

February 2004

Newsletter

In the Month of February...

- **Tuesday, February 3 –**
Devotional:
Elder John K. Carmack, an emeritus member of the First Quorum of Seventy
- **Tuesday, February 10 –**
Devotional: Elder F. Melvin Hammond, a member of the First Quorum of Seventy
- **Monday, February 16 –**
Holiday,
President's Day
- **Tuesday, February 17 –**
Monday
Instruction
- **Tuesday, February 24 -**
Forum : Craig Jessop, musical director of the Mormon Tabernacle Choir

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The College of Physical and Mathematical Sciences

Annual College Dinner a Success

The annual college dinner was held this past month. We would like to again thank all those who were involved in helping. We would also like to offer another congratulations and job well done to those who received awards.

Service Awards:

Physics and Astronomy	Jeanette Lawler	5 years
Chemistry and Biochemistry	William Meaders	5 years
Computer Science	Frank Sorenson	5 years
Chemistry and Biochemistry	Nancy Thornley	5 years
Chemistry and Biochemistry	LaRell Smith	10 years
Chemistry and Biochemistry	Bart Whitehead	15 years
Dean's Office	Dan Johnson	20 years
Chemistry and Biochemistry	Kelly Jensen	25 years
Physics and Astronomy	Joseph Young	25 years
Physics and Astronomy	Nan Ah You	30 years
Mathematics	Leri Smith	35 years

University Professorships:

James Cannon	1986	Orson Pratt
Milt Lee	1986	H. Tracy Hall
Morris Robins	1988	J. Rex Goates
Harold Stokes	1995	Wayne B. Hales
John Lamb	1998	Eliot A. Butler

College Recognition Award for Administrative or Staff Employee:

Clark Walker Computer Science

Faculty Excellence in Teaching Award (3-10 years):

Daniel Siebert Math Education

Faculty Excellence in Teaching Award (10+ years):

Juliana Boerio-Goates Chemistry and Biochemistry

Congratulations to Jim Cannon

James W. Cannon, Orson Pratt Professor of Mathematics at Brigham Young University, was elected as one of five new Members at Large of the Council of the American Mathematical Society in the 2003 national elections. This Council is the body that formulates the scientific policies of the Society and acts in an advisory capacity to the Board of Trustees. The Council also interacts with federal agencies and policy makers in representing over 28,000 mathematicians and 550 departments of mathematics worldwide. Jim has been on the BYU faculty since 1986 and will serve on the Council from 1 February 2004 to 31 January 2007. Congratulations to Jim and the department for this significant recognition.

... and to William Christensen

In a paper recently accepted by *Atmospheric Environment*, William Christensen, Department of Statistics, describes a method he has developed that appears to help identify with greater accuracy which pollutants are contributing to air pollution. He refers to it as a simple modification of "weighted least squares," and its aim is to help unravel the contribution of individual pollutants to total air pollution. His new method was recently featured by both the Daily Herald and KBY News. More can be read at <http://byunews.byu.edu/release.aspx?story=archive04/Feb/pollution>.

Department of Statistics: Chair's Outstanding Paper Award

The Department of Statistics Scholarship and Award Committee recognizes as the Chair's Outstanding Paper Award "Hierarchical Models for Permutations: Analysis of Auto Racing Results," by Todd Graves, C. SHANE REESE, and Mark Fitzgerald in the June 2003 issue of the *Journal of the American Statistical Association*. The paper is being recognized for its outstanding contribution to Statistical Science.

Applying statistical rigor to sports, this paper argues that the best driver should be the one that is most likely to win the race. The paper proposes a Bayesian hierarchical model for the race finish order using a permutation model, which is an extension of the Bradley-Terry model for head-to-head comparisons.

One contribution to statistical science in this paper is an approach to modeling interactions in the hierarchical structure. This is motivated from the racing data since there is strong evidence that some drivers perform better on some tracks than others.

Established in 1888, JASA has long been considered the premier journal of statistical science.

College Publications

Chemistry and Biochemistry

Q. Wang, B. Yue and M.L. Lee, "Mobility_based Selective On_line Preconcentration of Proteins in Capillary Electrophoresis by Controlling Electroosmotic Flow, *J. Chromatogr.*, **1025**, 139 (2003). structure.

