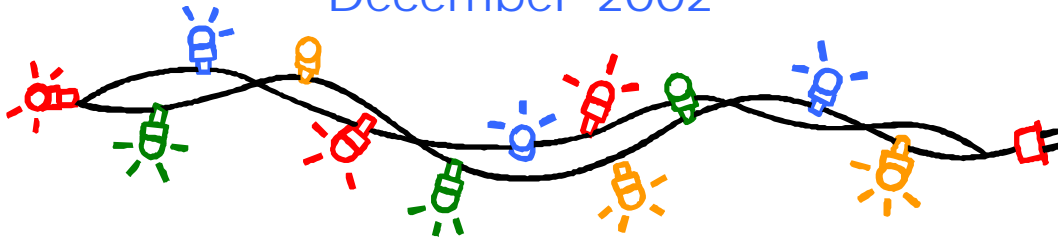


College of Physical and Mathematical Science

Newsletter

December 2002



College News

And the Winner is...

Thank you to everyone for your support of the student fund drive. Geology, nice hustle! Geology supplied 72 donations for the Mentoring Money Match-Up Fundraiser in November. They won the pizza party, with both the highest percent and largest number of participants.

Journal for Research in Mathematical Education

Congratulations to Steve Williams who has been appointed editor of the Journal for Research in Mathematical Education. This is an honor for Steve and for the department of Mathematics Education. In addition to this exciting news Jackie Voyles will be the assistant editor and Dan Siebert will be the associate editor. Congratulations and good luck to all.

American Physics Society Four Corners Section Meeting

Several students from the Physics and Astronomy Department were recognized at the American Physics Society Four Corners Section meeting held in Salt Lake City, Utah, on October 4th and 5th, 2002. The following seven students received awards for outstanding student papers. They received half of the

awards given for student papers at this meeting at the University of Utah. Students who were honored (with \$100.00 and a book) included the following undergraduates, listed with their paper titles:

Kristi Adamson

Determining Composition by X-Ray Photoelectron Spectroscopy

Danelle E. Brown

Molecular Optics and Thin Films: Swinging on the Borders of Physics Branches

Thomas Butler

Specific Heat Inversion: Testing the Universal Function Set Approach

Rebecca Merrill and Rebecca Olson

A New Scheme for External-Cavity Diode Laser Stabilization

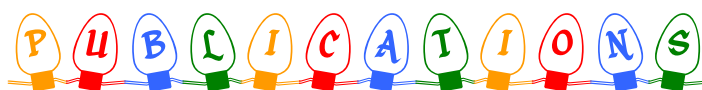
Jorj Owen

Assembly of Nanoscale Particles on Solid Surfaces

Richard Sandberg

Cleaning of Hydrocarbon Buildup on Metallic Thin Films

Patrick Ross also received an award for his poster at the American Physical Society meeting of the Division of Plasma Physics in Orlando, Florida, on November 10 through November 15, 2002. Patrick won one of four awards for undergraduates at the meeting. There were 38 posters by undergraduates on research done in various aspects of plasma physics.



DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

J. Boerio-Goates, R. Stevens, B.K. Hom, B.F. Woodfield, P.M. Piccione, M.E. Davis, and A. Navrotsky, "Heat Capacities, Third-law Entropies and Thermodynamic Functions of SiO₂ Molecular Sieves from $T = 0$ K to 400 K," *J. Chem. Thermodynamics*, **34**, 205-227 (2002).

S.A. Fleming, S.C. Ward, C. Mao, and E. Parent, "Photocyclization," *The Spectrum*, **15**(3), 8-14 (2002).

P.B. Savage, "Cationic Steroid Antibiotics," *Curr. Med. Chem.* **1**, 293-304 (2002).

J. Boerio-Goates, R. Stevens, B. Lang and B.F. Woodfield, "Heat Capacity Calorimetry - Detection of Low Frequency Modes in Solids and an Application to Negative Thermal Expansion Materials," *J. Thermal Analysis and Calorimetry*, **69**, 773-783 (2002).

