



Insights

College of Science Alumni Newsletter

Spring 1993
Vol. 1 Issue 2

MacMahon's Musings



Dean Jim MacMahon

Welcome to the second edition of *Insights*. Frankly, the response to the first edition was better than I expected. Many of you returned information on the ALUMNET form and we hope the rest of you will do so with this edition. We are really pleased to hear about your work, family and other interests. We will publish information about as many of you as we can in each issue.

As I write this "Musings," I am somewhere between Dallas and Washington, D.C., on an airplane. This trip embodies two things that the College is doing as part of our outreach efforts. Last night I spoke as a convocation speaker to students and faculty at Harding University in Searcy, Arkansas. Today I am moving to a National Science Foundation Invitational Meeting on science education for grades K-16. I suppose some will wonder why I am doing this rather than sitting in my office in Logan. The answer is simple. The University has, as part of its charge, the responsibility to reach beyond the campus boundaries, to help the people of Utah and indeed the entire nation. That is part of our stated mission as a Land Grant institution.

In this case, I was invited to talk at Harding University about work that evolves from my own research interests. I do this less often than some of our faculty, many of whom are literally the best minds in the world in their disciplines. We should be proud that our faculty are called on hundreds of times a year to deliver talks, give advice, or review programs across the United States and indeed throughout the world. I hope you realize

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USU Faculty Member Heads to Austria with Special Olympics

For the first time in its history, the Special Olympics World Winter Games will be held outside of the United States, and Dave Bregenzer, Principal Lecturer in the Department of Mathematics and Statistics, will travel to Austria with the U.S.A. Team. Based on his experience with Special Olympics athletes, sports, and international events,

Bregenzer was selected by a national committee as a coach of the U.S. Cross Country Ski Team.

Bregenzer has spent the last 12 years coaching Special Olympic teams, including the Winter International Games in Park City (1985) and again in Reno/Lake Tahoe (1989). For Bregenzer, "the attraction is the athletes." Working with Special Olympics gives him the opportunity to interact with a portion of the population most people don't get involved with. "I get a lot out of it," he says. "I enjoy it because of what it makes me become. The athletes make you look at things in perspective."

The Games began on March 19, with 1500 athletes representing 60 nations on hand to compete. The United States is sending 149 athletes, selected randomly from over 4000 Special

Olympic Gold Medalists across the country. Because the Games are being held in Austria, the U.S. Special Olympics athletes will compete as a unified team for the first time. In the past, the games have been held in the U.S., so each state has sent its own team. Three athletes from Utah will compete in the Games. Bregenzer is one of two coaches from Utah.

"I enjoy it because of what it makes me become. The athletes make you look at things in perspective."

Bregenzer says one of the best things about the program is that "athletes get a chance to excel at something . . . something generally not in their daily routines." In Austria, the competitors will also be exposed to a variety of instructional clinics, which will allow them to try new sports under the direction of professional teachers and coaches.

Training for the Winter Games has been extensive for both the athletes and coaches. Last December, the team flew to Lake Placid, New York, for a four-day training session. The team used the same facilities that the U.S. National Team uses. In addition, every two weeks Bregenzer calls his athletes to discuss accomplishments and concerns and evaluate strengths and weaknesses. "In fact," Bregenzer

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Research Scientists Contribute to Space Shuttle Tether Experiment

The USU College of Science has designed and deployed many space shuttle experiments, contributing greatly to the space exploration field.

Last summer, USU provided part of the team planning and supplying instruments for a major experiment on the Space Shuttle Orbiter. The College of Science was represented by John Raitt, Center for Atmospheric & Space Sciences (CASS) and Physics Department Head; Don Thompson, CASS Research Scientist; and Ned Saunders, physics Ph.D. student.

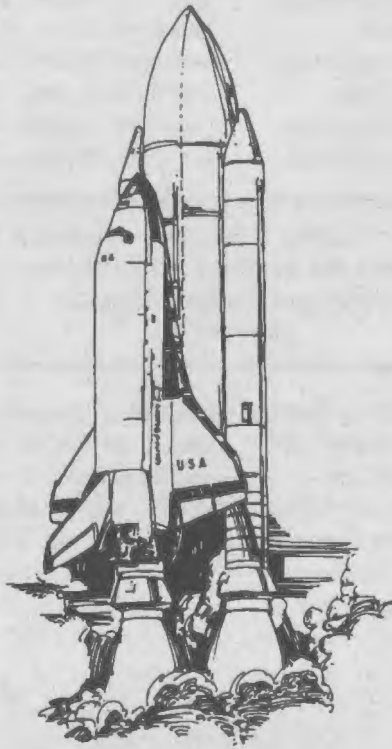
Other team members included engineers from the Space Dynamics Laboratory and colleagues from the University of Michigan and Stanford University.

The events culminating in last summer's shuttle mission date back about 15 years. Participants in a national meeting held at USU prepared guidelines that eventually became the joint NASA/Italian Space Agency (ASI)

Tethered Satellite System-1 (TSS-1).

