presentations was the importance of developing undergraduate research as a means of preparing chemistry majors.

There were many individuals who contributed to the success of BCCE including Professor George Kriz (General Chair), Professor Emeritus Joe Crook (Exhibits Coordinator), Professor Jack Weyh (Technical Coordinator), Stockroom Manager Lorraine Wilde (Chemicals and Supplies Coordinator), Randy Engel MS '76 (Workshops Co-Cordinator), and John Gelder BS '69 (Poster Sessions Coordinator). The web page for the 17th BCCE will continue to operate at <http://chem.wvu.edu/acs/bcce/index.html>. One may view the roster of participants, the program, and a montage of pictures.



Chemistry Building Remodel

During the Summer and Fall of 2002 the Chemistry Building underwent extensive remodeling. Since we moved into our new building in the summer of 1993, almost ten years ago, our space requirements have changed. Much of the remodeled space will be used for undergraduate research. Two principal factors drove our need for this additional research space. First, the department has made a conscious effort to involve more of our students in the undergraduate research experience. We think this form of teaching is the best way to introduce students to the excitement of chemistry. This program change has been spurred on by a large development grant from Research Corporation and the Murdock Charitable Trust. Second, it is expected that nearly half of our faculty will retire in the next half decade and be replaced by new, more research-active young faculty. Both of these changes required more research space.

To acquire more space we took a close look at our programs and made the decision that some of the laboratory instructional space could be converted to research. We have converted two laboratory instrumentation rooms (CB350 and CB360) to wet-chemical research for 8-12 students and reduced the size of the organic teaching laboratory. Organic lab sections will now enroll 24 students each (down from 32), which is the national average and the recommended American Chemical Society size for these labs. The section of the lab that held the extra 8 students was converted to an instrumentation area (FT-IR, GC, HPLC, and GC-MS) which holds many of the instruments previously in CB350 and CB360.

Our biochemistry laboratory was originally designed for 24 students. In practice, we have only had enough specialized equipment (electrophoresis, etc.) to allow 16 students to work at one time. In another change, a section of the biochemistry teaching laboratory was converted to a biochemistry research lab that can hold 5-6 students. A similar change was carried out in the senior laboratory last year, providing additional space there as well.

Finally, one of the three general chemistry teaching labs on the second floor (CB230) was not being used and was completely converted to a research area for up to 8 students. The total change allows an additional 24 students to be involved in our undergraduate research program.

The original space revision program for the remodel was written by Earl Walls Associates of San Diego. The project architect was LMN Associates of Seattle, and the project contractor was Emerald Builders of Bellingham. Charles Wandler, instrument technician, and Professor Don Pavia were the principal departmental liaison team with the architects and builders. The entire project cost about \$800,000.



Faculty

John Miller Retires

John Miller retired in December 2001 after having served the Department for 36 years. After graduating from Oregon State University, he taught high school for 4 years. He then entered Iowa State University where he obtained a Ph.D. in organic chemistry. John was hired by Western to teach both science education and chemistry. He began his teaching career in summer 1966 and taught 4 quarters a year until the summer of 2001. During his first 6 years he essentially taught only elementary science education courses. With the reduced enrollments in education in the 1970's he was able to begin teaching Chem 251 in 1973. He thoroughly enjoyed the challenge of teaching a group of non-chemistry majors how an extended knowledge of organic chemistry could aid them in better understanding concepts in their own majors. In 1973 he also began a 28 year sojourn as the advisor to our M. Ed. Science Education/Natural Science program. During that time he was privileged to work with more than 200 teachers as graduate students. His last teaching challenge began in 1980 and lasted until the end of his career. In 1980 Irwin Slesnick (Biology) and John revamped the secondary science education program and so he became a supervisor of student teachers in secondary science as well as elementary. He served as Director of Science Education (1969-1971, 1985-1993, 2000-2002). John thoroughly enjoyed his association with colleagues in chemistry and science education as well as other faculty at WWU.

Most of all he loved working with the students. In October 1998 at their annual conference, the Washington Science Teachers Association (WSTA) honored John Miller as the 1998 WSTA Higher Education Science Teacher of the Year. John states that he "received more out of my life at Western than I had even dreamed was possible."

John and his wife, Pat, are fanatics with respect to fly fishing and bird hunting. In addition, they have a grandson to watch grow up.

Vyvyan Tenured, Receives Award

Congratulations to Jim Vyvyan who was tenured and promoted to Associate Professor effective September 2002. Jim was also recently selected as one of six Henry Dreyfus



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Teacher-Scholars for 2003. The award consists of a \$60,000 grant to further his development as an educator and scholar, including \$5,000 to be used for enhancing the undergraduate research environment in the Department of Chemistry. Jim had a very busy 2002. He was the Principal Investigator of a NSF Major Research Instrumentation proposal that was funded to the tune of \$454,101 (not including WWU

matching funds) to purchase a 500-MHz NMR spectrometer. He also published four papers, including an invited review on allelochemicals for Tetrahedron.

Jim is a native of Wisconsin and earned his B.S. degree in chemistry at the University of Wisconsin-Eau Claire where he did two years of research with Professor Leo Ochrymowycz synthesizing conformationally constrained thiacyclobutanes. In 1995, he received his Ph.D. from the University of Minnesota under the direction of Professor Thomas R. Hoye. His thesis research was the application of the Fischer carbene cyclopropanation reaction to the synthesis of natural product skeletons. After two years working with Professor Stephen K. Taylor as a Camille and Henry Dreyfus Postdoctoral Fellow at Hope College, Jim joined the WWU faculty in the fall of 1997.

Jim's research involves the synthesis of allelopathic compounds as leads for new agrochemicals. His work is currently funded by a National Science Foundation CAREER award and a grant from the Herman Frasch Foundation. To date he has supervised 24 undergraduate research students and 4 M.S. students at WWU. One of those students, Ryan Looper, received the Western Association of Graduate Schools (WAGS) Outstanding Master's Thesis Award in 2000. Jim's research group currently consists of 4 undergraduates and 2 Master's students.

Jim lives in Bellingham with Cathy, his wife of twelve years, and their sons: James Robert (age 4 1/2) and Nicholas (age 1 1/2). The Vyvyans are rabid Green Bay Packers fans and are proud that "touch-down" is already part of Nicholas' vocabulary. James Robert likes anything to do with construction or farm machinery and Nicholas likes whatever James Robert likes. Thus, Jim and Cathy spend a significant amount of time mediating sandbox squabbles!

Faculty

Chris Daley Joins Faculty

Chris Daley arrived in Bellingham in August 2002 to start as an assistant professor of inorganic chemistry. He was born in Montreal, Quebec and received a B.Sc. in chemistry from McGill University. He then moved out west to Edmonton, Alberta where he received a Ph.D. in inorganic chemistry from the University of Alberta. After that time in the cold, he returned to the east coast to complete a postdoctoral fellowship at Harvard University. Finally, after the Patriots won the Super Bowl, he realized there would not be another winner in Boston for some time so he moved out to the west coast.

Chris knows he made an excellent choice in coming to Western. That is because the University has a mandate that truly wants teaching to be a high priority yet at the same time the availability of equipment, funds, and support for research are unparalleled for such an institution. Here he can enjoy the fun of teaching students in chemistry and discover new and interesting science in the research lab. He anticipates a lot of inter-

action with students whether in the classroom, during office hours, discussing research, or simply enjoying and discussing life.

His research efforts stem from inorganic chemistry in the areas of metal-mediated organic synthesis and bioinorganic chemistry. His group will be interested in developing new catalysts and reactions to improve on the current synthetic methodologies available.

