



# STAT

# NEWS

JULY 2006 Volume 11

## Change in Administration



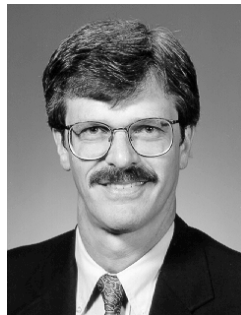
*July 2006*

**Bruce Lindsay**, Verne M. Willaman Professor of Statistics, has assumed the new headship of the Department. Dr. Lindsay joined the Statistics Department as an Assistant Professor in 1979. He was named Distinguished

Professor of Statistics in 1992 and Willaman Professor of Statistics in the Eberly College of Science in 2004. As per Bruce, "All good things must come to an end, and so, on July 1, it came time for Dr. Rosenberger to leave the office of Department Head. The department owes him a huge debt of gratitude not only for its big successes, but also for him working in the trenches, and behind the scenes, to help make us all more productive in our missions. As the new Department Head, I have been the beneficiary of his hard work, and his continuing support, as we try to make this transition as smooth as possible. I hope you will take the time to join with me in offering thanks to Jim for his 15 years of selfless service on the behalf of the department and its members."

**James Rosenberger** stepped down on July 1, 2006 to become a faculty member in the Department.

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## 2005 Clifford C. Clogg Memorial Lecture in Sociology and Statistics

*Meeting the Future in Managing Chronic Disorders: Individually Tailored Interventions*

*October 17, 2005*

**Susan Murphy**, presented the 2005 Clifford C. Clogg Memorial Lecture in Sociology and Statistics, an annual lecture series established in honor of Dr. Clogg who was distinguished professor of sociology and professor of statistics at Penn State from 1990-1995. Dr. Murphy is H. E. Robbins Professor of Statistics at the University of Michigan. Dr. Murphy also holds the positions of Research Professor at the University of Michigan's Institute for Social Research and Professor in Psychiatry at the UM Medical School.



*Dr. Murphy was an Assistant and Associate Professor in the Department from 1989 to 1997.*

Dr. Murphy's talk 'Meeting the Future in Managing Chronic Disorders: Individually Tailored Interventions' was well received. Following the presentation, a reception was held at the Willaman Gateway.

PENNSSTATE



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# Change in Administration

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## Other Changes in Administrative Positions

**Dr. Naomi Altman**—Graduate Admissions Chair

**Dr. Thomas P. Hettmansperger**—Graduate Program Chair and **Dr. Runze Li**—Assistant Chair

**Dr. Donald Richards**—first ever Associate Department Head

**Dr. Damla Senturk**—Assistant Undergraduate Program Chair with **Dr. David Hunter**—continuing as Chair

## Graduate Student Receives 2005 GlaxoSmithKline Scholar Award

*October 21, 2005*

Hsiao-Pin (Anderson) Liu, a doctoral graduate student in statistics, is this year's recipient of the GlaxoSmithKline (GSK) Scholar Award. The GSK Award is a \$1,000 scholarship grant given by the Biomedical Data Sciences (BDS) Department at GlaxoSmithKline Pharmaceuticals primarily to assist statistics departments in their recruitment of outstanding graduate students. Liu was chosen because of his strong abilities and high interest in applied statistics, according to the admissions committee for the Department of Statistics. "The admissions committee assessed Liu's academic record as indicating strong potential for research," says Donald Richards, professor of statistics and chair of the admissions committee.

The GSK scholarship grant is a one-time award to students chosen by academic department faculty of participating schools. Distribution of these awards is coordinated by John Peterson, director of statistics in



*Left to right. Hsiao-Pin Liu (award recipient), Borislav Froloshki and Donald Richards*

the Statistical Sciences Group of BDS. Bobi Froloshki, senior statistician in the Cardiovascular and Urology Clinical Statistics group of BDS, also serves as an award liaison for Penn State. Both Peterson and Froloshki are alumni of the department. Peterson received his doctorate in 1981, and Froloshki received his master's degree in 2001. Penn State's Department of Statistics is one of ten statistics departments in the United States receiving such an award annually. The GSK Scholar Award has been given to PSU statistics graduate students since 2002. Past Penn State recipients of the GSK Scholar Award are: Benjamin Haas (2002); Trent Gaugler (2003); and Christian Stopp (2004).