The TSS-1 mission sought to evaluate the dynamic stability of a long, flexible wire deployed from an orbiting platform. The mission would also study the electrodynamic characteristics of the circuit composed of the ionosphere, satellite, tether, and Orbiter. Armed with this information, researchers could make advances in modeling the interaction of high voltages with the space environment, the stimulation of plasma waves, and the utilization of tether systems for power generation and orbit adjust capability on orbital platforms at ionospheric altitudes.

The completed experimental package designed by the team--including scientists from USU--was named the Shuttle Electrodynamic Tether System (SETS). It included a collection of instruments designed to monitor tether voltage and current, to control charging of the Orbiter, to monitor Orbiter return currents and charging, and to monitor the local plasma environment.



Once all elements of the SETS system were collected at USU, activities then transferred to the Kennedy Space Center, where the experiment was installed on the Space Shuttle Orbiter. At the same time, the science and data analysis teams assembled at the Johnson Space Center in Houston, where they conducted a series of preflight simulations.

The actual countdown to launch went very smoothly. Finally, after two days in orbit, the anticipated moment arrived and the tether started to deploy into space. Unfortunately, things did not work out as planned. The tether stopped with only 170 m deployed, a length considered hazardous to tether stability; at 170 m the tether could return to and impact the Orbiter. Eventually, the tether was freed and the deployment restarted. Relief was short-lived, however, for the tether jammed again at 250 m. Although the tether was freed after many hours, the possibility of another jam prompted the termination of deployment; the tether was reeled in. Despite their disappointment, experimenters gathered enough data to answer some basic questions about the electrodynamics of the tether system. Presentations have already been made at three national meetings, and papers for publication in the scientific literature are in preparation.

The information collected does not meet the mission's goals, so a reflight of the TSS-1 payload is being actively promoted. This is a complex and costly procedure, but the encouraging results from the aborted mission and the potential for tethers to become an important element of future space platforms are compelling reasons for a reflight. NASA has taken the first steps by setting up a six-month project review.

The SETS team is currently working to obtain funding to refurbish and ready the flight equipment, realizing that a reflight will be much smoother and less costly if the team can be kept intact. ■

OLYMPICS

remarked, "seeing the quality of the skiers has motivated me to train harder."

Perhaps most fulfilling for Bregenzer, however, is the opportunity to help carry out the mission of the Special Olympics, which is to provide continuous training and competition in Olympic-style sports for people with handicaps by creating opportunities "to develop fitness, demonstrate courage, experience joy, and share gifts, skills, and friendship with families, athletes, and the community."

"My relationship with these people extends way beyond Special Olympics," Bregenzer concluded. "I consider some of the athletes to be my closest friends." ■

Golden Aggies



College of Science Honors Achievements of Class of 1943

As graduation time nears and many students look forward to the future, the College of Science looks back to its graduates of the Class of 1943. We have recently heard from four of this year's Golden Aggies. We think you'll enjoy hearing about their accomplishments.

Ralph F. Carlson, M.D.

After graduating from USU, Ralph Carlson went on to the University of Chicago where he earned an M.D. in 1945. Following two years in the navy, Carlson eventually settled in Evansville, Indiana, where he helped found the Evansville Surgical Associates. This group now consists of eight surgeons, including Carlson's oldest son. Retired since 1991, Carlson and his wife, Harriet, are in excellent health and enjoy traveling. They recently returned from a three-week trip to Israel and Egypt.

Arthur Wallace

Arthur Wallace celebrates his Golden Wedding Anniversary this year with Elna Kemp, also a Golden Aggie. They married in April 1943, prior to his serving in the U.S. Army during World War II. After the war, Wallace resumed his academic career at Rutgers University, where he earned a Ph.D. in soil science and plant physiology. He spent the next 40 years teaching and researching at the University of California, Los Angeles. Wallace also served as department chairman and division chief until his retirement in 1989. He is now co-owner and consultant for Wallace Laboratories in El Segundo, California. The Wallaces have 5 children, 17 grandchildren, and 1 great-grandchild.

John H. Gardner

John Gardner, Valedictorian of the class of 1943, went on to Harvard where he earned an M.A. and a Ph.D. in physics. Gardner has been a member of the Radiation Laboratory Staff at MIT, the technical staff at a California corporation, and the Space Technical Laboratories, now TRW. He is currently a professor emeritus of physics at Brigham Young University, where his interests include writing technical papers in unifying science using symmetry. Gardner and his wife, Olga, raised 8 children and have 30 grandchildren and 1 great-grandchild.

Merrill C. Daines, M.D.

Merrill Daines was a member of Sigma Chi Fraternity and Blue Key while at USU. After graduating from medical school, Dr. Daines practiced medicine in Logan for nearly 40 years before retiring in 1988. During those years, he was also a member of the Logan City School Board for over 12 years and served as president of the Utah State Medical Association. He is currently Medical Director at Logan Regional Hospital but will retire in April to serve as District Governor of Rotary International. When not busy with community and medical service, Dr. Daines enjoys skiing and golfing. ■

Fair and Projects Highlight Science Week

USU Science Week, which runs April 26-30, 1993, will promote science as an exciting field of opportunity.

Activities pertaining to each department, such as geology nature hikes and wildlife field trips, will run throughout the week. Stargazers may enjoy viewing the cosmos through telescopes.