On the bioinorganic side, he is interested in the mechanistic action of metalloenzymes containing mononuclear metal-centered active sites. In particular, Chris is trying to understand the function of nitrile hydratases (NHase). These enzymes are very useful as demonstrated in their use as biocatalysts in acrylamide production and in environmental remediation, removing toxic nitriles from waste streams. Chris recruited his first graduate student, Breia Lewis, and she has begun work on this project.

Chris' wife, Peggy, is currently finishing her Ph.D. in biochemistry at the University of Alberta. When he left, he packed most of their belongings, kissed his wife and cat, Murray, goodbye, and said if they wanted to have furniture and comfort, that Peggy should finish her Ph.D. soon! They anticipate that she will obtain her degree in the Spring/Summer of 2003. Peggy and Chris are very happy with this opportunity and Chris looks forward to settling in and building a strong foundation of teaching and scientific research.



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Steve Gammon Joins Faculty

Steve Gammon has continued his lifelong journey from east to west, finally meeting the Pacific at Western. After growing up in the Philadelphia area he attended Bowdoin College in Maine for his undergraduate degree (1982). After a two-year stint as a high school chemistry teacher in New Jersey, he attended graduate school at the University of Illinois at Urbana-Champaign. Upon completing his Ph.D. in 1989, he went to work at the University of Wisconsin-Madison as the General Chemistry Laboratory coordinator. After two years at Wisconsin, he took a tenure track position at



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the University of Idaho in chemical education and as the Coordinator of General Chemistry. While at the University of Idaho, Steve won both university and national teaching awards for his efforts and contributions to undergraduate instruction and his work with preservice and inservice teachers. After 11 years at Idaho, he came to Western as a full professor with teaching and research responsibilities in chemistry and science education.

A large portion of Steve's research and scholarly activity is focused on creating technology-based materials to improve instruction in general chemistry classes. He also is involved in writing instructional texts and developing laboratory experiments. He currently is the co-author of two general chemistry texts: Ebbing/Gammon General Chemistry, and most recently (fall 2002), Ebbing/Gammon/Ragsdale Essentials of General Chemistry. In addition to these chemistry activities, he will be heavily involved in teaching and developing initiatives and courses focused on preparing K-12 teachers to teach science. Western provides a wonderful and unique opportunity for Steve to pursue all of these scholarly interests and activities with outstanding colleagues and talented undergraduates.

Steve made the trip from Idaho to the Bellingham area with his wife, Jodi Gear, and his two children, Katie and Andrew. Jodi has willingly been a part of the westward movement since they first met in Illinois; the only condition being that she has access to horses at every location. Besides being an accomplished rider, Jodi is nurturing a career as a fine artist. Both children are adjusting well to the Ferndale schools and their new surroundings. The whole family has enjoyed taking advantage of the many local opportunities to hike, fish, go to the beach, eat millions of different kinds of berries, and a host of other activities.

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Faculty

Faculty News

Spencer Anthony-Cahill: Since the last update my teaching responsibilities have shifted from biochemistry to general chemistry. This year I teach Chem 472 as well as Chem 121, 122 and the one-quarter biochem course Chem 375. Next year, David Patrick and I will be starting up an advanced course in general chemistry ("honors"). This past year was pretty exciting in the research lab. I received a healthy grant from the National Science Foundation to continue working on topological mutants of myoglobin, and a manuscript describing our initial mutants was published in *Biochemistry* (November 2002). We also purchased some accessories for the CD instrument that we hope to use in the characterization of the folding kinetics of our mutant proteins.

Our Biotechnology Advisory Board has been very supportive of our programs this past year. We received some great equipment, had several scientists from Seattle companies visit to give seminars, and also received three \$3,500 stipends for our students to carry out summer research!

I didn't manage to get out in the mountains or play much Ultimate this summer; however, I did learn a lot of useful building skills as I helped a friend build an addition onto our house. Doing my part to support the local economy (i.e. Hardware sales). I would have rather been climbing, but I earned a lot of spousal karma points for expanding our bedroom...so it was all good. Yvonne continues to feed hungry students and we both look forward to seeing Chemistry alumni whenever your travels bring you to Bellingham. Cheers!

Steve Emory: My first year at Western has been extremely exciting and rewarding. In the fall, I recruited the first group of students (Teresa Wenda, Christina Hampton, and Haley Pugsley) to join my research group. We began by filling empty lab space with computers, lasers, and optical detection equipment. I have truly enjoyed working with them in the laboratory. I have also enjoyed getting to know the students in each of my classes (Chem 333, Chem 123, and Chem 434) over the past year.

This past September my wife, Christy, gave birth to our son, Alec. Our 4-year-old daughter, Aili, is very proud of her little baby brother. Luckily for us, Alec is beginning to sleep through the night, and I am looking forward to more nights with sleep.

George Gerhold retired as Associate Dean of the College of Arts and Sciences in December 2002 after 21 years in that position. In January 2003 he returned to full-time teaching in the department.

Gary Lampman: I continue my research into the reactions of free radicals with cobaloximes (Vitamin B12 model compounds). All of the research participants are undergraduate students.

My chemical education projects were presented at the 17th Biennial Conference on Chemical Education held at Western this past summer. One of the papers, with undergraduate coauthors, described the preparation of naproxen (Aleve(reg)) in the organic chemistry laboratory. The other paper described the nitration of several aromatic substrates using a recyclable catalyst in an effort to make our organic laboratories more "green."

Don Pavia, George Kriz, and I have completed the third edition of the *Introduction to Spectroscopy* book. In collaboration with Randy Engel, we have just completed an organic chemistry techniques book which covers the basic techniques, but does not include experimental procedures.

Marian and I continue to participate in choir at St. Paul's Episcopal Church in Bellingham. In addition, we are members of the Whatcom Chorale, along with several others with connections to the department. The Chorale provides three concerts each year. Travel has taken Marian and me to England and Egypt over the last several years.

It was great to see so many of you at the alumni event in Woodinville. The department is very proud of all of you! Please plan on visiting us sometime when you are in the area.



Our colleague **Joe Morse**, former Director of Science Education and Professor of Chemistry, suffered a stroke in May 2000 and is still recovering from its effects. Now on extended leave, Joe continues to be an avid Viking fan attending football, basketball, and volleyball games and enjoying campus lectures, performances at the Performing Arts Center, and social events. He is persistent in working to improve his reading and speech. Other pleasurable activities include riding his recumbent bike, driving - independence recently achieved - and most of all, singing in the Whatcom Chorale. He is a dedicated teacher and would enjoy hearing from his former students whom he misses very much. His e-mail address is mjkaren@cms.com.

David Patrick: I write to you from England, where I am spending a year on sabbatical at Oxford University. I'm working in the Engineering Science Department with a group specializing in liquid crystals and

Fellow

Katy Layman is a Dreyfus Fellow

In July, the department welcomed Kathryn (Katy) Layman as its first Camille & Henry Dreyfus Foundation Postdoctoral Fellow. This two-



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year position is funded by a \$100,000 Scholar/Fellow award from the Dreyfus Foundation to Mark Bussell in October 2001. The goal of this program is to attract talented Ph.D. recipients to careers as faculty members in predominantly undergraduate institutions (PUIs). The award is made to an established faculty member at a PUI who then mentors the postdoctoral fellow and collaborates with them in research. The

award has three main purposes: to enrich the teaching and research of the established faculty member, to provide the postdoctoral fellow experience in the operations of a successful undergraduate department, and to prepare her/him for establishing their own career as a faculty member. In addition to research, Katy will participate in teaching in the general and physical chemistry sequences at WWU.

