



Insights

Utah State University

College of Science

Alumni Newsletter

Fall 2002 / Vol. 10 Issue 2

From the Dean's Office

Greetings from the College of Science. Our long hot summer is over, fall semester is well underway, and we had our first snow here on campus on October first. Maybe we should identify our academic year as having an early winter semester and a late winter semester rather than fall and spring.



Interim Dean
Don Fiesinger

In this fall issue, we are recapping our development efforts from the previous fiscal year, introducing our recent college award winners and new faculty hires, and highlighting some people who have made significant contributions to Utah State University and the College of Science over the years. We are also pleased to present you with information on the various accomplishments of our faculty and students and the research being carried out within the College. The number of student co-authors on research publications and presentations at professional meetings continues to increase.

We have spent many hours this past year working on our college compact plan, a strategic planning document, while at the same time, trying to adjust to a greatly reduced operating budget. As you know, higher education's legislative appropriation was cut because of the shortfalls in tax revenues, a reflection of the state of the economy. In the last year and a half, the College of Science has lost about \$480,000, or approximately 65% of our operating funds college wide (Dean's office and all six academic departments). Although we have tried to minimize the impact on our programs, we have had to reduce travel, eliminate telephones, cancel service contracts, and defer purchase and/or maintenance of equipment. These "economies" will get us through a tough budget year, but some may ultimately come back to haunt us in the years to come. In lieu of state support, we will see

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Undergraduate Research a Priority in College of Science

"Undergraduate research is an integral part of a student's education as a Science major," says **Interim College of Science Dean Don Fiesinger**. To help promote student research, the College of Science has committed funds to support undergraduate research in each department for the past two summers and will do so again this coming summer 2003. This support provides continuity through the summer and helps prepare students for graduate studies or for the job market on graduation.



Geology undergraduate student Scott Cragun and Assistant Professor Joel Pederson pose with field surveying equipment.

Furthermore, the university is concerned about retention, finding ways to keep top students at USU. Studies show that students who work on campus are more likely

to stay at the university. Dean Fiesinger admits that this is an ulterior motive, retaining good students.

Dr. Daryll B. DeWald, associate professor in the Department of Biology, adds that undergraduate research is

"Undergraduate research is essentially required for entrance to medical and dental school these days, as well as laying the ground work for graduate study or a career."

— Dr. Daryll B. DeWald

becoming more of a necessity. "Undergraduate research is essentially required for entrance to medical and dental school these days, as well as laying the ground work for graduate study or a career." It is a "benefit to their education," he continues. "They can go on to very productive careers in the medical or scientific areas. These students are going to be the professionals critical to society."

"Undergraduate research not only brought relevance to my classroom work (as an undergraduate) and prepared me to integrate into the workforce, but working in an active research lab and publishing also illuminated the process of scientific discovery and communication," said Dr. DeWald. "Since joining the faculty at Utah State University almost six years ago, I have had 21 grant-supported undergraduate students work with me. This is typical of many USU bioscience faculty and administrators."

"I would have gone home for the summer," asserts biology student **Julia Nielsen**. "That would not help me get any of the experience that I needed. It helps me to

UNDERGRADUATE RESEARCH...

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UNDERGRADUATE RESEARCH

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see what I would like to do in the future. I feel like I was lucky." Julia also felt like the experience has aided her in deciding a career path. She is now considering graduate school in biology.

Julia is involved with several others, including her advisor, **Dr. Michelle A. Baker** of the Department of Biology, in stream and lake interaction research, which has taken place primarily in the Sawtooth Mountains of Idaho. Their goal is to better understand the interaction between stream and lake water and how it affects nitrogen and carbon cycles. Dr. Baker recognizes the importance of the summer undergraduate research support. "I had the opportunity to do undergraduate research," said Dr. Baker. "I would like to be able to give that opportunity to as many students as I can."

"It does not feel like it was work because it was too much fun," observes Julia, who was with the project full-time this past summer. "I got to see the whole process."

Geology student **Scott Cragun** has been involved with the study of gully erosion near Lee's Ferry at Grand Canyon, Arizona. "These gullies are cutting through important cultural sites," says Scott. "We are pushing to understand what's going on and why. Is it the climate? Glen Canyon Dam?" Scott takes measurements of the erosion following storms. The research goes beyond geologic considerations. The Grand Canyon project has political and environmental implications as well. Scott says this is the greatest opportunity to get experience in a field he wants to be involved in the rest of his life and says that he "may" go directly to graduate school when he completes his geology bachelor's degree.

"This is the experience that tests the direction Scott has chosen," remarks Scott's advisor, **Dr. Joel Pederson** of the Department of Geology. "It is like the scientific method. You have an idea and you test it. Now he is testing to see if he can view himself doing research like this down the line."

Dr. Chris Corcoran, of the Department of Mathematics and Statistics, is the advisor for students who took part in analyzing and interpreting data from the Cache County Study of Memory and Aging. The study of 5,100 Cache Valley residents (over 65 years of age) probes the issues of aging and dementia primarily, due to Alzheimer's disease and stroke. Last year's undergraduate participant, **Suni Mumford**, did an analysis that



Biology undergraduate Julia Nielsen

demonstrated people's risk factor for Alzheimer's, dividing the group by genotypes. She was able to show significant differences in the groups, resulting in a poster presented by a senior researcher at a conference in Stockholm, Sweden.

Craig Huber took on the project last summer. "Craig is a bright statistics student," Dr. Corcoran begins. "This will help him see how a research program works. It helps the students hone in on what they want to do. It helps them ready themselves for graduate study. It is also a good opportunity to work with scientists, not only at USU, but from other universities as well."

"I am a very strong advocate of undergraduate research," states **Dr. Michael J. Taylor**, associate professor in the Department of Physics. "The students are a valuable resource for us and it is a great experience for them." Dr. Taylor did not get the opportunity for this type of research when he was an undergraduate. "I had to wait until I was a graduate," he said. "However, at USU, they give talks, create posters, and even have their names on journal articles. They are equal partners once they are in the group. I expect them to gain some independence as colleagues."

Physics student **Chris Olsen** has been involved with Dr. Taylor in an analysis of joint US/UK Antarctic image data. "In conjunction with the British Antarctic Survey, we have placed a CCD camera (used for low light imaging) to study the airglow in the Antarctic region. I catalogued the 2000 year data (7 months or so) and defined all the events where we saw gravity waves. I presented a poster at the CEDAR conference on this data in which I gave directionality to a few events and a few seasonal trends." Chris insists that undergraduate research has helped him in many ways. "First, it provides an enjoyable job that pays well and will work around my school schedule," he said. "It has also really helped me to see what I enjoy professionally. I have had the opportunity to deal with analysis, meetings, funding, a little teaching, real-life data collection, instrumentation, and theory. I started in physics because I enjoyed physics and math classes, but with this job, I have been able to see what it is like to be a scientist. It has helped me to determine what I really want to do on the graduate level and beyond."

"Utah State University is in a unique class of research-intensive institutions," declares Dr. DeWald. "However, it has retained a 'small school' character without many of the obstacles that often separate faculty and students at 'high profile' universities. At USU, we have a clear view of the benefits of undergraduate research. USU biosciences faculty are dramatically improving undergraduate education by reconstructing existing programs and assertively developing new initiatives." ♦

College Emphasizes "Self-Reliance" in Face of State Budget Cuts

By Joel B. Kincart, Director of Development, the College of Science

As Dean Fiesinger mentions in his article, "From the Dean's Office," while on the surface the State budget cuts appear small, they have significantly reduced the operating budget for the College of Science. Additionally, the budget cuts meant that no faculty or staff members received pay raises this year. To offset these losses and to compensate for decreasing state support of Utah State University, the University and the College are relying more heavily on private support. In the words of University President Hall, "to become a better public institution, Utah State University needs to become a better private institution."

There are two ways in which the College can become more fiscally self-reliant. First, faculty are continuing to seek outside resources to support their research which creates support for graduate and undergraduate research. Second, the College needs to rely more heavily on the private support of our alumni and friends.

Last March, many of you were contacted either by our student callers or through a letter explaining the financial situation at the University and in the College. Our message must have resonated with many of you, as your response was amazing. Last year, through your generosity, the College of Science received over \$48,000 in pledges and matching gifts from the phonathon alone. This represents almost a 50% increase over the previous year's effort. In all, the College received over \$700,000 in gifts from alumni and friends like you. We understand that these are difficult financial times for you too and we appreciate your generosity.

Once again this year, the College of Science asks for your assistance. You will receive letters from President Hall and Dean Fiesinger, as well

as a phone call from a student this spring, and you may also receive a visit from me. Each of these contacts is to thank you for your previous support, to keep you updated on university news and events, to help us maintain accurate records, as well as to ask for your assistance.

Our message in the College is clear—in order to continue to provide our students with the same excellent science education that you received, we need your help. In an effort to focus the University, President Hall recently asked each college to undergo a compact planning process. Through this process, the College learned that there is an overwhelming need for support of our undergraduate and graduate students. The College needs your help in providing undergraduate scholarships, research fellowships, and technological upgrades to older classrooms. Graduate students are also in need of research assistantships and fellowships.