"We had a great response to the telescopes last year," Science Senator, Kim Pierson, said. "A lot of families and people from surrounding communities supported that event."

A Jeopardy-style competition, featuring science-related questions, will also be held.

In addition, two service projects have been scheduled during Science Week. The first, a combination science fiction movie-thon and food drive, will donate the admission fee (two cans of food) to a local charity.

The second service project is an ongoing activity, which will receive special emphasis during Science Week. The Science Council is asking for donations of used eyeglasses. In the spring, several students in the College of Science will accompany an optometrist to South America to distribute the glasses.

Other events include science displays and booths where T-shirts and mugs will be sold. Pierson said two styles of T-shirts will be available this year.

At 12:30 p.m. on Thursday, April 29, the College of Science will provide a guest speaker for the Convocations lecture series held in the Taggart Student Center.

Science Week concludes on Friday, April 30, with a science fair and an awards banquet. High school students from Utah, Idaho, Nevada, and Wyoming will compete for the fair's grand prize—a one-year scholarship to USU.

"These are high-quality projects," said Pierson.

The awards banquet will honor faculty as Researcher of the Year and Advisor of the Year. Student honors will be to the Valedictorian, Scholar of the Year, Graduate Student Teacher of the Year, and Graduate Student Researcher of the Year. ■

College of Science Recognizes

Advisor Of The Year

David (Andy) Anderson, of the Biology Department, has been selected by a committee of students, faculty, and administrators, as the Advisor of the Year for the College of Science.

Anderson's excellent teaching abilities and his friendly relationship with students make him an exceptional advisor. "It's easy for me," he explained. "I like to see people doing things they enjoy." Anderson said that he doesn't just tell people what to do. "I see what they like to do and then help them do it."

His students frequently praise his willingness to go beyond his responsibilities as an advisor. Not only does he provide practical guidance and information, he shows genuine interest in each student he advises and recognizes their

value to the University. "I look at students as my employers," he said. "I want to do my best for them."

Students know that Anderson loves his work and is committed to helping them. For example, when the Medical

Technology Internship Program between USU and McKay Dee Hospital was discontinued, Anderson continued to work with other schools so that students already in the Program would be able to complete their degrees.

In his spare time, Anderson likes to play racquetball and go target shooting, although his students know that he also loves videos. "I'm a big science fiction fan," he laughed. Anderson also likes to spend time with his wife, Sher, and their two children, Lara and Lucas.

Anderson enjoys teaching at a university level and recognizes that teaching gave him the opportunity to further his own education. He added, "This may sound a bit bizarre, but I'm actually having fun here." Students appreciate Anderson not only as an advisor but also as a friend.



Andy Anderson

Researcher of the Year

David Liddell, a member of the Geology Department, was named College of Science Researcher of the Year.

Born in Ohio, Liddell received an M.S. and a Ph.D. from the University of Michigan in Ann Arbor. He came to Utah State in December 1981 after teaching for two and one-half years at the University of New Orleans.

Liddell often collaborates with his wife, Sharon Olhorst, an assistant professor in the College of Natural Resources. Olhorst and Liddell met in Jamaica while they were both working on their dissertation research. In need of diving partners, they teamed up together, a partnership which became permanent.

Part of Liddell's research involves analyzing data from deep-reef communities collected during diving expeditions. Liddell also collects samples and takes pictures of these deep water communities from submarines. This work is quite physically demanding--the submarines are only six feet wide yet hold two people along with many pieces of equipment.

To finance his research, Liddell has received over a quarter million dollars (pro-rated) in grant monies.

In the Department of Geology, Liddell is known for his computer and statistical knowledge, which he willingly shares with colleagues and students. He and Olhorst recently developed a computer program that generates an artificial coral reef. Among other things, the program can tell researchers how many and what type of samples they must

collect to get an accurate picture of the community being examined.

The Researcher of the Year award comes to Liddell for maintaining high standards in research. Averaging more than two articles each year in peer-re-



David Liddell

viewed journals, Liddell is an asset to the College of Science.

Teacher of the Year

The College of Science has selected

James P. Evans, Associate Professor in the Department of Geology, as Teacher of the Year for 1993.

As a child in Iron River, a small mining town on Michigan's

Upper Peninsula, Evans always found geology appealing.

After getting bachelor's degrees in both engineering and geology at the University of Michigan, Evans went on to Texas A & M for an M.S. and a Ph.D. in geology.

Evans came to USU in December 1986. Of teaching, Evans says, "It's a lot of fun. The courses vary so it doesn't get stale. I like to see students become geologists because of what I'm doing."

In addition to classroom teaching, Evans directs field camp, where advanced students get the opportunity to put their book learning to work. As Evans says, "It teaches students how to get it done."

Student recommendations unanimously comment on Evans' strong points--he is knowledgeable, accessible, and personable. He "involves students in the partnership of learning," and "foster[s] critical thinking."

Along with teaching undergraduate classes, ranging from 100-level through upper division and graduate classes, Evans takes on the added burden of teaching Honors courses.