## Ice Cream Social

The department's annual Ice Cream Social was held in April. Everyone in attendance enjoyed the day with the consumption of delicious Creamery ice cream and social atmosphere together with the added surprise of watching the presentation of The William L. Harkness Graduate Teaching Award. This is the first year the



*Left to right. William L. Harkness, Weisin Yao (award recipient), and James L. Rosenberger (presenting award).*

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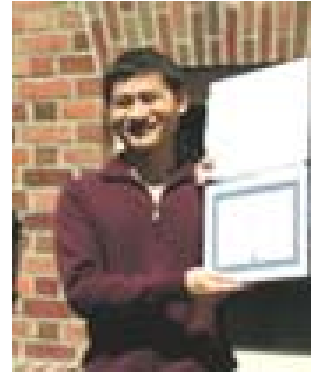
## Ice Cream Social *(continued from page 2)*

award was presented and two graduate students received awards this year. The award was established by William L. Harkness, Professor Emeritus of Statistics, to recognize graduate students for outstanding teaching. The award was presented for the 2005 calendar year to

**Trent Gaugler**, 'for excellent presentation and preparation for class,'



and **Weixin Yao**, 'for maintaining a positive atmosphere for learning and preparation for class.'



## GRADUATION



*Statistics faculty attending Spring Graduation ceremony  
(left to right) Professors Damla Senturk, James Rosenberger, Andrew Wiesner,  
John Fricks, kb Boomer, and Murali Haran*

### *Congratulations Graduates!*

#### *Spring (May 2006)*

##### ***Bachelor of Science***

Curtis M. Crouse, Matthew W. Guerra,  
Victor M. Johnson, Kristen N. Malinsky,  
Cory J. Meadows, Christopher Nicolary,  
Michael P. Waltz

##### ***Master of Applied Statistics***

Veronica Bressler, Sirius Fuller, Clara  
Jeon, Sarah Lozo, Yan Zhu

##### ***Master of Science***

Yan Li

#### ***Summer (August 2006)***

##### ***Bachelor of Science***

Michael Springer and Lillian Werner

##### ***Master of Science***

Yun Cai, Lanyu Mi, Junwu Shen, Christian Stopp, Yiyun Zhang

##### ***Master of Applied Science***

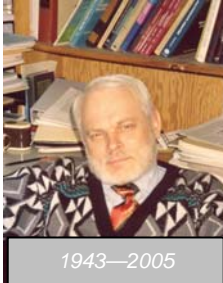
Bethany Bray, Ashley Perretta, Hongli Pu, Tae-Hyung Pyo, Jiangyue Wang, Zachary Whitley, Bo Yu

##### ***Doctor of Philosophy***

John Dziak, Hyun-sook Lee, Makhtar Sarr

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## Journal Pays Tribute to Founding Center Research Associate



The international journal, *Environmental and Ecological Statistics*, has dedicated a special issue of the Journal in grateful memories to its founding managing editor, Dr. Charles Taillie, who was

also the founding research associate of the Department's Center for Statistical Ecology and Environmental Statistics, since its inception in 1984. Dr. Taillie came to Penn State in 1974 to pursue his Ph.D. in Ecological Statistics and chose to remain at Penn State to continue with research in statistical ecology, environmental statistics, risk analysis, multiscale pattern analysis and later, geoinformatics.

## Student Interns and Research Students at the Center for Statistical Ecology and Environmental Statistics

The Center is well known for its research, training, and outreach. The statistics graduate students involved have been: Yun Cai, Songlin Fei, and Sham Bhat. The graduate interns have been: Jessica Newlin of Civil and Environmental Engineering and Pushkar Patankar of Computer Science and Engineering. Michael Kase, undergraduate student of the Department, has been a recipient of the NSF Fellowship for Research Experience for Undergraduates. The students participate in research, make presentations at conferences, and co-author papers for publication.

## Digital Governance and Hotspot GeoInformatics around the World

Under the five year NSF project, G.P. Patil, Distinguished Professor Emeritus of Mathematical Statistics and Director of the Center for Statistical Ecology and Environmental Statistics, has launched an around the world workshop series of live case studies of digital governance and hotspot geoinformatics for monitoring, etiology, early warning, and sustainable management in various societal areas of concern, such as public health, ecosystem health, watershed management, persistent poverty patch dynamics, sensor networks, object identification and tracking, etc. The short course workshops have been held in Italy, India, Indonesia, Thailand, Japan, and USA, and continue to be in demand.

Digital Government research is a new frontier for research, training, and outreach. Professor Patil is a founding member of the new International Digital Government Society. He has been invited to contribute to the Encyclopedia of Digital Government, and also to the Digital Government Research Textbook in preparation. He has been also invited to deliver keynotes, plenaries, invited papers, and brainstorming panel participation at a variety of national and international conferences and congresses.