Your annual support can help fund these initiatives. Annual support to the College of Science allows the Dean and department heads to direct more resources to our student-focused priorities. This support plays a significant role in helping to compensate for the State reductions in the operating budget of the College. The College is also seeking endowments to provide permanent funding for student scholarships, research opportunities, and for internships.

For more information on how you can help, please contact Joel B. Kincart at 435-797-3510 or joel.kincart@usu.edu. ♦

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greater emphasis on external funding for faculty and student research and an increase in our college development efforts. Please don't think of "development" only in terms of us asking you for money. Although this is very helpful, consider helping us provide opportunities for our students in other ways too. For example, provide us with contacts for undergraduate internships and/or employment opportunities for graduating students; encourage outstanding high school students to consider studying science at Utah State University and provide us with their names and addresses, or provide us with information about a corporate foundation that supports science education. As you know there are many dimensions to life here on campus and consequently many areas where you can help us.

We appreciate your responses to this newsletter informing us of your activities and we encourage you to maintain contact with the College of Science and especially with your respective major department. We would like to receive any suggestions for changes or improvements to this newsletter. You, our alumni, are important. Your continued support of the College of Science and your major department is greatly appreciated.

Sincerely,



Awards and Honors

Please mail announcements to Insights, Office of the Dean, College of Science, Utah State University, 0305 Old Main Hill, Logan, UT 84322-0305, or use the ALUMNET form on the back cover. If available, please include book covers. Announcements may also be emailed to colette.yates@usu.edu or faxed to (435) 797-3378.

Alumni Awards and Honors

We encourage you to submit your professional activity announcements to the address above.

Jed Taylor, BS degree Computer Science, received the *Siebel Scholars Scholarship* award announced on 8 October 2002. Based on academic merit and leadership excellence, the award is given to "only a small percentage of the best and brightest," according to Siebel Systems' Board of Directors member, Michael Spence. Jed is currently pursuing a graduate degree at the University of Illinois at Urbana-Champaign.

Faculty Awards and Honors

Steven D. Aust, Chemistry and Biochemistry, received the 2002 *Governor's Medal for Science and Technology*, the state's highest scientific honor. Governor Michael Leavitt presented the medal to Dr. Aust at the Governor's Mansion on 23 May 2002.

Edmund D. (Butch) Brodie, Jr., Biology, received the *Alumni Award of Excellence* from Western Oregon University from which he received a BS degree in 1963. Created in 1984, this award is the highest honor WOU can bestow on an alumnus. Dr. Brodie was also a featured speaker at WOU's 2002 graduation ceremony.

James P. Evans, Geology, served as a panel member on the US Geological Survey National Earthquake Program Grants, Process, and Theory Panel on 22 July 2002.

He was named co-chair of the Reservoir Deformation Research Group of the American Association of Petroleum Geologists for 2003-2004. Also, he was selected to serve on the Committee on the Tectonics Program at the National Science Foundation. The committee will represent the entire community of researchers who investigate problems in the area—including field, laboratory, and theoretical studies of both processes and tectonic history over the entire spectrum of relevant length and time scales.

Joseph K.-K. Li, Biology, served as an external and international grant reviewer for the National Health Research Institute of Taiwan, 1-7 September 2002. Grant proposals for Centers of Excellence in Virology and Immunology were reviewed.

Peter C. Ruben, Biology, was awarded a *Senior National Research Scholarship* from the National Institutes of Health to conduct research while on sabbatical leave with Dr. Greg Stuart, University of Freiburg, Germany.

Ludger Scherliess, Center for Atmospheric & Space Sciences, received the 2001 *Editor's Citation for Excellence in Refereeing* from the *Journal of Geophysical Research - Space Physics*.

Vijendra K. Singh, Biology, received the *Excellence in Science Award* from the BHARE Foundation in recognition of his dedication and pioneering research in the field of neuroimmunology and autism.

Dr. Singh received the *O. Spurgeon English Humanitarian Award* at Temple University in Philadelphia, Pennsylvania. The ceremony was held on 5 October, 2002. Dr. Singh was one of twelve honorees chosen for some of his pioneering work on neuropsychiatric disorders, in particular autism. The other honorees were John Nash (Nobel Laureate and "A Beautiful Mind"), Betty Ford (former First Lady), Joan Amtoft-Nielson (cancer and environmental medicine expert), Sharry Edwards (human bioacoustic pioneer), James Gordon (complimentary medicine expert), Doris Rapp (famous pediatric allergist), Oscar Rasmussen ("Grandfather of Nutrition"), William Rea (world authority on environmental medicine), Esther Roberts (State Department psychiatrist), Norman Shealy (neurosurgeon and founder of Graduate Seminary), and William Tiller (energy medicine leader).

The September 2002 newsletter of the American Autoimmune Related Diseases Association highlighted Dr. Singh's research titled "Autism Considered as Autoimmune Disease." His research on virus-autoimmunity in autism was also featured in a television documentary and national newspaper in London, England. The documentary, titled "The Autism Explosion" was televised on 25 November 2002 during a weekend program called "The London Programme" by London News Network. He was also featured in the 2 December 2001 issue of *Sunday Express*, one of the largest circulation newspapers in the United Kingdom.

Jon Y. Takemoto, Biology, was named the 2002 *University Graduate Mentor*. He received this honor at last year's USU graduation ceremonies. ♦

USU's Dr. Robert Schunk Honored By AGU

Dr. Robert W. Schunk, professor of physics and director of the Center for Atmospheric and Space Sciences, has been selected to present a Bowie Lecture, specifically the Nicolet Lecture, at the 2002 Fall Meeting of the American Geophysical Union (AGU) in San Francisco, California, on December 9th. This is the highest honor awarded in the Space Physics and Aeronomy Section of the AGU. Since the series was inaugurated, there have been only eight scientists chosen to receive this honor. Dr. Schunk will be number nine.



Robert W. Schunk

The AGU is the leading scientific organization for geophysics and related disciplines, boasting a membership of over 38,000. Dr. Schunk was elected a Fellow of the AGU in 1997. The lecture series, established in 1989, was named in honor of William Bowie, the first president of AGU. The thirteen annual lectures are divided into nine categories, including the Nicolet Lecture within the Space Physics and Aeronomy Section.

"I was aware of the previous Nicolet Lecturers and I did not consider myself to be in their league," said Dr. Schunk. "Therefore, when I received the invitation to give the next lecture, it came as a complete surprise. I am very honored and am looking forward to presenting the lecture."

A native of Queens, New York, Dr. Schunk received a BS degree from New York University in 1965 followed by a PhD degree from Yale University in 1970. He has published more than 300 papers in refereed scientific journals and presented or contributed to over 400 papers at national and international scientific meetings.

Awards include the *D. Wynne Thorne Research Award* from Utah State University, and the *Governor's Medal for Science and Technology* from the State of Utah. ♦



TRANSITIONS

25 Years of Service

Center for Atmospheric & Space Sciences

♦ Robert W. Schunk

Department of Computer Science

♦ Gregory W. Jones

Department of Geology/Office of the Dean

♦ Donald W. Fiesinger

Department of Physics/Center for Atmosphere & Space Sciences

♦ W. John Raitt

30 Years of Service

Department of Biology

♦ James A. MacMahon

Department of Mathematics and Statistics

♦ E. Robert Heal

40 Years of Service

Department of Mathematics and Statistics

♦ Lawrence O. Cannon

Retiring Faculty and Staff

Department of Biology

♦ Sherman Thomson (October 2002)

Department of Mathematics and Statistics

♦ Duane Loveland (June 2002)

Office of the Dean

♦ Tamara Atkinson (August 2002)

Tenure and Promomtion

Department of Biology

♦ Timothy A. Gilbertson, tenure and promotion to associate professor

Department of Chemistry and Biochemistry

♦ Alexander I. Boldyrev, tenure and promotion to associate professor

♦ Scott A. Ensign, promotion to professor

♦ Richard C. Holz, promotion to professor

♦ John W. Peters, tenure and promotion to associate professor

♦ Lance C. Seefeldt, promotion to professor

Department of Mathematics and Statistics

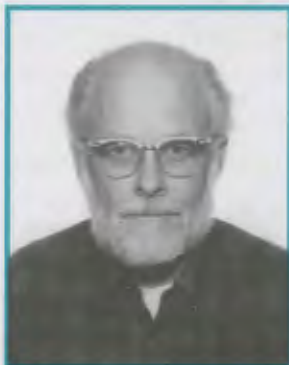
♦ Xiaofeng Ren, tenure and promotion to associate professor

Department of Physics

♦ Charles G. Torre, promotion to professor

Professor Emeritus Fred Post: “I Loved Research, But I Found I Enjoyed Teaching”

By Linda Finchum



Fred Post

If the Grinch had a heart three sizes too small, Fred Post's must have been several sizes large. Family, friends, and students are all fortunate to have benefitted from his incredibly positive outlook on life, patience and dedication to teaching, sincere abiding friendship, and generosity—of both his time and resources.

