STAT NEWS

Volume 16 December 2011

Message from the Department Head

Bruce G. Lindsay

INSIDE this issue

Dear Friends,

I write this as the University enters its holiday break, so let me start with my best wishes for a happy holiday season. Let me also welcome the new editor of this newsletter, Valarie Kelley, and thank her for the great job. She joined the staff this past July, and has picked up marvelously as a replacement for Barb Freed, who has retired. Valarie has 25 years of experience in the university, and was able to step in seamlessly.

We have other new faces on the staff. Bonnie Cain retired, and was replaced by Melissa McCloskey. In addition to handling her new job with ease, Melissa and Bill Harkness managed a special moment in the fall when they led us to our first-ever college-wide victory in the "Coins for Caring" competition. Last but not least, we added a staff person Kathy Smith to help us manage our ever bigger online world. She helps us with our new web page, our World Campus efforts, and our Statistical Consulting Center activity. And she does it with aplomb. See more about our new staff on page **16.**

We also loaded up with new faculty in the fall. Although we lost Joe Schafer to the Census Bureau, Trent Gaugler to Carnegie Mellon, and Damla Senturk to UCLA Biostat, we gained four new faculty members. You can read about them on page **4.**

As always, the newsletter has many pages of good information about our sterling faculty. How good are we? I think I will let Dean Larson speak for us. Please see page **2** for a review of the stunning improvements in the whole College of Science during his tenure. There is much to be proud about in our Penn State affiliation.

There is plenty more about the department in these pages. We have news about our students, including the 14 Ph.D. graduates of this past year. We had a whopping 9 graduate students go on internships. We had three promotions, many grants, and many special events. Our World Campus programs doubled their enrollments in one year. Please browse through and share my pride in this great department.

Speaking of pride, for the sake of our alumni readers I should mention the elephant in the Penn State dressing room. I imagine the shockwaves have reached you. How can one possibly lose the Penn State President and its football legend in such short order?

The worst started November 9. I live near Joe Paterno, and had to wade through the crush of media on my way to work for over two weeks. Although things have quieted down in the neighborhood, the newspapers are still full of reminders of this legacy. Misinterpretation and rush-to-judgment still seem to fill the media.

But here in the University, all is going well. The new President, Rod Erickson, has taken charge. He reports that all our key indicators, including donations and applications stayed ahead of last year all through November. Here in the Stat Department we just stayed at our jobs, one of which is to maintain the Department's status as a world-class department in a world-class college in a world-class university.

PENNSTATE Eberly College of Science 1855

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Finally, our alumni are always out there, representing us in the best possible way. Thanks for reading this newsletter. If we missed some news of note about you, please let us know.

My best wishes for a happy 2012,
Bruce Lindsay

Penn State Science is Among the Best Programs in the United States, New National Research Council Study Shows

9 November 2011 — Research and education programs in the basic sciences at Penn State are among the top programs in the United States, according to a comprehensive National Research Council study, updated in the spring of 2011, titled "A Data-Based Assessment of Research-Doctorate Programs in the United States." The study uses a broad range of measurements to rank the performance of over 5,000 graduate programs in 62 fields at 212 U.S. universities, including all the major research universities. "By any interpretation of this comprehensive study, Penn State now ranks among the best universities in the basic sciences in the United States," said **Daniel J. Larson**, professor of physics and the Verne M. Willaman Dean of the Penn State Eberly College of Science.

"The core programs in all of the seven academic departments in the college -- Astronomy and Astrophysics, Biochemistry and Molecular Biology, Biology, Chemistry, Mathematics, Physics, and Statistics -- have risen dramatically in the NRC rankings since it last published such a report in 1995," Larson said. The new National Research Council study, which ranks graduate programs, is widely viewed as a gauge of faculty quality and research productivity -- both of which contribute to the quality of undergraduate programs.

The report positions individual doctoral programs within a range of quality as gauged by two different ranking methods -- called "R" and "S" -- which assign different levels of importance to 20 measures of quality. Each program receives a ranking range, rather than a simple rank, to reflect the range of statistical confidence in the results. "If you look across the basic sciences, a lot of the universities that are very good have strengths in one area or another, but it's rare to have the kind of strengths across the basic sciences that we've developed," Larson said.

The new NRC gauges of quality can be analyzed in a number of ways. One conservative approach of equal weighting of the National Research Council's R and S methodologies shows that the Department of Astronomy and Astrophysics at Penn State rose from #21 in the 1995 report to #4 in the new 2011 report. The Department of Biochemistry and Molecular Biology at Penn State rose from #45 to #29, and the Department of Chemistry rose from being tied for the #18 spot to #12.

Meanwhile, the Department of Mathematics rose from #37 to #7, and the Department of Physics rose from #55 to #13. The Department of Statistics rose from #19 to #9. The Department of Biology, which was not directly ranked in the earlier study, is now ranked at #15. Another equally conservative approach, based on the distance from the ideal ranking of the center of each R and S range, yields slightly different, yet similar, results.

Applying similar analyses to the National Research Council ranges for all top universities in the study reveals that there is a group of six elite universities in the basic sciences: Harvard, Berkeley, Princeton, Caltech, Stanford, and MIT, and that, by any conservative analysis, Penn State Science is very near the top, or at the top, of the next tier of the top universities nationwide. "What's worked for us is to build an environment where excellent people - faculty and students - see opportunities. And, part of that environment has to do with building connections across the disciplines and Penn State has done that extremely well," Larson said.

Penn State programs in other areas, particularly in the College of the Liberal Arts, made impressive gains in the National Research Council rankings as well. "Penn State's rising stature among U.S. and world universities is now officially recognized with the publication of the National Research Council study," said **Henry C. Foley**, Penn State's Vice President for Research and Dean of the Graduate School. "This new report confirms what we already know from many other measures -- that Penn State has continued to strive for and to achieve scholarly and research excellence during the years since the 1995 National Research Council rankings were published. In that time, we have gone from what was a very good research university to a truly great research university."

The video is posted online at http://science.psu.edu/best-research.

From the Department's Director of Outreach

The online Master of Applied Statistics program, now entering its third year, continues to shine as one of Penn State's many successful outreach programs. In offering a Master of Applied Statistics through World Campus we have expanded the reach of our quality resident program to include a much broader online audience.

Since the Program's inception in the summer of 2009, we have admitted more than 150 Masters students, many of whom had already successfully completed the Certificate program; to date we have awarded 135 Certificates in Applied Statistics. The uniqueness of this program –delivery through the internet—offers the opportunity for many professionals, engineers, chemists, and educators, to improve their statistical knowledge.

Our mission is to provide global access to our courses and programs in Applied Statistics. This drives our vision and motivated us to teach for the 21st Century. By opening the doors to our Statistics program through the web, we give many mid-career employees working in industry and government an avenue to upgrade the skills needed to enhance their careers and improve their effectiveness in their current positions.

Prospective students continue to show strong interest in our programs. As we move forward we are continually looking for more creative innovative ways to teach applied statistics in order to improve the depth and reach of our popular online programs. We continually receive very positive feedback from many of our online students, who have expressed their appreciation for the statistical tools they have learned, enabling them to become more effective members of their organization.

The growing importance of data mining and business analytics in many organizations highlights the importance of skills and knowledge of statistical methodology.

***James L. Rosenberger**, Professor and*
Director of Outreach and Online Programs
Department of Statistics, Penn State
(Phone: 814 865-1340; email: jlr@stat.psu.edu)

Faculty News

New Faculty

Dr. Qunhua Li, *Assistant Professor of Statistics* joins us from University of California at Berkeley. Her research interests concern developing statistical methods for analyzing large and complex data. She has been working on using latent variable modeling to identify and infer scientifically meaningful structures in large and complex biological data, such as high-throughput or proteomic data. Dr. Li obtained her Ph.D. in Statistics from the University of Washington in 2008 and had been working as a postdoctoral researcher since September 2008 at University of California at Berkeley.

