

The Dean's Corner—

As you all know by now, our search for a new dean was unsuccessful. I have had a preliminary discussion with our new Provost, Stan Albrecht, about the situation and we will soon meet again to determine a plan of action for a new search. On a brighter note, we have made an offer to someone for the position of college development director (we should have an answer very soon) and construction on the Eccles Science Learning Center is proceeding at a fast pace. Once it is warm enough for the exposed steel work in the atrium area to be painted, it will be enclosed with its translucent covering. Completion of the Learning Center is still scheduled for mid-July.

We recently completed our annual college phonathon, which ran from 20 February through 3 March. This year our focus was on departmental scholarships and I am pleased to announce that we received more than \$30,000 in pledges. In addition, we received pledges from approximately 150 alumni who had not donated in the past. Most alumni were quite receptive to the phonathon and they had a lot of questions about former teachers and departmental activities. Our college development efforts will continue to focus on this theme of supporting departmental scholarships throughout the year and I encourage faculty and staff to consider donating to their respective departmental scholarships as well.

Our college awards ceremony will be Friday afternoon, 20 April. I am looking forward to announcing our student and faculty award recipients to you at that time. I appreciate the efforts of the department heads and departmental committees in preparing nomination packets for the various college and university awards.

I hope that all is going well for you this semester and I look forward to seeing you at the college awards ceremony and reception on 20 April.

**College of Science
Awards Program**

*Friday
20 April 2001
3:30 - 4:30 pm
Haight Alumni Center*

*For
Award Recipients & their Families,
Students, Faculty & Staff*



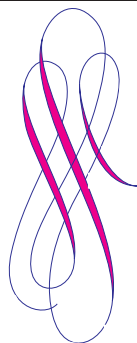
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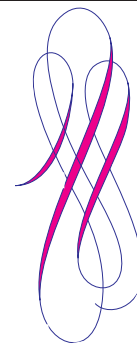
**Interim Dean Don Fiesinger's
Office Hours**

Wednesdays & Fridays

10:00 am to Noon



**Utah State University &
College of Science
Calendar
— 2001 —**



College Awards Program	20 Apr	Haight Alumni Center—3:30 - 4:30 pm
No Test Week	23-27 Apr	Class Schedule
Spring Semester Last Day of Classes	27 Apr	Class Schedule
Spring Semester Final Exams	30 Apr - 4 May	Class Schedule
University Hooding Ceremony	4 May	Dee Glenn Smith Spectrum—1:30 pm
College Graduation Open House	4 May	Haight Alumni Center—3:30 - 5:00 pm
University Graduation	5 May	Dee Glenn Smith Spectrum—9:30 am
College Graduation	5 May	TSC Ballroom—12 Noon
Summer Semester Begins	07 May	Class Schedule
Memorial Day	28 May	USU Holiday
Independence Day	4 Jul	USU Holiday
Eccles Science Learning Center	15 Jul	Scheduled Completion Date
Pioneer Day	24 Jul	USU Holiday
Summer Semester Last Day of Classes	02 Aug	Class Schedule
Summer Semester Final Exams	03 Aug	Class Schedule
Fall Semester First Day of Classes	27 Aug	Class Schedule
Labor Day	03 Sep	USU Holiday
Thanksgiving	21-23 Nov	USU Holiday (Staff 22-23)
No Test Week	03-07 Dec	Class Schedule
Last Day of Classes	07 Dec	Class Schedule
Final Exams	10-14 Dec	Class Schedule

*The College of Science honors its top students and faculty at an
Awards Program & Reception
20 April 2001
3:30-4:30 pm
David B. Haight Alumni Center*

*Uyen Tu Chau (Computer Science) Valedictorian
Rodrick Taylor (Biology) Scholar of the Year
Matthew Pachell (Geology) Graduate Student (MS) Researcher of the Year
David Bienvenue (Chemistry & Biochemistry) Graduate Student (PhD) Researcher of the Year
Matthew J. Biesecker (Mathematics & Statistics) Graduate Student Teacher of the Year
James A. Powell (Mathematics & Statistics) Teacher of the Year
Chris S. Coray (Mathematics & Statistics) Advisor of the Year
Richard Holz (Chemistry & Biochemistry) Researcher of the Year*

Presentations & Meetings—

Department of Biology

Peter C. Ruben presented a talk titled “Slow Inactivation in Sodium Channels: An Elegant Target for Modulation... But Is It Modulated?” at the Winter Conference on Brain Research session on “Regulation of Voltage-Dependent Sodium Channels by Protein Kinases and Phosphatases,” Steamboat Springs, Colorado, 25 January 2001.

