



Science Scene

Research Report

April to July 2006

A Publication of the College of Science, Utah State University

—The Dean's Corner—

I was recently sent a copy of a New York Times OP Ed piece titled "Why American College Students Hate Science." Two problems were identified: first, the small numbers of American students interested in science; and second, for those aspiring science students, the turnoff of unimaginative teaching. The success story highlighted in the editorial was a program at the University of Maryland, Baltimore County. Part of their success is attributed to students being "quickly exposed to cutting-edge science in laboratory settings" where "the laboratory approach keeps the students excited and prevents them from drifting off into less challenging disciplines."

In thinking about this editorial and reflecting on our efforts within the College of Science, we have our own success story to tell. Since the initiation of departmental excellence in teaching awards at USU only four years ago, three of our six departments have now been recognized. This suggests to me that we are not turning off aspiring science students, but rather providing them with effective learning experiences. Our engagement with students extends beyond the classroom however; it extends into the lab and field research environments. We have more undergraduate students engaged in research than ever before. To facilitate this part of the learning experience, the College of Science Dean's Office disperses over \$100,000 per year in support of undergraduate research. For example, in the previous issue of *Science Scene*, we listed the ten names of the 2006-07 Willard L. Eccles Undergraduate Research Fellows, recipients of \$7500 awards to pursue a research project with a faculty mentor. In April, the College, in collaboration with the academic departments, awarded approximately 18 minigrants of \$1000 each to support smaller scale undergraduate research projects. The College of Science also financially supports the Multicultural Scholars Program and the Multicultural Science Research Fellowship Program, providing additional research opportunities for undergraduates.

What is the impact of these efforts? Why should a major research university be concerned about training undergraduates? First, our support of undergraduate research has made us more competitive in recruiting outstanding high school students into our degree programs. This, in turn, has strengthened our majors and provided faculty with a more rewarding teaching environment. The involvement of undergraduates in the research environment has allowed them to become full partners in our intellectual endeavors. We see undergraduates making presentations at professional meetings all over the country and co-authoring with faculty in the best peer-reviewed scientific journals. The undergraduates, in turn, have had an unparalleled learning experience that translates into increased opportunities upon graduation, either in the job market or in the pursuit of graduate degrees or other forms of professional training. We clearly have a win-win situation and Utah State University is all the better for it. But we cannot become complacent with this success as there remains the challenge of finding ways to engage even more of our undergraduates in research, or at the very least, instilling in our students an understanding of the methods of scientific discovery. For as we know...*When students and faculty learn together...discovery follows.*

Please send any comments or suggestions for research-related issues that you would like to see presented in *Science Scene* to me via email at <don.fiesinger@usu.edu>.

Don Fiesinger

— COLLEGE OF SCIENCE CONTRACT & GRANT ACTIVITY —

Amounts (# of proposals)	Cumulative Totals for FY04-05	Cumulative Totals for FY05-06
Proposals Submitted	\$36,279,479 (146)	\$39,820,539 (158)
Awards Received	\$10,038,023 (114)	\$ 8,123,447 (106)



— Fall Semester Reminders—

August 28..... Fall Semester Classes Begin
 August 31 College Meeting w/Provost Coward for Faculty & Staff — Widtsoe 007, 4:00 pm

— College Welcomes New Faculty —
 2006 - 2007

URCO — Undergraduate Research
 & Creative Opportunities Awards, Spring 2006

Biology

*Erin W. Hodgson..... Assistant Professor
 [Extension Entomologist]

David York..... Professor w/tenure
 Biology/USTAR

Chemistry & Biochemistry

Sean J. Johnson..... Assistant Professor

Computer Science

Supratik Mukhopadhyay..... Assistant Professor

Chad Mano..... Assistant Professor

Geology

Anthony Lowry..... Assistant Professor

Mathematics & Statistics

Mevin Hooten..... Assistant Professor

Kady Schneider..... Assistant Professor

*started March 2006

Biology

Glen de Guzman-Daryll DeWald, Faculty Mentor
 “Regulation of Cardiac Fibroblast Metalloproteinase Secretion.”

Chad Coombs-Timothy A. Gilbertson, Faculty Mentor
 “Fatty-Acid Sensitivity of Delayed Rectifying Potassium Channels.”

Chemistry & Biochemistry

Elizabeth Smith-Alvan Hengge, Faculty Mentor
 “Mechanistic Study of PP-1, A Catalytically Promiscuous Enzyme.”

Geology

Kristi A. Rider-John Shervais, Faculty Mentor
 “Basalt Flow Dynamics, Composition, and Caldera Formation of the Black Ridge Butte Flows, Eastern Snake River Plain, Idaho.”

Kellen William-James P. Evans, Faculty Mentor
 “Stable Isotope Analysis for Seasonal Mountain Snowpack; Insight Into Fluid Flow Through a Fractured Mountain Massif.”

Edward Springer-James P. Evans, Faculty Mentor
 “Stable Isotope Analysis for Seasonal Mountain Snowpack; Insight Into Fluid Flow Through a Fractured Mountain Massif.”

Mathematics & Statistics

Adam Kynaston-Daniel C. Coster, Faculty Mentor
 “Religiosity as a Predictor for Political Views.”

Benton Perry-Daniel C. Coster, Faculty Mentor
 “Religiosity as a Predictor for Political Views.”

The Sponsored Programs Office is implementing a new proposal submission and grant management system (GAMS - Grant Application and Management System) in preparation to fulfill the US government mandate that all federal proposals be submitted electronically by October 1, 2007. GAMS is a fully integrated grant and contract management software system containing three major components: the pre-award/proposal module, the post-award module, and the advanced reporting module. These three elements work together to streamline the proposal development and submission process, reduce errors, simplify the approval process through electronic routing, and enable in-depth reporting and tracking of proposals and awards. The SPO will gradually roll out GAMS toward the end of 2006, continuing into 2007, with campus-wide implementation on or before the October 1, 2007 federal deadline. Those faculty members who submit to NIH will be the first affected by this change (NIH is requiring all proposal submissions electronically by February 2007) and therefore the first to be trained. Additional information and training schedules will be forthcoming.