Dr. Sonja Petrovic, *Assistant Professor of Statistics and Mathematics* joins us from University of Illinois at Chicago. Her research interests involve algebraic statistics, applied and computational algebraic geometry and commutative algebra, applications to statistical models in phylogenetics. Dr. Petrovic obtained her Ph.D. in Mathematics from University of Kentucky in 2008 and had been working as a Research Assistant Professor since August 2008 at the University of Illinois at Chicago.

Dr. Le Bao, *Assistant Professor of Statistics* joins us from University of Washington. His research interests involve Bayesian methods, mixture models, stochastic modeling, networks, computation methods, and applications in health, environmental and social sciences. Dr. Bao obtained his Ph.D. in Statistics from the University of Washington in 2011.

Dr. Xiaoyue (Maggie) Niu, *Research Associate of Statistics* joins us from University of Washington. Dr. Niu received her Ph.D. in Statistics from University of Washington in 2010, most recently she was a Senior Fellow, at Institute for Health Metrics and Evaluation.

Faculty Highlights

C.R. Rao receives 33rd and 34th honorary doctoral degree and 2011 Guy Medal Award

Penn State's C.R. Rao, emeritus holder of the Eberly Family Chair in Statistics and one of the world's top statisticians, has been honored with the honorary degree of doctor of science at the first convocation of the Jawaharlal Nehru Technical University in Kakinada, India. This is the 33rd of the honorary degrees he has received from universities in 18 countries spanning six continents. Rao delivered the university's convocation address, "The role of statistics as the key technology of the future."

Additionally, he was honored with an honorary doctor of science degree by the University of Colombo in Sri Lanka. Rao was presented with the degree on July 28, in a special convocation ceremony. This is the 34th honorary degree he has received from universities in 19 countries spanning six continents.

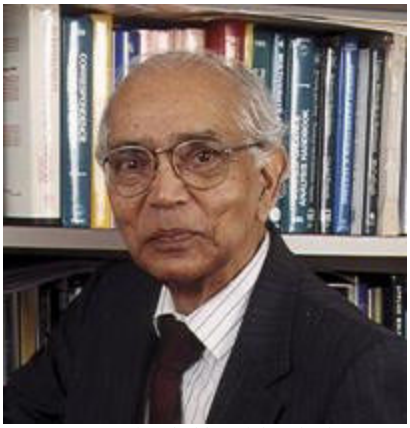
In addition to the 34 honorary degrees that he has been awarded, Rao has been honored with the Royal Statistical Society's **2011 Guy Medal Award in Gold**, for his fundamental and innovative contributions to statistical theory and methodology. The Medal, which was awarded on 29 June 2011, is the United Kingdom's highest award given to a statistician for innovative research in statistics and applications. He is the first scientist born in an Asian country to receive the award.

Rao is recognized internationally as a pioneer who laid the foundation of modern statistics, with multifaceted distinctions as a mathematician, researcher, scientist and teacher. His contributions to mathematics and to the theory and application of statistics during the last six decades have become part of graduate and postgraduate courses in statistics, econometrics, electrical engineering and many other

disciplines at most universities throughout the world.

Rao's research in multivariate analysis, for example, is useful in economic planning, weather prediction, medical diagnosis, tracking the movements of spy planes and monitoring the movements of spacecraft. Technical terms bearing his name appear in all standard textbooks on statistics, econometrics and engineering. Examples of these terms are the Cramer-Rao Inequality, Rao-Blackwellization, Fisher-Rao Theorem, Rao Distance, Rao's Orthoganal Arrays, and Rao's Score test. A book Rao wrote in 1965, Linear Statistical Inference and Its Applications, is one of the most-often-cited books in science.

Rao also received the India Science Award for his significant contributions to the field of statistical science in 2010. In 2003, he was honored with the first Mahalanobis



C.R. Rao, emeritus holder of the Eberly Family Chair in Statistics and one of the world's top statisticians

International Award in Statistics from the International Statistical Institute and the Srinivasa Ramanujan Medal by the Indian National Science Academy. In 2002, he was honored by President George W. Bush with the National Medal of Science, the highest award given to an American scientist for lifetime achievement in fields of scientific research. In 1989, the American Statistical Association awarded him the Wilks Medal.

In 2001, Rao was honored by the government of India with the Padma Vibhushan Award -- the country's second-highest civilian honor -- for outstanding contributions to science, engineering and statistics; with being selected in 2000 as the namesake for a National Award to be presented to India's outstanding young statisticians; and with the highest honor bestowed by the University of Visva-Bharati, the 2002 Desikottama award, in recognition of his "enormous contributions in the field of statistics and its applications."

Rao is a member of the National Academy of Sciences and the American Academy of Arts and Science in the United States, a Fellow of the Royal Society in the United Kingdom, and a member of the Indian National Science Academy, the Lithuanian Academy of Sciences, and the Developing World Academy of Sciences.

He has authored or co-authored 14 books -- some of which have been translated into several languages -- and more than 300 research papers published in scientific journals. He has supervised the doctoral research of 50 students who have, in turn, trained another 390 doctoral students themselves. Most of his former students now are employed in universities and other research organizations worldwide, many becoming research leaders in their areas of specialization.

Rao earned his doctor of philosophy and doctor of science degrees in 1948 at Cambridge University in England. He came to the United States in 1978 after serving as the director of the Indian Statistical Institute, where he had held various research and administrative positions since 1943. In 1982 he established the Center for Multivariate Analysis at the University of Pittsburgh, where he continues as an adjunct professor. Rao joined the Penn State faculty in 1988 as a professor and holder of the Eberly Family Chair in Statistics. He became the Emeritus Holder of the Eberly Family Chair in Statistics in 2009. He is the founding director of Penn State's Center for Multivariate Statistics.

Li Wins a Norbert Gerbier-MUMM International Award

Wednesday, July 13, 2011

Runze Li, a professor of statistics at Penn State, has been honored with the Norbert Gerbier-MUMM International Award for 2012 for a paper written with co-authors from other institutions spanning six continents. The paper, "Climate control of terrestrial carbon exchange across biomes and continents," which was published in Environmental Research Letters, examines relationships between climate and the carbon exchange of land-based ecosystems to predict future levels of

atmospheric carbon dioxide. Li, who is the only statistician among the 151 authors of this paper, used the statistical techniques known as mixture regression and two-dimensional kernel regression to analyze the data presented in the paper. The purpose of the Norbert Gerbier-MUMM International Award, which is presented by the World Meteorological Organization, a specialized agency of the United Nations, is "to encourage and reward annually an original scientific paper on the influence of meteorology in a particular field of the physical, natural, or human sciences, or on the

influence of one of these sciences on meteorology."

Li's research involves various fields of statistics, including high-dimensional data analysis, variable selection, and intensive longitudinal data analysis. In addition, he has performed research in the design and modeling of computer experiments, behavioral science, genetic-data analysis, and brain-image analysis.

In 2004, Li was honored with a National Science Foundation Career Award. He is a fellow of both the American Statistical Association and the Institute of Mathematical Statistics, and he has served on the board of directors of the International Chinese Statistical Association.

Li has co-authored a book, Design and Modeling for Computer Experiments, and he has written numerous scientific papers published in the Annals of Statistics, Biometrika, the Journal of the American Statistical Association, the Journal of the Royal Statistical Society, Statistics in Medicine, and Psychological Methods. In addition, he serves as an associate editor for Annals of Statistics, the Journal of the American Statistical Association, and Statistica Sinica. Li has presented numerous invited talks and seminars at professional conferences and meetings in the United States, Canada, the United Kingdom, and China. He also has helped to organize statistical conferences in the United States, Canada, and Japan, serving as a session organizer, a scientific-program committee member, and a scientific-program committee chair.

