

College of Physical and Mathematical Sciences

# NEWSLETTER

March 2003



## College News

### PATTI COLLINGS GUEST SPEAKER FOR ASAP

Patti Collings spoke at the Association of Student Advancement Programs District VII Conference on March 1, 2003 at the Aspen Grove Conference Center. Her presentation, entitled "Sampling Do's and Don'ts," focused on survey questions and design and how statistical research can benefit student alumni organizations. She shared the basic elements necessary to get valid information from sampling surveys. Conference participants were from colleges and universities in Utah, Arizona, and California.

### GEOLOGICAL SOCIETY OF AMERICA

Eric Christiansen, Jeffrey Keith and Bart Kowallis, of the Department of Geology, were among 24 new Fellows named in 2002 by the prestigious national organization, the Geological Society of America. Congratulations to them for this outstanding achievement.

## college publications

### Department of Chemistry and Biochemistry

M.L. Origlia-Luster, K. Ballerat-Busserolles, E.D. Merkley, J.L. Price, and

E.M. Woolley, "Apparent molar volumes and apparent molar heat capacities of aqueous phenol and sodium phenolate at temperatures from 278.15 K to 393.15 K and at the pressure 0.35 MPa." *J. Chem. Thermodynamics*, **35**(2), 331-347 (2003).

E. Sorenson, J.L. Price, B.R. McRae, and E.M. Woolley, "Thermodynamics of proton dissociations from aqueous L-proline: apparent molar volumes and apparent molar heat capacities of the protonated cationic, zwitterionic, and deprotonated anionic forms at temperatures from 278.15 K to 393.15 K and at the pressure 0.35 MPa." *J. Chem. Thermodynamics*, **35**(3), 529-553 (2003).

B.R. McRae, B.A. Patterson, L.A. Origlia-Luster, E.C. Sorenson, and E.M. Woolley, "Thermodynamics of proton dissociation from aqueous 1-propanoic and 1-butanoic acids at temperatures  $278.15 \leq T / K \leq 393.15$  and pressure  $p = 0.35$  MPa: apparent molar volumes and apparent molar heat capacities of aqueous solutions of the acids and their sodium salts." *J. Chem. Thermodynamics*, **35**(2), 301-329 (2003).

D. Boda, Y. Yang, D.J. Henderson, and D.D. Busath, "Computer Simulation Studies of the Selectivity and Conductance of a Model Calcium Channel," *J. Computational Electronics*, **1**, 5154-5160 (2002).

B.A. Wacaser, M.J. Maugham, I.A. Mowat, T.L. Niederhauser, M.R. Linford, and R.C. Davis, "Chemomechanical Surface Patterning and Functionalization of Silicon Surfaces Using an Atomic Force Microscope," *Appl. Phys. Lett.*, **82**(5), 808-810 (2003).

Y-Y. Lua, T.L. Niederhauser, B.A. Wacaser, I.A. Mowat, A.T. Woolley, R.C. Davis, H.A. Fishman and M.R. Linford, "Chemomechanical Production of Submicron Edge Width, Functionalized, ~20 : m Features on Silicon," *Langmuir*, **19**, 985-988 (2003).

J.F. Smalley, H.O. Finklea, C.E.D. Chidsey, M.R. Linford, S.E. Creager, J.P. Ferraris, K. Chalfant, T. Zawodzinsk, S.W. Feldberg and M.D. Newton,

"Heterogeneous Electron-Transfer Kinetics for Ruthenium and Ferrocene Redox moieties through Alkanethiol Monolayers on Gold," *J. Am. Chem. Soc.*, **125**, 2004-2013 (2003).

T.S. Elton and M.M. Martin, "Alternative Splicing: A Novel Mechanism to Fine-tune the Expression and Function of the Human AT<sub>1</sub> Receptor," *TRENDS in Endocrinology and Metabolism*, **14**(2), 66-71 (2003).