Kellie Hedin

— Kellie Hedin, Sponsored Programs Administrator, 435-797-0470, ESLC 245A —

UTAH STATE UNIVERSITY
COLLEGE OF SCIENCE
(AY 2006-07)

Faculty Senate <www.usu.edu/fsenate>

[8 elected representatives, serve for 3-yr terms]
Vince Wickwar (09)
Eric Rowley (09)
Steve Allan (08)
Nick Flann (for G. Jones) (08)
Will Pependorf (08)
Steve Aust (07)
Jim Evans (07)
Tom Lachmar (for L. Littlejohn) (07)

* Educational Policies Committee (EPC)

Richard Cutler (09)

Academic Standards Subcommittee of EPC

Kathryn Turner

General Education Subcommittee of EPC

Richard Cutler
Richard Mueller

Curriculum Subcommittee of EPC

Richard Mueller

* Professional Responsibilities and
Procedures Committee

Scott Cannon (07)

Honors Advisory Board

Jim Evans (09)

* Academic Freedom and Tenure Committee

David Peak (08; appointed replacement)

* Faculty Evaluation Committee

Greg Podgorski (08)

* Budget and Faculty Welfare Committee

Steve Allan [sub for Vicki Allan (07)]

Graduate Council

Richard Cutler (07)

Council on Teacher Education

Richard Mueller
Jim Cangelosi

Note: * = one representative elected by CoS;
serves for a three-year term.

— STUDENT ACTIVITIES —

Student Awards, Recognition & Grants

Biology

Undergraduate Students

The latest figures for acceptance into medical and dental school for Fall 2005 are: 80% medical (31 out of 39 students) and 59% dental (20 out of 34 students). The national acceptance average for both types of professional schools is just below 50%. *Congratulations to all!*

Glen de Guzman (BS 2006) received the **USU Scholar of the Year** Award. This award recognizes a student “who has demonstrated outstanding skill and knowledge in mastering his or her subject matter. The recipient has also made personal contribution in research, application, and shown a determination to succeed.” Glen certainly embodies this award. He has conducted research in both the labs of **Michelle Baker** and **Daryll DeWald**.

Graduate Students

Amanda Bakian, PhD student in **Kim Sullivan’s** lab, is the 2006-2007 recipient of the *Claude E. ZoBell Scholarship* from the College of Science.

Chris Feldman (PhD candidate) received the *USU Graduate Research Assistant of the Year Award (Robins Award)*. The award recognizes “the graduate research assistant at Utah State University who has shown superior research capability and academic excellence.” According to Chris’ faculty advisor, **Mike Pfrender**, “Chris is an outstanding young scientist who exemplifies the qualities of scholarship and dedication we seek in graduate student researchers at USU.” In addition to the *Robins Award*, Chris has also just received the *USU Graduate Council Dissertation Fellowship* for the 2006-07 academic year. This fellowship will provide support while he works on completing his dissertation.

Joshua Der has received the Midwestern Association of Graduate Schools *Distinguished Master’s Thesis* prize. This award follows his receipt last year of the annual *Outstanding Thesis* award from Southern Illinois University (SUI) Alumni Association. Joshua graduated from of plants in the sandalwood family. He is now working on his PhD in the lab of **Paul Wolf**.

At the 2006 Graduate Research Symposium, **Katharine Swoboda** received first place in the College of Science for her presentation titled “Evaluating Bees to Pollinate *Hedysarum boreale*, a Legume for Rehabilitating Rangeland in the US Intermountain West.”

Eric O’Neill received a grant of \$4,000 from the American Philosophical Society for the “Lewis and Clark Fund for Exploration,” 25 May 2006 – 25 May 2007. Faculty Advisor: **Mike Pfrender**.

Kevin Williams received a grant of \$1,130 from the American Museum of Natural History Theodore Roosevelt Memorial Fund for the “Revision of North American Pseudomethoca Ashmead (Hymenoptera: Hymenoptera),” 1 June 2006 – 31 May 2007. Faculty Advisor: **James Pitts**.

Joe Wilson received a grant of \$1,130 from the American Museum of Natural History Theodore Roosevelt Memorial Fund for the “Phylogeography of Deserticolous Nocturanl Mutillidae (Hymenoptera),” 1 June 2006 – 31 May 2007. Faculty Advisor: **James Pitts**.

Chemistry & Biochemistry

Graduate Student

Aleksandra Mikosz (now working in **David Farrelly’s** lab) was awarded a Dissertation Fellowship for the academic year 2006-2007. Regarding these fellowships, **Byron Burnham**, dean of the graduate school says, “For many doctoral students, the need to teach or to serve as a research assistant interferes with their ability to complete their dissertation work in a timely manner. This fellowship aims to help doctoral students move more efficiently and quicker toward the completion of their dissertations.”

Computer Science

Graduate Student

Xiangjun Shi (Guangdon, China) is the recipient of the *Dr. Dinesh and Kalpana Patel Graduate Fellowship*. He is a doctoral student pursuing a concurrent Master of Science degree in statistics. His dissertation research focuses on developing a novel CAD system of mass detection and classification in breast ultrasound images using statistical methods. Faculty Advisor: **Heng-Da Cheng**.

Physics

Undergraduate Student

Sydney J. Chamberlin, a Physics undergraduate student, received a summer (2006) internship offer from the Friedrich Schiller University in Germany and Science Undergraduate Laboratory Internship (SULI) appointment at the DOE’s National Renewable Energy Lab (NREL), Colorado. She accepted the German internship. Sydney works with Chemistry Department Research Assistant Professor **Tapas Kar** as an undergraduate researcher.

Student Presentations

Biology

Kristin Bakkegard (PhD student, **Butch Brodie's** lab) presented a poster titled "The Genetic Response of *Taricha granulosa* to the 1980 Eruption of Mount St. Helens" at the Joint Annual Meeting of Ichthyologists and Herpetologists, New Orleans, Louisiana, 12-17 July 2006 where she received the *Storer Herpetology Award* for the "Best Student Poster."

Daniel G. Mulcahy presented a talk titled "Phylogeography of Night-snakes (*Hypsiglena*) using a Hierarchical Approach of mtDNA Sequence Data: Revisiting the Subspecies Concept" at the Joint Annual Meeting of Ichthyologists and Herpetologists, New Orleans, Louisiana, 12-17 July 2006.