In 2000, Li earned a doctoral degree in statistics at the University of North Carolina at Chapel Hill. He has been a faculty member at Penn State since 2000. He was promoted to associate professor in 2005 and to professor in 2008.

Rosenberger Receives Distinguished Service Award from the National Institute of Statistical Sciences

James Rosenberger, a professor of statistics at Penn State University, has been honored with a Distinguished Service Award from the National Institute of Statistical Sciences (NISS). The award was presented at a reception recently in Miami, Florida. The NISS Distinguished Service Awards were established by in 2005 to recognize individuals who have given extraordinary service that significantly advances NISS and its mission.

Rosenberger's research interests include linear models, statistical methodology, biometrics, bioinformatics, and computing. He is an elected fellow of the American Statistical Association and the American Association for the Advancement of Science. He has published over 70 scientific papers, reports, and review articles, and he has served as a reviewer for various scientific journals including *Computational Statistics and Data Analysis*, *Statistical Science*, and the *Journal of the American Statistical Society*. In addition, he has served as an editor for *Statistical Science*, *Computational Statistics and Data Analysis,* and many other journals. He has presented invited talks and lectures at symposia across the country and throughout Europe and Asia. He also has served on many committees for the National Science Foundation and the National Association for the Advancement of Science, and on the Board of Trustees for the National Institute of Statistical Sciences.

Throughout his career, Rosenberger has mentored over 40 graduate students and he has served on the graduate committees of many other students. During his years at Penn State, he has served in many leadership positions. From 1991 to 2006, he was head of the Department of Statistics, and, from 2002 to 2007, he served as director of Penn State's Outreach and Online Programs. He currently is director of the Bioinformatics Consulting Center of the Huck Institutes of the Life Sciences. In addition to his duties at Penn State, Rosenberger has held several positions as a consulting statistician, for example, at the Strategic Highway Research Program in Washington, D.C., the Pennsylvania Department of Revenue, and at many private companies.

Before joining the Penn State faculty in 1976, Rosenberger was a programmer and statistical assistant in the cardiovascular research department of New York University Medical Center and a graduate assistant in the biometrics unit of Cornell University. He earned a doctoral degree at Cornell University in 1977 and a master's degree at Polytechnic Institute of New York in 1972. He earned a bachelor's degree at Eastern Mennonite College in 1968.

Patent for New Computerized Image-Annotation System Issued to Li and Wang

Jia Li, an associate professor of statistics at Penn State, and **James Z. Wang**, a professor of information

sciences and technology at Penn State, have been awarded the United States patent titled "Real-Time Computerized Annotation of Pictures." Li and Wang developed a unique computer system called ALIPR (Automatic Linguistic Indexing of Pictures in Real-Time) that can suggest, in real time, several words describing the content of any general-purpose photograph using the pixel information alone. The automatic image-tagging system uses novel methods in statistical learning and data mining to link pictorial characteristics with English words.

Lin Receives Don Owen Award from the American Statistical Association

Dennis Lin, Distinguished Professor of Statistics at Penn State University, has been awarded the 2011 Don Owen Award from the American Statistical Association's San Antonio chapter. The president of the chapter, John Schoolfield, presented Lin with the award at the 2011 Conference of Texas Statisticians at Texas A&M University. Lin is recognized for his groundbreaking work in designing statistical experiments called supersaturated designs. These designs provide a major tool for practical use in industry and allow investigation of a large number of variables. He also is well known for his on statistical data mining.

Throughout his career, Lin has mentored 10 doctoral-degree and 16 master's-degree students at the University of Tennessee, the University of Memphis, and Penn State. He has taught various courses in the fields of statistics, management sciences, and business. Lin is best known for designing the "Introduction of Business Statistics" course, which he has taught to more than 5,000 students at Penn State. He has presented several distinguished lectures, including both the 2010 Youden Address and the 2011 Loutit Address for the Statistical Society of Canada. He also has received numerous awards for excellence in research, teaching, and service.

Lin is an elected fellow of the American Statistical Association, the International Statistical Institute, and the American Society of Quality. He is a fellow of the Royal Statistical Society and a lifetime member of both the International Chinese Statistical Association and the Chinese Statistical Association. He is a Changjiang Scholar at the Renmin University of China, and he serves as an honorary chair professor for various institutions, including the Xian Statistical Institute in China and the National Chengchi University in Taiwan. He has served as a co-editor of *Applied Stochastic Models in Business and Industry*; an editorial review board member of the *Journal of Quality Technology*; an associate editor of *Technometrics*, *Statistica Sinica*, the *Journal of Data Science*, *Statistics of Informatics*, the *American Statistician*, the J*ournal of Statistical Theory and Practice*, the *Journal of Statistics and its Applications*, the *International Journal of Quality Technology & Quality Management*, and many others. . Before joining the faculty at Penn State, Lin served as a faculty member at the University of Tennessee at Knoxville. Lin received a doctoral degree in statistics from the University of Wisconsin-Madison in 1988.

Statisticians Participate in Climate Science Day on Capitol Hill

1 April 2011

Five members of the ASA's Advisory Committee on Climate Change Policy joined 30 scientists from other disciplines to participate in the first Climate Science Day (CSD) on February 17. Sponsored by the ASA, American Association for the Advancement of Science, American Geophysical Union, and others, the scientists formed multidisciplinary teams to meet with members of Congress or their staffs about climate science and offer their help in answering questions relating to climate science.

It was interesting to learn about the interactions between policy and science, but I think the bigger message that I brought home was that new member offices were receptive to us as sources of climate science information.

Targeting freshman offices, the teams visited nearly 100 and emphasized potential regional effects of climate change. They also shared the executive summaries of the 2009 U.S. Global Change Research Program report, *Global Climate Change Impacts in the United States*, and the 2010 National Academies' report *Advancing the Science*, as well as a 2009 letter signed by 18 science organization heads—including 2009 ASA President Sally Morton—stating a shared common view that climate change is occurring and greenhouse gases emitted by human activities are the primary driver.

To help prepare for the day of visits, participants attended "Congress 101," a day of sessions teaching CSD objectives and how to have a successful Hill visit and communicate about climate change. There was also a panel with four Congressional Committee staffers and a Republican and Democrat from both the House and Senate.

Three of the ASA's participants, who were teamed with crop/soils scientists and geoscientists, had

positive comments about CSD and their reception. **Murali Haran** of Penn State said, "By having our focus be on local concerns at the start, we helped make the staffers much more receptive to what we had to say about climate science later on. It also really helped to have someone with me who could speak directly to agronomy and soil science issues."

Peter Craigmile commented, "It was interesting to learn about the interactions between policy and science, but I think the bigger message that I brought home was that new member offices were receptive to us as sources of climate science information."

Based on feedback from the offices visited, the scientists involved, and the society staff, the groups have agreed to start planning for 2012 Climate Science Day. The society staffs also are discussing how to support the goals of Climate Science Day through other activities.

Other ASA participants were Mark Berliner of The Ohio State University, Leonard Smith of the London School of Economics, and Richard Smith of The University of North Carolina/SAMSI. Additionally, the ASA Section on Statistics and the Environment helped support the ASA's involvement.

Dennis Lin to Present Statistical Society of Canada Isobel Loutit Invited Address

June 12-15, 2011

Dennis Lin, Professor of Statistics, has accepted the invitation to present the Isobel Loutit Invited Address. The Statistical Society of Canada (SSC) typically has about 500 attendees. The SSC's Business and Industrial Statistics Section has four invited session with the Loutit session being the big event of the four.

More information about the session can be found at http://www.ssc.ca/en/biss/isobel-loutit-invited-address.