Evans also shows his interest and concern for students by informing them of scholarship, fellowship, and internship opportunities. He has included numerous undergraduates in his research program, which helps them earn money, in addition to getting geologic experience. As one recommendation says, Evans "is a strong advocate for all students."

We appreciate Evans' dedication and congratulate him on his outstanding teaching.



James Evans

Outstanding Faculty and Students

Graduate Student Researcher of the Year Award

James V. Goddard, a student in the Department of Geology, has been chosen to receive the College of Science Graduate Student Researcher of the Year Award.

Originally from Malad, Idaho, Goddard has been at Utah State since 1986. After receiving a B.S., he has been a student in the graduate program since 1991.

As a research assistant, Goddard developed a new technique for estimating the density and orientation of fractures in rocks, which could lead to an innovative approach in estimating a rock's permeability. At least one professional journal article is expected to result from his work.

Dr. James Evans of the Geology Department writes, "Goddard's work has encompassed an unusual breadth and depth for a master's student. He has represented our Department well in national venues . . . and has produced some outstanding results which will stand the test of time."

Goddard names Dr. Evans as his mentor, saying "he has always been there with advice. He lets you go on your own and do your own research--and he gives you the credit."

Goddard published an abstract of part of his work and presented a paper at the Annual Meeting of the Geological Society of America in 1991.

Married, with two children, he enjoys tennis and the outdoors in his spare time.

He recently defended his thesis and is now employed as a hydro-geologist with the Coastal Remediation Company in Salt Lake City, Utah.

Outstanding and diligent research in the field of geology makes Goddard a deserving recipient of this year's Graduate Student Researcher Award.



James Goddard

Graduate Student Teacher Of The Year

The College of Science has named **Stacy Vail** as

Graduate Student Teacher of the Year.

Vail served the Mathematics and Statistics Department for nearly two years as a teaching assistant and has been very successful in teaching classes that are generally difficult for students. "The most effective thing a teacher can do is to enjoy teaching," Vail explained. "Students can tell right off if the teacher doesn't want to be there. The teacher's attitude makes students interested in listening and learning."

Vail has taken full responsibility for her classes--lecturing, grading exams, and assigning final grades. Through varied and innovative classroom methods, Vail has done an excellent job communicating the required material to her students, although, she admits, "I hated math in high school. It wasn't very easy and it wasn't very fun."

Vail attributes her initial interest in mathematics to excellent teachers at USU. "My first quarter of college I took calculus from Dr. Lance Littlejohn, and he sparked my interest in math. He made me realize that math can be fun and useful."

Vail has been very willing to share her experience as a TA with new teaching assistants. Last September, she prepared a list of things she found helpful to her as a teacher and problems new teachers were likely to encounter. Vail continually puts forth an extra effort on behalf of her students and is always looking for ways to improve her own performance.

When she is not busy with mathematics, Vail enjoys the outdoors. "I also play racquetball whenever I can," she added.

Vail will complete a master's degree this year and will then pursue a Ph.D. in Mathematics, hopefully at an institution in Norway.



Stacy Vail

Scholar of the Year

The College of Science selected **Paul F. Cliften** as the 1992-93 Scholar of the Year for his superior academic performance.

Cliften, who accumulated a 3.99 grade point average during his undergraduate studies, graduated summer quarter with a B.S. degree in microbiology. He is now working on a master's program in molecular biology.

"I was surprised to receive the award because there are a lot of good students in the College of Science," Cliften said.

Currently, Cliften is studying the effects of a plant toxin which causes rapid death after binding to a cell's membrane. Cliften began doing laboratory work as an undergraduate and said he has received intensive research experience at USU.

"As far as getting an education in biology, USU is the best place to go because the College of Science is research-oriented and we have smaller classes," he said.

A Sugar City, Idaho, native, Cliften attended Ricks College, where he was one of 25 students--in a graduating class of 1600--nominated as a SPORI Scholar. When he transferred to USU, Cliften received an Honors at Entrance Scholarship and was later awarded scholarships by the Biology Department.

After earning his second degree, Cliften wants to continue research work in an academic setting. He also hopes to teach at a university because "you need to interact with people to avoid becoming a mad scientist in the lab."

At the end of his 12- or 13-hour days, Cliften spends time with his wife, Jennifer, a liberal arts major, and his 15-month-old daughter.



Paul Cliften

"My wife takes good care of me so I can study," Cliften said. "And my daughter is a good distraction. After doing science all day, I get to shift gears and explain things on a child's level."

A Decade of Departmental Changes

Biology

Several years ago, the plant biologists moved from the Plant Industry Building to the Biology-Natural Resources Building. According to Biology Department Head, Richard Mueller, the move was "an important step. . . . We hope one day to join the whole Department together in a single, new, state-of-the-art facility."

Chemistry and Biochemistry

In 1990, the American Chemical Society approved a Chemical Education Option for the Department of Chemistry and Biochemistry's major program. The program was the first in the nation to gain approval. In addition, the Department also gained approval for a Biochemistry Emphasis in the undergraduate degree program.

Computer Science

When Computer Science became a separate department, it was moved from the too-small Computer Science Building to the University Reserve Building. In 1991, after outgrowing the UR facilities, the Department moved to the fourth floor of the newly-remodeled Old Main Building.