M.K. Crawford, R.L. Harlow, P.L. Lee, Y. Zhang, J. Hormadaly, R. Flippen, Q. Huang, J.W. Lynn, R. Stevens, B.F. Woodfield, J. Boerio-Goates, and R.A. Fisher, "Structure and Properties of the Integer-spin Frustrated Antiferromagnet GeNi_2O_4 ," *Phys. Review B*, **68**, 220408-1 (2003).

W. Ware, Jr., D.S. Soane, D.B. Millward, and M.R. Linford, "Dye Fixatives" United States Patent No. 6,679,924 B2, January 20, 2004.

Computer Science

Embley, D.W., "Toward semantic understanding---an approach based on information extraction ontologies," invited keynote paper in Proceedings of the Fifteenth Australasian Database Conference, Dunedin, New Zealand, January 2004, 3-12.

W. A. Barrett, L. Hutchison, D. Quass, H. Nielson, and D. Kennard, "Digital Mountain: From Granite Archive to Global Access," *IEEE Proceedings, International Workshop on Document Image Analysis for Libraries (DIAL 2004)*, pp. 104-121, Palo Alto, CA, January, 2004.

L. Hutchison and W. A. Barrett, "Fast Registration of Tabular Document Images Using Fourier-Mellin Transform," *IEEE Proceedings, International Workshop on Document Image Analysis for Libraries (DIAL 2004)*, pp. 253-269, Palo Alto, CA, January, 2004.

Geology

Rigby, J. K., and Gunther, V., "The Largest and Oldest Known *Choia Hindei* (Dawson), From The Middle Cambrian of the House Range, Western Utah," *BYU Geology Studies*, **47**, 119-123 (2003).

Rigby, J. K., Hanger, R. A., and Strong, E. E., "Lower Permian Sponges from the Coyote Butte Formation, Grindstone Terrane, Crook County, Oregon," *BYU Geology Studies*, **47**, 125-132 (2003).

Rigby, J. K., and Topor, M., "Juvenile Hexactinellid Sponges from the Middle Devonian Arkona Shale at Hungry Hollow, Southwestern Ontario," *BYU Geology Studies*, **47**, 133-137 (2003).

Rigby, J. K., and Boyd, D. W., "Sponges from the Park City Formation (Permian) of Wyoming," *Journal of Paleontology*, **78** (1): pp. 71-76, (2004).

Rigby, J. K. is Coordinating Author for the recently published Roger Kaesler, editor, 2003, *Treatise on Invertebrate Paleontology, Part E, Porifera (Revised)*, Vol 2: Introduction to the Porifera, xxvii + 349 p., 135 figs. The volume is part of a series published by The Geological Society of America and The University of Kansas, Lawrence.

Mathematics

Conner, G.R. and H. Fischer, "The fundamental group of a visual boundary versus the fundamental group at infinity" *Topology and Its Applications*, **129**, 73-78 (2003).

Physics and Astronomy

Gee, K.L. and Sommerfeldt, S.D., "Application of theoretical modeling to multichannel active control of cooling fan noise", *The Journal of the Acoustical Society of America*, Vol. 115 (1), pp. 228-236, (2004).

Rodriguez, E.; Garcia, J.M.; Mkrtchian, D. E.; Costa, V.; Kim, S. -L.; Lopez-Gonzalez, M. J.; Hintz, E.; Kusakin, A. V.; Gamarova, A. Y.; Lee, J. W.; Youn, J. -H.; Janiashvili, E. B.; Garrido, R.; Moya, A.; Kang, Y.W., "Delta Sct-type pulsations in eclipsing binary systems: RZ Cas", 2004, *Monthly Notices of the Royal Astronomical Society*, 347, 1317.

Gee, K.L. Sommerfeldt, S.D., "A compact active control implementation for axial cooling fan noise," *Noise Control Engineering Journal*, **51** (6), (2003).

Statistics

Christensen, W. F., and Gunst, R. F., "Measurement error models in chemical mass balance analysis of air quality data," *Atmospheric Environment*, **38**, 733-744 (2004).