Wang receives patent for system to reduce frequency of online hackers

Friday, May 27, 2011

Professor James Wang in the College of Information Sciences and Technology (IST) was recently issued US Patent #7,929,805 as a result of his collaborative research in computer security.

Wang received the patent for the image-based CAPTCHAs (Completely Automated Public Test to Tell Computers and Humans Apart) Generation System, which he developed with **Jia Li, associate professor** of statistics, and Ritendra Datta, a 2009 Penn State doctoral graduate.

The system uses different colors, shapes and textures to create an image, which users must then identify and determine its geometric center. Wang described this method as being much more effective than distorted texts in determining if a real user or a computer robotic program is trying to gain access to a website.

Wang filed for the patent in January of 2007. Its approval, according to Wang, signifies that his team has created something interesting and of value. He said the CAPTCHAs Generation System will reduce the frequency of online hackers, and he plans to continue to improve the system with the goal of one day preventing hackers altogether.

"I hope this product can change people's lives on the Internet," Wang said.

Penn State Faculty and Staff Newswire

28 November 2011

Dr. Naomi Altman was featured in the Penn State Faculty and Staff Newswire, Probing Question: *Why*

are statistics important in modern life? Statistical skills are in increasingly high demand and being applied to an incredibly diverse set of exciting problems, said Penn State professor of Statistics Naomi Altman. In short, noted Altman, "there are few areas of our lives in which statistics is not being used." Read the full story on Live: http://live.psu.edu/story/56418#nw63

Two Faculty named Fellows of the American Statistical Association

I am pleased to announce that **Professors Runze Li** and **John Liechty** have been named as Fellows of the American Statistical Association. They will receive the award at the annual ASA meetings in August.

According to the ASA website: "Nominated by their peers, ASA Fellows are members of established reputation who have made outstanding contributions in some aspect of statistical work. Given annually, this is a great honor, as the number of recipients is limited to no more than one-third of 1% of the ASA membership."

Bruce Lindsay Receives the 2010 Fisher Lecture Award

13 December 2010

Bruce Lindsay, Willaman Professor of Statistics and head of the Department of Statistics, has been honored as the recipient of the 2010 Fisher Lecture award, presented by the Committee

of Presidents of Statistical Societies and sponsored by the American Statistical Association, the Institute of Mathematical Statistics, the International Biometric Society, and the Statistical Canada.

Lindsay's statistical research includes likelihood-based statistical inferences, which are used widely in scientific data analyses. Lindsay also is recognized for methods he developed for working with mixture models, which are used when data are collected from a mixture of populations. His work in this area is recognized as a major contribution to the foundations of statistical theory. In addition, Lindsay develops statistics methods that are useful for research in other scientific disciplines; for example, he constructed models and analyses that have been applied to biological data from genomic studies.

Lindsay has published numerous scientific papers, has contributed book reviews and proceeding articles to several publications, and has contributed entries to both the *Encyclopedia of Statistics* and the *Encyclopedia of Biostatistics.* He has presented invited talks at scientific meetings around the world and at universities across the United States and in Canada, Belgium, Germany, and Australia. In 1993, he was chosen to deliver ten lectures as the principal speaker at a regional conference organized by the National Science Foundation Conference Board of the Mathematical Sciences.

Among Lindsay's previous awards are a 1998 certificate of recognition from the Penn State chapter of the scientific research society, Sigma Xi, for outstanding support of students during research. In 1997 he was co-winner of the Snedecor Award given by the Council of Presidents of Statistical Societies for the best paper in biometrics published during 1995 and 1996. In 1996 he earned a Guggenheim Fellowship and in 1990, he was honored with a Humboldt Senior Scientist Research Award.

Lindsay is a fellow of the Institute of Mathematical Statistics and the American Statistical Association. In 2002, he was chair of the National Science Foundation Workshop on the Future of Statistics, and was one of the coeditors of the resulting advisory report to the National Science Foundation. From 1995 to 1997, he served on the National Research Council Committee on Fish Stock Assessment Methods. Lindsay currently is serving on the advisory committee for the Penn State Arboretum.

Lindsay did graduate studies at Yale University and served in the U.S. Coast Guard before earning a doctoral degree in biomathematics at the University of Washington in 1978. From 1978 to 1979, he spent one academic year at Imperial College of London, funded by an NSF-NATO postdoctoral fellowship. He received a bachelor's degree in mathematics from the University of Oregon in 1969. He joined the Penn State faculty in 1979 as an assistant professor of statistics, then was promoted to the position of associate professor in 1985, and to professor in 1987. He was named Distinguished Professor of Statistics in 1992 and Willaman Professor of Statistics in 2004.

Bruce Lindsay Gives Presidential Invited Address

August 30, 2011

Geoffrey McLachland, the President of the International Federation of Classification Societies invited Bruce Lindsay to give the Presidential Address at the 2011 meeting of the Societies in Frankfurt, Germany. Bruce's talk, given on August 30, 2011, was titled: "Revisiting Projection Pursuit and Principal Component Analysis".

Team Receives Grant for Data-Privacy Research

December 8, 2010

A team of researchers at Penn State University, in collaboration with researchers from Cornell University and Carnegie Mellon University, has been awarded a $2 million grant from the National Science Foundation Cyber-Enabled Innovation and Discovery program for a research project, "CDI-Type II: Collaborative Research: Integrating Statistical and Computational Approaches to Privacy." The team, led by **Aleksandra Slavkovic**, associate professor of statistics, and Adam Smith and Sofya Raskhodnikova, faculty members in the Department of Computer Science and Engineering, will use a multidisciplinary approach combining statistics and computer science to study how research data in the social and health sciences can be made more widely available without compromising privacy. The project also will increase awareness of data-privacy issues in three academic communities -- computer science, statistics and the social sciences -- and will promote further research on statistical methods to limit disclosure of sensitive information, on cryptography, and on privacy-preserving data mining.

Slavkovic and the other members of the research team believe that data privacy is a fundamental problem of the modern information infrastructure. Enormous volumes of personal and sensitive data are collected and archived by many organizations -- for example, health networks, government agencies, search engines, and social-networking websites.

"Opening up these databases to researchers has tremendous potential benefits for society as a whole. Still, the release of information from sensitive data repositories can be devastating to the privacy of individuals and organizations," the team reported. Slavkovic said that "the challenge is to maintain the usefulness of these databases while limiting the possibility of accidential leaks or privacy breaches."

The research team plans to develop new methodologies for private statistical analyses that will enable government agencies and social-science and public-health researchers to share and publish their data under stronger privacy guarantees. The team also aims to develop an understanding of the practical potential of the techniques they develop by applying them to social-science data in collaboration with such entities as the U.S. Census Bureau, the Interuniversity Consortium for Political and Social Research (ICPSR), and Microsoft.

25 Years

Two faculty members and a staff member were recipients of 25 year chairs!!! Congratulations to
Michael Akritas, Professor of Statistics
Jogesh Babu, Professor of Statistics
Valarie Kelley, Admn. Support Coordinator

Here's to another 25 years!!

WOW!!!..

A big thank you to all who participated in the United Way Coins for Caring challenge for raising everyone's awareness levels, and giving us this opportunity to shine through giving. We are very proud of the generosity and our team spirit! The "Eberly" trophy was presented to the Statistics Department at the staff awards ceremony November 17, 2011 at 2:00 p.m.

****Statistics Department - $1198.10****

Promotions in Rank Effective July 1, 2011

To ***Professor*:** Naomi Altman
To ***Associate Professor***. John Fricks

Sabbaticals

Dr. Francesca Chiaromonte is on sabbatical leave Fall 2011 and Spring 2012 . Dr. Chiaromonte will spend the Fall semester at UCLA where she will participate as a senior investigator in a program at IPAM, an NSF funded mathematics research institute. She plans to spend the Spring semester at La Sapienza, a university in Rome, Italy which will allow her to establish collaborations and new research projects, creating ties with Italian and European groups to provide a venue for active professional engagement in her country of origin.