Geology

The Geology Department now offers three options for undergraduate majors. Besides General Geology, the Department also awards degrees in Hydrogeology/Engineering Geology and Geoarchaeology. In addition, the Plant Industry Building was renovated four years ago and now houses the Geology facilities. "We are very pleased with our recently-remodeled building," said Department Head Don Fiesinger.

Mathematics and Statistics

A program leading to the Doctor of Philosophy in Mathematical Sciences was approved by the State Board of Regents in 1984, taking three years in the approval process and ending a 15-year effort to establish the program.

In 1987, Lund Hall was dedicated to the Mathematics and Statistics Department which, prior to the move, had faculty offices in Engineering, Lund, Biology, and the East Campus Office Building.

During that same year, the Mathematics Department merged with the Applied Statistics Department (which separated from Computer Science in 1983 to form two separate departments) to become the Department of Mathematics and Statistics.

New technology has enabled faculty and graduate students to carry out computer-intensive research projects, projects which, according to Loveland, were not even possible five years ago. Duane Loveland, Mathematics and Statistics Department Head, said the new computer lab was "designed for training prospective teachers to effectively use the teaching software."

Physics

An option for an M.S. degree, with an emphasis in Upper Atmospheric Physics, has been the major development in the Department of Physics' Graduate Program over the last decade.

Six years ago, the undergraduate curriculum was modified, and the number of required physics courses increased to 69 credit hours.

The Space Dynamics Laboratory and CASS jointly set up an atmospheric research observatory at a location overlooking Bear Lake. Experimental programs--including optical and radio measurements of the upper atmosphere--are ongoing. In addition, the observatory hosted an observing campaign in association with a NASA Upper Atmosphere research satellite.

In 1985, CASS and the Physics Department moved into the new Science Engineering Research Building, which they now share with the College of Science office, the Computer Center, Telephone Services, and the Space Dynamics Laboratory. ■

Alumni Reunion in Southern California

26 April 1993	27 April 1993
Marriot Hotel	Sheraton Universal Hotel
Irvine, California	Universal City, California
7:30-9:30 p.m.	7:30-9:30 p.m.

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MUSINGS

that these things do not detract from our duties on campus. I point this out because recently we have heard that we may be doing too much research and too little teaching. Nothing could be farther from the truth. In the College of Science, we strive for a balance among teaching, research, and service. Our research is funded by external sources and our workloads are based on giving a full measure, or more, to the State of Utah.

The second part of my trip, to Washington, D. C., is occasioned by the opportunity to see the results of the millions and millions of dollars that the National Science Foundation (NSF)

In December, 1992, Arthur Holmgren passed away. In honor of his memory, Leila Shultz, a close friend and colleague, has written a tribute to Holmgren's life and work.



Arthur Holmgren

A Tribute to Arthur Holmgren

The College of Science pays tribute to Arthur H. Holmgren, Professor Emeritus of Biology, who died peacefully at his home on December 24, 1992.

Born in 1912, Art developed a finely-tuned aesthetic sense, a love of music, and an appreciation for the intricacies of plant development.

Arthur Holmgren's academic career began with a bachelor's degree in botany from the University of Utah. While an undergraduate, Arthur married Doris Edstrom and together they raised four children: Dennis, Maryanne, Noel, and Judy.

In 1939, Art began working for the U. S. Grazing Service in Nevada. He returned to Utah in 1941 to complete a master's degree in botany at Utah State University. Beginning his career as curator of the Intermountain Herbarium in 1943, Art spent the next 45 years developing its plant collection and teaching plant taxonomy.

His academic career included publication of the *Handbook of the Vascular Plants of Northeastern Nevada* in 1942 and the *Handbook of the Vascular Plants of the Northern Wasatch* in 1948. As his contribution to the *Intermountain Flora*, Arthur collected complete descriptions of over 5000 plant species. He was eventually joined in this major work by his son Noel.

On the USU campus, Professor Holmgren significantly influenced his students, many of whom went on to hold positions in government agencies and academic circles. Few classes were as sought after as Arthur's lectures and labs on native plant taxonomy. He was honored with the Robin's Award for Teaching Excellence in 1976.

Colleagues remember Arthur Holmgren for his exuberance, knowledge of individual plants, love of music, and masterful gardening skills. Friends remember gracious times around the table, listening to music, sampling Swedish breads and coffee, and discussing the latest plant discoveries in the Intermountain West. ■

A tribute service will be held in the Juniper Lounge on April 30, 1993, at 10:00 a.m. for family and friends.

has invested in developing better ways to teach science, its role in society and its relationship to technology. While there is an emphasis on students early in their learning careers, whether or not they plan to attend an institution of higher education, the plight of the undergraduate is also a topic of concern. More and more I have come to believe that university scientists have a responsibility to help our colleagues in grade schools and high schools to prepare a scientifically literate citizenship. I believe also that we must

do an ever better job of training our non-science students to prepare them for a world that is based on science and its offshoot--technology. Scientists must join teachers to create an informed citizenry. The College of Science accepts this challenge and I will tell you about our accomplishments, plans and dreams in future issues of *Insights*.