# Alumni Workshop A Success

**Workshop Committee:** *Andreas Artemiou, Yeojin Chung, Yijia Feng, Sirius Fuller, Chris Groendyke, Ruth Hummel, Ki On Kim, Hsiao-Pin Liu, Jianping Sun, Hwei-wen Teng, and Lu Zhang*

The eighth annual Alumni Workshop occurred on Thursday, March 23 and Friday, March 24th. The venue for the talks on the 23<sup>rd</sup> was the Eisenhower Auditorium. The Workshop started off with our keynote speaker, Subhash Lele, alumnus, class of 1987, delivering the keynote lecture entitled “How not to be a statistician!” in which he articulated about corralling bears and elk (a most interesting subject). The workshop continued with lectures by Dr. John Fricks and Dr. Damla Sentürk on their research interests, and graduate students Yang Wang and Makhtar Sarr. Yang discussed his internship with GlaxoSmithKline, while Makhtar Sarr discussed his current research. In addition, current M.A.S. student, Veronica Bressler, talked about her work at Minitab in the Support Department and alumna, Barbara Scheffler, discussed working with pharmaceutical companies on cancer research. Finally, Dr. Raymond Carroll gave a

colloquium talk entitled “Semiparametric Methods for Gene-Environment Case-Control Studies.” The day’s activities were topped off with a reception in the Willaman Gateway which provides a beautiful view of the campus and downtown State College. The affair offered a convivial atmosphere and delicious food. On Friday, Subhash Lele gave his research lecture, entitled “On using expert opinion in ecological analyses: A frequentist approach.” The question and answer session was quite lively. Also on Friday, Harland Shoemaker, another alumnus working at the U.S. Census Bureau, conducted interviews with interested students.

The 2006 Alumni Workshop Committee and Jenn Parkes, Graduate Student Secretary, did a terrific job in putting together a flawless Workshop, and we are grateful to them. Thanks also to all departmental staff, faculty and students who helped make the day a wonderful success. Everyone is now looking forward to next year’s Workshop!

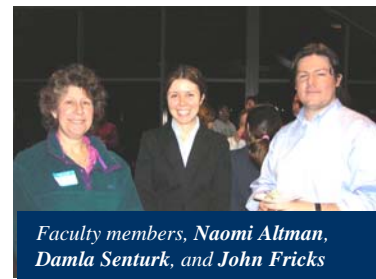
*Sirius Fuller*  
SAC Committee Member, 2006 graduate



*Jim Rosenberger introducing keynote speaker.*



*Sirius Fuller (right) with competitors in poster competition (left to right) Lillian Werner, Lu Zhang and Mian Huang*



*Faculty members, Naomi Altman, Damla Senturk, and John Fricks*



*Workshop Keynote Speaker, Subhash Lele*



*(Left) Sham Bhat, graduate student, C. R. Rao (Center) with others enjoying one of the food breaks*



*Colloquium speaker, Ray Carroll*



*Bruce Lindsay and Ray Carroll*



*Makhtar Sarr, Ph.D. graduate student, statistics.*

# Statistical Challenges in Modern Astronomy

June 2006

The SCMA IV conference was held in the high-tech Berg Auditorium of the Life Sciences Building on June 12-15, 2006. The scientific program was divided into seven topical sessions: Cosmology; Periodic time series; Recent developments in statistics; Planetary systems; Large surveys and mega-datasets; Small-N problems in physics and astronomy; and Cross-disciplinary perspectives. Invited Speakers in astronomy or statistics were accompanied by Commentators from the other discipline. The Scientific Organizing Committee consisted of **G. Jogesh Babu** (co-chair, Penn State), **James Berger** (Duke), **Eric Feigelson** (co-chair, Penn State), **Krzysztof Gorski** (JPL), **Thomas Loredo** (Cornell), **Vicent Martinez** (Valencia), **Larry Wasserman** (Carnegie Mellon), and **Michael Woodroffe** (Michigan). More details of the event including program can be found at:

<http://astrostatistics.psu.edu/scma4/index.htm>

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## Summer School in Statistics for Astronomers and Physicists II

The second annual Summer School in Statistics for Astronomers and Physicists at Penn State took place on June 6-10, 2006. This 5-day course in fundamental statistical inference was designed to provide physical scientists with a strong conceptual foundation in modern statistics and to develop a repertoire of well-established techniques applicable to observational astronomy and physics. Classroom instruction was interspersed with hands-on analysis of astronomical data using the public-domain R software package. The team of statistics instructors was led by Penn State Professors **Donald Richards** and **David Hunter**. Statistical techniques covered included: exploratory data; analysis; hypothesis testing and parameter estimation; confidence interval estimation; maximum likelihood methods & Bayes' Theorem; non-parametric methods; Monte Carlo methods; Poisson processes.