Fred's father was a watchmaker for the Southern Pacific Railroad at a time when accurate timepieces were

crucial. His mother was a full-time homemaker as was the norm for that time, watching over him and his younger brother, Bob. Fred was born and then educated in Berkeley, California, through the first three grades, but the economics of the 1930's depression necessitated a family move to Grass Valley, California. By 1945, World War II demands on rail transportation had skyrocketed and Fred's father, mother, and brother returned to Berkeley. Fred, however, had found a strong interest in science thanks to an exceptional teacher of chemistry and physics in Grass Valley, and decided to stay on with friends and finish high school there. Incredibly, about half of that school's graduating class went on to become teachers.

After high school, Fred rejoined his family and began his college career at the University of California (Berkeley). About half way through his undergraduate work, he became very ill with mononucleosis and was forced to be away from school for over a year. In addition to the devastating physical effects, it also caused mild depression, and affected his health from then on.

When he was finally able to resume his studies, Fred took a required microbiology class with Michael Doudoroff and Roger Stanier, internationally recognized microbiologists, where he discovered his life's work. A senior research project

at Berkeley led him to graduate work in microbiology. When Fred completed a BS degree in 1952, Walter Mallmann became his major professor at Michigan State University. Again, his life had been altered forever by outstanding teachers and scientists.

While pursuing a master's degree at MSU, Fred met Jane (a nursing major and his future wife) in a mycology class. They dated until he was drafted into military service in the middle of his last quarter. The Army agreed to postpone his

enlistment for one month, but in the rush, he had to leave before his thesis was finished. Luckily, he was appropriately assigned to a medical services lab in Maryland. Upon leaving the Army, he was commissioned in the US Public Health Service, where he served until he retired in 1982.



Fred and Jane Post

In 1955, after completing a two-year stint in the service, Fred returned to Michigan State to work on a PhD degree and resumed dating Jane. He learned that Jane had injured her back while in nursing school and had returned to Michigan State, graduating with a BS degree in medical technology. As a teaching assistant, he was given essentially full charge of classes, and he grew to enjoy teaching from that experience. He researched *Pseudomonas* sp. in the lab and was trained in bacterial taxonomy. “Being poor...I could only afford one beer a week, and a beer was 15 cents,” recalled Fred of his graduate student days. Fred's MSU experience culminated in the eventful year 1958 when he finished

his doctorate, he and Jane were married, and he obtained a research/teaching position at UCLA. While there, he and one of his graduate students (a statistician) began using computers to collate their lab research data.

Although he loved the research, Fred sought an increased teaching assignment, and in 1965 he had two offers, one from the US Public Health Service Disease Laboratory in Fairbanks, Alaska, and one from Utah State University. The head of the Department of Bacteriology, Whit Smith, tipped the balance in favor of USU. The young couple and their adopted children, son, Tom, and daughter, Teri, moved into a lovely brick home on 7th North in Logan.

“Fred is an incredibly dedicated teacher.”

—Nabil Youssef
Emeritus Professor of Biology

At USU, Fred settled into teaching and research on the third floor of the Plant Industry building (now Geology). He collaborated with Dave Hendricks at the USU Water Research Lab, and subsequently became its associate director. He was one of the first professors in the bacteriology department to show students in the classroom how to use computers to analyze data; he was, in fact, the first in the department to develop a computer lab where students could input data from their bacteriology lab to determine the identity of an "unknown." He monitored the Great Salt Lake and studied its microbial ecology and brine shrimp, participated in the US/International Biological Program Desert Biome study that was centered at USU, and published numerous research papers. He authored three lab manuals; the second, *A Laboratory Manual of Food Microbiology and Biotechnology*, is in its third edition (2000). The third, *Basic Microbiology Techniques*, has remained in print since 1982, and was just revised again in 2001. "The last revision, no matter how much the publisher begs," he said shaking his head. "There is just too much to add to keep the latest information." While Fred was hard at work on his many projects, Jane gained a BS degree in mathematics at USU, then completed an MS degree in applied statistics. She taught statistics courses and was a statistics consultant for the campus for many years thereafter as well as Fred's special computer consultant.

They adopted their third child, Juana, when she was nine years old. She had been badly injured in a fire in Bolivia and was brought to the Shriner's Hospital in Salt Lake City. Fred remodeled the family home with the same extensive planning and attention to function and detail that he used in the lab (ramps designed for all kinds of weather, kitchen island, downstairs bathroom), so that she could use her wheelchair. "He has been totally with me on every venture and move in my life," Juana related. Fred's eyes light up when he talks about Juana and her triumphs over her physical challenges. Juana completed a BS degree in early childhood development in Oregon, moved to Alaska and worked as a family advocate for children with disabilities, and has also competed in handcycling marathons.

Fred and Jane and their family always enjoyed travel and many summer camping trips; Yellowstone was a favorite. Fred's brother, Bob, became a police officer in San Leandro, California, and they enjoy fishing whenever they can get together. Fred continues to meet Jane's brother from Michigan in Mazatlan every

Thanksgiving, a tradition they enjoyed that he has continued since she passed away in 1999.

After retiring in 1990, Fred continued to teach part-time for three more years. He loves to read and still subscribes to and reads nightly the journals in his field; works two crossword puzzles daily; plans and cooks the meals (with Juana as sous chef); directs Tom in the garden; continues to support his and Jane's interest in literacy programs; and is active in the St. Thomas Aquinas Catholic Church. He gets together often with close friends on campus (tongue-in-cheek, self-named "The Curmudgeons"). They enjoy lunch and discussing anything and everything—politics, philosophy, their lives, an occasional risqué joke, and sometimes, even science.



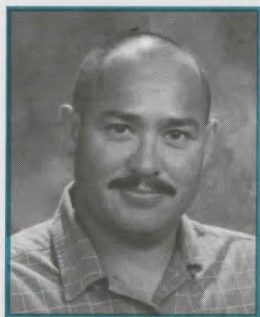
Juana Post

A short time ago, Teri told Juana that she had realized how lucky she was to have Fred for a father, someone who could do anything: carpentry, repairs, gardening, and gourmet cooking. His children call him "the cat with nine lives" because he has fought back so many times over daunting health and personal challenges. Imagine Fred Post singing "Tiptoe Through the Tulips" and dancing—this recent evidence of his joie de vivre was related by his daughter, Juana, with a huge smile. Teri has given him three grandchildren, and Fred has also "adopted" Teri's two nieces (her brother-in-law's children).

One of Fred's hobbies is genealogy, and he continues to work on it with visits to the libraries in Logan and Salt Lake. He uses his two computers daily for correspondence and research, only one is used for the internet—to prevent infection by viruses. He found that the first Post ancestor came to America in 1632, and that he and Jane were distant cousins! One branch of Jane's family arrived on the Mayflower. He has helped many others search for their ancestors. He continues to teach in many ways in his daily life; after all, he descended from a long line of exceptional teachers and his altruistic heart continues to give to many others. ♦

College Welcomes New Faculty

The Department of Biology



John Flores

John Flores comes to the Department of Biology as a lecturer. Although a native of Southern California, he spent his teenage years growing up in the small town of Grantsville, Utah. John gained a BS degree in public health industrial hygiene from Utah State University (1993) followed by an MPH degree in the same field from the University of Utah (1996). Since he was able to work in the industrial hygiene field all through his college days, when

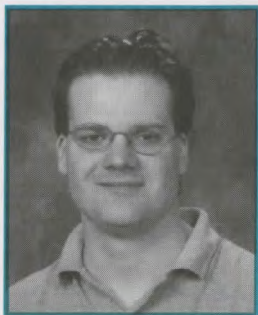
he was hired by Intel in Rio Rancho, New Mexico, he was able to use his experience and knowledge immediately. John spent six years at Intel with his last two years as the industrial hygiene manager of five other industrial hygienists.

John was attracted to the field of industrial hygiene before he came to college. While working construction, he took notice of exposure to chemicals and other work hazards. When he came to school at USU, he asked his advisor, **Dr. David Drown** (now associate professor emeritus), what he could do with those interests and concerns. Dr. Drown encouraged him to pursue public health and industrial hygiene. He is pleased to be returning to his alma mater. "My time here was a great experience academically and socially," he said. "I always wanted to come back to the Cache Valley area because we liked it here. I didn't think we'd be able to do it so soon. I think I am just fortunate that it worked out."

Bringing his practical experience in industry to the classroom, John is anxious to teach industrial hygiene courses. He also looks forward to becoming an advisor within the public health program to be able to help other students in much the way Dr. Drown helped him.

John's wife, Julie, is from the Salt Lake City area, "so coming back to Utah is coming home for all of us." John and Julie have three boys—Johnny, Josh, and Jacob. "Cache Valley is a great environment for the entire family," says John. "We are just extremely happy to become part of the community and especially to join the USU staff."