Peter C. Ruben presented a seminar titled “Sodium Channel Deactivation and Slow Inactivation Defects Underlie Myotonia and Idiopathic Ventricular Fibrillation” to the Molecular, Cellular and Integrative Neurosciences Program, Colorado State University, Fort Collins, Colorado, 7 February 2001.

Paul G. Wolf and John Hanks gave a presentation titled “Building and Analyzing Complete Organelle Genomes for Phylogenetic Analysis” at the Phyloinformatics Workshop, San Diego Supercomputer Center, San Diego, California, 11-12 February 2001.

Department of Chemistry & Biochemistry

Bradley S. Davidson presented a talk titled “Laulimalide, the Newest Microtubule Stabilizing Agent: Biological Activities and Synthetic Approaches” at the 2000 International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, 14-19 December 2000.

Department of Computer Science

Vicki H. Allan, Vamsi K. Balimidi, and Ramsundar Janakiram presented a paper titled “Using Directed Hypergraphs to Implement Overriding Rules in Expert Systems” at the 12th Midwest Artificial Intelligence and Cognitive Science Conference (MAICS'2001), Oxford, Ohio, 31 March-1 April 2001.

Li Chen, Ognada Adjei, and Donald H. Cooley presented a paper titled “Lambda-Connectedness: Method and Application” at the IEEE SMC '2000, Nashville, Tennessee, 8-11 October 2000.

Xiaoxin Chen and Vicki H. Allan presented a paper titled “Distributed Synchronization in Multijav” at the First International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT'2000), Grant Stanford Harbour View, Hong Kong, 22-24 May 2000.

Heng-Da Cheng, Yugang Hu, Chen-Yuan Wu and Donald L. Hung presented a paper titled “Mammogram Classification Using Fuzzy Central Moments” at the Fourth World Multiconference on Systemics, Cybernetics and Informatics (SCI2000) and the Sixth International Conference on Information Systems Analysis and Synthesis (ISAS2000), Orlando, Florida, 23-26 July 2000.

Heng-Da Cheng, Jing Li Wang, Yugang Hu and Chris Glazier presented a paper titled “A Novel Approach to Pavement Crack Detection Based on Neural Networks” at the TRB Annual Meeting, Washington, DC, 7-11 January 2001.

Heng-Da Cheng and Mei Xue presented a paper titled “Contrast Enhancement Based on Homogeneity” at the Fourth World Multiconference on Systemics, Cybernetics and Informatics (SCI2000) and the Sixth International Conference on Information Systems Analysis and Synthesis (ISAS2000), Orlando, Florida, 23-26 July 2000.

Heng-Da Cheng and Mei Xue had a paper accepted titled “Mammogram Contrast Enhancement Using a Novel Fuzzy Homogeneity Measure” accepted by Atlantic Symposium on Computational Biology, Genome Information Systems & Technology 2001.

Jay Suiter and Donald H. Cooley will present a paper titled “Optimal Municipal Bus Routing using a Genetic Algorithm” at the International Joint Conference on Neural Networks and Genetic Algorithms, Prague, Czechoslovakia, 22-25 April 2001.

Department of Geology

The following presentations were made at the American Geophysical Union Fall Meeting, San Francisco, California, 16-17 December 2000:

Brian Darby and Bradley Ritts. “Mesozoic Intracontinental Deformation of the Western North China Block: Structural Geology and Basin Analysis of the Helan Shan and Western Ordos Basin.”

Bradley Ritts, Steve Graham, Laura Webb, Edmund Chang, Andrew Hanson, and Cari Johnson. “Mesozoic Extrusion Tectonics of the North China Block.”

Bradley Ritts gave a presentation titled “Mesozoic Tectonics of the Qaidam Basin and Altyn Tagh Region, NW China” University of Nevada, Las Vegas, Nevada, 7 February 2001.

Department of Mathematics & Statistics

Larry Cannon and Bob Heal gave an invited presentation titled “Engaging Students - Technology Showcase” at the 2001 NSF K-12 Math Science Implementation Conference, Washington, DC, 1-4 February 2001.

Dan Nakano gave a presentation titled “Support Varieties for Algebraic Groups” at the National AMS Meeting, New Orleans, Louisiana, January 2001.

James Powell gave a talk titled “Mathematical Basis for Modeling Insect Phenology” at the Joint Meeting of the Entomological Society of America and Canada, Montreal, Quebec, Canada, 3-4 December 2000.

Zhi-Qiang Wang presented a paper titled “On Weighted Sobolev Inequalities” at the AMS-HKMS Joint Meeting, Hong Kong, 13-16 December 2000.