Chemistry & Biochemistry

John T. Fisher, Jr. presented a poster titled "Synthesis and Ni(II) Coordination Chemistry of a N₃O(carboxylate)-donor Ligand Containing Hydrophobic Appendages" at the 231st National American Chemical Society Meeting, Atlanta, Georgia, 26-30 March 2006. John worked with **Lisa M. Berreau** as an undergraduate researcher.

Student Publications

Biology

Chris R. Feldman and **Greg S. Spicer**. 2006. Comparative Phylogeography in a Community of Reptiles: Repeated Patterns of Cladogenesis and Population Expansion in California. *Molecular Ecology* 15(8):2201-2222.

Allen W. Spaulding, **Karen E. Mock**, **M.S. Schroeder**, and **K. I. Warheit**. 2006. Recency, Range Expansion, and Unsorted Lineages: Implications for Interpreting Neutral Genetic Variation in the Sharp-tailed Grouse (*Tympanuchus phasianellus*). *Molecular Ecology* 15: 2317-2332.

— FACULTY ACTIVITIES —

Awards & Recognition

Biology

Edmund D. "Butch" Brodie has been named the 2006 *USU Graduate Mentor of the Year*. He was honored at the Graduate Hooding and Commencement ceremony, 5 May 2006. Dr. Brodie has also been appointed as the Director of Graduate Programs in Biology effective 1 May 2006.

Daryll B. DeWald has been named as the new department head of the Biology Department and promoted to *full professor*, effective 1 July 2006. He replaces **Jon Takemoto** who stepped down at the end of June.

Kent Evans and **Usha Spaulding** won first and third places, respectively, in the CIB Small World Photomicrography Competition. Who knew powdery mildew and rod-shaped bacteria were so photogenic? To see their winning entries, go to <http://www.biosystems.usu.edu/contest/>. (Also, see Summer 2006 *Insights*.)

On 30 March 2006, **Timothy A. Gilbertson** was honored as one of two finalists for the 2006 *USU Outstanding Employee* (faculty category). He was also promoted to *full professor*, effective 1 July 2006. Tim will continue to serve as associate department head.

Tim Gilbertson's research was highlighted in an article in *The Baltimore Sun*, 14 May 2006 issue.

Joe Li's research on bluetongue virus was featured in the 17 May 2006 issue of *The Herald Journal*.

Gregory J. Podgorski was named as the 2005-06 *College of Science Teacher of the Year*. He was honored at the College of Science Awards Program, 20 April 2006.

Theresa Pitts-Singer was featured in *Wasp Woman* on UEN-TV (Channel 9), 21 April 2006.

Kimberly A. Sullivan served on the Science Foundation of the Ireland Institutional Development Awards for Women in Science and Engineering Panel, Dublin, Ireland, 6-7 March 2006. She also served on the NSF ADVANCE Panel, Arlington, Virginia, 16-18 November 2005.

Research findings on declines and extinctions among amphibian populations conducted by **Joe Mendelson**, adjunct associate professor of Biology and curator of herpetology at Zoo Atlanta, and his colleagues (including **Butch Brodie, Jr.**) made headlines in the Policy Forum of the 7 July 2006 *Science* (page 48). The complete article is posted on the Biology News Board or online at the *Science* web site, <http://www.sciencemag.org>. This research was also featured in *The Salt Lake Tribune*. That article can be viewed at <http://www.sltrib.com/ci/4032003>.

The *Deseret News* featured **Jim MacMahon** and his involvement with the National Ecological Observatory Network (NEON) in an article titled "Utahn is a Leader of Eco-Forecasting," 17 July 2006. The article is available online at <http://deseretnews.com/dn/print/1,1442,640195376,00.html>.

Chemistry & Biochemistry

Lisa M. Berreau was named as the 2005-06 *College of Science Undergraduate Research Mentor of the Year*. She was honored at the College of Science Awards Program, 20 April 2006.

Lisa M. Berreau was named to the editorial board for the *Journal of Coordination Chemistry* from 2006-2009.

Alvan C. Hengge was named as the 2005-06 *College of Science Faculty Researcher of the Year*. He was honored at the College of Science Awards Program, 20 April 2006.

Physics and The Center for Atmospheric & Space Sciences

Robert W. Schunk was elected to the International Academy of Astronautics at its meeting in Beijing, China, 16 July 2006.

Faculty Grants

SPO Research Guide

Have questions about procedures related to submission of grants? Do you know who owns equipment purchased with research grant funds? These and other questions are addressed in the Research Guide provided by the Sponsored Programs Office. Go to the Sponsored Programs Office website and click on "Guide for Principal Investigators" in the "Quick Links" listing:

<http://www.usu.edu/research/programs/forms/RESEARCH%20GUIDE.pdf>

Biology

Diane Alston

Utah Department of Agriculture & Food
1 January 2006 to 31 December 2006—\$97,843
"Utah Pest Survey and Detection: CORE Project."

C. Kent Evans and Diane Alston

Utah Department of Agriculture & Food
1 January 2006 to 31 December 2006—\$24,088
"Area-Wide Survey of Nematodes."

Edward W. Evans

US Department of Interior/Bureau of Land Management
22 May 2006 to 30 June 2011—\$13,000
"Biological Control of Noxious Weeds in Utah."

Edward W. Evans and Jay B. Karren

Utah Department of Agriculture & Food
1 January 2006 to 31 December 2006—\$27,711
"Cereal Leaf Beetle Biological Control Project."

James A. MacMahon, Richard Krannich, Richard Toth, and Janis Boettlinger

US Department of Interior – Bureau of Land Management
11 April 2006 to 31 December 2008—\$765,635
"The Las Vegas Valley Boundary Disposal Area: Evaluating Alternative Land-use Planning Scenarios."

Keith Mott

National Science Foundation
15 April 2006 to 31 March 2007—\$16,800
"Symposium: The Biology of Transpiration: From Guard Cells to Globe." (This grant will provide funding for the symposium.)

Keith Mott

National Science Foundation
1 August 2006 to 31 July 2007—\$35,714
"Stomatal Interactions and Emergent Behavior."

James P. Pitts

State of Utah, Department of Agriculture and Food, Division of Plant Industry
1 January 2006 to 31 December 2006—\$2,000
"Insect Identification 4360 SAP SSM6."

James P. Pitts

State of Utah, Department of Agriculture and Food, Division of Plant Industry
1 January to 31 December 2006—\$1,383
"Insect Identification 4360 SAP IFA6."