Katy majored in chemistry and minored in mathematics at Occidental College in Los Angeles, CA where she was a recipient of a prestigious Barry M. Goldwater Scholarship. As a freshman, Katy started her career in research under the direction of Professor Frank DeHaan investigating the mechanism and stereochemistry of "double-agent" chlorination. After her mentor retired, Katy conducted experiments, under the direction of Professor Michael Hill, to determine the photoinduced disproportionation kinetics of an iridium compound. After graduating from Occidental College in 1996, Katy matriculated into the chemistry graduate program at the University of California, Irvine (UCI). Under the guidance of Professor John Hemminger, Katy investigated the growth and characterization of thin films of alumina on NiAl surface using High-Resolution Electron Energy Loss Spectroscopy. Katy was particularly interested in determining the acidity of the surface OH groups on these films. Katy served as a teaching assistant for a number of courses at UCI and received a teaching assistant award in 2001.

Katy's long-term goal is to teach chemistry and carry out research at a PUI that has an academic program similar to Western Washington University or Occidental College.

optoelectronics. These are the materials and devices used in laptop computer displays, and in lots of other applications involving control of light with electrical signals. I'm also finishing up several papers from research generated by Western students before I left. I still have two graduate students hard at work in Bellingham with whom I meet several times each week via Internet videoconference. Without this technology it would be much harder to leave for so long.

Oxford is a very old university and has a rich history (founded in the 13th century, it claims to be the oldest university in the English-speaking world). Among the more noteworthy chemical/biochemical landmarks here were pioneering work by Roger Bacon, Robert Boyle, and other early chemists, Howard Florey's discovery of penicillin in the 20th century, and 9 Nobel Prizes in Chemistry. The city is also among the most picturesque in Europe, with narrow medieval lanes with buildings representing a range of architectural styles and ages. The Thames river flows around the city and the countryside here is beautiful. The college I am a member of, St. Cross College, is actually among the newest in the university, founded in 1965, although it occupies buildings that are several hundred years old. I should also say that I've spent some time in the Chemistry Department here, and I'm pleased to report that our chemistry building is much finer than Oxford's.

I've lived in Britain before as a postdoc in Cambridge, and I've spent a fair amount of time in Northern Ireland at Queen's University. So although I won't go so far as to say I've missed British food, weather, or the archaic plumbing, I'm at least accustomed to them. My family is here with me, and both our daughters are attending school.

Sal Russo: In summer 2001 I did a 40 mile hike in the Glacier Peak Wilderness Area with my son and daughter with Cascade Corrals acting as outfitters. High point of the trip was a memorable view of Glacier Peak as seen from Image Lake. My other hiking trips are with the Bellingham Mountaineers, Skagit Audubon Hikers, and Washington Wild. On a summer 2002 hike on the Scott Paul trail with the Skagit hikers, I was pleasantly surprised to find Samantha "Sam" Glazier '96 and Brian Berg as guests in the group.

I enjoy singing in church choir and the Kulshan Chorus. I am also a board member of the Bellingham Country Dance Society and a regular at contradances that take place twice a month at the Fairhaven branch library. In August 2002 our first grandchild, Holden Russo Brockhaus, was born in Seattle. Judy and I are enthusiastically learning our new role as grandparents.



Staff

Pamela Large Joins Staff

Pamela Large joined the administrative support staff in November 2002 as a part-time office assistant, a newly created position as fiscal assistant to the department manager. She comes to Western from an engineering/surveying firm in Friday Harbor. Prior to living in Friday Harbor, Pamela spent the majority of her life right outside the eastern gate to Yellowstone National Park. She moved to Washington State nine years ago with her father, daughter, five cats, a Malamute and a python.



Kelly Heese / WWU Publishing Services

Not having a background in the sciences, Pamela is very excited about working with a department that studies our world on such an intimate level. While being unfamiliar with the art of chemistry, she has a lifetime of experience with fine art. She has an AA, AS and a Certificate of Study from the Colorado Institute of Art.

Pamela has worked for a saddle-making school, an oyster farm, and the Wyoming oil fields. She has owned an art gallery and a working glass studio, as well as showing Appaloosa horses! While she realizes that at first glance these qualifications may not apply daily to working in one of the foremost chemistry departments in the nation, she is proud to be here and hopes her varied background will be beneficial.

Annual Colloquium

At our annual Scholars Day held on Friday, May 17, 2002 there were 16 posters and 9 oral presentations involving undergraduate and graduate students. Keynote speaker was Professor Thomas R. Hoye, University of Minnesota, whose talk was entitled A Chemist's Approach to Studying Antitumor Natural Products: Oteliones A and B.

In spring 2003 Professor Carolyn Bertozzi, University of California-Berkeley, will visit our department. She was a 1999 recipient of a MacArthur Foundation "Genius" Award. Her research area is "applications of chemical tools to the study of cellular processes relevant to human disease." She will visit the department on May 15 and will present the keynote address on the 16th for our department's Scholars Day program.

Former Staff

Heather (Callery) Barrieau (General Chem Lab Coordinator, 2001-2002). Heather's time with the department as a staff member was brief in length, due to the arrival of her daughter, Madisen Emma Elizabeth Barrieau, on June 18, 2002. And after viewing the cherub on several of her visits to the department, we can't blame Heather for deciding to be a full-time mother! We do expect to continue to see both of them, especially as Heather is also an alumnus of the department (BS-Chemistry '99), not just a former staff member.

From **Armando Herbelin** (Instrument Technician, 1993-1997): It's been a busy five years since I left Western, five busy years including a wedding to Sharon Ann Maley, two doctorates in chemistry (one for each of us), a little boy (Marshall Charles, born February 10, 2002) and now a faculty position. Along the way I've continued to visit Western, attending three out of five annual fall parties and following Mark Wicholas up a few hills (carrying all of the gear and at least one rock). In fall 2001, I was honored to visit Bellingham and share my research in a seminar. After finishing my doctorate in March 2002 at the University of Washington, caring for Marshall through the spring and teaching part time over the summer, I am now teaching chemistry at Lower Columbia College in Longview, WA in a tenure track faculty position. I send my best thoughts to everyone in the WWU chemistry family-stop in at Longview any time.

IN MEMORIAM

Gertrude Becker (Department Secretary, 1970-1980). We are sorry to report that Gertrude died January 31, 2002 at St. Frances Extended Health Care in Bellingham, just two weeks before her 89th birthday. After leaving classified staff service at the Univ of Washington in 1969, Gertrude faithfully served the WWU Chemistry Dept from 1970 until her retirement in 1980. She was a member of Good News Fellowship Church of Ferndale and after retirement had pursued her hobbies-playing the piano and pump organ, gardening and crocheting-with much vigor. She is survived by a daughter, two sons, and numerous grandchildren and great-grandchildren.



Graduation



RECENT DEGREES AWARDED

2001/2002

Congratulations to our graduation class of 2001-02. Graduation honors are listed and then immediate post-graduation activities are in parentheses below each name.