Department of Chemistry and Biochemistry



Philip J. Silva

Philip J. Silva joins the Department of Chemistry and Biochemistry as an assistant professor. Originally from San Leandro, California, he gained a BS degree in chemistry from Loyola Marymount University in 1995, followed by a PhD degree in analytical chemistry from the University of California at Riverside in 2000. Dr. Silva then completed a two-year postdoctoral degree at Boston College.

Currently, he continues his research in analytical chemistry, specializing in atmospheric chemistry and air pollution. "This research will develop new methods to detect the chemical composition of aerosol particles," says Dr. Silva. Airborne particles have been a problem in many places and were recently discovered at elevated concentrations in Logan this past winter. Throughout his research, Dr. Silva applies various techniques to study not only the composition, but also the source of pollution. The use of aerosol mass spectrometry, for example, applies a familiar technology to the field of pollution research. It directly samples particles from the air and can detect rapid changes in atmospheric chemistry. According to Dr. Silva, USU is the only place in Utah currently using this technique to study air pollution.

In July 2002, Dr. Silva married his wife, Wendy, whom he met at Boston College. In his spare time, he enjoys outdoor activities such as hiking, as well as caring for their three cats and one dog. He is pleased with his appointment at Utah State University and enjoys "complimentary interests" with those in the department and close contacts at the University of Utah and Idaho National Engineering Laboratory. He calls USU "a perfect fit."

Department of Computer Science



Vladimir Kulyukin

Vladimir Kulyukin joins the Department of Computer Science as an assistant professor. Originally from Moscow, Russia, Dr. Kulyukin earned the equivalent of BA and MA degrees in computational linguistics and translation from Moscow State Linguistic University (1990). He then received MS (1997) and PhD (1998) degrees from the University of Chicago in computer science.

"My first research interest is cognitive robotics," says Dr. Kulyukin. "I study integration of symbolic and continuous controls in the three tier architecture. The three tiers are deliberation, reactive situation-driven execution, and hardware control. I also investigate intelligent voice control interfaces to autonomous agents. The objective is to build autonomous systems that enable, disable, acquire, and modify behaviors."

His second research interest is speech and language processing. "I study information retrieval models that combine numerical approaches of classical information retrieval with scaleable knowledge-intensive methods of natural language understanding. The object is decent performance in exchange for modest knowledge engineering requirements."

He is pleased to be at USU, partly because his research is enhanced by the university's strong electrical engineering and psychology programs. He calls these disciplines "very important to my research."

Away from his academic duties, Dr. Kulyukin enjoys spending time with his wife and their three-year-old son.

The Department of Computer Science



Xiaojung Qi

Xiaojung Qi is a new faculty member in the Department of Computer Science. A native of Shenyang, People's Republic of China, she gained a BS degree from China Textile University (1993), an MS degree from the Chinese Academy of Science (1996), and a PhD degree from Louisiana State University (2001), all in computer science.

Dr. Qi was attracted to Utah State University because of the combination of teaching and research. This fall, she begins teaching a Basic C++ course, but is looking forward to the research opportunities. She also feels it is a good environment for new people. "Logan is a small town, but it has everything," she says. "It is very convenient." In her spare time, she enjoys swimming, jogging, traveling, and movies.

Much of Dr. Qi's PhD research focused on medical image compression. She wants to continue in this direction, following a more broad path of image processing, such as for data files or video. Impressed by USU's research facilities, she asserts that this was another factor in her decision to accept this position.

Her husband, Bo Pan, originally from Beijing, China, still works in Austin, Texas, for the time being.

Department of Physics



Haeyeon Yang

Haeyeon Yang comes to the Department of Physics as an assistant professor. Enthusiastic about his appointment at Utah State University, he is anxious to be in Logan because he got the job he wanted so much.

Dr. Yang was born and raised in Jang-Sung, South Korea. He gained BS and MS degrees from Chonnam National University in 1984 and 1987 respectively. At Brown University in 1996, Dr. Yang received a PhD degree in the field of semiconductor surface physics. After a year as a research associate

at Brown, Dr. Yang spent four years as a research associate professor at the University of Arkansas-Fayetteville.

"Currently, I am interested in novel semiconductor nanostructures and optical device applications," says Dr. Yang. "I use a special technique called molecular beam epitaxy (MBE), to fabricate the nanostructures. In nanoscale, the surface effect gets important as an object gets smaller, since the ratio of surface area over the volume gets larger. To visualize the nanostructures and their surfaces, I use a scanning tunneling microscope (STM) to see surface molecules on an atomic scale. We can tailor nanostructures, which would have new physical properties, to develop novel devices based on the nanostructures."

Dr. Yang has a daughter, Young-Eun. His wife, Seong-Nam, has a PhD degree in biochemistry. In his spare time, he likes to play tennis and swim, but enjoys skiing the most. "Utah is the ideal place for me to ski!"

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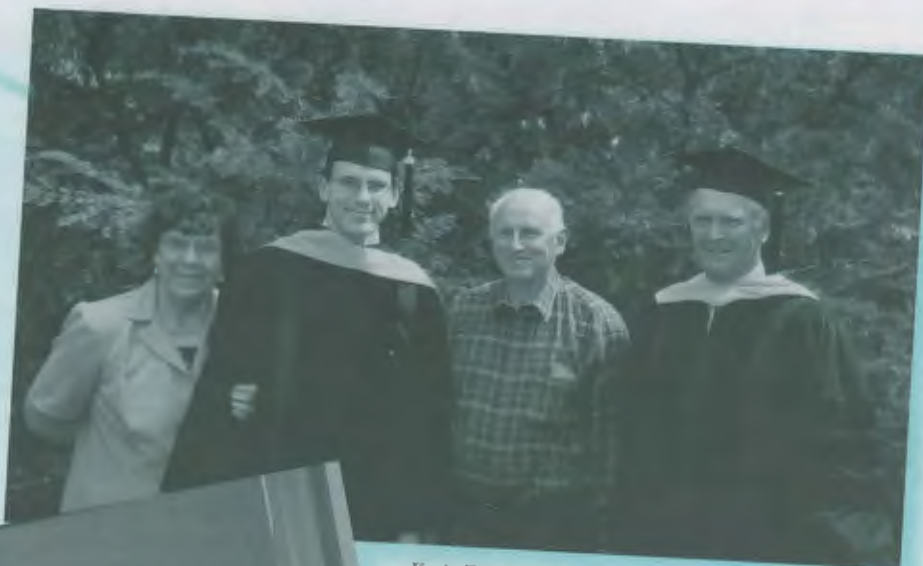
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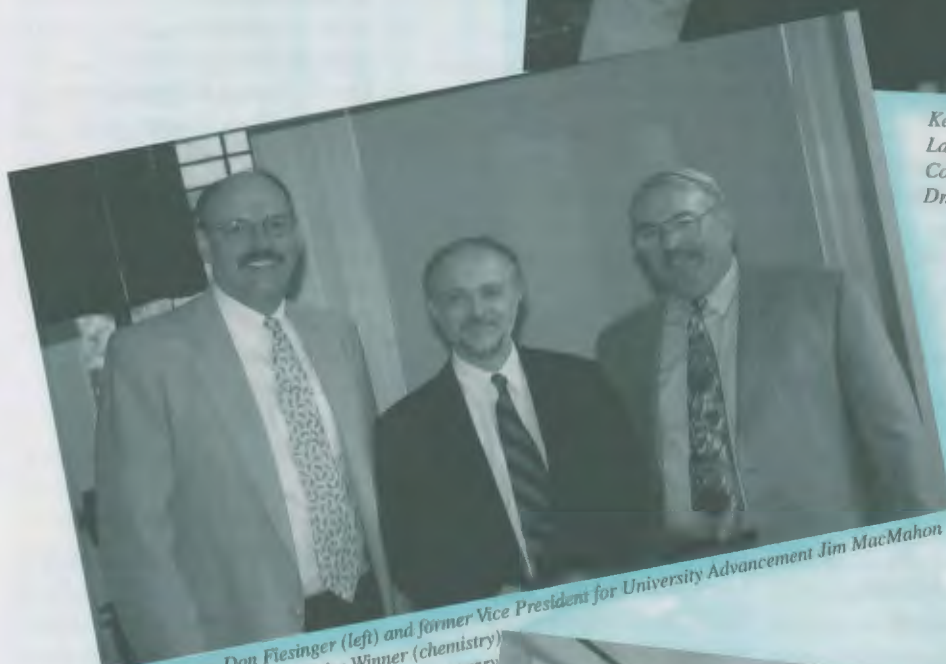
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2002 College of Science Awards Program & Graduation Open House



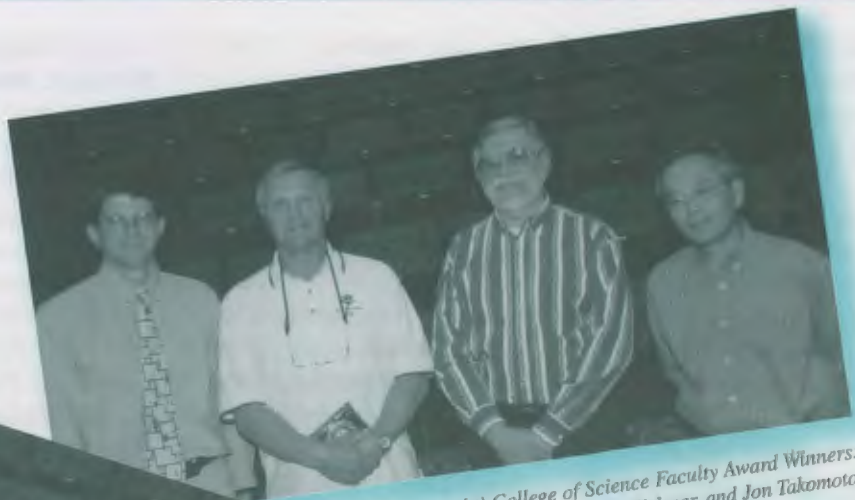
Kevin Welch, (PhD Toxicology) surrounded by parents LaPriel and Cyril Welch of Brigham City, attend the College of Science open house. Major professor, Dr. Steve Aust, (right).