Felisa A. Smith, S. K. Morgan Ernest, and Sara K. Lyons

(PI at U of New Mexico)
National Science Foundation
15 July 2006 to 30 June 2010—\$400,000
"RCN: Integrated Macroecological Pattern and Processes Across Scales (IMPPS)."

Katarina Stroffekova and Ilke Nemere

USU-ADVANCE Seed Grant Program
1 July 2006 to 30 June 2007—\$7,500
"Electrophysiology of L-type Ca²⁺ Channel in Small Intestine."

Kim Sullivan

National Science Foundation
1 June 2006 to 31 May 2007—\$13,000
"Travel Grant to the 4th North American Ornithological Conference; 10/3-7/2006; Vera Cruz, Mexico."

Anhong Zhou, Ron Sims, and Charles Miller

Army Research Office
May 2006 to April 2007—\$183,426
"FTIR Spectrometer/Microscope System for Bioremediation."

Anhong Zhou, Charles Miller, Yangquan Chen, and Ron Sims

National Institutes of Health
April 2006 to March 2009—\$214,500
"Whole Cell Biosensing of Bacterial Chemotaxi."

Chemistry & Biochemistry

Lisa M. Berreau and Elena Rybak-Akimova (Tufts University)

NSF – ADVANCE (USU)
1 July 2006 to 30 June 2007 - \$7000
"Stopped-flow Kinetic Studies of Model Reactions for Acireductone Dioxygenases."

Joan Hevel

American Heart Association
1 January 2003 to 31 December 2006—\$65,000
"Regulating Human Apolipoprotein B Transcription: Characterization of the HNF1:DCoH Complex."

Lance Seefeldt

DHHS/NIH/NIGMS
1 April 2006 to 31 March 2007—\$241,365
"Nitrogenase Mechanism."

Computer Science

SeungJin Lim

Altiris
12 May 2006 to 11 May 2007—\$7,000
"Semantic String Matching."

Physics and The Center for Atmospheric & Space Sciences

Robert Schunk

NASA

1 May 2005 to 30 April 2008—\$310,000

“Flow of Plasma in Solar Terrestrial Environment.”

Haeyeon Yang

SVT Associates, Inc.

1 May 2006 to 1 February 2007—\$30,000

“High Efficiency Solar Cells from Quantum Wires.”

Faculty Presentations & Related Professional Activities

Biology

Diane G. Alston, Sherman V. Thomson, Shawn S. Steffan, C. Kent Evans, Anthony H. Hatch, and Brent Black presented a poster titled “Building an Extension Tree Fruit IPM Program on Strong University-Industry Relations” at the 5th National IPM Symposium, St. Louis, Missouri, 4-6 April 2006.

Edmund D. Brodie, Jr. gave a seminar titled “Newts: Skin Toxin and Predators” to the Department of Ecology and Evolutionary Biology, University of California-Los Angeles, Los Angeles, California, 12 April 2006.

Daryll B. DeWald was an invited panelist at “The Promise of Personalized Medicine...Utah’s Role” sponsored by the Governor’s Office of Economic Development (GOED), Salt Lake City, Utah, 24 March 2006. The meeting was organized to discuss how Utah businesses and universities are going to work together to address medical issues based on people’s genetic profiles. **Dr. Ned M. Weinschenker** of GOED (now USU Vice President for Strategic Ventures and Economic Development) convened the meeting and moderated the discussion. Other panelists included **Michael Paul**, PhD (LineaGen), **Kevin Flanigan**, MD, (U of U), **Jerry Lanchbury**, PhD (Myriad Genetics), and **C. Lars Mouritsen**, PhD (Sorenson).

Daryll B. DeWald gave a presentation titled “PI 4-Kinase Functions: Sorting Out Secretion from Signaling” at the University of Utah’s Membrane Trafficking Minisymposium, Salt Lake City, Utah, 5 May 2006.

Edward W. Evans presented a presentation titled “Community Ecology and Biological Control: Indirect Interactions among Insect Pests” at the 50th Annual Meeting of the Society for Applied Entomology and Zoology, Tsukuba, Japan, 27-29 March 2006.

Edward W. Evans, Trent R. Tolger, Julie P. Rieder, and T. A. Scott Newbold gave a presentation titled “Community Impact of Seed Head Insects on Reproductive Success of Squarrose Knapweed in Utah” at the Annual Meeting of the Western Society of Weed Science, Reno, Nevada, 14-16 March 2006.

Timothy A. Gilbertson was the featured speaker and gave a presentation titled “The Obesity Epidemic: Are Our Taste Buds to Blame?” at Utah State’s Sunrise Session hosted by the Regence BlueCross BlueShield of Utah, 13 June 2006, Salt Lake City, Utah. The lecture series showcases efforts of Utah State’s outstanding researchers to Utah’s corporate and government leaders.

Erin W. Hodgson gave a presentation titled “Public Health Pests and Disease Vectors” at the Utah Mosquito Abatement Association Spring Workshop, Salt Lake City, Utah, 8 April 2006.

Rosalind James gave an invited seminar titled “Disease Dynamics of *Ascospaera*: Chalkbrood and Leafcutting Bees” to the Department of Ecology, The Royal Veterinary and Agricultural University, Copenhagen, Denmark, 5-9 June 2006.

Joseph K.-K. Li gave an invited seminar titled “Bluetongue Virus Gene Therapy for Human Cancers” at the new Toronto Medical Discover Tower, School of Medicine, University of Toronto, 21 June 2006, Toronto, Ontario, Canada. He also visited different research labs at the Hospital for Sick Children, Mt. Sinai Hospital, Sunnybrook Health Sciences Center, and McLaughlin Center for Molecular Medicine to explore potential collaborations.

Charles Miller, Ron Sims, and Anne Anderson gave a presentation titled “The Genomes of Five PAH-Degrading Mycobacteria” at the First Annual Joint Genome Institute User Meeting, Walnut Creek, California, 29 March–1 April 2006.

Theresa L. Pitts-Singer and Joan L. Walker gave a presentation titled “Through the Eyes of a Bee-holder: A Look at Rare Plants of Apalachicola National Forest, Florida” at the 67th meeting of the Association of Southeastern Biologists, Gatlinburg, Tennessee, 30 March 2006.