MS Chemistry

Brian Diaz

(Research Associate, Chiron, Seattle)

Christian Holst

(Research Chemist, Albany Molecular Research Inc., NY)

L. Rhys Lawson

(PhD program, Chemistry Dept, Univ of Washington)

Courtney Rubens

(Research Associate, Signature BioScience, Richmond, CA)

Mitsuhiro Tsuchiya

(Research Associate, Univ of Washington)

BA Chemistry

Jonathan Harman

Martin Heller

*2nd major BS Applied Math
(Graduate program, Dept of Statistics,
Univ of Wisconsin-Madison)*

Matthew Oakley

Chin-Hsu Tung
*(MS/PhD program in Computational
Chemistry, Univ of Bath, England)*

BS Biochemistry

Patrick Beebe

*(PhD program, Biochemistry Dept, Univ
of Oregon)*

John Flanagan

*(Graduate program, Biophysics Dept, Univ
of Virginia)*

Will Freeman

*2nd major in Mathematics; Chemistry
Dept Honors; Cum Laude
(Tutoring in Math and Chemistry while
studying for the MCATs)*

Audrey Roult

*Chang Biochemistry Award;
Magna Cum Laude
(MD program, School of Medicine,
Washington Univ - St. Louis)*

Valerie Terrill

*(Research Technician, Fred Hutchinson
Cancer Research Institute, Seattle)*

Russell Udani

Anthony Vekich

Nichlaus Vincent-Maloney
*(Research Associate, Seattle Genetics,
Bothell; Working on third album with the
band Soup of the Day)*

Lucia Vojtech

Cum Laude

BS Chemistry and ACS Certification

Denise Bale

*Cum Laude
(PhD program, Chemistry Dept, Univ of
Washington)*

Jessica Brooks

(Botanical Labs, Ferndale, WA)

Brian Bush

*(Bioprocessing Assistant, Amgen,
Seattle)*

Stephen Chrisman

(Los Alamos National Labs, NM)

Trisha Duffey

*Chemistry Dept Honors; Cum Laude
(PhD program, Dept of Chemistry, Univ
of Michigan, Ann Arbor)*

W.Scott Dunlap

*(MS program, Univ of Oregon; Intern with
LSI Logic as Process Engineer)*

Eric Finney

*(PhD program, Chemistry Dept, Colorado
State Univ-Ft. Collins)*

Amy Fromherz

Andrew Garrett
*(PhD program, Chemistry Dept, Univ of
North Carolina, Chapel Hill)*

Shawn Gaylor

Amber Hamilton
*2nd major in Spanish; Cum Laude; Presi-
dential Scholar
(PhD program in Geochemistry, Dept
of Earth & Space Sciences, Univ of Wash-
ington)*

Kathleen Holt

*(MS program in Chemical and Nuclear
Engineering, Univ of New Mexico; Staff
Technologist with Sandia National Labs)*

Laura Hooper

*(Extractions and Calculations Chemist,
Friedman and Braya Inc, Seattle)*

Nicholas Kuhta

*(Musician in the Portland, OR area with
the band Avenue of the Strongest)*

Erika "Rikki" Larson

*(Lab Technician, Phillips Refinery,
Ferndale)*

Kirk Larson

Breia Lewis
*(MS Chemistry program, Western Wash-
ington Univ)*

Celeste Loitz

*(MS Chemistry program, Western Wash-
ington Univ)*

Kevin Mallory

*Cum Laude
(PhD program, Cornell Univ)*

Richard Morgan

Justin Orr

Melissa Sanborn

Stephanie Sawhill
*(MS Chemistry program, Western Wash-
ington Univ)*

Aaron Schutzer

*2nd major Political Science;
(Seattle Univ School of Law)*

Luke Simpson

*(Working towards passing the National
Board Exam for Nuclear Medicine
Technician)*

Steven Staben

*Chemistry Dept Honors; Chemistry
Dept Outstanding Graduate Award;
Cum Laude
(PhD program, Dept of Chemistry, Univ
of California-Berkeley)*

Joseph Valente

*(PhD program, Chemistry Dept, Colorado
State Univ-Ft. Collins)*

Michael Vieira

Christine Walker

Awards

2001/02

Department Awards

Outstanding Chemistry Department Graduate

Steven Staben

Sea Bong Chang Memorial Biochemistry Award

Audrey Routt

Hypercube Scholar

Andrew Berg

Outstanding Analytical Student

Melissa Pease

Outstanding Organic Series Student

Abigail Lambert

CRC Press Freshman Chemistry Award

Jeffrey Hayward

University Award

Presidential Scholar Award

Amber Hamilton



Back Row (L to R): Amber Hamilton, Audrey Routt, Steve Staben
Front row (L to R): Andrew Berg, Melissa Pease, Jeffrey Hayward, Abigail Lambert

Staben Chosen Outstanding Graduate

Steven Staben was named Outstanding Graduate in Chemistry for the 2001-2002 academic year. Steve was honored with outstanding students from other departments at a ceremony and reception hosted by WWU President Karen W. Morse. Steve selected Don Pavia to introduce him at the ceremony and accompany him across the stage at Commencement.

A native of Battleground, WA, Steve did research for two years and the intervening summer with Jim Vyvyan. Steve studied the synthesis of benzoxocanes (8-membered cyclic ethers fused to an aromatic ring) using phenol epoxide cyclizations. The benzoxocane moiety is found in several of the heliannuols, allelopathic natural products isolated from the sunflower. Steve completed a departmental honors thesis and presented his research at the American Chemical Society National Meeting last April in Orlando, FL. The trip to the ACS meeting was funded in part by an ACS Division of Organic Chemistry Undergraduate Travel Grant.

Steve's other honors include a Southwest Washington Medical Center Scholarship, a Foundation for Academic Excellence Scholarship, and the Knapman Chemistry Scholarship. Steve was also selected last spring as one of ten WWU students to receive a Science Applications International Incorporated (SAIC) award for academic excellence and creative problem solving. Steve is currently a Ph.D. student at the University of California-Berkeley where he has joined the research group of F. Dean Toste.

Amber Hamilton is a Presidential Scholar

Amber Hamilton (B.S. 2002) was honored at graduation as a WWU Presidential Scholar. She was active in research for several years in Professor David Patrick's group, where she worked on a project in materials chemistry. She received two research-related awards: a "Materials Research Initiative Grant" from the Materials Research Society (MRS), which included \$1000 toward research expenses, plus travel and accommodation expenses to attend the national meeting of the MRS in San Francisco, and the "Best Undergraduate Poster Award" given at the Chemistry Dept. Scholar's Week poster session in 2001. She made several presentations of her work at regional and national scientific symposia.

This year Amber was one of a select group of graduates to receive a National Science Foundation Doctoral Fellowship. These highly sought-after awards are given to a small number of students nationwide in a yearly competition in which recipients are selected based on their promise for outstanding careers in science. The fellowship will provide Amber a salary, some funds for research expenses, and tuition for three years. It will support her studies in the geochemistry doctoral program at the University of Washington. She received a Ford Foundation Doctoral Fellowship in addition to her NSF award.



Kelly Heese / WU Publishing Services

Rouff Chosen for Sea Bong Chang Award

Audrey Rouff graduated in 2002 with a Bachelor of Science in Biochemistry and was the recipient of the Sea Bong Chang Award. Previously, she received the Barbara French Duzan Scholarship from the Chemistry Department. Both of these awards recognized her exemplary performance in the biochemistry program.

While at Western, Audrey volunteered her time at the Adult Day Health Program of St. Joseph's Hospital. There she led weekly physical exercise programs for elderly patients suffering from Alzheimer's disease. She also worked for the Woodring College of Education all four years.

Audrey is now attending medical school at Washington University in St. Louis. In addition to her coursework, she is involved in programs that advocate reproductive rights for women and educate pregnant teens about prenatal health.

Audrey remains undecided about which field of medicine to enter (though right now she is leaning towards women's health, geriatrics, or hematology/oncology.) In addition to practicing medicine, she plans to follow in her sister's footsteps as an advocate for the growing population of women and children who live in poverty.