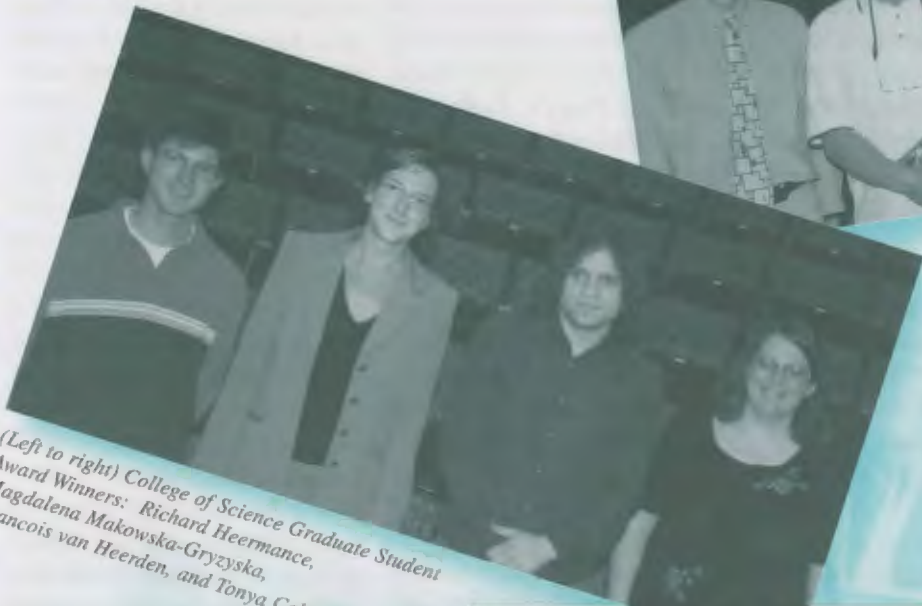
Interim Dean Don Fiesinger (left) and former Vice Presidents for University Advancement Jim MacMahon (right) pose with Nobel Prize Winner (chemistry) Mario J. Molina, who received USU's honorary degree, Doctor of Atmospheric Science.



College of Science Awards Program reception in the ESLC Emert Auditorium Lobby.



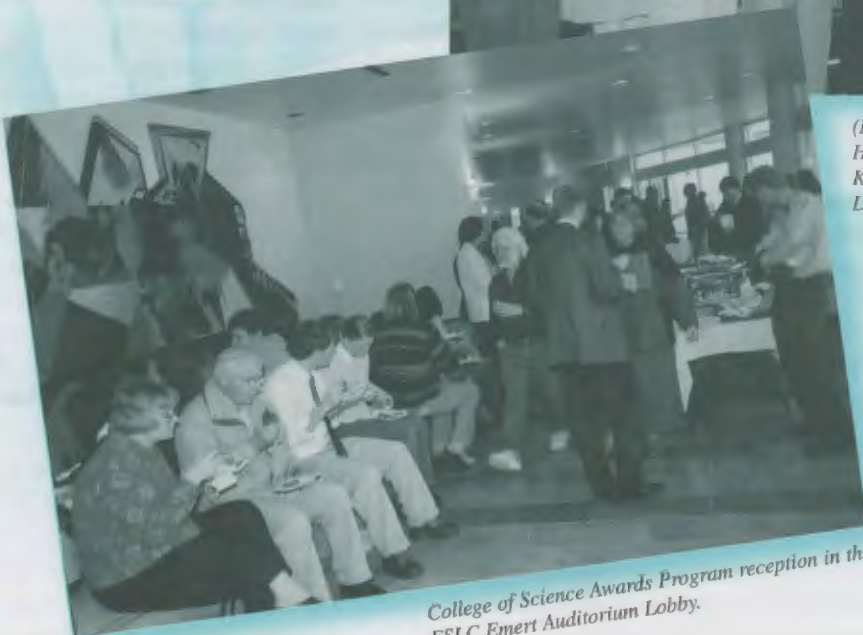
(Left to right) College of Science Faculty Award Winners: Scott Ensign, Steve Aust, Peter Kolesar, and Jon Takamoto.



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College of Science Awards Program reception in the ESLC Emert Auditorium Lobby.

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Faculty in Memorium



Austin Haws

Byron Austin Haws (1921-2002), emeritus professor of biology, passed away on 29 May 2002 in Logan, Utah, at the age of 80. Dr. Haws was born on 1 July 1921, in Vernal, Utah, to Jesse A. and Lena Eaton Haws. After graduating from Uintah High School, he attended Utah State Agricultural College (now Utah State University). He then served 30 months in the Spanish-

American LDS Mission before two years of Maritime Service. While involved in the Merchant Marines, he married Gwen Hunsaker on 22 May 1945. He studied a year at Cornell University, then returned to Utah State University, where he completed BS and MS degrees. In 1952, he gained a PhD degree in entomology from Iowa State University.

Remaining in the Midwest, Dr. Haws spent four years as a research associate at the University of Minnesota. In 1957, he joined the faculty of Utah State University in the Department of Biology. His duties expanded when he was named USU's Director of International Programs, eventually spending three years in Bolivia. In 1971, he returned to USU where he

continued his research, teaching, and international activities. His efforts were recognized by USU in 1991 when he received the *Distinguished Service Award*. Other honors include the *Utah Lions State Humanitarian Award* and *USU/Community Associates' recognition for outstanding contributions to USU and the Cache Valley community*.

"Austin Haws was one of the most enthusiastic of entomologists in the Department of Biology and its precursors," recalls **Dr. William A. Brindley**, professor in the Department of Biology. He was most recently interested in insects as they affected seed production of rangeland plants. Austin believed in team research and efforts. His courses were popular with students and he and his TAs put in a great deal of effort on their behalf. Austin loved to work at the interface of research and practicality. In every way, Austin Haws was an upbeat and optimistic individual."

Dr. Haws is survived by his wife, Gwen, and four children—Cedra, Kevin, Marc, and Michele. ♦

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2002 College of Science Awards

College of Science Valedictorian



Heather Ellsworth

The College of Science Valedictorian is Heather Ellsworth from the Department of Chemistry and Biochemistry. A native of Hyde Park, Utah, and a graduate of Sky View High School, Heather is applying to medical schools with the intention of being a physician.

Despite her hard work and status as a top student, Heather was surprised to be named as valedictorian. She attributes her success to managing her time. "I really did enjoy my major,"

she said. "I did enjoy the classes outside as well. I think it motivates you to do your best. As for chemistry, I enjoyed the challenge of the subject matter. If it is worth investing my time in doing something, it is worth doing to the best of my ability."

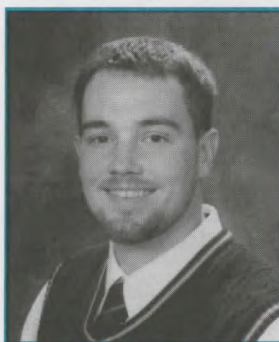
Heather began her college career as a biology major at the University of Utah, but ended up in USU's chemistry program where she was happy with her interaction with faculty. One of those faculty members, **Dr. Scott Ensign**, was her valedictorian faculty escort at the 2002 commencement.

"I cannot think of a student more deserving of College valedictorian than Heather," says Dr. Ensign. "It has truly been a privilege to have her as a student in the classroom and research laboratory. Heather is a perfect example to those around her of how a strong work ethic, discipline, and a passion for learning make for a successful undergraduate educational experience. Heather has been an excellent ambassador for the department, serving as a teaching assistant for the physical chemistry laboratory, participating in the campus student showcase, and presenting her undergraduate research at a branch meeting of the American Society for Microbiology. Heather is a co-author on a paper that just appeared in the journal *Biochemistry*. In summary, Heather is a truly outstanding student who is going to be highly successful in life and in her profession. It is the opportunity to work with and mentor students such as her that makes being a college professor a truly satisfying job."