Dr**. Murali Haran** is on sabbatical leave Fall 2011 and Spring 2012 at the University of Washington where he will collaborate with Professors Wakefield and Guttrop on spatio-temporal modeling. Also, while on leave he plans to continue his work on a text-book titled, "Computationally Intensive Statistical Inference.

Dr. Jai Li is on leave Fall 2011 and Spring 2012 and serving as Program Director in the Division of Mathematical Sciences, Directorate for Mathematical and Physical Sciences, at the National Science Foundation. This position is with the VSEE (Visiting Scientists, Engineers, and Educators) program.

Selected Faculty Activities

THE RAO PRIZE CONFERENCE, MAY 19, 2011, PENN STATE UNIVERSITY

The Department of Statistics at Penn State University hosted the 2011 Statistics Day and Rao Prize conference on Thursday, May 19, 2011. The Conference was held in Thomas Building on the Penn State University Park campus.

The conference program consisted of four invited speakers and a poster presentation by graduate students. The program opened at 8:45 a.m. with welcoming addresses by Bruce Lindsay and C. R. Rao. The invited speakers were M.J. Bayarri, Universitat de Valencia, with a lecture entitled, Statistical and Computer Models for Geophysical Risk Assessment; Murali Haran, associate professor at Penn State University, with a lecture entitled, Gaussian Processes for Inference with Implicit Likelihoods; James Berger, Duke University, with a lecture entitled, Bayesian Adjustment for Multiplicity; and Edward George, University of Pennsylvania, with a lecture entitled, Fuly Bayes Model Selection Using a Generalized g-Prior.

The center point of the conference was keynote speaker and recipient of the 2011 Rao Prize, Professor James O. Berger of Duke University. Berger is a Fellow of the ASA and the IMS and received Guggenheim and Sloan Fellowships. He received the Committee of Presidents of Statistical Societies President's Award in 1985 and the Sigma Xi Research Award at Purdue University for contribution of the year to science in 1993. He is past president of the Institute of Mathematical Statistics from 1995-1996, chair of the Section on Bayesian Statistical Science of the American Statistical Association in 1995, and president of the International Society for Bayesian Analysis during 2004. Karin Foley, Assoc Dean, presented the prize to Dr. Berger.

The poster session was also a success with many graduate student presentations from the department. Following is a listing of the students and titles of their poster presentations:

- Muhammad Atiyat: Adjusting for Endogeneity in the AFT Model
- Armine Bagyan: Dimension Reduction for Multivariate Responses by Projection onto Empirical Directions
- Roman Jandarov: Emulating a Gravity Model to Infer the Spatio-temporal Dynamics of an Infectious Disease
- Xiaoye Li: Inference for Stationary Time Series
- Yihan Li: Incorporating Heterogeneity into Meta-Analysis of Genomic Data
- Qing Wang: Topics in *U*-Statistics and Risk Estimation
- Wei Zhong: Future Screening *via* Distance Correlation Learning
- Yeying Zhu: A Data-Adaptive Approach for Modeling Propensity Scores

The prize was established by C.R. and Bhargavi Rao to honor and recognize outstanding and influential innovations in the theory and practice of mathematical statistics, international leadership in directing statistics research, and pioneering contributions by a recognized leader in the field of statistics. The conference program consists of four invited speakers and a graduate student poster presentation. For more information on the conference, speakers, and a detailed schedule please visit http://www.stat.psu.edu/~richards/raoprize/2011.html.
Please e-mail questions to any member of the organizing committee listed on the conference web page.

2010 Clifford C. Clogg Memorial

The Clifford C. Clogg Memorial Lecture in Sociology and Statistics honors the late Clifford C. Clogg, a distinguished professor of sociology and professor of statistics at Penn State from 1979 to 1995. The lecture series was created in 1996, when funds contributed by colleagues and friends were used to establish an endowment for its support.

The keynote speaker for the Memorial Lecture was Ken Bollen. This lecture was entitled "Measuring the Unmeasurable: Democracy, Depression, and Distance". Kenneth A. Bollen is Henry Rudolph Immerwahr Distinguished Professor at the University of North Carolina (UNC) at Chapel Hill. His primary appointment is in Sociology, but he also holds an adjunct appointment in Statistics and Operational Research. Bollen is a Fellow of the American Association for the Advancement of Sciences (AAAS), Fellow of the Center for Advanced Study in the Behavioral Sciences. In 2000 he won the Paul F. Lazarsfeld Memorial Award for Distinguished Contributions in the Field of Sociological Methodology, the highest award for methodologists given by the ASA. The Institute for Scientific Information (ISI) described him as one of the most highly cited researchers in the social sciences.

Opening remarks were provided by Melissa Hardy, Department of Sociology and introduction of the speaker was made by Bruce Lindsay.

A reception followed the lecture in Thomas Building in the Clifford Clogg Memorial Library housed by the Department of Statistics.

7th Annual Penn State Summer School in Statistics for Astronomers

The Seventh Annual Penn State Summer School and Statistical Challenges in Modern Astronomy Conference was held at Penn State June 6-10 and June 11-17, 2011. The Summer School in Statistics is designed for graduate students and researchers in astronomy. The seventh annual summer school is an intensive week covering basic statistical inference, several fields of applied statistics and the R computing environment. The Statistical Challenges in Modern Astronomy (SCMA) conferences, held every five years since 1991, are the premiere forum for research statisticians and astronomers to discuss methodological issues of mutual interest. Astronomers face an incredible range of problems in statistical inference from megadatasets, modeling data with nonlinear astrophysical models, time series analysis from irregularly spaced observations, and more. The scientific program was divided into nine sessions with 30 confirmed speakers. The scientific Organizing Committee consisted of: Statisticians: G. Jogesh Babu (PSU, co-chair), David Banks (Duke), Lawrence Brown (UPenn), Chris Koen (WCU), Fionn Murtagh (RHUL), Chad Schafer (CMU), Dvaid van Dyk (UCI) . Astronomers: Kirk Borne (GMU), Eric Feigelson (PSU, co-chair), Alan Heavens (Edinburgh), Thomas Loredo (Cornell), Pavlos Protopapas (Harvard), Jean-Kuic Starck (CEA), Licia Verde (Barcelona). Information on the conference can be found at: http://astrostatistics.psu.edu/su11scma5/index.html

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News from the Center for Statistical Ecology and Environmental Statistics

G.P. Patil, Distinguished Professor of Mathematical Statistics Emeritus and Director of the Center

Professor G.P. Patil has been invited by the United Nations Environment Program to chair its Panel on Human Environment Inter-Face Index, based on Land, Air, Water Indicators at National Levels. Earlier, Nobel Laureate Mario Molina chaired the Panel, and Professor Patil was a member responsible for methodology. The next meeting of the Panel is scheduled in New Delhi, India, during December 28-29, 2011.

Professor Patil was organizer and chair of a special invited session at the Joint Statistical Meetings held in Miami, Florida during August 2011. The session theme was: Advances in Environmental and Ecological Statistics, with eminent speakers, Jim Zidek, Lance Waller, Andrew Lawson, and Wayne Myers.

Professor Patil gave invited inaugural speech and the keynote address to the Biennial Meeting of the International Forum for Interdisciplinary Mathematics, held at Patna University, India. He was jointly awarded LifeTime Achievement Award by the Vice Chancellor of the University and the President of the Forum, at a specially held celebrative function. While in Patna, he addressed a special training conference of public health officers of India on the critical theme of disease clusters detection, early warning, and prioritization.