Scholarships

2002/2003

Scholarship Recipients

Knapman Senior Renewal (\$2,000)

Ben Edwards

Knapman Junior Award + Western Foundation Match (\$2,000 each)

Abigail Lambert

Angela Lambert

Ruth Watts (\$1,800)

Elaine Peterson

Jerry Price / Nancy Sherer (\$1,500)

Melissa Pease

Verna Alexander Price (\$1,500)

Haley Pugsley

Barbara French Duzan (\$1,000) + Tuition/Fee Waiver (\$1,000)

Casey M. Kulla



Back row: Haley Pugsley, Ben Edwards, Casey Kulla, Melissa Pease

Front row: Angela Lambert, Elaine Peterson, Abigail Lambert

Alumni News

1950s Graduates

Tom Manney '57; PhD '64 Univ Calif-Berkeley held positions at Oak Ridge National Lab, Case Western Reserve Univ School of Medicine, UC Berkeley and Kansas State Univ. He remained at KSU from 1971 until his retirement in 1997, as a full professor of Physics with an ancillary appointment in Biology. In 1985 Tom and his wife, Monta Manney (also a '57 Western grad), collaborated on the development of genetics' instructional materials and teacher enhancement workshops for secondary biology teachers. Tom and Monta remain in the Manhattan area in a passive solar home that they built after retiring. Now time is spent in the woodworking shop, greenhouse, and making periodic visits to the Edmonds, WA area where Monta grew up. They have three daughters, five grandchildren and two great-grandchildren.

1960s Graduates

James Macmillan '64; PhD '69 Ohio State Univ. In the last newsletter we incorrectly reported that Jim had retired from the Univ of Northern Idaho. Jim really retired from the Univ of Northern Iowa after 29 years teaching organic chemistry. During the past year Jim established a cash award to accompany the department's annual award to the "Outstanding Organic Student" of the year. This continues a tradition Jim established at Northern Iowa. As a result of last year's newsletter, Jim and his wife Carol (Bailey) have heard from several contemporaries from their days at Western. They hope to hear from more alums from the "good days back when Haggard Hall was new!"

Robert S. Matson '69; M.S. '71 WWU; PhD '75 Wayne State Univ. Following postdoc studies at UCLA Medical School, Bob served as a Principal Investigator with the Veterans Administration Medical Center and Adjunct Professor of Biological Chemistry at the Univ Calif-Davis Medical School. He also held a faculty lectureship at USC's Dept of Chemistry and was Assistant Professor of Chemistry at the

Univ of Southern Maine. After holding several positions in technical management roles, Bob is now a Senior Staff Scientist in the Advanced Technology Center at Beckman Coulter, Inc. in Fullerton, CA. He has been involved in the development of both nucleic acid and protein microarray-based technology for the past 10 years and currently holds 7 U.S. patents in these areas with 10 additional patents pending. Bob's current interest is in automated approaches to multiplexed assay development. He also serves on the Editorial Board of *Applied Biochemistry and Biotechnology*. Bob has been happily married for the past 33 years to Jeanne (5th grade school teacher) whom he met at Western as a senior. They have two adult children, Erik (22) and Jacqueline (20). Both are in college. In his spare time Bob enjoys traveling, photography and the great outdoors.

1970s Graduates

Dan Miller '71; Masters in Health Care Mgmt '90 Central Michigan Univ. Currently Director of Diagnostic Services for Grays Harbor Community Hospital, Aberdeen, WA. Dan and his wife Elise (a certified medical assistant currently running her own medical transcription service) live in Hoquiam with their two "boys", Jacob and Kitkat, dog and cat, respectively. Dan hopes to someday make it up to Bellingham to see the new chemistry building in person.

David Galle '74 stopped by the chemistry department in November and had a wonderful visit with the organic group Pavia, Lampman and Kriz plus "newcomer" Vyvyan.

1980s Graduates

Roger Koops '81; MS '83 WWU; PhD '90 Univ Calif-Riverside. Until recently Roger has been working as Director of Quality at Genelabs Technologies in Redwood City, CA. He was in charge of Pharmaceutical Quality Assurance and Quality Control. Roger conducted a train-

ing workshop in Dublin, Ireland on Pharmaceutical Process Validation. Effective November 2002 Roger became Director of Quality Assurance at Vaxgen in Brisbane, CA. On the personal front, he has recently bought and moved into a new house in Pacifica, CA and has "managed to stay single for some time now, although I have a steady girlfriend who keeps me honest."

John Peterson '82; MS '91 WWU has left private industry in favor of public service, effective Fall 2002. John has accepted a faculty position in the Science Dept of Big Bend Community College in Moses Lake, WA. In order to prepare for this career change, John-along with other dept alumni, including Randy Engel, John Gelder, and Dan Smith-attended the American Chemical Society's 2002 Biennial Conference on Chemical Education, held here on campus in July.

Eric Jacobson '84; M.Ed. '91 WWU. Eric is a Lieutenant Colonel in the U.S. Air Force stationed at Ramstein Air Base as a Logistics Staff Officer. After graduation in 1984 Eric joined the Air Force and went through Officer Candidate School in Texas, followed by Munitions Officer School in Colorado. Eric was stationed in Germany in 1985 and except for the period 1989 to 1991 when he returned to WWU to earn his M.Ed. degree, he has been in Germany ever since. He has an 8 year old daughter, Kaye Ellen, who lives with her German mother. Eric plans to retire in Germany, where he hopes to work in a bike shop and lead cycling tours in Germany, France, and Spain.

Edwin Chapman '85 is Associate Professor of Physiology at University of Wisconsin-Madison. His research is focused on understanding the process by which neurotransmitters are released from neurons.

Kimberly Magruder '87; MS '90 WWU and **Gary Carlton** '86; MS '91 WWU. Kim and fellow-alum husband Gary Carlton are proud parents of a baby girl born 5/12/02. Kim is continuing her work as an environmental chemist with Anchor Environmental, LLC, but on a part-time basis, to create more time for her new "mom" duties!

Alumni News

1990s Graduates

Dave Hoyt '90. Upon graduation from WWU, Dave joined the Weyerhaeuser Analysis and Testing Division as a lab technician in the trace metals lab where his primary duties included performing emission spectroscopy. After 6 years, he transferred to another dept to work with a Fiber Quality Analyzer; most of his time involves managing large amounts of data, reviewing test results, and looking for ways to make improvements in data management. Dave is currently earning a 2nd B.S. degree, this time in the Software Engineering program at the University of Washington. He splits his time between an internship as a software/database manager with Weyerhaeuser and his continuing instrument operator responsibilities in the Analysis and Testing Division. After graduation in 2 quarters, he hopes to continue at Weyerhaeuser as a database application programmer.

Marc Kirchmeier '90; PhD '97 Oregon State. In the last newsletter we left Marc, Tonja and family in Ohio. Since then, the "family" has grown-with the addition of Madeline (almost 2). Cole is 4 and Kyle, the 18-year-old, is off to the U of Nevada, Las Vegas, on a full ride academic scholarship. Tonja, a registered nurse, is now working in the Outpatient Surgery Dept at the Cleveland Clinic and Marc continues his work at Oakwood Laboratories, where he has a small research group working on antibody-based drug delivery systems. Over the years he has blended his organic and biochemistry backgrounds and now considers himself a "Bioconjugate Chemist." His research focuses on the conjugation of macromolecules (antibodies, polymers, and phospholipids) for the purpose of improving cancer chemotherapy. They are making so-called "Magic Bullets" that specifically deliver drugs to the cancer.

Karen (Dyer) Wilson '92. After graduation from Western, Karen went on to earn a chemical engineering degree. She resides in Idaho and is an engineer with Micron Technology.