"One of the stories I enjoy telling about Heather is how during our weekly laboratory group meeting, she drew our attention to an error in an equation in a recently published scientific paper, in the journal *Biochemistry*," continues Dr. Ensign. "The incorrect equation resulted in the reporting of a series of incorrect numbers that impacted the interpretation of the author's results. As an interesting twist to this story, the research group that provided these equations recently published a correction to their original paper in *Biochemistry*, wherein they noted that their equation was incorrect and all the constants they had derived were incorrect as well. I find it quite amazing that an undergraduate student was able to discern, in a group meeting, a major error that made it past a premier research group at a top-10 research institute, and the reviewers and editors of *Biochemistry* as well."

Away from studies, Heather enjoys reading, as well as outdoor activities like hiking, skiing, and racquetball. As for her success as valedictorian, she would like to thank her family. "I would also like to thank Dr. Ensign," she said. "He has really helped with my research and in general learning." She also wishes to thank Dr. Jon Krum, a former USU graduate student, who she refers to as a "great mentor who was encouraging all the time."

College of Science Scholar of the Year



Ryan Sargeant

The College of Science Scholar of the Year is Ryan Sargeant, a Chemistry major who hails from Anderson, California, near Redding. During his senior year of high school, he opted for a wrestling tournament instead of taking the SAT, which, unbeknownst to him, disqualified him from applying at California schools. His family, originally from Preston, Idaho, prompted him to attend nearby Utah

State University in the fall of 1995. After his first year, Ryan had already gained the Department of Chemistry and Biochemistry's *Outstanding Freshman Chemist* award.

Growing up in the country influenced Ryan. "I was a backyard biologist," he said. "I raised tadpoles. My mother let us buy a tank." In high school, he dissected frogs on his own. This inclination may not be surprising considering that his father is a biologist from USU and his grandfather was a chemist who worked at the chemical weapons facility at Dugway, Utah.

Following an LDS mission to El Salvador, Ryan returned to USU in the fall of 1998. He was invited by his freshman chemistry professor, **Dr. Scott Ensign**, to work in his laboratory. "I was surprised he remembered me," said Ryan. My work in the laboratory went extremely well and I was able to receive an on-campus URCO (Undergraduate Research and Cooperative Experiences) grant that funded my research during fall semester of 2000." His work in Dr. Ensign's lab contributed to the co-authoring of a publication in the journal *Biochemistry*. He successfully applied for a Summer Undergraduate Research Fellowship, which funded his summer 2001 research experience at Georgia Tech in Atlanta. Following that experience, Ryan gained a research fellowship from the American Society of Microbiology (ASM) for fall semester 2001. He also has worked in the Department of Chemistry and Biochemistry as a chemistry recitation instructor, moving to full time in spring 2001. On top of this, Ryan worked as a supplemental instructor for the Biology 1220 General Biology II course.

Ryan has been involved in demonstrations that are used as teaching aides. "I will be recording these demonstrations and their explanations onto a CD-ROM that will remain as a teaching aide for future classes, as well as an outreach tool for the area high schools. I have been able to carry out these demonstrations at various elementary and high schools throughout the valley."

COLLEGE AWARDS

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"Ryan is a perfect example of how a student can take full advantage of undergraduate educational opportunities," said Dr. Ensign. "Ryan has conducted his own undergraduate research projects in my lab, basically at the level of a PhD graduate student, co-authored a paper, and has presented his research at scientific conferences. Ryan was one of only 32 students nationwide to receive a prestigious undergraduate fellowship from the ASM in 2001." Dr. Ensign also says that Ryan is very well liked by his students. "He has a real passion for teaching, as exemplified by his establishing a chemistry club activity to prepare chemical demonstrations and has an excellent knack for connecting with the students," he said. "Ryan was intensely recruited by top tier biochemistry graduate programs."

Married to Terra Hatch Sargeant, the couple have a daughter, Avonlea. He is continuing his education at the University of Michigan in the fall of 2002 after spending the summer working at the Woods Hole Institute of Oceanography.

Ryan wishes to "express my gratitude to my wife and daughter. I also want to thank the faculty in the Chemistry and Biochemistry Department, especially Dr. Ensign."



Tonya B. Caldwell

College of Science Graduate Student Teacher of the Year

Tonya B. Caldwell, of the Department of Physics, has been named *the College of Science Graduate Student Teacher of the Year*. Tonya enthusiastically states "I like teaching. I came here to get a degree so I could teach and teach the level of courses I wanted. I get to pay my way by doing the things I love to do."

"I fell in love with physics my sophomore year of high school," said Tonya. "It clicked. I got it." Tonya graduated high school as valedictorian in Pescadero, California, and went on to complete a BS degree in Physics at the University of Utah. She then joined the US Navy, serving as an officer. For five years at the Naval Nuclear Power School in Orlando, Florida, Tonya taught physics and chemistry, among other subjects. After another teaching job at Salt Lake Community College, she decided to continue her education at USU.

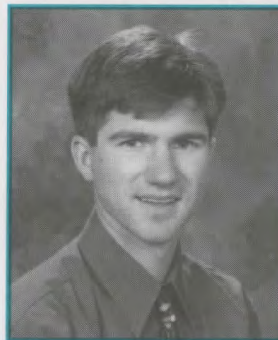
Tonya chose USU for two reasons. She was pleased with the faculty and the fact that USU is "a much more family friendly school. I quit the Navy because the demands on my time were so heavy for my family. I was not willing to sacrifice that again." She has worked as a lab assistant and as a successful teaching assistant with classes of her own. "What I like about teaching is that people who might not like physics find something to like about it. I see physics in everything I do. I tell them on the first day of class that I really love physics. It is like I am the mother of an ugly baby. I like them to pretend while they are with me."

David Peak, professor and assistant department head in Physics, reveals that "I get to see all of our TA evaluations, and those of Tonya Caldwell are invariably at the top. Tonya began teaching for us in 1997. During that last year (when USU was on the quarter system), Tonya's evaluations averaged about 5.9 out of 6 for five recitations

and three laboratories. The pattern of excellence has continued unabated since. Tonya is a terrifically bright and energetic person. She has strong empathy with her students and a keen sense of the importance of providing prospective elementary school teachers with an operational understanding of physical principles. She is also incredibly skilled with tools and has re-plumbed her house. She is going to be a superlative instructor when she leaves USU."

Aside from her USU duties, Tonya has hooked up with the Science Education Program at Weber State University, where she gives presentations on how to bring physics concepts into real life classrooms. "I have fun. Students in high school or junior high school do not like it if it is not fun." She is also heavily involved with the Bear River Head Start program. Tonya has four children—ages ten, eight, five, and two. In the future, she would like to teach at a college level, "where education is as important as research."

Tonya would like to express appreciation to Jill Marshall, John Raitt, David Peak, Becky Monhardt, Walt Saunders, Charles Torre, and the Physics Department staff for their support.



Richard V. Heermance

College of Science MS Student Researcher of the Year

Richard V. Heermance, Department of Geology, was named *the College of Science MS Student Researcher of the Year* along with Francois van Heerden from the Department of Mathematics and Statistics. Dick came to USU after gaining a BS degree in Geology from Colorado College in Colorado Springs. Following the completion of his MS degree at USU, he plans to work

on a doctorate at the University of California at Santa Barbara (UCSB).

Originally from Palo Alto, California, Dick worked in Antarctica for three seasons following his undergraduate work. Pursuing a degree in geology, he worked as a geologic consultant in Los Gatos, California, for two years. In December of 1999, he attended the annual fall meeting of the American Geophysical Union (AGU) in San Francisco, where he met USU Geology professor **Dr. Jim Evans**. "The catalyst to come to Utah State was meeting Jim, whom I have 'similar interests' with," said Dick. "It has been great. I love Logan. It is a nice change from the Silicon Valley."

Dick's research at USU has concentrated on structural geology, specifically active faults. From mid November 2000 to mid January 2001, he traveled to Taiwan to participate in research on the Chelungpu Fault, which generated a magnitude 7.6 earthquake in 1999. Using borehole and outcrop data, Dick is studying how fault structure affects the rupture and seismic properties during a large earthquake. "That is the part of geology that I like," said Dick, "active tectonic processes."

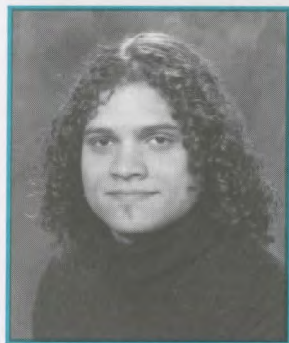
"Dick is poised, talented, inquisitive, mature, articulate, and calm," said Dr. Evans, Dick's major professor. "He is a really tremendous student." As for the project in Taiwan, Dr. Evans continues that, "This project required Dick to finish fall term classes early, study up quickly on the geology of Taiwan, and go to Taiwan. Dick proved himself to be an incredibly bright, hardworking, and

talented geologist. He worked on a stressful international drilling project; made invaluable contacts with Taiwanese geologists and officials; and his work in Taiwan encompassed not only the work on the boreholes, but also field work on exposures through a 1999 rupture that was created by excavations, river beds, and field mapping of the drill site."