Professor Patil has been invited by the Indian Science Congress Association to deliver presidential invited address for its Statistical Sciences Section, during January 3-7, 2012. The Prime Minister of India is scheduled to inaugurate the Congress.

Professor Patil will also moderate environmental statistics program at the Congress.

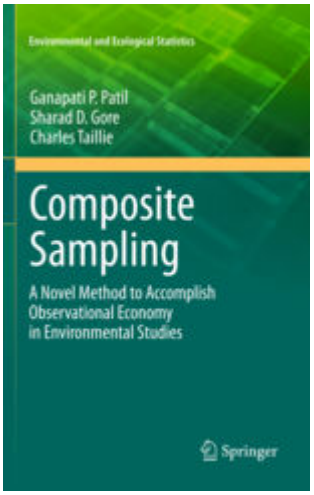
Professor Patil was invited to give a technical inaugural keynote address to the International Conference on the New Developments in Theory and Applications of Statistics held at the Middle East Technical University, Ankara, Turkey. He was also invited to organize and conduct a cross disciplinary workshop on surveillance hotspot geoinformatics during May 2 – 6, 2011, and also in the follow up workshop during October 31- November 4, 2011

National and international grant projects are in preparation for collaborative research, training, and outreach work. The leading science and technology university in Turkey is also introducing in its Department of Statistics a six credit academic year course on surveillance geoinformatics with applications to renewable energy, floods, droughts, and agricultural insurance, poverty, conservation and development, and network.

Student Interns and Research Students: Former undergraduate student intern at the Center in 1979 and a Penn State alumnus, now Professor Steve Stehman at the State University of New York, Syracuse, New York, has instituted Patil- Taillie Scholarship in the Department for top ranking undergraduate student in honor of the substantive contributions of Professor Patil and Dr. Taillie to the area of Environmental Statistics. First recipient has been Jennifer Stella. The graduate level research interns in digital governance and hotspot geoinformatics have been: Yekti Widyaningsih of Bogor Agricultural University, Bogor, Indonesia; a doctoral student in India at Patna University, two graduate students in Turkey at the Middle East Technical University, Ankara.

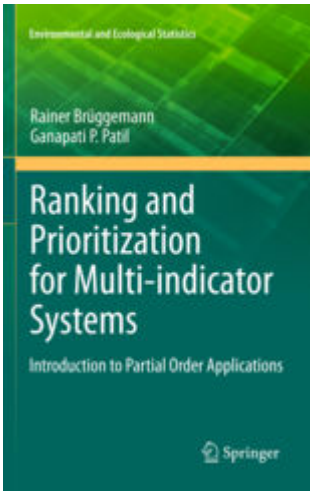
Visitors to the Center During Past Year. Dr. Sharad Joshi, Professor of Computer Science, Slippery Rock University of Pennsylvania and himself a former Ph.D. from the Department, has been visiting to conduct research on methodology and lead the software development for hotspot detection and prioritization. **Dr. Rainer Brüggemann**, Senior Scientist of Leibnitz Freshwater Research Institute, Berlin, Germany, and longtime distinguished leader in European Union for Partial Order, Ranking and Prioritization, has been visiting the Center to collaborate on methodology, Software, and Monograph Completion. **Dr. Wayne Myers**, Professor Emeritus, Penn State School of Forest Resources, has been continuing to visit the Center to collaborate on methodology, software, monograph, and grant preparation.

Environmental and Ecological Statistics Monograph Series: The Springer Publishing Corporation has launched a special monograph series for environmental and ecological statistics with Professor G.P. Patil as the Series Editor. Several monographs are in preparation. During this year, two novel monographs have appeared.



The first one is on Composite Sampling and Observational Economy by G.P. Patil, S.D. Gore and C. Taillie. The composite sampling has been an innovative approach to observational economy in a variety of environmental investigations, such as superfund sites assessments and others. The 283 page monograph is based on research at the Center supported by the EPA.

The second monograph is on Ranking and Prioritization for Multi-Indicator Systems: An Introduction to Partial Order Applications by R. Brüggemann and G.P. Patil. This 400 page innovative material provides a timely introduction to the partial order theory and its techniques with worked out illustrations and applications to a variety of live case studies. The application of partial order involving multi-indicator systems is in its initial phases and is advancing with more and more tools. The monograph is based on research at the Center supported by NSF. Collaborations are in progress to prepare new NSF grant(s) on this critical theme for this 21st century.



Research Grants
Active as of December 2011

National Science Foundation

Michael Akritas
*Fully Nonparametric Models for Random Effects, Order Threshold-ing, Bootstrap Testing, and Applications

Naomi S. Altman
*Statistical Methods for High Dimensional Discrete Data
**UMO Genetic & Genomic Approaches to Understanding the Role of Auxin in Shoot Development

J. Gutti Babu
*2010, 2011 Summer School in Statistical Inference for Astronomers
**MSPA-AST: Advancing Statistical Methodology in Massive Astronomical Surveys
***Stat Software for Astronomical Surveys

John Fricks
*Diffusion and Kinetics in Processive Molecular Motors

Bing Li
*Collaborative Research: Semiparametric Cond Graphical Models w Applications to Gene Network Analysis.

Jia Li
*New Geometric Methods of Mixture Models for Interactive Visualization
**CDI: Int'l Collaboration to Study Oceanic Currents Phenomena

Runze Li
*CAREER: Model Selection for Semiparametric Regression Models in High Dimensional

Bruce Lindsay
*Collaborative Research: Statistical Methods and Algorithms for Genomic Data

Aleksandra Slavkovic
*CDI-Type II: Collaborative Research: Integrating Statistical and Computational Approaches to Privacy

National Institutes of Health

Debashis Ghosh
* Statistical Methods for the Analysis of Functional Genomic Data
** Statistical Methods for Cancer Biomarkers

David Hunter
*Novel Statistical Models for Synthesizing Social Networks and Epidemic Dynamics
**Univ. Washington: Scalable Statistical Methods for Network Epidemiology

Runze Li
*New Statistical Methodology to Establish Construct Validity for Childhood Risk
**NIH Roadmap: New Statistical Models for Intensive Longitudinal Data
***New Models for Joint Analysis of Intensive Longitudinal Data and Survival Data

Yu Zhang
*Bayesian Methods for Epistasis Association Mapping

Other Funding Sources

Murali Haran
(USGS/USDI prime)
*Developing Regionally Downscaled Probabilistic Climate Change Projections

David Hunter
(University of California, Irvine, ONR Prime) *Scalable Methods for the Analysis of Network-Based Data

Durland Shumway
(U.S. Department of the Army)
*Assessing Human Annoyance Due to Military Impulse Noise

Visitors
Current / Completed / Expected

Arnab Chakraborty
Indian Statistical Institute
Kolkata India
Visiting Jogesh Babu (May – July 2011)

Mian Huang
School of Statistics and Management
Shanghai University of Finance and Economics
Visiting Runze Li (June 1, 2010 - July 31, 2010)

Hande Konsuk
Department of Statistics
Hacettepe University – Turkey
Visiting Debashis Ghosh (Feb 2012 – August 2012)

Liangxing Shi
School of Management
Tianjin University, Tianjin, P.R. China
Visiting Dennis Lin (January 15, 2012 – January 14, 2013)

Caroline Uhler
Visiting from Berkeley
Student Researcher – Aleksandra Slavkovic (June 2011)

Haiyan Wang
Department of Statistics
Kansas State University
Visiting with Michael Akritas (Aug 1, 2011 – Aug 10, 2011)

Jinyu Yang
Department of Statistics
School of Mathematical Sciences
Nankai University, China
Visiting Dennis Lin (September 2011 – August 2012)

Ruriko Yoshido
Department of Statistics
University of Kentucky
Visiting Sonja Petrovic (Spring 2013)

Staff News

New Office Staff in Department - July 2011

Valarie Kelley filled Barbara Freed's position. She comes to us from a similar position in the College of Ag Sciences where she served 20 years in the Department of Veterinary and Biomedical Sciences.