Katarina Stroffekova presented a poster titled “The IQ Motif of the α_{1S} Subunit of the Skeletal Muscle DHPR is Important for Excitation-Contraction Coupling and Localized Interaction with Calmodulin (CaMO)” at the Gordon Conference: Excitation-Contraction Coupling, New London, New Hampshire, 4-9 June 2006.

Katharine A. Swoboda and James H. Cane gave a presentation titled “The Pollination Ecology of *Hedysarum boreale*” at the IPlant Summit, Boise, Idaho, 28-30 March 2006.

Kristal M. Watrous and James H. Cane gave a presentation titled “Pollination Biology of *Astragalus filipes*” at the Intermountain Native Plant Summit, Boise, Idaho, 28-30 2006.

The following presentations were given at the 90th Annual Meeting of the Pacific Branch Entomological Society of America, Wailea, Hawaii, 4-8 March 2006:

Diane G. Alston and Thor Lindstrom. “Retention and Mortality of Western Cherry Fruit Fly in Response to GF-120 and Bait Concentration.”

Edward W. Evans. “Links between Agricultural Crops and Natural Areas: Habitat Selection of Insect Predators.”

The following presentations were given at the 4th Intermountain Native Plant Summit, Boise, Idaho, 28-30 March 2006:

James Cane. “Bees and the Seeds that their Pollination Breeds.”

Katharine Swoboda. “Pollination Ecology of *Hedysarum boreale* Nutt. A Legume for Rehabilitating Rangeland in the US Intermountain West.”

Kristal Watrous. "Pollination Biology of Threadstem Milkvetch, *Astragalus filipes*."

The following posters were presented at the 97th Annual Meeting of the American Association for Cancer Research, Washington, DC, 1-5 April 2006:

Sitaram Harihar, Danny R. Welch, and Daryll B. DeWald. "Breast Cancer Metastasis Suppressor 1 Reduces Epidermal Growth Factor Signaling in MDA-MB-435 Cells."

Kedar S. Vaidya, Pushkar A. Phadke, Daryll B. DeWald, Graham Casey, and Danny R. Welch. "Multiple Mechanisms Underlying Breast Cancer Metastasis Suppressor-1 (BRMS1) Metastasis Suppression."

The following posters were given at the National Conference on Undergraduate Research, the University of North Carolina-Asheville, Asheville, North Carolina, 6-7 April 2006:

Margy Dubal, Amanda Bakian, and Kimberly A. Sullivan. "Impact of Gender and Teaching Load in Professor Productivity."

Sephonnie Ellis and Kimberly A. Sullivan. "Are Scientific Societies Keeping Up with the Times? A Glance at the Membership of the Ornithological Societies."

The following posters were given at the 28th Annual Meeting of the Association for Chemoreception Sciences, Sarasota, Florida, 26-30 April 2006 (*denotes undergraduates):

Arian F. Baquero, Dane R. Hansen, Chad Coombs* and **Timothy A. Gilbertson.** "Dietary Fat Induced Obesity Alters K Channel Expression and Reduces Fatty Acid Responsiveness in Rats."

Dane R. Hansen, Logan McKenna*, Bhavik P. Shah and **Timothy A. Gilbertson.** "Expression of Fatty Acid-activated G Protein Coupled Receptors in Chemosensory Cells."

Bhavik P. Shah, Dane R. Hansen and **Timothy A. Gilbertson.** "Over-expression of K Channel Subtypes Alters Responsiveness to Fatty Acids in a Chemosensory Cell Line."

Kristina J. Watson and **Timothy A. Gilbertson.** "Aquaporin Expression in Mice."

The presentations by Ph.D. students Arian Baquero and Bhavik Shah were identified as outstanding interest and packaged as part of a press release highlighting cutting-edge research in the chemical senses (taste and smell). Only 15 of over 500+ presentations (<3%) are identified in this manner.

The following posters were given at the Gordon Research Conference on The Metabolic Basis of Ecology and Evolution, Lewiston, Maine, 9-14 July 2006:

S. K. Morgan Ernest, James H. Brown, Jacob R. Goheen, Katherine M. Thibault, and **Ethan P. White.** "The Role of

Metabolism, Dispersal, and the Niche in Maintaining in Zero-Sum Game in a Desert Rodent Community."

Ethan P. White, Brian J. Enquist, S. K. Morgan Ernest, and **Jessica L. Green.** "Methodological Impacts on the Observed Form of the Size-Distribution."

The following presentations were given at the Joint Annual Meeting of Ichthyologists and Herpetologists, New Orleans, Louisiana, 12-17 July 2006:

Leleña A. Avila, Edmund D. Brodie, Jr., and Edmund D. Brodie III. Poster. "Assessing Predation on *Thamnophis sirtalis* exhibiting a Potential Aposematic Cue."

Edmund D. Brodie, Jr. and Edmund D. Brodie III. Poster. "Geographic Variation in Tetrodotoxin Resistance in Four Species of Garter Snakes."

Michael J. Edgehouse, Edmund D. Brodie III, and Edmund D. Brodie, Jr. Poster. "Resistance to Tetrodotoxin in Garter Snakes from Santa Lucia Preserve, Monterey County, California."

Chris R. Feldman, Michael E. Pfrender, Edmund D. Brodie III, and **Edmund D. Brodie, Jr.** "Is There More Than One Way to Skin a Newt? Parallel Evolution in the Newt-Garter Snake Coevolutionary System."

Joseph R. Mendelson III. "The Scope and Scale of Emergency Conservation Efforts for Global Amphibians."

Amanda J. Mortensen, Charles T. Hanifin, Michael J. Edgehouse, Edmund D. Brodie III, and Edmund D. Brodie, Jr. Poster. "Fine Scale Variation in Defensive Behavior in *Taricha*: Is It Related to Toxicity?"

Becky L. Williams, Edmund D. Brodie, Jr., and Edmund D. Brodie III. Talk. "Coevolution of Deadly Toxins and Predator Resistance: Behavioral Rejection of Toxic Newt Prey by Garter Snakes."

Chemistry & Biochemistry

Alexander I. Boldyrev gave a presentation titled "Why Do All-Boron Clusters Prefer Planar or Quasi-planar Structure?" at the Intermolecular Interactions: New Challenges for ab initio Theory Workshop, Telluride, Colorado, 27 June-2 July 2006.