Daniel Morris '92; MS '94 Univ of Iowa. Dan completed a career transition last spring by accepting a position as a Pre-Clinical Research Associate with EKOS Corp, a medical instruments' company located in Bothell, WA.

Anthony Diaz MS'93; PhD '96 Oregon State. In February, Anthony visited his old WWU stomping grounds and presented a seminar for the department "Materials Science Puzzles in Display and Lighting Technologies." He is now in his third year as an assistant professor with the Central Washington University Chemistry Dept.

Brenda (Crook) Luciano '93 received a PhD in Biology from MIT in September 2001. She is currently working as a postdoctoral associate at Wyeth Research in Boston. She and her husband, Peter ('94 Environ. Sc.), have two children, Sierra (age 7) and Joe (age 2).

Patrick Sofarelli '94 is currently living in Barcelona, Spain after finishing his international MBA at IESE (also based in Barcelona). He is now working as the Sales & Marketing Director for Prous Science, international biomedical publishers of journals (among their titles *Drugs of the Future*). The big news this past spring-he and his wife, Bonnie, welcomed the birth of their son, Lorenzo! Patrick also managed a trip to the U.S. in October 2001, which included visiting a fellow Chem Dept alum and old research lab partner, Hiro Yamamoto. Patrick is "still quite active with his beach and mountain pastimes and can now speak 1-3/4 languages."

Jeff Allen '95. After graduation, Jeff went to work for HealthComm (now called Metagenics) in their QA/QC department. From there he went to work as the Lab Manager of a Hazardous Waste Recycling Facility. Currently he is the Pacific Northwest Technical Sales Rep for Thermo Orion-the Chem Dept is one of his clients-and he lives in Gig Harbor with his wife Kristine ('95 WWU Ed Graduate and '01 WWU MS Administration) and their 3 children, Bailey (7), Emma (5) and Elliot (4).

Robert P. Lyon '95. Robert received his Ph.D. in Medicinal Chemistry from the Univ of Washington in September 2002. His dissertation: "Enzymology at the Dimer Interface of Cytosolic Glutathione S-Transferases." He is now in a postdoc at Syntrix Biosystems, a biotech firm in Redmond, where he is working on improving microarrays of peptide nucleic acids.

Brady Stillwell '95; MS '00 WWU. After receiving his M.S., Brady spent six months living on a boat in Ballard while figuring out his next step. He obtained a position with Procyte doing process chemistry, then after six months he joined Molecumetics to do medicinal chemistry. Brady also married Megan Schofield, a WWU Speech Pathology alum, bought a 1924 home in Renton, and adopted two dogs. After Molecumetics closed in July '02 he started work at Chiron (Pathogenesis) in Seattle, performing chemical development work. It is a mix of his last two jobs and he is really enjoying his work, especially working for a company that actually makes money!

Samantha "Sam" Glazier '96; PhD '02 Cornell. After completing her PhD in January 2002, Sam began her postdoc as a Keck Teaching and Research Fellow at Bryn Mawr College in Pennsylvania. In the summer of '03, Sam will be traveling to Washington State to marry her long time love, Brian Berg. They plan to hike through the Tatra Mountains into Poland for a family reunion next August, which will also serve as their honeymoon.

Brenda Smits '96. After graduation Brenda moved to Spokane and worked as an inorganic chemist with SVL labs in Kellogg, ID. She then worked for 4 years as a chemist at a wastewater treatment plant on the Rathdrum Prairie in Idaho. Currently, Brenda works for the Spokane County Air Pollution Control Authority as an air quality specialist, otherwise known as an "air cop." Daughter Colby is now 12 years old.

Alumni News

John Vallieve-Douglass '96. John, a Mass Spectrometrists with the Corixa Corporation gave a seminar to the WWU Biology Department in Fall 2002. Two years ago he married Jennifer Vallieve.

Brian Bales '97. The year 2002 has been a busy one for Brian. In May he received his PhD in Organic Chemistry from Colorado State Univ-Ft. Collins. He and his wife Wendy (a WWU Psychology Graduate) then relocated to Seattle so that he could begin a post-doc appointment in the lab of Jim Mayer at the University of Washington. On September 9th, daughter Jennifer was born. And on October 25th, Brian returned to WWU to present a seminar to the department, entitled "The Mechanism of Copper Phenanthroline Induced DNA Strand Scission."

David Germack '97. David entered the PhD program in organic chemistry at Washington University, St. Louis this fall. Last year was spent as a visiting researcher at the Center for Polymeric Interfaces and Macromolecular Assemblies under the mentorship of Dr. Craig Hawker. David's work was included in the publication "A Facile Approach to Architecturally Defined Nanoparticles via Intramolecular Chain Collapse."

Matthew Higgins '97 is currently a graduate student in the pharmacology program at the University of North Carolina.

Matt Kaerberlein '97 and Tammi (Issacson) Kaerberlein ('97 Biology) welcomed their son, Connor David, into the world on February 15, 2002. Matt is Vice President for Research at a new biotech company named Longevity located in Waltham, Massachusetts.

Ryan Looper '98; MS '00 WWU. Ryan is surviving his "indentured servitude" in the graduate program at Colorado State Univ, Ft. Collins. Upon completion of his PhD-which will be?-Ryan has a postdoc position lined up with Stuart Schreiber at Harvard University. Until then, Ryan is enjoying the "champagne powder" skiing, fishing, snow-shoeing, hiking, biking, and climbing available in Colorado. Says he misses the Pacific Northwest, "especially the rain." Yeah, right!

Julie (Whitford) Bach '98 returned to the "beautiful, wonderful Pacific Northwest" from California in August 2001 and is now working as a research associate for Amgen (formerly Immunex) in their Process Science Division in downtown Seattle.

Hawkins DeFrance '99. Hawkins is in his first of four years of Pharmacy School at the University of Washington. He continues to work part-time in Elaine Olander's lab at the Fred Hutchinson Cancer Research Center helping map the canine genome. His free time is spent, of course, with his lovely wife Melissa.

Christian Holst '99; MS '01 WWU. Chris is a Research Chemist with Albany Molecular Research Inc. NY. He says he has gained a lot of experience in one year, but is slowly adapting to the New York environment. As some of you may know, Chris used to play ice hockey on the WWU men's team. Well, he has been able to get in on a few games at the local rinks in Albany. Golf is now one of Chris' new pastimes.

Peter Mueting-Nelson '99. We last left Peter as a lab technician at the Fred Hutchinson Cancer Research Institute. He is now enrolled in the medical program at Ohio State University. As of last April, he had successfully survived the first two thirds of his first year. Peter was even anticipating being able to fit in some road trips, with Chicago first on his list.

Robert Schmid '99; MA '02 Univ of Arizona. Robert was diagnosed with Acute Lymphocytic Leukemia in late 2001. He has undergone several rounds of chemotherapy and on June 18, 2002 underwent a bone marrow transplant. His brother was the donor. The procedure was done at the Arizona Cancer Center, Tucson. Robert decided to leave his Ph.D. program with an M.A. and spend his recovery days with his family in Camas, WA. He is currently doing well. Our thoughts and prayers are with you Robert. Take care.

Charlie Trimm '99. In March 2002 Charlie married Mariah Holmes. He is currently working on his Master of Divinity degree at Northwest Baptist Seminary and is a pastor in Bremerton, WA. His ultimate goal is to complete a Doctorate in Theology and teach in a seminary.