Melissa McCloskey filled Bonnie Cain's position. She comes from a similar position in the Mathematics Department. Melissa has extensive experience with ERS/travel, financial/accounting and University Policy/Procedures.

Finally, **Kathy Smith** comes to us from the Department of Kinesiology. She began a new position in the Statistics Department that has been necessitated by the growth of our world campus and outreach programs.

ECOS Star !!!

Melissa McCloskey was recognized *twice* this year in the ECOS Star program for her performance:

"Melissa came to the aid of another staff member and volunteered her time to help with grad application submissions. With a lot of help from her the deadline was met. The job couldn't have been done without Melissa's help!'

"For the *extra time she* contributed this year to the United Way campaign to make it so successful in our College, but especially noted is the time involved with the Coins for Caring challenge between departments. The special events for this year far surpassed everyone's expectation raising $5,244 compared to $1,676 last year!"

Alumni News

Department Dinner at the Joint Statistical Meetings (JSM)

Tuesday August 2rd, 2011

For several years running, we have organized a dinner for the alumni, faculty, and students attending JSM. After a couple full days of talks, meetings, and roundtable discussions, the department function is a welcome reprieve in a casual atmosphere. The goal of the event is to strengthen the ties between current faculty and students as well as provide an opportunity for students to mingle with the department alumni and gleam their experiences and foster ties to carry on post graduation.

The Joint Statistical Meeting occurred July 30 – August 4, 2011 at the Miami Beach Convention Center, located at 1901 Convention Center Drive, Miami Beach, FL. The annual department dinner was held on Tuesday, August 2 at 6:00 p.m. at the Van Dyke Café located at 846 Lincoln Road, Miami Beach, FL. Continuing on the previous tradition, we also met for a happy hour at 5pm in the main bar area of the restaurant. This provided a welcome opportunity for a few who came to visit and reacquaint with the advisors and friends before rushing off to other evening plans. The restaurant provided a perfect atmosphere to reconnect and enjoy a casual evening with our ever growing department family.

2011 Alumni Workshop

March 17, 2011

The 2011 Alumni Workshop took place on March 17, 2011. The entire event was held in Thomas Building with lectures held in the Department's conference room, and food and social events were held in the lounge and library. The Workshop started with coffee and followed by welcome and introductions by the Department Head, **Dr. Bruce Lindsay. Dr. Dennis Linn** gave the introduction of History Talk, followed by **Jim Rosenberger** and **T. P. Hettmensperger** who presented, History of Statistics Department.

SESSION 1 was chaired by Professor **Runze Li** , graduate program chair, included the following:

Guifang Fu (adviser: R. Wu), *A Statistical Model for Mapping Biological Shape*

Qing Wang (advisor, B. Lindsay), *Topics in U-Statistics and Risk Estimation*

Ivan Simeonov (advisor: F. Chairomonte), *Exploratory Spatial Analysis of in vitro RSV C-infections*

Roman Jandarov (advisor: M. Haran), *Emulating a Gravity Model to Infer the Spatiotemporal Dynamics of an Infectious Disease*

SESSION 2, chaired by **Naomi Altman,** Associate Professor of Statistics, consisted of the following presentations:

Wei Zhong (advisors: R. Li & L. Zhu), *A New Model-Free Sure Independence Screening for Ultra-High Dimensional Problems.*

Jingyuan Liu, (advisors: R. Wu & R. Li), *A Robust Model for Multilocus Population Genetics.*

Kiranmoy Das, (advisor: R. Wu), *A Semi-parametric Bayesian Model for Genetic Mapping with Bivariate Sparse Longitudinal Data.*

Yanlin Zuo, Minitab, *Develop MINITAB for Blackbelts and Greenbelts*

The keynote speaker, Richard Waterman, The Wharton School of the University of Pennsylvania and Analytic Business Services, Inc, presented a talk titled *Statistical Consulting for Business: from Chuck Taylor's to Mo'Nique* .

Student News

The Statistics Department Actuarial Statistics Option

November 2011

The Statistics Department's Actuarial Statistics Option has now grown to 11 juniors in the Statistics major, twice as many as past years, and over half the juniors in the Statistics major. They join another 47 Math majors in the Actuarial Mathematics Option (also over half their juniors), and another 70 juniors in the Smeal College of Business. Actuarial Science students at Penn State take Calculus I, II, and III in the Math Department; Probability Theory, Mathematical Statistics, Regression Analysis, and Time Series Analysis in the Statistics Department; and Financial Math, Actuarial Math, Insurance, and Option Pricing in the Smeal College of Business. This shows healthy inter-college and inter-department cooperation.

In 2010, the Actuarial Science Program at Penn State was named a "Center of Actuarial Excellence (CAE)" by the Society of Actuaries (one of 21 in the world) and it is the largest actuarial science program in the US (based on the number of students passing at least one exam each year). One reason for its size is that students participate from the Statistics and Mathematics majors in Eberly or the Actuarial major in Smeal. Another reason is that NY, NJ, DE, and MD do not have fully-developed actuarial science programs in their state schools. Thus, Penn State has become the top destination for employers in the East Coast looking to hire actuarial students. Over 30 employers attend our Actuarial Science Career Fair each September. If you would like to know more about us, see the Actuarial Science Club's website and consider forwarding it to smart math and stat students in your area.

What else can you do? As you might expect, it costs money to keep the actuarial program going. For example, to retain our CAE we need to hire a Ph.D. actuarial science faculty member and that takes serious money - $1 million to endow a Professorship or $1/2 million for an Early Career Professorship. We also have needs that don't involve such large amounts. For example, we reimburse exam fees ($250) for students passing an actuarial exam, and pay students to be Teaching Assistants (TAs). Unfortunately, due to a lack of funds, we can reimburse only ½ the exam registration fee and have had to reduce the number of TAs. Thus, any contribution, no matter what size, would really help our students. Contributions can be made out to Penn State

University. You can mail them to The Eberly College of Science Development and Alumni Relations Office at 430 Thomas Building. Please note on your check that you want your contribution to be for the actuarial science program. Thanks!

PS .. Actuarial Science alums (and others with an interest) should email Ron Gebhardtsbauer at rug16@psu.edu to be placed on the actuarial science alum list serve. We won't send you lots of emails – just one newsletter per year. Here's the most recent one: http://www.clubs.psu.edu/up/actsci/alumNewSP11.pdf

Awards

Roman Jandarov's "Emulating a gravity model to infer the spatiotemporal dynamics of an infection disease" was one of the winners of the 2011 Section on Bayesian Statistical Sciences (SBSS) student paper competition. Advisor: Murali Haran. http://www.amstat.org/sections/SBSS/awards/travel/studentwinners.html

Qing Wang was named one of the six finalists in the Section on Nonparametric Statistics competition for "Topics in U statistics and Risk Estimation". The winners will be decided at a special session of the JSM. Advisor: Bruce Lindsay.

Vishesh Karwa was awarded the SAS Summer Fellowship in Statistics for 2011. Vishesh is the first student from our department to win it, and I hope this will encourage other students to consider applying for this and similar research and computing oriented programs in the future. Additional information on this program can be found at http://support.sas.com/learn/ap/student/statfellow.html.

The MAS Outstanding Student Award committee has selected **Laura James** for the awardee of year 2011. Her Certificate is for: Recognition of her outstanding academic performance and her contribution to departmental activities.

Jingyuan Liu is the recipient of *The William L. Harkness Graduate Teaching Award* in recognition of outstanding teaching and for the "excellent presentation and preparation for class' during the 2011 calendar year.