Lisa M. Berreau presented a poster titled "Aliphatic Carbon-Carbon Bond Cleavage Reactivity of a Mononuclear Ni(II) Cis- β -Keto-Enolate Complex in the Presence of Base and O₂: A Model Reaction for Acireductone Dioxygenase" at the 231st National American Chemical Society Meeting, Atlanta, Georgia, 26-30 March 2006.

Lisa M. Berreau gave a presentation titled "Glyoxalase I-type Hemithioacetal Isomerization Reactivity of Mononuclear Ni(II) Deprotonated Amide Complexes" at the 2006 National Science Foundation - Inorganic Chemistry Workshop, Semiahmoo Resort, Blaine, Washington, 6-9 June 2006.

Tapas Kar presented invited seminars on his nanotechnology research titled "Chemical Modifications of Fullerenes and Carbon Nanotubes" at Bengal Science and Engineering University, Kolkata, India, 30 March 2006; Indian Institute of Technology, New Delhi, India; and National Physical Laboratory, New Delhi, India, 24-25 April 2006.

Physics and The Center for Atmospheric & Space Sciences

T. E. Doyle, D. A. Robinson, S. B. Jones, and K. H. Warnick gave a presentation titled “Modeling the Dielectric Properties of Granular Media to Determine Water Content” at the Utah State 2006 Spring Runoff Conference, Logan, Utah, 27-28 March 2006.

Bela G. Fejer gave a presentation titled “Equatorial Ionospheric Electric Fields during the September 2005 CAWSES Campaign” at the Spring American Geophysical Union Meeting, Baltimore, Maryland, 23-26 May 2006.

Robert W. Schunk, Ludger Scherliess, Jan J. Sojka, Donald C. Thompson, and Lie Zhu gave a presentation titled “Data Assimilation Models for Ionospheric Specifications and Forecasts” at Space Weather Week, Boulder, Colorado, 25-28 April 2006.

TC Shen presented a poster titled “Fabrication of Atom-scale Devices by Patterning Donor Delta-layers in Silicon” at the Molecular Foundry Workshop, Lawrence Berkeley National Laboratory, Berkeley, California, 25 May 2006.

TC Shen gave a presentation titled “NIRT: Atom-scale Silicon Integrated Circuits for Quantum Computation” at Nanoscale Multidisciplinary Research Team (mid-term meeting), Logan, Utah, 24 July 2006.

Jan J. Sojka, Piotr Kokoszka, Lie Zhu, and Inga Maslova gave a presentation titled “Wavelet Decomposition of Magnetometer Measurements to Enable Separation of Non-Linear M-I Currents” at the 20 Years of Nonlinear Dynamics in Geosciences Meeting, Rhodes, Greece, 11-16 June 2006.

The following presentations were made at the Workshop on Agricultural Air Quality: State of the Science, Potomac, Maryland, 5-8 June 2006:

Gail E. Bringham, Jerry L. Hatfield, John H. Prueger, Thomas D. Wilkerson, Vladimir V. Zavyalov, Richard L. Pieffier, Lawrence Higgs, Randal S. Martin, Phillip J. Silva, and W. Eichinger. “An Integrated Approach to Measuring Emissions From Confined Animal Feeding Operations at the Whole Facility Scale.”

Lawrence Higgs, John H. Prueger, Jerry L. Hatfield, Gail E. Bingham, W. Eichinger, Thomas D. Wilkerson, Vladimir V. Zavyalov, Randal S. Martin, and Phillip J. Silva. “Integrating Lidar and Atmospheric Boundary Layer Measurements to Determine Fluxes and Dynamics of Particulate Emissions From an Agriculture Facility.”

Thomas D. Wilkerson, Gail E. Bingham, Vladimir V. Zavyalov, Jason Swasey, Jed J. Hancock, Blake G. Crowther, Scott S. Cornelsen, Christian Marchant, James N. Cutts, David C. Huish, Curits L. Earl, Jan M. Andersen, and McLain L. Cox. “AGLITE: A Multiwavelength Lidar for Aerosol.”

Vladimir Zavyalov, Gail E. Bingham, Thomas D. Wilkerson, Jason Swasey, Christian Marchant, Christopher Rogers, Randal S. Martin, Phillip J. Silva, and Vishal Dosh. “Characterization of Particulate Emission From Animal Feeding Operations with Three-Wavelength Lidar Using Simultaneous In-Situ Point Measurements as Calibration

Reference Sources.”

The following posters were presented at the CEDAR Workshop, Santa Fe, New Mexico, 19-23 June 2006:

Matt Bailey, Michael J. Taylor, Dominique Pautet, Walter A. Lyons, and Steven Cummer. “Infrared Imaging of Transient Luminous Events (1 - 1.5 micron) over the Mid-Western US and Comparison with their Visible Wavelength Signatures.”

Mitsumu K. Ejiri, Michael J. Taylor, Dominique Pautet, Yucheng Zhao, Kim Nielsen, and A. Z. Liu. “Investigating Mesospheric Gravity Wave Propagation and Momentum Flux at Low-Latitudes Using Simultaneous Na Lidar and Temperature Mapper Measurements.”

Mitsumu K. Ejiri, Michael J. Taylor, Dominique Pautet, Yucheng Zhao, Kim Nielsen, and A. Z. Liu. “Short-Period Mesospheric Gravity Wave Propagation and Momentum Flux at Low-Latitudes Using Simultaneous Na Lidar and Temperature Mapper Measurements.”

Larry C. Gardner and Robert W. Schunk. “Three-Dimensional High-Resolution Storm-Time Simulation of the Ion and Neutral Polar Winds.”

Hema Karnam Surendra Babu, Michael J. Taylor, and Jacob H. Gunther. “Seasonal Investigations of Variance in Mesospheric Wave Structures at Low Latitudes.”

John W. Meriwether, R. Hedden, M. Larsen, Josh Herron, Vince Wickwar, and L. L. Cogger. “Plans for Ion-Neutral Coupling Studies Utilizing the Alaskan Fabry-Perot Interferometer Network and the AMISR Radar.”

Kim Nielsen, Michael J. Taylor, and Martin J. Jarvis. “Propagation and Ducting of Short-Period Gravity Waves over Antarctica.”

Pierre-Dominique Pautet, Michael J. Taylor, and Dave C. Fritts. “Investigating Mesospheric Gravity Waves and their Potential Role in Seeding Thermospheric Depletions over Brazil.”