*(Foreground): Lynne Hultquist (wife of Emeritus Professor Robert Hultquist) and Professor W. L. Harkness. Professor Harkness hosted a picnic for the Department and participants of the summer school at 'Yildiz Park' (home of Professor Harkness and his wife, Yildiz).*

## Current Active Faculty Grants as of June 2006

PI	TITLE	SPONSOR
Michael Akritas	<i>Nonparametric Models and Methods for Social Sciences Data</i>	National Science Foundation
G. Jogesh Babu	<i>ITR: Grid Service Workflow for Understanding Massive Data Sets</i>	California Inst of Tech
G. Jogesh Babu and Eric D. Feigelson	<i>Astrostatistics: Advancing Statistical Methodology for Astronomy</i>	National Science Foundation
G. Jogesh Babu	<i>Statistical Challenges in Modern Astronomy IV</i>	National Aeronautics & Space Administration
KB Boomer	<i>The Evaluation of the 2005 Pennsylvania Governor's Institute for Life Science Educators</i>	Juniata College
Thomas P. Hettmansperger and D. R. Hunter	<i>Nonparametric Mixture Models</i>	National Science Foundation
Bing Li and Francesca Chiaromonte	<i>Collaborative Research: Dimension Reduction with Applications to Bioinformatics</i>	National Science Foundation
Runze Li	<i>Model Selection for Semiparametric Regression Models in High Dimensional Modeling and its Oracle Properties</i>	National Science Foundation
Bruce G. Lindsay	<i>High Dimensional Mixture Models</i>	National Science Foundation
Bruce G. Lindsay	<i>Mathematical Science Postdoctoral Research Fellowship</i>	National Science Foundation
G. P. Patil	<i>Project Geoinformatic Surveillance: Hotspot Detection and Prioritization Across Geographic Regions and Networks for Digital Government in the 21<sup>st</sup> Century</i>	National Science Foundation
James L. Rosenberger	<i>Corporate Gift to Support the Department of Statistics</i>	Minitab Inc
James L. Rosenberger and Steven Thompson	<i>Adaptive Sampling Designs in Network and Spatial Settings</i>	National Science Foundation
Aleksandra Slavkovic	<i>Statistical Disclosure Limitation Methods for Tabular Data</i>	National Science Foundation

## Contributors for July 1, 2005—June 30, 2006

Your support is very much appreciated

Dr. Steven F. Arnold & Mrs. Rana McMurray Arnold  
 Mr. Scott D. Beattie  
 Dr. Mark P. Becker & Mrs. Laura Voisinnet Becker  
 Mrs. Maria C. Huovilainen & Mr. Sami M. Huovilainen  
 Ms. Carissa A. Mazurick  
 Dr. Scott E. Pammer & Mrs. Cheryl L. Pammer  
 Dr. Scott R. Preston  
 Dr. Peiyong Qu & Mr. Christopher J. Vecoli  
 Mr. John R. Rutledge  
 Ms. Helen D. Tai and Mr. John F. McDevitt  
 Dr. Hensiong Tan

### Milleninum Society Contributors:

Dr. Bruce G. Lindsay & Dr. Laura J. Simon  
 Dr. James L. Rosenberger and Mrs. Gloria H. Rosenberger

### Corporate Contributors:

Eli Lilly and Company Foundation  
 Johnson & Johnson  
 Minitab, Inc.

### Other Contributors:

Juniata College

## Visitors

**Didier Chauveau**, from the Laboratoire MAPMO, Universite d'Orleans et CNRS in France, visited the department for two weeks this past May. His work on semiparametric mixture models is very closely related to NSF-funded research of Tom Hettmansperger, Dave Hunter, and (from the psychology department) Hoben Thomas. We, in the statistics department, were fortunate that Didier's wife is a good sport and allowed him to spend two weeks away from France, since their three children are ages 7, 4, and 1. In addition to his statistical interests, Didier is a pilot and an accomplished jazz musician. We enjoyed his visit to State College a great deal, except for the weather. Even after he returned to France, Didier continued to check the State College weather reports just so he could mock us whenever he found the familiar "70% probability of precipitation."

**Ernst Presman**, from the Central Economics and Mathematics Institute at the Russian Academy of Sciences, Moscow, Russia, visited Arkady Tempelman late May through early June 2006, to work on applications of ergodic theory in the problems of optimal stochastic control. He presented a department colloquium talk, "Design of experiment in a random environment."