"Dick is an 'all around good guy' who was a joy to work with. I sort of run out of superlatives for him," Evans adds.

Interest in geology goes back to Dick's childhood. "I loved being outdoors and being in the mountains," said Dick. "I wondered why are these mountains here? Why are they steep? Geology allowed me to study these questions for the purpose of understanding our environment." His future research will focus on the relationships between faults and how they vary in space and time. Away from geologic research, Dick likes to ski and mountain bike, along with being outdoors.

He wishes to thank Dr. Evans and postdoctoral fellow Dr. Zoe Shipton. Although he expresses gratitude primarily to these two, he also thanks the rest of the Department of Geology. "They helped me out in many ways when I needed it," Dick remarks. He plans to work on a PhD degree at UCSB in the fall. "I had such a great time at Utah State, I thought I would continue on."



Francois van Heerden

College of Science MS Student Researcher of the Year

Francois van Heerden, Department of Mathematics and Statistics, was chosen as the *College of Science MS Student Researcher of the Year*. He shares the honor with Richard V. Heermance from the Department of Geology. Francois came to USU in the fall of 2000 from his native Pretoria, South Africa, where he gained an undergraduate degree from the University of Pretoria. At the

invitation of former department head, **Dr. David Sattinger**, Francois came to USU because he strongly "identified people I could work with." His major professor is **Dr. Z.Q. Wang**.

Francois's research focuses on nonlinear differential equations. "It's exciting to work on a problem; to basically finish something. Every time you do something, you can learn from it and use it for future problems. In general, with nonlinear equations, you try to gain insight into the solution structure of the equation."

Initially, as an undergraduate, he trained to be an actuary (life insurance). Actuarial science heavily uses mathematics and statistics as applied to probabilities and financial outcomes. From this profession, he gained an interest in mathematics.

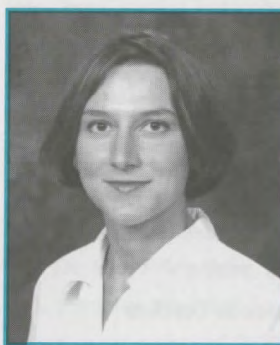
Dr. Joe Koebbe, associate professor in the Department of Mathematics and Statistics, calls Francois "a particularly bright student" and says that the department is fortunate to have him in their graduate program. "Through a combination of hard work and natural talent, Francois has been able to progress from the undergraduate level in mathematics to doing research in advanced mathematics in about a year," he continues. "He made this incredible progress while getting started at USU (after moving to Logan from South Africa) and

teaching classes in our department, not to mention studying advanced calculus in his spare time to pass the Masters qualifying examination."

"With one of the best researchers in the Department of Mathematics and Statistics, Z.Q. Wang, he has done work worthy of publication in a respected journal," Dr. Koebbe continues. "One of his masters committee members has related that his work is already at a doctoral level. Add to all this that Francois is an 'all around nice human being' and it becomes clear why he was such a great candidate for this award."

"Francois is a gifted student in mathematics," Dr. Wang added. "He is very quick in picking up new problems, new ideas, and methods. He possesses strong analytical capabilities. He works very hard, enjoying what he does. He has a good potential for being successful in mathematics in the years to come."

Francois would like to "thank Dr. Wang. It has been a rewarding experience." He also wishes to express gratitude to Dr. Koebbe "for convincing me to stay here. Academically, it's been a decent experience. I'll definitely stay for the PhD degree."



Magdalena Makowska-Gryzyska

College of Science PhD Researcher of the Year

The *College of Science PhD Graduate Researcher of the Year* is **Magdalena M. Makowska-Gryzyska** from the Department of Chemistry and Biochemistry. She also received the *USU Robins Award as PhD Researcher of the Year*. A native of Gliwice, Poland, Magdalena became interested in USU when former USU Professor **Dr. Greg Swain** visited her school,

Silesian Technical University, in Poland. In the summer of 1998, Magdalena came to Utah with her husband, Piotr, who is also completing a PhD degree in chemistry. Being accustomed to the "big city life," she finds Cache Valley "definitely a very interesting experience. People are so friendly and open here."

Originally, she was drawn to the science of art preservation, and realized she needed chemistry skills. Instead of pursuing that field, she says "I became so interested in chemistry, that I skipped the art part!" USU provided her the opportunity to study biorelevant chemistry, which she was interested in. She says the chemistry programs in Poland focus more on industrial applications; whereas her USU program "is really great because it provides a very good combination of different kinds of chemistry one can explore."

Magdalena has previously received honors, such as the *USU Chemistry and Biochemistry Alumni Research Award* (2001); *Women and Gender Research Institute Travel Award* (USU, 2000); and the *Outstanding Graduate Student Scholarship* (Silesian Technical University, 1998).

Inorganic chemistry is her current area of research. She is interested in understanding how chemical reactions are catalyzed by metal ions in enzymes. The complexity and large size of enzymes make it difficult to investigate these reactions. Inorganic chemists, like Magdalena, try to overcome this problem by designing small models of enzyme active sites. In particular, Magdalena is examining

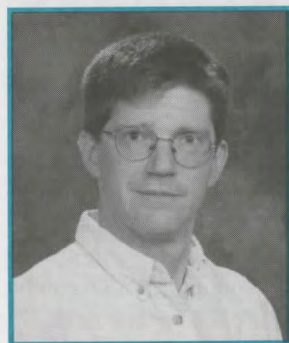
COLLEGE AWARDS

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the chemistry of model zinc complexes that are relevant to liver alcohol dehydrogenase, an enzyme that is involved in alcohol metabolism.

Magdalena's advisor, Dr. Lisa Berreau, notes that "Magda is the type of student that any young, untenured professor would dream of getting to join their lab. She is the person I trust with everything in the laboratory. I have asked her to oversee so many things for me that I could not possibly list them all here. Probably one of the areas she has helped me with the most, over the past 3.5 years, is the training of undergraduate students to conduct independent research. Over and over again, she has given of her time to train new students in laboratory techniques, searching the literature, etc. Her outstanding training is reflected in the success of many of my undergraduates." Dr. Berreau continues, "On a personal level, Magda is an extremely friendly individual who interacts well with the other members of my research group. Her communication skills and friendly nature make her a graduate student who other students seek out for advice. She is clearly a research leader in our department, a student I hope others will emulate in their approach to research. Bottom line, Magda is an outstanding researcher, whose dedication to research has resulted in a level of productivity that clearly distinguishes her as an outstanding student deserving of this prestigious award."

Magdalena expresses her thanks to Dr. Berreau. "She is a true mentor, not only as my advisor, not only in my research, but regarding my future. She is very helpful in a broad sense." She thanks the Department of Chemistry and Biochemistry for their help and support.



Scott A. Ensign

College of Science Teacher of the Year

Dr. Scott A. Ensign, Department of Chemistry and Biochemistry, is the *College of Science Teacher of the Year* who went on to receive the *Robins Award for USU's Teacher of the Year*. Dr. Ensign obtained a BS degree in chemistry from Brigham Young University before gaining a PhD degree in biochemistry from The University of

Wisconsin at Madison. In the fall of 1993, he came to Utah State University.

"I think teaching is really important to staying active and fresh with the research," said Dr. Ensign. "You never grow old because you are always interacting with students. You get a really responsive and fairly mature group of people to help you stay young." Dr. Ensign believes in an equal contribution of teaching and research. "We take our teaching seriously and do a responsible job of it."

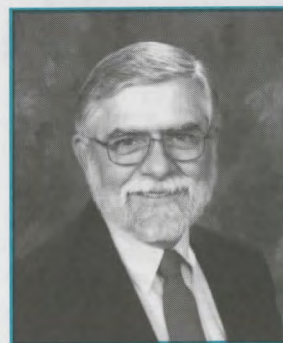
Dr. Ensign brings creativity to the classroom with a balance of problem solving, blackboard work, and demonstrations. The problem solving is related to real life examples. Dr. Ensign attempts to do two or three demonstrations a week that relate to the fundamentals he is teaching. "I try to get the student interested in chemistry as a major," said

Dr. Ensign. When he is successful at this, he calls it very "satisfying."

His attempts to interest students in chemistry go beyond college students. He has brought his experiments to local high schools and middle schools, "to teach students how to do safe chemical demonstrations. I stress the safety aspects." Furthermore, Dr. Ensign is involved in the Discovery Summer Science Camps, an outreach education geared toward elementary school-age students. "I want to give them a good first chemistry experience. Maybe they will have an interest in that later."

"He made an outstanding effort to be prepared for the classes, reach the students and, in smaller courses, he took time before, during, and after class to get to know the students on a personal basis," said **Ryan Sargeant**, the College of Science Scholar of the Year. "He generally learns the students' names and will often ask students difficult questions just to keep everyone attentive. It can be unnerving, but he does a great job to help you focus on the material and learn the concepts. Scott was instrumental in helping several of us receive external grants and has gone out of his way to help us in the transition to graduate and medical school."

