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# NEWSLETTER

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JULY 2003

*The College of Physical and Mathematical Sciences*

## In the Month of July...

Tuesday, July 1 – Devotional: Elaine Bond, *Nursing*

Friday, July 4 – Holiday: Independence Day

Tuesday, July 8 – Devotional: R. Kirk Belnap, *Director of the National Middle East Language Resource Center*

Tuesday, July 15 – Devotional: Richard R. Sudweeks, *Instructional Psychology and Testing*

Tuesday, July 22 – Forum: Clayton Christensen, *Professor of Business Administration at the Harvard Business School*

Thursday, July 24 – Holiday: Pioneer Day

Tuesday, July 29 – Devotional: Elder J. Richard Clark, *Emeritus Member of the Quorum of the Seventy*



## INSIDE THIS ISSUE

- 1 In the Month of July
- 1 Department of Physics Chair
- 1 Summer Institute of Applied Statistics
- 2 College Publications

## New Chair for Department of Physics & Astronomy

Scott D. Sommerfeldt has been appointed chair of the Department of Physics and Astronomy, replacing R. Steven Turley, who has been named as Associate Dean Freshman Year, Undergraduate Education. Harold T. Stokes will serve as associate chair in the department. We welcome these two to their new assignments and express thanks to Steve Turley and Ross Spencer for their excellent service.

## Department of Statistics Host Summer Institute of Applied Statistics

The 28<sup>th</sup> Annual Summer Institute of Applied Statistics sponsored by the Department of Statistics was held on June 25-27, 2003. Dr. Bruce Weir presented a seminar on “Statistical Genetics.” The topic proved to be a popular one attracting 48 participants composed of faculty, students, and representatives from universities and organizations from all over the country. The short course concentrated on modern areas of statistical genetics, including the analysis of genetic data, inbreeding and linkage disequilibrium, population structure and genetic distance, disease association, and forensic applications. In addition to the stimulating lectures by Dr. Weir, the seminar included an outdoor steak fry at Rock Canyon Park and a closing luncheon in the Wilkinson Student Center.

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# COLLEGE PUBLICATIONS

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## Department of Chemistry & Biochemistry

Q. Wang, S-L. Lin, K.F. Warnick, H.D. Tolley and M.L. Lee, "Voltage-controlled separation of Proteins by Electromobility Focusing in a Dialysis Hollow Fiber," *J. Chromatogr.* **985**, 455 (2003).

Y. Xiang, D.R. Maynes and M.L. Lee, "Safety Concerns in Ultrahigh Pressure Capillary Liquid Chromatography Using Air-driven Pumps," *J. Chromatogr.* **991**, 189 (2003).

Y. Gong, Y. Xiang, B. Yue, G. Xue, J.S. Bradshaw, H.K. Lee and M.L. Lee, "Application of Diaza-18-Crown-6-Capped  $\beta$ -cyclodextrin Bonded Silica Particles as Chiral Stationary Phases for Ultrahigh Pressure Capillary Liquid Chromatography," *J. Chromatogr.* **1002**, 63 (2003).

Y. Xiang, B. Yan, C.V. McNeff, P.W. Carr, and M.L. Lee, "Synthesis of Micron Diameter Polybutadiene-Encapsulated Non-Porous Zirconia Particles for Ultrahigh Pressure," *J. Chromatogr.* **1002**, 71 (2003).

C.G. Guymon, M. Hunsaker, J. Harb, D.J. Henderson and R.L. Rowley, "Effects of Solvent Model Flexibility on Aqueous Electrolyte Behavior Between Electrodes," *J. Chem. Phys.* **118**, 10195-10202 (2003).

G.A. Hussein, T.L. Niederhauser, J.G. Peacock, M.R. Vernon, Y.-Y. Lua, M.C. Asplund, E.T. Sevy and M.R. Linford, "Photochemical Lithography: Creation of Patterned, Acid Chloride Functionalized Surfaces Using UV Light and Gas-Phase Oxalyl Chloride," *Langmuir* **19**, 4856-4858 (2003).

G.A. Hussein, J. Peacock, A. Sathyapalan, L.W. Zilch, M.C. Asplund, E.T. Sevy and M.R. Linford, "Alkyl Monolayers on Silica Surfaces Prepared Using Neat, Heated Dimethylmonochlorosilanes with Low Vapor Pressures," *Langmuir* **19**, 5169-5171 (2003).

R. Stevens, J. Linford, B.F. Woodfield, J. Boerio-Goates, C. Lind, A.P. Wilkinson, and G. Kowach, "Heat Capacities, Third-law Entropies and Thermodynamic Functions of the Negative Thermal Expansion Materials, Cubic  $\alpha$ -ZrW<sub>2</sub>O<sub>8</sub> and Cubic ZrMo<sub>2</sub>O<sub>8</sub>, From  $T = (0 \text{ to } 400) \text{ K}$ ," *J. Chem. Thermodynamics*, **35** 919-937 (2003).

## Department of Computer Science

G.M. Draper and P.K. Egbert, "A Gestural Interface to Free-Form Deformation", in Proceedings *Graphics Interface 2003*, 113-120, June 11-13, 2003.

J. Dinerstein and P.K. Egbert, "Fast and Accurate Interval Arithmetic through Neural Network Approximation", *6th Computer Graphics and Artificial Intelligence Conference 2003*, 137-164, May 14-15, 2003.

## Department of Geology

L. Bingli, J. K. Rigby, and Z. Zhongde, "Middle Ordovician lithistid sponges from the northern margin of the Tarim Basin, China." *Journal of Paleontology*, **77**(3), 430-441, (2003).

B. R. Bickmore, "Of Simplicity, Oversimplification, and Monotheism," *FARMS Review* **15**(1), 215-258, (2003).

L. F. Hintze, "Utah's southernmost Eocene volcanic rocks in the Little Drum Mountains in Millard County" *Geological Society of America, Abstracts with Programs*, **35**(5), 12, (2003)

M. J. Dorais, "The petrogenesis and emplacement of the New Hampshire plutonic suite." *American Journal of Science*, **303**, 447-487, (2003).

### Department of Mathematics

D.L. Fearnley, L. Fearnley and J. W. Lamoreaux, "Every Three-Point Set is Zero Dimensional," *Proceedings of the American Mathematical Society*, **131**(7), 2241-2245, 2003

L.F. Bakker, "A reducible representation of the generalized symmetry group of a quasiperiodic flow," *Proceedings of the Fourth International Conference on Dynamical Systems and Differential Equations*, 68-77, 2002

W. Barrett and Stephen Pierce, "Null spaces of correlation matrices," *Linear Algebra and Its Applications*, **368**, 129-157, 2003

### Department of Physics & Astronomy

M.W. Choptuik, E.W. Hirschmann, S.L. Liebling, and F. Pretorius, "An Axisymmetric Gravitational Collapse Code," *Classical and Quantum Gravity* **20** 1857-1878, (7 May 2003).

I.I. Sobelman, A. P. Shevelko, O.F. Yakushev, L.V. Knight, R.S. Turley, "A capillary discharge plasma source of intense VUV radiation," *Quantum Electronics* **33**(1), 3-6 (2003).

### Department of Statistics

Christensen, W.F., Amemiya, Y., "Modeling and prediction for multivariate spatial factor analysis," *Journal of Statistical Planning and Inference*, **115**, 543-564 (2003).

Howes, N.L., Bigler, E.D., Burlingame, G. M., Lawson, J.S., "Memory Performance of children with Dyslexia: A Comparative Analysis of Theoretical Perspectives," *Journal of Learning Disabilities*, **36** (3), 230-246 (2003).