Grants & Proposals—

Department of Geology

Bradley Ritts

Chevron Overseas Petroleum/Cabinda Gulf Oil Company

1 January 2001 to 31 December 2003, Equipment Grant - Sun Geophysical Workstation, \$68,856

“Evaluation of Chela Formation in the Kambala-Livuite Area, Cabinda, Angola, and its Influence on Seismic Attributes of the Upper TOCA Formation.”

Equipment grant for subsurface geophysical investigation of offshore Angola. Research involves interpretation of three-dimensional seismic and borehole data to define the geometry, heterogeneity and petroleum potential of the Cretaceous Chela Formation.

Bradley Ritts

Chevron Overseas Petroleum/Cabinda Gulf Oil Company

1 February 2001 to 31 January 2003, \$8,229

“Evaluation of Chela Formation in the Kambala-Livuite Area, Cabinda, Angola, and its Influence on Seismic Attributes of the Upper TOCA Formation.”

Research to determine the geological history and petroleum potential of the Cretaceous Chela Formation, a sub-salt formation, offshore Cabinda, Angola. Research includes interpretation of three-dimensional seismic and well-data, and will lead to a better understanding of the significance of the Chela Formation in Cabinda petroleum systems, as well as the distribution and heterogeneity of sedimentary facies in late syn-rift, mixed marine-nonmarine systems.

Department Business & News—

Department of Chemistry & Biochemistry

Alexander Boldyrev, Lai-Sheng Wang, Aleksey E. Kuznetsov, and Nathan Cannon. This research was featured in an article titled "Chemists Find New Metals Cluster. USU Scientists on Team that Discovered Unique 'Aromatic' Molecular Structure." *Salt Lake Tribune*, 2 February 2001, page B3.

Upcoming Seminars—3:30 pm W007

March 21—Arnold Rheingold, University of Delaware, Department of Chemistry & Biochemistry, "The Inorganometallic Chemistry of Main-Group Homocycles and Heterocycles." Host: Lisa Berreau.

March 28—Marcetta Darensbourg, Texas A&M, Department of Chemistry, "Models for the New Bioorganometallic Chemistry: Molecular Construction of Fe-Only Hydrogenase Active Sites." Host: Lisa Berreau.

April 4—Vernon Anderson, Case Western Reserve University, "Spectroscopic Investigations of Enzyme Substrate Complexes: Quantifying Electrostatic Interactions." Host: Steve Scheiner.

April 11—Hilary Arnold Godwin, Northwestern University, Department of Chemistry, "Why is Lead Toxic? Unraveling the Molecular Mechanism(s) of Lead Poisoning." Host: Lisa Berreau.

April 18—Jon Clardy, Cornell University, "Biologically Active Natural Products." Host: Bradley Davidson

April 25—Ben Shen, University of California at Davis, "Lessons from Natural Product Biosynthesis and Prospects of Engineering Microorganisms for Chemical Structural Diversity." Host: Tom Chang.

Department of Geology

Distinguished Lecture Series

(All lectures will be held in Geology 105 at 3:00 pm unless noted otherwise)

20 March—Peter Kolesar, USU-Geology, "Multiple Paleoclimate Records in Devils Hole, Nevada."

23 March—Rebecca Dorsey, University of Oregon, "Sedimentology and Structure of Supradetachment Basins Around the Whipple Metamorphic Core Complex." Place TBD, 9:30 am.

23 March—Rebecca Dorsey, University of Oregon, "Initiation of the San Jacinto Fault Zone, Southern California." Geology 105, 3:30 pm. Caine house social afterwards.

27 March—Anke Friedrich, California Institute of Technology, "Dynamics of Intraplate Faulting, Northern Basin and Range Province."

28 March—Richard Heermance, USU Geology Graduate Student, "Insights into Earthquake Rupture Processes from the Chelungpu Fault Drilling Project, Taiwan." Geology 202, 10:30 am.

March 29—James P. Evans, USU Geology, "Faulting as a Seismological Process, and Earthquakes as a Faulting Process."

3 April—Kevin Thomas, USU Geology Graduate Student, "Stratigraphic and Structural Heterogeneities in Faulted Aeolian Sandstone from Borehole Geophysics and Cores, San Rafael Swell, Central Utah."

10 April—Carrie Elliot, USU Geology Graduate Student, "Tributary Debris-Flow Activity on the Green River in Desolation and Gray Canyons."

17 April—Torrey Copfer, USU Geology Graduate Student, "Geologic Mapping of the Stansbury Range, Utah, and Impacts for Hydrology of the Region."