My plane is about to land. I will talk to you again in the fall issue. In the meantime, I hope to see many of you at the College's graduation open house. ■

AWARDS

Valedictorian

Steven R. Burt has been selected as Valedictorian for the Class of 1993.

A Logan native, Burt attended Sky View High School and first came to USU in 1987. After serving an LDS mission to Japan, Burt returned to USU, where he was a business major before switching to premedicine at the end of his sophomore year.



Steven Burt

He has already been accepted into several medical schools. Burt says he is considering surgical medicine as his specialty, either general or orthopedic. "I'm waiting to see what's out there," Burt says.

While here at USU, Burt says, "What I've most enjoyed is the breadth of people you get to know--the personalities."

Many people at USU have inspired and influenced him through the years. Among them, Burt credits his advisor, George Stewart, and he names Dr. John Stark as "a good friend to talk to."

Burt also says his wife, Lisa, has motivated him. "She really deserves most of the credit."

As a microbiology lab assistant to Dr. John Stark, Burt is assisting in the research of nitrogen cycling in soils. He is also currently a biology lab assistant for Dr. Elizabeth Hood, assisting in research of plant cell wall protein.

Burt was a Phi Kappa Phi Recognized Scholar in 1991 and 1992. He currently serves as treasurer of the Alpha Epsilon Delta Honor Society, as well as acting as the chemistry liaison for the USU Science Council.

In his spare time, Burt enjoys basketball, skiing, and Dutch-oven cooking.

Burt says being selected Valedictorian "was a surprise, I was excited. It's 180° from what I thought would happen when I first came here. I just wanted to do well." ■

A L U M N E T R E S P O N S E S

Thank you for your interesting and informative responses to our alumni network.

Julie Robinson Alberico (B.S. 1989, Biology, Chemistry) is working on a Ph.D. in ecology, evolution, and conservation biology at the University of Nevada, Reno. Her research is supported in part by a National Science Foundation Graduate Fellowship.

Simon N. Allo (B.S. 1983, Biology) received a Ph.D. in pharmacology from the University of South Alabama in 1989. He also completed a postdoctoral fellowship at Weit Center for Research in Pennsylvania and is currently completing studies for an M.D. Simon has already been accepted for a residency in internal medicine.

Julia Andersen (B.S. 1990, Physics) received an A.A. in general studies at Ricks College. She is currently working on a master's degree in astronomy at the University of Iowa, which she hopes to complete in May.

Steven R. Allen (B.S. 1983, Biology) earned an M.D. from the Medical College of Wisconsin and was the Chief of Pediatrics for the Fifth Medical Group at Minot Air Force Base. He also served as a clinical professor of pediatrics at UND School of Medicine. Steven married Marie Nordlof. They have a daughter and a son.

Vernon Palmer Bennion (B.S. 1941, Secondary Education, Physical Education and Sociology) has been a high school coach in Idaho and Oregon for 25 sports seasons. He has also served as athletic director and social studies chairman.

Kevin J. Bolland (B.S. 1986, Medical Technology) is in his second year of work towards a master's degree in clinical health at Baylor College of Medicine, Houston, Texas.

Robert L. Boman (B.S. 1989, Public Health) is currently the supervisor of Industrial Hygiene, Safety, Security and Fire Protection at Chevron Chemical Company's Cedar Bayou Plant.

H. Jess Brown (B.S. 1947, Secondary Education; M.S. 1948, Psychology; Ed.D. 1965, Education) has had a diverse career, including working as a teacher and principal in Salt Lake City schools for 30 years, as an assistant professor at Lesley College in Massachusetts, and as director of operations relay for UNESCO in Uganda, Africa.

Ray W. Brown (B.S. 1963, Forestry; M.S. 1965, Range Ecology; Ph.D. 1974, Plant Physiology) works as a plant physiologist at the U.S. Forest Service Intermountain Research Station, Logan, Utah, where he has been project leader and director's representative since 1992.

Erwin E. Cameron (B.S. 1950, Physics) has been fully retired since 1973 and is living in Reno, Nevada.

Vern L. Christensen (B.A. 1971, Mathematics Education) completed an M.S. in animal science at Brigham Young University in 1975 and a Ph.D. in physiology from the University of Missouri in 1977. He has been a professor of physiology and poultry science at North Carolina State University, Raleigh, since 1978.

Thomas D. Coppin, M.D. (B.S. 1963, Premed) now in his thirtieth year of military service, serves as chief of the Department of Pathology and residency program director at Madigan Army Medical Center. Since 1990, he has also been pathology consultant to the U. S. Army Surgeon General.

Sauna R. Crane (B.S. 1987, Biology) is working at USU's Research Park as an information specialist for a federal special education technical assistance center.

Matthew C. Davis (B.S. 1982 and M.S. 1984, Geology) owns and operates a thriving wholesale foods business in Delaware. He enjoys snow skiing, tennis, and working out. He is getting married this month.

A. Marsha Perkes Evans, M.T. (ASCP) (B.S. 1965, Medical Technology) is the hematology supervisor at Damon Clinical Labs in Phoenix, Arizona. She is the mother of five children and is active in church and civic affairs.