M.B. Andrus, Y. Ma, Y. Zang, and C. Song, "Palladium-imidazolium-catalyzed Carbonylative Coupling of Aryl Diazonium Ions and Aryl Boronic Acids," *Tetrahedron Lett.* **43**, 9137-9140 (2002).

#### PATENTS

D.S. Soane, M.R. Linford, D.A. Offord, D.B. Millward, and W. Ware, Jr., "Hybrid Polymer Materials," Patent No. US 6,517,933 B1, February 11, 2003.

P.B. Savage and C. Li, "Steroid Derived Antibiotics," Patent No. US 6,486,148 B2, November 26, 2002.

#### Department of Computer Science

S.B. Barnes, R.W. Woodings, C.D. Knutson, "Transport Discovery in Wireless Multi-Transport Environments." *Proceedings of the IEEE Wireless Communications and Networking Conference 2003*, New Orleans, Louisiana, March 17-19, 2003.

J.C. Funk, H.R. Duffin, L. Dai, C.D. Knutson, "Inverse Multiplexing in Short-Range Multi-Transport Wireless Communications." *Proceedings of the IEEE Wireless Communications and Networking Conference 2003*, New Orleans, Louisiana, March 17-19, 2003.

J. Biskup and D.W. Embley, "Extracting information from heterogeneous information

sources using ontologically specified target views," *Information Systems*, **28**(3), 169-212 (2003).

## Department of Mathematics

M. Adioui, O. Arino, W.V. Smith, and J.P. Treuil, "A mathematical analysis of a fish school model," *Journal of Differential Equations*, **188**, 406-446, (2003).

S. Butler (graduate student), "Tangent line transformations," *The College Mathematics Journal*, **34**(2), 105-106, (2003).

## Department of Physics and Astronomy

S. Bergeson and T. Killian, "Ultracold plasmas and Rydberg gases", *Physics World*, pp. 37-41 (2003).

Y.Y. Lua, T.L. Niederhauser, B.A. Wacaser, I.A. Mowat, A.T. Woolley, R.C. Davis, H.A. Fishman, and M.R. Linford "Chemomechanical Production of Submicron Edge Width Functionalized, ~20 : m Features on Silicon," *Langmuir*, **19**(4), 985-988 (2003).

B.A. Wacaser, M.J. Maughan, R.C. Davis, I.A. Mowat, T.L. Niederhauser, and M.R. Linford, "Chemomechanical Surface Patterning and Functionalization of Silicon Surfaces Using an Atomic Force Microscope", *Appl. Phys. Lett.*, **82** (5), 808-810 (2003).

B.J. Taylor, "Statistical Cataloging of Archival Data for Luminosity Class IV-V Stars. II. The Epoch 2001 [Fe/H] Catalog", *Astronomy and Astrophysics*, v. 398, p. 731-738 (2003) (A & A Homepage).

B.J. Taylor, "Statistical Cataloging of Archival Data for Luminosity Class IV-V Stars. I. The Epoch 2001 Temperature Catalog", *Astronomy and Astrophysics*, v.398, P. 721-729 (2003) (A & A Homepage).

D. Ming, T. Wen, J. Dai, W.E. Evenson, X. Dai, "A Unified Solution of the Specific-Heat-Phonon Spectrum Inversion Problem," *Europhysics Letters*, **61**(6), 723-728, (2003).

## Department of Statistics

R. Mswia, M. Lewanga, C. Moshiro, D. Whiting, L. Wolfson, Y. Hemed, K. Alberti, H. Kitange, D. Mtasiwa, and P. Setel, "Community-based Monitoring of Safe Motherhood in the Republic of Tanzania," *Bulletin of the World Health Organization*, **81**(2), 87, (2003).

A.O Wright, L.V. Ogden, and D.L. Eggett, "Determination of Carbonation Threshold in Yogurt," *Journal of Food Science*, **68**, 378-381, (2003).

Barnes, M., C. Penrod, D. Eggett, E. Thomas, "Measuring the Relevance of Evaluation Criteria Among Health Information Seekers on the Internet," *Journal of Health Psychology*, **8**(1) 71-82, (2003).