19 April—Barry Myers, USU Geology Graduate Student, "Simulation of Groundwater Flow for Cache Valley, Utah and Idaho."

USU Geology Senior Thesis Talks

26 April—3:00 Geology 105

USU Geology Senior Thesis Talks-Poster sessions

27 April 27—3:30 Geology 105

Publications—

Department of Biology

Kathleen M. Pryer, Harald Schneider, Alan R. Smith, Raymond Cranfill, Paul G. Wolf, Jeffrey S. Hung, and Sedonia D. Sipes. 2001. Horsetails and Ferns Are a Monophyletic Group and the Closest Relatives to Seed Plants. *Nature* 409:618-622.

Paul G. Wolf. 2001. Plasmid DNA the High Throughput Way. *The Scientist* 15:21-26.

Paul G. Wolf, Diane R. Campbell, Nicholas M. Waser, Sedonia D. Sipes, Trent R. Toler, and Jenny K. Archibald. 2001. Tests of Pre-and Post-Pollination Barriers to Hybridization Between Sympatric Species of *Ipomopsis* (Polemoniaceae). *American Journal of Botany* 88:213-219.

Department of Chemistry & Biochemistry

B. Travis Messenger and Bradley S. Davidson. 2001. Synthetic Studies Toward the Microtubule Stabilizing Agent Laulimalide: Synthesis of the C15-C28 Fragment. *Tetrahedron Letters* 42:801-803.

Geoffry T. Nadolski and Bradley S. Davidson. 2001. Synthetic Studies Toward the Microtubule Stabilizing Agent Laulimalide: Synthesis of the C1-C14 Fragment. *Tetrahedron Letters* 42:797-800.

Department of Computer Science

Scott R. Cannon, Larry Denys. 2000. A Self Configuring Kernel for Satellite Networks. *Communicating Process Architectures*.

Heng-Da Cheng, Yanhong Chen and Xihua Jiang. 2000. Thresholding Using Two-Dimensional Histogram and Fuzzy Entropy Principle. *IEEE Transactions on Image Processing* 9(4):732-735.

Heng-Da Cheng and Ying Sun. 2000. A Hierarchical Approach to Color Image Segmentation Using Homogeneity. *IEEE Transactions on Image Processing* 9(12):2071-2081.

Heng-Da Cheng and Huijuan Xu. 2000. A Novel Fuzzy Logic Approach to Contrast Enhancement. *Pattern Recognition* 33(5):809-819.

R.W. Gunderson, Mel W. Torrie, Nicholas S. Flann, Christopher M. U. Neale, and Doran J. Baker. 2000. The Collective: GIS and the Computer-Controlled Farm. *Geospatial Solutions*.

Donald L. Hung, Heng-Da Cheng and Savang Sengkhomyong. 2000. Design of a Configurable Accelerator for Moment Computation. *IEEE Transactions on VLSI Systems* 8(6):741-746.

Kevin L. Moore, and Nicholas S. Flann. 2000. A Six-Wheeled Omnidirectional Autonomous Mobile Robot. *IEEE Control Systems Magazine*.

Department of Geology

Joel L. Pederson, Frank J. Pazzaglia, Gary A. Smith, and Yun Mou. 2000. Neogene Through Quaternary Hillslope Records, Basin Sedimentation, and Landscape Evolution of Southeast Nevada. *Geological Society of America Field Guide* 2, p. 117-134.

Joel L. Pederson, Gary A. Smith, and Frank J. Pazzaglia. 2001. Comparing the Neogene, Quaternary, and Modern Records of Climate-Controlled Hillslope Sedimentation in Southeast Nevada. *Geological Society of America Bulletin* 113:305-319.

Department of Mathematics & Statistics

Piotr Kokoszka and Lajos Horvath. 2000. Large Sample Distribution of ARCH(p) Squared Residual Correlations. *Econometric Theory* 17, 283-295.

Department of Physics

Allen Q. Howard. 2000. Petrophysics of Magnetic Dipole Fields in an Anisotropic Earth. *IEEE Transactions on Antennas and Propagation* 48(9):1376-1383.

Center for Atmospheric & Space Sciences

Abdallah R. Barakat and Robert W. Schunk. 2001. Effects of Wave-Particle Interactions on the Dynamic Behavior of the Generalized Polar Wind. *Journal of Atmospheric & Solar-Terrestrial Physics* 63:75-83.

Appointments, Awards & Honors—

Department of Biology

Timothy A. Gilbertson received a patent titled "Taste Enhancing Food Additives" on 26 December 2000.