Jan J. Sojka, Michael David, Ariel Acebal, and Robert W. Schunk. “Modeling Ionospheric Weather and Climate Using Month-Long ISR Observations.”

The following posters were presented at the Western Dairy Air Quality Symposium, Western States Dairy Producers Trade Association, Las Vegas, Nevada, 3-5 April 2006:

Jan Marie Andersen and Thomas D. Wilkerson. “Quantitative Interpretation of Lidar Data in Terms of Physical Properties of the Atmosphere.”

Thomas D. Wilkerson, Jeremy Pack, and McLain Cox. “Aerosol Particles Collected on Plates in Utah and Iowa.”

Vladimir V. Zavyalov, Gail E. Bingham, Thomas D. Wilkerson, Christian Marchant, Jason Swasey, Jed J. Hancock, Jan Maries Andersen, and McLain Cox. “Calibration of T From Animal Feeding Operations Using Simultaneous In-Situ Point Measurements.”

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Biology

Gilberto U.L. Braga, Drauzio E.N. Rangel, Stephan D. Flint, Anne J. Anderson, and Donald W. Roberts. 2006. Conidial Pigmentation Is Important to Tolerance Against Solar-simulated Radiation in the Entomopathogenic Fungus *Metarhizium anisopliae*. *Photochemistry and Photobiology* 82(2):418-422.

James Cane, Robert Minckley, Linda Kervin, T'ai Roulston and Neal Williams. 2006. Complex Responses within a Desert Bee Guild (Hymenoptera: Apiformes) to Urban Habitat Fragmentation. *Ecological Applications* 16(2):632-644.

Eric L. Charnov and S. K. Morgan Ernest. 2006. The Offspring/Clutch Size Tradeoff in Mammals. *American Naturalist* 167:578-582.

Shana L. Geffeney and Peter C. Ruben. 2006. The Structural Basis and Functional Consequences of Interactions between Tetrodotoxin and Voltage-gated Sodium Channels. *Marine Drugs* 4:143-156.

Yukie Kajita, Fumiyo Takano, Hironori Yasuda, and Edward W. Evans. 2006. Interactions between Introduced and Native Predatory Ladybirds (Coleoptera: Coccinellidae): Factors Influencing the Success of Species Introductions. *Ecological Entomology* 31:58-67.

Yukie Kajita, Hironori Yasuda, and Edward W. Evans. 2006. Effects of Native Ladybirds on Oviposition of the Exotic Species, *Adalia bipunctata* (Coleoptera: Coccinellidae) in Japan. *Applied Entomological Zoology* 41(1):57-61.

Karen E. Mock, R. Paul Evans, Marianne Crawford, Brian L. Cardall, Susanne U. Janecke, and Mark P. Miller. 2006. Rangewide Molecular Structuring in the Utah Sucker (*Catostomus ardens*). *Molecular Ecology* 15: 2223-2238.

Joseph R. Mendelson III et al. (including Edmund D. Brodie, Jr.). 2006. Confronting Amphibian Declines and Extinctions. *Science* 313:48.

Daniel G. Mulcahy, Allen W. Spaulding, Joseph R. Mendelson III and Edmund D. Brodie, Jr. 2006. Phylogeography of the Flat-tailed Horned Lizard (*Phrynosoma mcallii*) and Systematics of the *P. mcallii-platyrrhinus* mtDNA Complex. *Molecular Ecology* 15:1807-1826.

James P. Pitts. 2006. Review of the *Sphaerophthalma imperialis* Species-group (Hymenoptera: Mutillidae), with Descriptions of Females and Taxonomic Notes. *Zootaxa* 1248:1-20.

William J. Popenorf. 2006. *Industrial Hygiene Control of Airborne Chemical Hazards*. CRC Press, Taylor and Francis Group, Boca Raton, Florida.

Van M. Savage, Ethan P. White, Melanie E. Moses, S. K. Morgan Ernest, Brian J. Enquist, and Eric L. Charnov. 2006. Comments on The Illusion of Invariant Quantities in Life Histories. *Science* 312:198b.

Vijendra K. Singh. 2006. Elevation of Serum C-reactive Protein and S100 Proteins for Systemic Inflammation in Autistic Children. *Journal of Special Education and Rehabilitation* 3(4):117-125.

Vijendra K. Singh and J. Hansen. 2006. Assessment of Metallo-thionein and Antibodies to Metallothionein in Normal and Autistic Children Having Exposure to Vaccine-derived Thimerosal. *Pediatric Allergy and Immunology* 17:291-296.

Sedonia D. Sipes and Vincent J. Tepedino. 2005. Pollen-host Specificity and Evolutionary Patterns of Host Switching in a Clade of Specialist Bees (Apoidea: Diadasiinae). *Biological Journal of the Linnean Society* 86:487-505.

Trent Toler, Edward W. Evans, and Vincent J. Tepedino. 2005. Pan-trapping for Bees (Hymenoptera: Apiformes) in Utah's West Desert: The Importance of Color Diversity. *Pan-Pacific Entomologist* 81:103-113.

Eric J. Wagner, Chris Wilson, Ronald Arndt, Patrick Goddard, Mark P. Miller, Anna Hodgson, and Richard Vincent. 2006. Evaluation of Disease Resistance of the Fish Lake-DeSmet and Harrison Lake Strains of Rainbow Trout Exposed to *Myxobolus cerebralis*. *Journal of Aquatic Animal Health* 18:128-135.

Chemistry & Biochemistry

B. Akdim, Tapas Kar, D.A. Shiffler, X. Duan and R. Pachter. 2006. Effects of O₃ Adsorption on the Emission Properties of Single-Wall Carbon Nanotubes: A Density Functional Theory Study. *Lecture Notes in Computer Science* 3991:372-378.

Alexandra N. Alexandrova, E. Koyle and Alexander I. Boldyrev. 2006. Theoretical Study of Hydrogenation of the Doubly Aromatic B₇⁻ Cluster. *Journal of Molecular Modeling* 12:569-576.

Russell A. Allred, Kelly Doyle, Atta M. Arif, and Lisa M. Berreau. 2006. Solvent Effects on the Structural and Formyl Substrate Reactivity Properties of a Nitrogen/Sulfur-ligated Zinc Hydroxide Complex. *Inorganic Chemistry* 45:4097-4108.