2000s Graduates

Joseph Deverich '00. From Joe: "All is well here in Vermont. I've moved on from IBM by returning to my first love of chemistry. I now work at Severn Trent Laboratories, an environmental testing firm, as an inorganic analyst. Christina (my wife) and I have just purchased a house and are looking forward to a very cold winter filled with lots of snow and skiing. We spent last summer exploring various New England/East Coast attractions including Cooperstown, Lake Placid, Boston Fourth of July, New York City and Montreal."

Allison Johnson '00 relocated to San Francisco in July 2002 to work for Genentech as a quality control associate. "I develop, optimize and validate HPLC and CE methods for clinical products. The biggest adventure I've had recently is moving-by myself-to a new state where I didn't know anybody." (*Ed note: Allison mentioned the possibility of asking permission to list e-mail addresses along with alumni updates so that they could be easily contacted by fellow alumni. What we can-and do-offer is our "Alumni Networking" service whereby you contact the department if you wish to contact a fellow alumnus. We check our alumni database and if the person you wish to contact has given us permission to release contact information, we do so. Please take us up on this alumni service!*)

Jenny (Gilberd) Madeoy '00. She has completed two years of work at the Fred Hutchinson Cancer Research Center. Currently Jenny is involved in screening the BRCA1 and BRCA2 genes for mutations in a group of approx. 2,500 women from five U.S. cities and has become especially proficient at running Denaturing High Performance Liquid Chromatography (DHPLC) machines! Jenny has also embarked upon the Certificate Program in Editing at the University of Washington. Free time-if any-is spent working with her husband, Mark, on their house in Sammamish and playing with their dog, Cloie.

Rebekah (Main) Mellema '00. The year 2002 was a very eventful one for Bekah. In the spring she graduated from the California Insti-

Alumni News

tute of Technology with a Masters in Chemistry. She returned home to Bellingham and accepted a position with the Madrona Medical Group as a Clinical Research Assistant. In August she married her high school sweetheart, Tyler Mellema, who now attends WWU, and in December she accepted the position of General Chem Lab Coordinator with the WWU Chemistry Dept. Bekah begins work in her old stomping grounds in January 2003 and we look forward to her upcoming accomplishments.

Jennifer Oaksmith '00. After driving cross country to Ithaca, NY after graduation, Jenny began graduate studies in the Dept of Chemistry and Chemical Biology at Cornell University. She joined the lab of Bruce Ganem and has been working on organic synthesis and methodology projects. Jenny received her master's degree in Summer 2002 and is now an official PhD candidate. In Summer 2003 she will participate in a six week industrial internship that is part of a NIH Chemistry/Biology Interface Training Grant she received. She hopes to complete her PhD in 2005 and then pursue a post-doc position.

Emily Peterson '00 recently passed her advancement to candidacy exams in her PhD program at the Univ of Calif-Irvine. What little time she has outside of lab is spent sailing, rock climbing or running.

James Stupfel '00. James has relocated to the Houston area, where he began the Physician's Assistant Program at Baylor College of Medicine this past summer.

Scott Symons '00. Has been hired on as a full time firefighter for the city of Bellevue. He also serves on their East Side Hazardous Material Team, so his chemistry background comes in handy!

Dave Svilar '00. Dave stopped by the chemistry office in October to say hi. He spent 3 months in Africa, did a lot of traveling and really enjoyed his visit. Dave is applying for a secondary education degree at this time.

Kevin Bonney '01. Kevin is in his first year of a four year Pharmacy Degree program at the Washington State University College of Pharmacy.

Andy Bookter '01 is currently a field technician for Utah State University doing stream water quality sampling in the Nooksack River basin. "It is a really great job including exploring out-of-the-way areas of Whatcom County and wading around in streams. I really like it!"

Nikki Chin '01. Nikki began her dentistry program at the University of Washington in fall 2002.

Roxi (Hulet Kelly) Finney MS '01 WWU and **Eric Finney '02.** Roxi and Eric were volunteers for this summer's BCCE (Biennial Conference on Chemical Education) event in late July on campus, then followed it up with a wedding and relocation to Colorado where both began graduate work-Roxi in the Chemical Education PhD program at the Univ of Northern Colorado and Eric in the Chemistry PhD program at Colorado State Univ-Ft. Collins.

Nick Kesinger '01. In June 2002 Nick began his PhD program at Oregon State University. His research involves the organic synthesis of large molecules. Nick recently received the Milton Harris Teaching Fellowship Award. Congratulations!

Bevin Parks '01 has completed a M.S. in Chemistry and is continuing work toward her PhD in Jim Hutchison's lab at the University of Oregon, studying the synthesis of amide ligands and their binding of lanthanide and actinide ions. Her son Ethan is in kindergarten and talks about becoming a firefighter, daycare teacher or a chemist!

Randy Self '01. After only a few months working for Laucks Testing Labs, Randy was offered a position with the U.S. Food and Drug Administration (FDA). He is now a chemist at the regional laboratory in Bothell and very much enjoying his work in analytical chemistry.

Tanya Wilke '01. After working for Laucks Testing Laboratories for ten months, Tanya moved to New Orleans to begin the MD/PhD program at Louisiana State University Health Sciences Center. Tanya says that her biochemistry education prepared her very well. She is having a lot of fun and really enjoys her current studies.



Kathy Hesse / WWU Publishing Services

Alumni Spotlight

Michael E. Phelps

Fellow Chemistry Dept classmates of Mike Phelps who haven't been reading their WWU Alumni Newsletters might be a little shocked to learn of the direction Mike's career has taken since leaving WWU with double degrees in chemistry



and mathematics in 1965. They probably remember a freshman interested in partying and staying one step ahead of academic probation. Or perhaps they won't be too surprised if they remember how Mike eventually

took to nuclear chemistry research work with Professor Ed Neuzil, which led him to pursue graduate studies.

Mike left WWU for graduate work at Washington University in St. Louis, where he completed a PhD in Chemistry in 1970. He remained in St. Louis from 1970-1975 as a faculty member at the Washington Univ School of Medicine and in 1973-74 he and his postdoc student Ed Hoffman invented the positron emission tomography (PET) scanner, the first technology capable of imaging brain function. It has caused a revolution in the area of medical diagnostic instrumentation, by providing a method of identifying diseases that other more commonly known medical diagnostic instrumentation, such as CAT and MRI, cannot detect. PET is also a powerful research tool used to study the biological basis of various human disorders such as epilepsy, Parkinson's and Alzheimer's and also to map out gene expression and metabolic maturation. Invention of PET was the beginning of a career that has brought Mike world-wide fame in medical/nuclear research and numerous awards and honors.

The real action began in 1976 with a move to the UCLA School of Medicine, where Mike remains today. At UCLA he established the first PET clinic for patient care; there are now more than 800 clinics worldwide. Under his leadership, UCLA is home to the leading PET program in the world, both in

research and clinical practice. Mike currently is Chairman, Dept of Molecular & Medical Pharmacology, and Associate Director, UCLA/DOE Laboratory of Structural Biology & Molecular Medicine.

The year 1999 brought two outstanding honors. One was his election as a member of the National Academy of Sciences. The other was his selection as the recipient of the 1998 Enrico Fermi Award—one of the oldest and most prestigious science and technology awards given by the U.S. Government. The award recognizes scientists of international stature for their lifetimes of exceptional achievement in the development, use, or production of energy. At an April 1999 ceremony in Washington, D.C. Mike received a citation signed by President Clinton and Secretary of Energy Bill Richardson, a gold medal bearing the likeness of Enrico Fermi, and a \$100,000 honorarium. The award recognized him for invention of PET and his "seminal contributions to its use in research and patient care in neurological disorders, cardiovascular disease and cancer." The presidential citation also recognized his lifetime achievements in nuclear energy, including "accomplishments that combine physics, mathematics, chemistry, biology and medical applications."