Originally from Madison, Wisconsin, Dr. Ensign had early ties to Logan, where his father grew up. "I really like Logan. It gets in your blood." He lives in Providence, Utah, with his wife, Karen, and four children ages twelve, eight, and two one-year-olds. In his spare time, he likes playing with his children, soccer, camping, hiking, downhill skiing, and racquetball.



Peter T. Kolesar

College of Science Advisor of the Year

Dr. Peter T. Kolesar, of the Department of Geology, was named the *College of Science Advisor of the Year*. "As an advisor, he has been very helpful in guiding me toward my goal of graduating," comments **Julie Sherman**, a geology student.

"He is always aware of the progress I have made in reaching that goal. He is

friendly and very approachable."

Tony Williams, a former geology undergraduate and current graduate student, concurs.

"Dr. Kolesar, or Pete as he is more commonly known by the students in the Geology Department, was my undergraduate advisor. His ability to communicate with the students is rarely matched in an advisor. Pete's door is always open both figuratively and literally. He puts his students first and that is why we respect and admire him. Pete will set aside time in his busy schedule to meet the needs and give attention to a single student without hesitation. He wants his students to succeed."

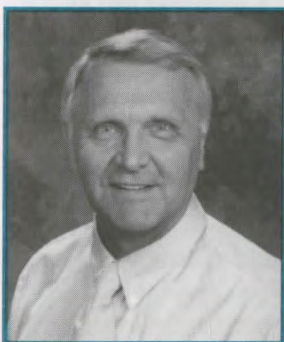
"Pete and I have been close friends for many years," begins **Interim Dean of the College of Science, Don Fiesinger**. "I turned

over undergraduate advising in 1998 to Pete without hesitation, knowing that he would do an outstanding job. During the years that I was head of the Geology Department, I found Pete to have excellent rapport with both our undergraduate and graduate students and I relied on him to be a sounding board for student concerns. Now he has carried that experience forward to become an outstanding student advisor, who continues to be committed to helping our students succeed, both personally and professionally."

As an undergraduate advisor for the past three years, Dr. Kolesar advises over 70 students. "It's actually a challenge to get students through," he says. "It is nice to see them succeed, to get jobs. I have always had an open-door policy. Things get interrupted a little bit more, but I am more than glad to help."

Originally from Easton, Connecticut, Dr. Kolesar earned both his BS and MS degrees from Rensselaer Polytechnic Institute (Troy, New York), followed by a PhD degree from the University of California at Riverside. He came to Utah State University in 1974. He teaches courses of all levels—from introductory geology to graduate—and has spent a sabbatical year at the United States Geological Survey (USGS) in Reston, Virginia, and another six months at USGS's Denver location. In addition to advising and teaching, Dr. Kolesar is the associate department head.

In his current research, Dr. Kolesar is examining samples extracted by cave diving from Devils Hole in southern Nevada, to interpret climate over the past half million years. On the home front, he is married to Mary Veronica Kolesar, principal lecturer in the Department of Computer Science. They have two sons.



Steven D. Aust

College of Science Researcher of the Year

The College of Science Researcher of the Year is Dr. Steven D. Aust of the Department of Chemistry and Biochemistry. On May 23, 2002, Utah Governor Michael Leavitt presented Dr. Aust with the state's highest scientific honor, the Governor's Medal for Science and Technology. Dr. Aust

was one of eight Utahns to receive this award in 2002. His various areas of research interests have included the toxicology of polyhalogenated aromatic hydrocarbons, the role of iron in free radical generation, as well as the biodegradation of environmental pollutants by fungi. Throughout his career, he has received such awards as *Washington State University's Alumni Achievement Award* and the *DuPont Science and Engineering Award*. He has also authored or co-authored 338 published works, including invited reviews and journal articles.

Dr. Aust was raised on a dairy farm in Pacific County, Washington. With the intention of being a dairy farmer with his

father, he gained a BS degree in agriculture from Washington State University in 1960, where he became interested in research. Because of the influence of a professor, Dr. Tim Blosser, he stayed and in 1962 gained an MS degree in nutrition. Moving closer to his interest in biochemistry, his next step was a PhD degree in dairy science from the University of Illinois in 1965. He then completed a postdoctoral fellowship at the Karolinska Institute, Stockholm, Sweden. "I knew I wanted to be in academia," he recalls, leading to his 1967 appointment as assistant professor of biochemistry at Michigan State University. Dr. Aust recalls that the former Utah State University administrator, Gaurth Hansen, gave him a job at MSU.

Dr. Aust came to Utah State University in 1987 to set up the Biotechnology Center, for which he served as the first director. He was instrumental not only in the fundraising, but the design of the building as well. Aside from his professorship in the Department of Chemistry and Biochemistry, he is a professor in USU's interdepartmental Toxicology Program.

Research on the use of fungi to clean up the environment has gained Dr. Aust widespread media attention with such outlets as *Environment Today*, *R & D magazine*, *C & E News*, and *Today's Environment* (PBS). He and a partner established the company, Intech One-Eighty, to license his patented bioremediation technology and to "work with customers to clean contaminated sites."

Dr. Steve Scheiner, department head of Chemistry and Biochemistry, says that Dr. Aust is an internationally recognized expert in a number of fields. He also points out that Dr. Aust has published more than 300 research articles and attracted \$12 million in external research support, as well as mentoring nearly 50 graduate and 16 postdoctoral students.

In his spare time, Dr. Aust raises horses and is active in horse clinics and shows. He has an indoor riding arena at his ranch in Cub River, Idaho. He also enjoys such pastimes as fishing and reading. He has two sons, a daughter, and two grandchildren. ♦



Alumnet Responses

1940s

Wilford R. Gardner (BS 1943, Physics, Mathematics) gained MS and PhD degrees from Iowa State University. He is now Dean Emeritus of the College of Natural Resources at the University of California at Berkeley. He currently lives in Logan, Utah.

1960s

William (Bill) K. Winters (BS 1961, Mathematics) received an MS degree in 1963 from Kansas State University in mathematical statistics. He is the president and owner of W.K. Winters and Associates and has authored the book *How to Use Your Talent as a Successful Computer Consultant*. Now retired, he teaches part time at Rose State College. "I also maintain several web sites and follow the Professional Golf Long Drivers at major events during the year. I maintain a web site for the World's Long Drivers." He resides in Edmond, Oklahoma.

1970s

George J. Birtic (MS 1972, Botany) previously gained a BS degree from Montana State University in Bozeman, Montana. For 29 years, he has been a classroom teacher in public schools in Montana, where he owns a cattle ranch. He also is a commercial airplane and helicopter pilot. He currently lives in Belgrade, Montana.

P. Kevin Rudeen (BS 1973, Physiology) received a PhD degree in 1977 from the University of Texas Health Science Center at San Antonio. Currently, he serves as Associate Dean of Administrative Affairs and Director of the Office of Research in the School of Health Professions, University of Missouri. Dr. Rudeen has published numerous research articles and chapters in books. Married with one daughter, he has taught at the University of Missouri for 20 years.

Melanie R. Maas (PhD 1979, Biology, Ecology) is the principal scientist for Oscar Mayer Foods Division of Kraft Foods. She received the *Kraft Superior Achievement Award* in both 1993 and 2000. Now in her 22nd year at Kraft, Dr. Maas is working in the area of product development/food safety. She is "planning on retiring in three years and becoming a visiting professor at USU." She lives in Madison, Wisconsin.

1980s

Henry P. Nowak (MS 1981, Biochemistry) gained a BS degree from Tulane University before receiving both a JD degree and an MGA degree from Florida State University. A practicing attorney, he was recently appointed chief financial officer and executive vice president-legal affairs for Caprion Pharmaceuticals. He lives in Montreal, Quebec, Canada.

Paul S. Goldy (BS 1989, Computer Science) is a senior consultant at ProClarity Corporation, where he is concerned with software selection and implementation. He resides in Boise, Idaho.

1990s

John G. Swallow (BA 1992, Biology, Liberal Arts and Sciences) went on to receive an MS degree in conservation biology (1994) and a PhD degree in zoology (1998) both from the University of Wisconsin at Madison. Currently an assistant professor of biology at the University of South Dakota (Vermillion), Dr. Swallow married Molly Nepokroeff in 1996. They have a four-year-old son, Owen.

Bradley George Bench (BS 1996, Mathematics Education) is a math teacher at Pineview Middle School and an athletic coach at Pineview High School in St. George, Utah.

Tiffany M. Fairbanks (BS 1996, Public Health) is a physical therapist, outpatient orthopedic. She is relocating from Portland, Oregon to Ithaca, New York, for her husband to continue his education. "I am told it is very cold there in winter just like Logan. I can't wait!"

2000s

Sharon L. Osokowski (PhD 2000, Ecology) previously earned a BS degree from Baylor University and an MS degree from Clemson University. She now works for the US Environmental Protection Agency, residing in Garland, Texas.

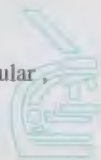
Tian-Hai Tang (BS 2000, Computer Science) currently lives in Milpitas, California.

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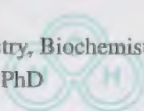
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