Robert J. Evans (B.S. 1934, Chemistry; M.S. 1936, Biochemistry) completed a Ph.D. in biochemistry at the University of Wisconsin in 1939. After teaching for one year at Carbon College in Price, Utah, he served on the Experimental Station Staff at Washington University for seven years. Before retiring and moving to Ogden, Utah in 1977, he taught biochemistry at Michigan State University for 30 years.

Kathy Bridges Fitzpatrick (B.S. 1973, Zoology; M.S. 1980, Resource Economics) lives with her family in Turner, Oregon, where they own a 140-acre farm. Kathy is the executive director of the Mid-Valley Children's Guild, a non-profit outpatient therapy center for children, where she was named Salem's "Woman of Achievement" in 1991.

Jean A. Frank (Ph.D. 1964, Chemistry) is currently retired, but works as a volunteer for numerous organizations, including the Cape Cod Museum of Natural History; the American Chemical Society and AAUW Programs (which encourages girls in science); and the Cooperative Extension Service, which produced the video, "The Power of One," detailing the homemaker's roll in saving the environment.

Don Gay (B.S. 1942, Biochemistry) worked for 35 years for Dupont Company. Assignments included munitions, the atomic bomb and research and development of man-made fibers. He held management positions in domestic and international sales and marketing. After retiring from Dupont, he formed an international consulting company.

Marguerite Greaves, M.D. (B.S. 1943, Bacteriology and Biochemistry) finished an M.D. at the University of Utah in 1947. She worked for the Oakland City Health Department as a medical consultant and operated a private psychiatry practice until retiring in 1981. Her father, Joseph Greaves, was head of the Department of Bacteriology and Biochemistry. A scholarship, the Joseph E. Greaves Scholarship, was established in his honor to assist future generations of students of microbiology, biochemistry or related fields. It is awarded to junior, senior, or graduate students who demonstrate academic achievement, financial need, and personal integrity.

David A. Griffith (B.S. 1973, Physics) taught high school science and mathematics from 1973-1989. He now teaches physics and astronomy part-time for Los Rios Community College District and works on technical support and product development for PASCO Scientific in Roseville, California.

Mark A. Guilfoose, M.D. (B.S. 1971, Zoology) earned an M.D. from the University of Vermont in 1983. He was a high school science teacher from 1972-79 in Vermont and is currently a family practice doctor in Pennsylvania.

Rosemary H. Hanks (B.S. 1973, Botany) is employed as a chemist for Data Chem Laboratories, Salt Lake City, Utah, testing soil and water samples for hazardous wastes. She has seven children, the oldest of which is currently attending USU.

Menard G. Heydanek, Jr. (M.S. 1986, Chemistry) is vice president of research and development for The Quaker Oats Company in Barrington, Illinois.

Raymond D. Hlavaty, M.D. (B.S. 1954, Physical Education) earned an M.D. from the University of Utah in 1961. He currently lives in Logan, where he practices pediatrics at the Budge Clinic. He is a member of the Big Blue Club and the Old Main Society.

D. Laree Olsen Jansen (B.S. 1967, Mathematics Education) has taught in Washington, Oregon and Utah. Currently, she resides in Idaho, where she recently celebrated her twenty-fifth wedding anniversary.

A L U M N E T R E S P O N S E S

Mark E. Jensen (B.S. 1981, Geology) earned an M.S. in geology from Brigham Young University in 1984. He is currently doing hydrogeology work for the Drinking Water Source Protection Program.

Craig D. Koon (B.S. 1982, Geology) works for the Defense Mapping Agency in Louisville, Kentucky, producing maps for the nation's armed forces. From November 1990 to March 1991, he was involved in the production of maps for use in Operation Desert Shield/Desert Storm.

John C. Lekas (B.S. 1985, Geology) certified as an EMT paramedic at Western Institute in 1987. He is currently a second-year medical student at Albany Medical College, specializing in emergency medicine.

Matthew W. Lensch (B.S. 1991, Biology) works in the Department of Pediatrics, Division of Medical Genetics, at the University of Utah, as a lab specialist in molecular genetics.

Howard S. Lewis (B.S. 1967, Zoology) received an M.S. in wildlife ecology from the University of Wisconsin in 1972, and is now working as the manager of Environmental and Regulatory Affairs for Boliden Resources, Inc., an international mining company based in Sweden.

Melanie R. Maas (B.S. 1972; Ph.D. 1979, Biology/Ecology), a principal scientist in applied research at Oscar Meyer Food Company in Madison, Wisconsin, is involved with predictive modeling in food safety and shelf life.

Mitchell H. Mason (B.S. 1974, Premedical Zoology) is a program analyst for Los Angeles County Inter-Agency Council on Child Abuse and Neglect, where she manages several child abuse prevention programs.

Patrick H. McClellan (B.S. 1973, Geology) is the earthquake preparedness coordinator for the City of San Leandro, California. He develops and implements programs which will prepare the city for catastrophic earthquakes.

Donald J. McGraw (M.S. 1967, Bacteriology and Public Health) completed a Ph.D. in biology with a history of science major and psychology and microbiology minors in 1976. He is currently the associate provost at the University of San Diego and Chairman of the Board of Cabrillo Historical Association, which is a National Park Service cooperating association.