**Hydar Ali**, a returning visitor from The University of the West Indies, St. Augustine, Trinidad and Tobago, returned to Penn State this past summer to visit C. R. Rao and the Department of Statistic's Center for Multivariate Analysis. Dr. Ali continued to do further research on tests of symmetry of distributions which he started during his last visit. Some new results were obtained.

The Center for Statistical Ecology and Environmental Statistics has hosted several international visitors involved with digital governance and hotspot geoinformatics within their countries and regions. This has helped invigorate still further the research and training mini-seminars of the Center. The visitors this year included Dr. **Rainer Bruggemann** of the Freshwater Institute of Germany and a Poset Prioritization Leader of European Union, Dr. **Luiz Duczmal** of Brazil and a Hotspot Detection Leading Researcher, Dr. **Vinay Dharmadhikari** of India and a Senior Director of Digital Government Research in the Government of India, and Drs. **Nandkumar Bendale** and **Anil Rao** of India, who have planned to initiate a District Watershed Surveillance Research Institute to help accomplish water harvest management using hotspot geoinformatics and related toolbox. The Center has also hosted several national visitors, such as **Larry Brandt**, National Science Foundation; **Ron Wilson**, Department of Justice; **Phillip Ross**, Environmental Protection Agency; **Ashbindu Singh**, United Nations Environmental Program; Noshir Contractor, SuperComputer Center at Illinois, and **Geoffrey Jacques**, BioMed Ware, Ann Arbor.

## Good News

*November 2005*

**Dennis Lin**, Adjunct Professor of Statistics and University Distinguished Professor of Supply Chain Management, has been elected a Fellow of the American Society for Quality (ASQ). ASQ Fellows are chosen on the basis of an established record of contributions, both to the quality profession and to the Society.

## Special Notes to Alumni

- Please send us your good news for publication here
- Next Alumni Workshop scheduled for March 29—30, 2007



## A Rewarding Internship

I spent the 2005-2006 academic year as a half-time intern at Minitab, Inc., which is headquartered here in State College. Minitab grew out of a partnership at Penn State, but it has been its own entity since 1983 when Dr. Tom Ryan, Dr. Barbara Ryan and Dr. Brian Joiner made Minitab a private company. This internship was instigated by my advisor, Dr. Tom Hettmansperger, who was aware that Minitab was planning to implement a variance estimation command in the upcoming release. I was asked to explore better ways to find a confidence interval for the one-sample variance when normality is not assumed. To this end, Minitab provided me with an office in their R&D department, a smart statistician to help me (Dr. Senin Banga, recent graduate of the Penn State statistics program), and an adequate facility. (By adequate, I mean that Minitab houses a lovely indoor garden and koi pond, a game room equipped with pool table and piano, numerous kitchenettes with free coffee (also a full kitchen with oven and cup-at-a-time specialty drink makers), a gym, multipurpose rooms for the yoga, cycling, and ballet classes, a small stadium-seating movie theatre, an outdoor sand volleyball court, and—coming soon!—an outdoor swimming pool. Tough life for those Minitab employees, eh?) I will finish up my internship with Minitab at the end of August, at which time I will have a year of experience to add to my résumé, as well as a (hopefully) publishable paper.



*Ruth Hummel*, Graduate Student

## Personal Corner

### WEDDING BELLS



**Murali Haran**, Assistant Professor of Statistics, married Jennifer Sartorius in New Delhi (India) this past December.

### STAFF NEWS



January 2006 marked the 25<sup>th</sup> year that **Bonnie Cain** has been a dedicated and valued staff member of the department. THANK YOU BONNIE!!!

### BABIES



Maia was born in August 2005 to proud parents, **Laura Simon**, Lecturer in Statistics, and **Bruce Lindsay**, Department Head.

**Laurie Roan's** first granddaughter, Natalie, was born on January 14, 2006. Laurie is secretary to the department head.

**Yu Wang's** son, Alexander Zou, was born in January. Yu is a graduate student in statistics.

**Doh Yung (Joseph) Kang's** first born son, Caleb, arrived on June 1. Joseph is a graduate student in statistics.



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*'Workshop on Matrix Theory and Applications in Physical,  
Biological and Social Sciences'*

**\*\*Look for story in next issue of the Stat Newsletter\*\***



*Left to right.* Bruce Lindsay, Gene Golub, Dean Daniel Larson, Thomas Kailath and C. R. Rao.

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