Western has also formally recognized Mike's achievements, on two different occasions. First, in 1980, he received the annual "Distinguished Alumnus" award, just seven years after his co-invention of PET. Second, as part of WWU's Centennial Celebration, 21 distinguished alumni—including Mike—were selected to represent the achievements of the university's past and the potential for the future. In February 2000 the group was honored on campus with a reception and dinner. Mike attended the festivities and presented a seminar "Molecular Imaging with PET: A Way to Watch and Measure the Biochemistry of Disease" for the department. His guest for the events was his first research advisor, Professor Emeritus Ed Neuzil.

Such a distance traveled from Neuzil's Haggard Hall research lab! We look forward to news of Mike's continued exploits in nuclear medicine.

Gordon Hager

Gordon Hager worked with Professor Gary Lampman while at Western before receiving his B.S. Chemistry degree in 1968. At Washington State University he was a graduate student with Professor Glenn Crosby and received his Ph.D. in chemical physics in 1973.



From 1973 to 1974 he was an NRC Postdoctoral Fellow at the Air Force Weapons Laboratory where he studied the spectroscopy of metal oxides produced in flames. In 1974 Gordon joined the staff of the High Energy Laser De-

partment of Bell Aerospace Corporation in Buffalo, New York. In 1978 he joined the Rocketdyne Chemical Laser Group where he worked on discharge-pumped excimer lasers and the Chemical Oxygen Iodine Laser (COIL). Gordon currently is a physicist with the Directed Energy Directorate at Kirtland Air Force Base in New Mexico whose work is at the core of the Defense Department's laser missile defense system. In August 2001 he was recognized for his scientific advancement of chemical and gas lasers by being named an Air Force Research Laboratory Fellow. Harro Ackermann, Laser Division chief, commented that "Dr. Hager is one of those rare individuals who combines the scientific research expertise developed over years with a continuing infectious enthusiasm for his work. This passionate attitude naturally affects the members of his research group and also his contacts in the national and international laser community and has enabled him to build extremely productive teams and coalitions." He has numerous publications and patents.

Gordon is married to the former Barbara Stewart and has three sons named Kevin, Bruce, and Matthew as well as a daughter, Kerrie Buckley. He is an avid racketball player and an aspiring Blues musician. He also enjoys fishing and rockhounding.



Anya Keen (left) and Mary DePalma (right)

Hach Scientific Foundation Scholarship Program for Chemistry Teachers

The purpose of the Hach Scientific Foundation of Loveland, Colorado, is to honor and preserve the principles and philosophies of the Hach Company, founded in 1947 by Clifford and Kathryn (Kitty) Hach. They built a global enterprise on his pioneering work determining the hardness in water. The focus of their scholarship program is to “enhance the quality and availability of science education.”

The foundation has chosen the Chemistry Department to pilot a scholarship program that seeks to improve the teaching of high school chemistry by annually providing two scholarships to chemistry education majors at Western who are pursuing state-certified teaching careers. The

foundation’s rationale is that if the students are able to graduate without incurring debt, they will be more likely to invest their careers in teaching rather than being diverted into higher paying positions in the private sector. Post-baccalaureate students who want to become chemistry teachers are also eligible for consideration.

The foundation’s decision to choose WWU as a pilot institution was based on the growing national ranking of the Chemistry Department; its close working relationship with the Science, Math and Technical Education Center; and the good reputation of Woodring College of Education. Mary DePalma and Anya Keen are the recipients of the inaugural \$5,000 scholarship awards.

Link to the WWU Foundation

For some months now, the Chemistry Department has enjoyed a direct link to the Western Foundation through Amanda Haralson who was hired in 2002 to serve as the Foundation’s Director of Development for the Sciences. Amanda works with individual donors, corporations, and foundations to assist them in connecting their interests with the funding needs of the University and to find strategies that will maximize the impact of their contributions. She is part of an energetic Foundation team who work collaboratively for the good of individual departments and for the ultimate good of the University, our donors, students, faculty, and alumni.

Amanda has more than 20 years experience as a philanthropic fundraiser, including positions as Director of Development for the New Mexico Environmental Law Center and Executive Director of the Texas Association of Museums. Amanda’s enthusiasm is evident in her statement that, “Given WWU’s reputation for excellence, the



Kelly Heese / WWU Publishing Services

critical need for scientists, and the shrinking public sector budget, it’s an exciting and important time to be fundraising for the sciences at Western. I am particularly inspired by the quality, commitment and appropriately aggressive nature of the chemistry faculty. They exemplify a Department determined to excel, and I am looking forward to doing all I can to help them secure the resources they need to convert that determination to reality.”

A recent success in this area is the fact that Amanda and Professor George Kriz surpassed the University of Michigan’s record in raising more than \$68,000 in external support for the Biennial Conference on Chemical Education. She is currently engaged with the Department’s Murdock / Research Corpora-

tion steering committee to increase the amount of alumni support, corporate contributions, and foundation grants to sustain the transformation being achieved through the \$750,000 Department Development Grant provided by the Murdock

Charitable Trust and the Research Corporation. Terms of the grant call for a significant endowment to be in place by mid-decade to support scholarships and research stipends for undergraduate students, faculty recruitment packages, scholarly program enhancements, and instrumentation.

Ms. Haralson can be reached by phone at 360-650-6542, by e-mail at Amanda.Haralson@wwu.edu or by mail at the Western Washington University Foundation, 516 High Street, MS 9034, Bellingham, WA 98225-9034.

We wish to thank the following alumni and friends of the department who donated to our Western Foundation Funds-primarily our Chemistry Dept General Use Fund-during the 2001/02 academic year. Employees that matched donations are noted in brackets following the donors' names. Donations during the past year funded a variety of activities, including scholarship matching, academic awards, undergraduate research projects, small equipment purchases, and events for department majors and alumni.

Chemistry Donors

Steve Abe [Boeing]
Gary & Poppy Arvan [Boeing]
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Hiro Yamamoto & Kate McDonald [BP Oil]

Endowments

We wish to acknowledge the following alumni and friends of the department who established endowments that fund specific activities, including scholarships for department majors, the purchase of small equipment and support for the Chemistry graduate program.

[Duzan Biochemistry Scholarship Fund](#)

Barbara (French) Duzan [Dept Alumnus] and husband Steven Duzan

[Holzman Graduate Program Support Fund](#)

George and Sara Holzman [parents of Chem Alumnus, Tom Holzman]

[Knapman Scholarship Fund](#)

Professor Emeritus Fred Knapman and wife Frances Knapman

[Verna A. Price Scholarship Fund](#)

Jerry Price [Dept Alumnus] and wife Nancy Sherer

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Rathmann Family Foundation

[Ruth Watts Science Scholarship Fund](#)

Catharine Stimpson, Arthur and Margaret Watts

[Sara Bras Weihe Equipment Fund](#)

Karen (Weihe) Hulford [Chem Alumnus]

2003 Alumni Questionnaire

Today's Date: _____

Name: _____

WWU degree(s), date(s), Research supervisor (if any): _____

Please update the following if you have any changes or additions:

Other institution(s) degree(s) and date(s): _____

Current employer: _____

Job title and description: _____

Work address: _____

Work phone: _____ Work email: _____

Home address: _____

Home phone: _____ Home email: _____

Which address should be used for mailings? Work? _____ Home? _____

Is this a change? _____

Do you have any news to share in the 2004 Alumni Newsletter? Information of interest might include job descriptions, promotions, research, awards, publications, outside interests, and news of your family.

Please complete and return to:

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