Stephen J. Montgomery (B.S. 1970, Wildlife Management; M.S. 1976, Biology/Ecology) works on a variety of wildlife studies involving environmental impact reports in Southern California.

Herbert A. Newey (B.S. 1938, Chemistry) worked for 5 years as a research chemist at the American Cyanamid Company and for 26 years in research for Shell Development Company, Emeryville, California. In 1972 he formed a partnership and, for 12 years, consulted in the field of resin and plastics technology. He is now retired.

William P. Nye (B.S. 1940 and M.S. 1947, Entomology) is a retired lieutenant colonel from the U. S. Marine Corps and has been active in many agricultural organizations. His interests include insect collecting, lapidary jewelry, and photography.

Rex J. Prosser (B.S. 1972, Secondary Education) earned an M.S.P.H. in industrial hygiene from the University of North Carolina in 1982. He is a retired commander from the U. S. Coast Guard and is presently employed as an environmental engineer for the Texas Air Control Board.

Greg R. Rampton (B.A. 1970, Mathematics) has worked for the last 22 years as a special agent for the FBI. He is currently assigned to the Lewiston, Idaho office, but has also worked in Atlanta, Albuquerque, Washington, D. C., and Austin. He has two children attending USU.

Antonio Redondo (B.S. 1971, Physics; M.S. 1972; Ph.D. 1977) has taught Physics at the University of the Andes in Venezuela and has also been a research

associate in chemistry and applied physics at Cal Tech. Currently, he is a technical staff member at Los Alamos National Laboratory in New Mexico.

Reed S. Roberts (B.S. 1942 and M.S. 1948, Entomology) retired from USU in 1984. His current academic interests include collecting and identifying mosquitoes in Cache and Rich Counties and identifying mosquitoes in the USU Insect Museum Collection.

Wayne A. Schenk (B.S. 1977, Computer Science) is a self-employed farmer in his home town of Rupert, Idaho. Wayne married Alice Marie Myers, and they have three children.

Byron T. Shaw (B.S. 1930, Mathematics; Ph.D. 1940) worked as a researcher for the USDA, including 15 years as administrator of ARS. He retired to Florida in 1968.

Bill E. Slabaugh (B.S. 1952, Entomology), a registered land surveyor, is a subdivision engineer in St. Joseph County, Indiana, and serves on several planning committees.

Allen H. Smith (B.S. 1976, Chemistry; M.S. 1981, Biochemistry) is working in New York as a staff engineer for IBM, testing the reliability of hardware under development. He is also involved in numerous community activities. He enjoys biking and volleyball, sings in the Binghamton University Chorus, and is a scoutmaster.

April A. Summers (B.S. 1990, Applied Biology) received an M.S. in public health from the University of Utah in 1992 and works as an industrial hygienist for the U.S. Public Health Service in Salt Lake City, Utah.

Marcus A. Sylvester (B.S. 1984, Biology) currently works for Nalco Chemical Company as an account manager. His assignments include water treatment, energy management, and pollution control. He married Nanette McMillan, and they have three children.

Craig S. Tepper (Ph.D. 1988, Biology), an assistant professor in the Biology Department at Cornell College in Mt. Vernon, Iowa, works on plant pathogen interaction, supported by the Iowa Science Foundation and the USDA.

Raymond J. Tesi (B.S. 1977, Biology) earned an M.D. from Washington University School of Medicine in 1982 and is in his fourth year on the faculty at Ohio State School of Medicine. He is an assistant professor of surgery, performing liver, pancreas and kidney transplants. His research interests include long-term graft survival and hepatitis C. He married Claudia Morgan, and they have one daughter.

Madison H. Thomas, M.D. (B.S. 1938, Chemistry) earned an M.D. from Columbia University and practices neurology at L.D.S. Hospital, Salt Lake City, Utah.

Thomas T. Thomson (B.S. 1987, Biology; B.S. 1990, Public Health) is a regional industrial hygienist with Union Oil Company of California's Corporate Health, Environment & Safety Department in Los Angeles, California. Tom provides occupational health services for facilities in Alaska, Arizona, California, Oregon, and Washington.

Arthur Wallace (B.S. 1943, Chemistry) retired from the University of California, Los Angeles, in 1989 after 40 years on the faculty in environmental biology and soil science. He is currently a co-owner in a laboratory consulting business in El Segundo, California.

Onalee Reeve Wood (B.S. 1965, Mathematics Education) attended Steven's Institute of Technology in New Jersey, where she received a certificate of computer mathematics for high school teachers. She is currently teaching high school geometry and compensatory math. She married H. Steven Wood. They have six children and one grandchild.

College of Science

A L U M N E T

Dear College of Science Alumni and Friends,

We were thrilled by the number of responses received via ALUMNET in the last few months. Your standard of excellence, both personal and academic, has continued beyond a university education, and we are proud to be part of that success. Please keep us informed of your activities. Responses received after the printing deadline will be included in the next newsletter. If you have not written yet, we look forward to hearing from you soon.

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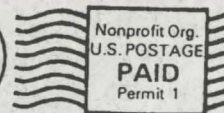
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