L.-F. Cui, X. Huang, L.-M. Wang, D. Yu. Zubarev, Alexander I. Boldyrev, J. Li, and L. S. Wang. 2006. Sn₁₂²⁺: Stannasherene. *Journal of the American Chemical Society* 128:8390-8391.

B. M. Elliott, E. Koyle, Alexander I. Boldyrev, X.-B. Wang, and L. S. Wang. 2005. MX_3^- Superhalogens (M=Be, Mg, Ca, X=Cl, Br): A Photoelectron Spectroscopic and Ab Initio Theoretical Study. *Journal of Physical Chemistry A* 109:11560-11567.

Joan M. Hevel, J. A. Stewart, K. L. Gross, and J. E. Ayling. 2006. Can the DcoH α Isozyme Compensate in Patients with 4 α -hydroxy-tetrahydrobiopterin Dehydratase/DcoH Deficiency? *Molecular Genetics and Metabolism* 88:38-46.

Tapas Kar, Brahim Akdim, Xiaofeng Duan, and Ruth Pachter. 2006. Open-ended Modified Single-wall Carbon Nanotubes: A Theoretical Study of the Effects of Purification. *Chemical Physical Letters* 423:126-130.

H.-J. Zhai, L. S. Wang, D. Yu. Zubarev, and Alexander I. Boldyrev. 2006. Gold Apes Hydrogen. The Structure and Bonding in the Planar B $_7$ Au $_2^-$ and B $_7$ Au $_2$ Clusters. *Journal of Physical Chemistry A* 110:9743-9746.

D. Yu. Zubarev, A. N. Alexandrova, Alexander I. Boldyrev, H.-J. Zhai, and L. S. Wang. 2006. On the Structure and Chemical Bonding of Si $_6^{2-}$ and Si $_6^{2-}$ in NaSi $_6^-$ upon Na $^+$ Coordination. *Journal of Chemical Physics* Vol 124:Article 124305, p. 1-13.

D. Yu. Zubarev, Alexander I. Boldyrev, X. Li, L.-F. Cui, and L. S. Wang. 2005. Chemical Bonding in Si $_5^{2-}$ and NaSi $_5^-$ via Photoelectron Spectroscopy and Ab Initio Calculations. *Journal of Physical Chemistry A* 109:11385-11394.

D. Yu. Zubarev, Alexander I. Boldyrev, J. Li, and L. S. Wang. 2006. Observation of Triatomic Species with Conflicting Aromaticity: AlSi $_2^-$ and AlGe $_2^-$. *Journal of Physical Chemistry B* 110:9743-9746.

D. Yu. Zubarev, J. Li, L. S. Wang, and Alexander I. Boldyrev. 2006. Theoretical Probing of Deltahedral Closo-Auroboranes B $_x$ Au $_x^{2-}$ (x=5-12). *Inorganic Chemistry* 45:5269-5271.

Mathematics & Statistics

Istvan Berkes, Lajos Horvath and Piotr Kokoszka. 2006. Near Integrated GARCH Sequences. *Annals of Applied Probability* 15:890-913.

Istvan Berkes, Lajos Horvath, Piotr Kokoszka, and Qiman Shao. 2006. Discriminating Between Long-Range Dependence and Changes in Mean. *The Annals of Statistics* 34:1140-1165.

Lajos Horvath, Piotr Kokoszka and Anon Zhang. 2006. Monitoring Constancy of Variance in Conditionally Heteroskedastic Time Series. *Econometric Theory* 22:373-402.

Lajos Horvath, Piotr Kokoszka and Ricardas Zitikis. 2006. Testing for Stochastic Dominance Using the Weighted McFadden. *Statistical Journal of Econometrics* 133:191-205.

Piotr Kokoszka, Inga Maslova, Jan Sojka, and Lie Zhu. 2006. Probability Tails of Wavelet Coefficients of Magnetometer Records. *Journal of Geophysical Research* 111 (A6):A06202, doi:10.1029/2005JA011486.

Physics and The Center for Atmospheric & Space Sciences

Timothy E. Doyle. 2006. Iterative Simulation of Elastic Wave Scattering in Arbitrary Dispersions of Spherical Particles. *The Journal of the Acoustical Society of America* 119 (5):2599-2610.

Larry C. Gardner and Robert W. Schunk. 2006. Initial 3-D Neutral Polar Wind. *Advances in Space Research* 37(2):409-413.

Piotr Kokoszka, Inga Maslova, Jan J. Sojka, and Lie Zhu. 2006. Probability Tails of Wavelet Coefficients of Magnetometer Records. *Journal of Geophysical Research* 111, A6, A06202, doi:10.1029/2005JA011486.

Christopher G. Smithtro, Jan J. Sojka, F. Tom Berkey, Donald Thompson, and Robert W. Schunk. 2006. Anomalous F Region Response to Moderate Solar Flares. *Radio Science* 41, doi:10.1029/2005RS003350.

Donald C. Thompson, Ludger Scherliess, Jan J. Sojka, and Robert W. Schunk. 2006. The Utah State University Gauss-Markov Kalman Filter of the Ionosphere: The Effect of Slant TEC and Electron Density Profile Data on Model Fidelity. *Journal of Atmospheric and Solar-Terrestrial Physics* 68:947-958.

Charles Torre. 2006. Uniqueness of Solutions to the Helically Reduced Wave Equation with Sommerfeld Boundary Conditions. *Journal of Mathematical Physics* 47:073501.

Charles Torre. Gravitational Waves: Just Plane Symmetry. *General Relativity and Gravitation* 38(4):1-10.

Charles Torre. Observables for the Polarized Gowdy Model. *Classical and Quantum Gravity* 23:1543-1556.

Lie Zhu, Robert W. Schunk, Geonhwa Jee, Ludger Scherliess, Jan J. Sojka, and Donald C. Thompson. 2006. Validation Study of the Ionosphere Forecast Model (IFM) Using the TOPEX TEC Measurements. *Radio Science* 41, doi:10.1029/2005RS003336.

Science Scene is an internal newsletter sent to the Utah State Board of Trustees, Utah State Administration, and the College of Science faculty and staff. It is published regularly throughout the school year. Its purpose is to inform the Board of Trustees and the College of the research activities of our faculty and students, also providing a forum for peers to follow one another's careers and professional development.



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