M.B. Andrus, E.L. Meredith, B.L. Simmons, B.B.V. Soma Sekhar and E.J. Hicken, "Total Synthesis of (+)-Geldanamycin and (-)-*o*-Quinogeldanamycin with Use of Asymmetric *Anti*- and *Syn*-Glycolate Aldol Reactions," *Org. Lett.*, **4**(20), 3549-3552 (2002).

Y. Habata, Y. Fukuda, S. Akabori, and J.S. Bradshaw, "Alkali Metal Ions Selectivities of Podands that form Pseudo-cyclic Structure by Intramolecular Hydrogen Bonding," *J. Chem. Soc., Perkin Trans. 1*, 865-869 (2002).

DEPARTMENT OF COMPUTER SCIENCE

K.M. Tubbs and D.W. Embley, "Recognizing Records from the Extracted Cells of Microfilm Tables," Proceedings of the Symposium on Document Engineering (DocEng 2002), McLean, Virginia, 8-9 November 2002, 149-156.

DEPARTMENT OF GEOLOGY

S. A. Studley, E. M. Ripley, E. R. Elswick, M. J. Dorais, J. Fong, D. Finkelstein, and L. M. Pratt. "Analysis of sulfides in whole rock matrices by elemental analyzer - continuous flow isotope ratio mass spectrometry." *Chemical Geology*, 192, 141-148 (2002).

M. J. Dorais, and C. Shriner. "An electron microprobe study of sherd P645: Evidence for an Early Helladic II Aegina - Lerna connection." *Geoarchaeology*, 17, 755-778 (2002).

J. H. McBride and J. H. Knapp. "Review of seismic reflector signatures of crustal deformation in the Appalachian-Caledonide realm with reference to the Spanish Variscides and the Uralides" In: Martinez Catalán, J. R., Hatcher, R. D., Jr., Arenas, R. and Diaz Garcia, F. (editors), Variscan-Appalachian dynamics: The building of the late Paleozoic basement, *Geological Society of America Special Paper*, 364, 281-300 (2002).

T. G. Hildenbrand, J. H. McBride, and D. Ravat. "The Commerce geophysical lineament and its possible relation to Proterozoic igneous complexes and large earthquakes in the south-

central Illinois Basin." *Seismological Research Letters*, 73(5) 640-659 (2002).

J. H. McBride, T. G. Hildenbrand, W. J. Stephenson, and C. J. Potter. "Interpreting the earthquake source of the Wabash Valley seismic zone (Illinois, Indiana, and Kentucky) from the seismic reflection, gravity, and magnetic intensity." *Seismological Research Letters*, 73(5) 660-686 (2002).

J. H. McBride, W. J. Nelson, and W. J. Stephenson. "Quaternary-age deformation in the northern Mississippi embayment." *Seismological Research Letters*, 73(5) 597-627 (2002).

DEPARTMENT OF PHYSICS AND ASTRONOMY

H. T. Stokes, E. H. Kisi, D. M. Hatch, and C. J. Howard, "Group-Theoretical Analysis of Octahedral Tilting in Ferroelectric Perovskites," *Acta Cryst.*, B58, 934 (2002).

DEPARTMENT OF STATISTICS

M. Badger, S. Lookinland, M Tiedeman, V. Anderson and D. Eggett, "Nurse Practitioners' Treatment of Febrile Infants in Utah: Comparison to Physician Practice Nationally," *Journal of the American Academy of Nurse Practitioners*, 14 (12), 542-555, (2002).

W. P. Alexander, S. D. Grimshaw, G. R. McQueen, and B. A. Slade, "Some Loans Are More Equal than Others: Third-Party Originations and Defaults in the Subprime Mortgage Industry," *Real Estate Economics*, 30(4) 667-697, (2002).