Recent Ph.D.'s with Current Affiliations

Fall 2010

Kabekode "Sham" Bhat, Ph.D.,Scientist, Los Alamos (*Advisor:* **Murali Haran**)

Tracey Wrobel Hammel , Ph.D., Instructor Penn State University World Campus (*Advisor:* **Thomas Hettmansperger)**

Kion Kim, Ph.D.

Xianyun Mao, Ph.D., Postdoc Researcher, EB-biostatistics Division, University of Pennsylvania (*Advisor:* **Bruce Lindsay)**

Spring 2011

Yijia Feng, Ph.D., Google (*Adviser:* **Runze Li**)

Christopher Groendyke, Ph.D., Lecturer, University of Waterloo (*Advisor*; **David Hunter**)

Ruth Hummel, Ph.D., Faculty, AG Statistics, University of Florida, (*Advisor*: **David Hunter**)

Jianping Sun, Ph.D., Postdoc Scholar, Fred Hutchinson Cancer Research Center, (*Advisor:* **Bruce Lindsay)**

Summer 2011

Muhammad Atiyat, Ph.D., Associate Statistician, United Nations Office (*Advisor*: **Debashis Ghosh**)

Kiranmoy Das, Ph.D., Assistant Professor, Temple University (*Advisors:* **Rongling Wu** and **Runze Li**)

John Hughes, Ph.D., Assistant Professor, University of Minnesota *(Advisors:* **John Fricks** and **Murali Haran**)

Jiahan Li, Ph.D., Assistant Professor, University of Notre Dame (*Advisors:* **Rongling Wu** and **Runze Li**)

Scott Roths, Ph.D., Instructor, Penn State University (*Advisor*: **G.J. Babu**)

Matthew Tibbits, Ph.D., Applied Research Mathematician, Dept. of Defense, (*Advisor:***Murali Haran & John Liechty**)

Recent Masters Degrees

MAS/Masters Fall 2010

Ivan Simeonov**,** M.S.
Qing Wang, M.S.
Jian Ding, MAS
Shirvonne McCarthy, MAS

Spring 2011

Li-Fang Chen
Christine Clement
Kristy Foley
Shane Hall
Laura James
Lei Shi
Chen-Ya Wang

Summer 2011

Kristia Foster, MS
Junyi Lin, MS
Amanda Tomlinson, MS
Opeyemi Akinjayeju, MAS
Joseph Bryan, MAS
Mark Campbell, MAS
Mason Decamillis, MAS
Brittany Fischer, MAS
Lixue Zhu, MAS

Recent Bachelors' Degrees

Fall 2010

Shane Hall, Emma Levert, Susan Shea, Fan Xie

Spring 2011

Gerald Arocena, Andrew Bible, Stephen Bione, Kyle Cibak, Emily Fogila, Robert Genry, Kate Grimes, Nicholas Huso, Maria Izzi, Laura James, James Joseph, Haessen Khan, Glenn McCullough, Adam Shami, Andrew Wilson, Mary Winger, Esteban Wong, Joseph Zeamer

Summer 2010

Xiaoxi Yang

Internships

Prabhani Kuruppumullage Don (Ph.D. candidate)

WHERE: Hawthorn, NY
WHO: Healthcare Transformation, IBM Research
WHAT: Developing statistical methodologies for comparative effectiveness research

Wen-Yu Hua (Ph.D. candidate)

WHERE: New Jersey
WHO: Quest Diagnostics
WHAT: Data analysis, feature identification and model comparison.

Internships - Cont'd

Vishesh Karwa (Ph.D. candidate)

WHERE. Raleigh, NC
WHO: SAS .
WHAT: Development of SAS macros for propensity score methods

Lauren Kraus (Ph.D. candidate)

WHERE: Boston, MA
WHO: Gartner
WHAT: Analysis of large dataset of survey data provided by Gartner clients, and researched and implemented missing data analysis methods on survey data from worldwide survey on IT spending.

Lejia Lou (Ph.D. candidate)

WHERE: Raritan, NJ
WHO: Johnson & Johnson Pharmaceutical Research and Development
WHAT: Work with practicing statisticians and learn about statistical applications specific to clinical or non-clinical pharmaceutical industry settings.

Ivan Simeonov (Ph.D. candidate)

WHERE: Hartford, CT
WHO: Travelers Insurance
WHAT: Applied advanced statistical techniques to real business problems driving profit and growth..

Qing Wang (Ph.D. candidate)

WHERE: Hartford, CT
WHO: Travelers Insurance
WHAT: Full-time intern at Personal Insurance, Research and Development Program. Engaged in the field of predictive modelling. Applied advanced statistical data analysis techniques into real business problems to help drive profits and growth. Helped to develop a SAS macro tool for the hierarchical random effects multiplicative double GLIM and implemented it in predicting pure premium in the field of auto insurance.

Jialin Xu (Ph.D. candidate)

WHERE:
WHO: Heart Failure DPU at GlaxoSmithKline R&D Department
WHAT: Simulation study on adaptive design on bioequivalence study; drafting report and analysis plan for an early phase clinical trial and consulting work for preclinical projects.

Ying Zhang (Ph.D. candidate)

WHERE: Raritan, NJ
WHO: Johnson & Johnson
WHAT: Research in biostatistics

Graduate Student Orientation

This year's orientation activities were scheduled during August 15—19, 2011. New students were afforded opportunities to meet with returning students and faculty to become acclimated to the Department. The week's activities concluded with a departmental picnic held at Leder Park. The weather was accommodating this year and the new students were able to mingle in a relaxed atmosphere with students, staff, and faculty.

Student Advisory Committee (SAC)

This year, **Vishesh Karwa** will serve as SAC president. The SAC sponsored a Halloween potluck on October 31st with contributions going to the Coins for Caring . The photos can be found here **http://www.psu.edu/dept/science/statblog/picture/2011Halloween-dept%20party/**

The Statistics Department is fielding a co-rec football team, named Probability of Awesome, currently they are 3-1. They also plan to field a volleyball and dodgeball team (both co-rec) in the Spring, but they would be open to other sports as well (but there are not any other co-rec leagues).

Again this year, the SAC has several events planned for the upcoming year; Thanksgiving potluck, Winterfest in December, GlaxoSmithKline talk, SAC talks (one on internships), the Spring Alumni Workshop (and Prospective student meetings). The SAC is looking forward to these upcoming activities, and are always willing to add new activities too, so fee free to contact one of the SAC members with suggestions.

PERSONAL CORNER

Congratulations !

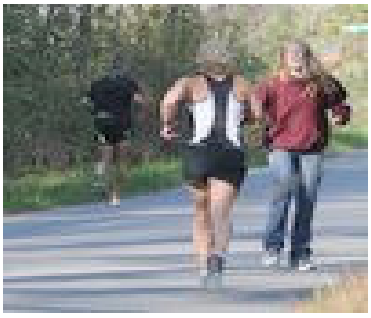
Xizen Cai and **Wei Luo,** graduate students in the department, were married November 15, 2011.

Jialin Xu and **Lina Yin – (**Ph.D. graduate students) were pleased to announce the birth of their baby boy *Ayden Ruibo Xu* (weight: 7lb 14 oz, length: 21 inches), born on Dec. 6th 2011. Both Lina and Ayden are doing very well.

Taking on Tussey: Runners navigate mountain terrain in 50-mile race

Linda Strauss, Res Assoc/Asst. Professor

Linda Strauss, Res Assoc/Asst. Professor, completed the 50-mile race, Taking on Tussey, on October 23, 2011. Read more: http://www.centredaily.com/2011/10/24/2961062/taking-on-tussey.html



Ellie Strauss, 13, of State College, runs with her mom, Linda Strauss for the last stretch of the Tussey Mountainback 50-mile relay and ultramarathon National Championship on Sunday, October 23, 2011. Strauss ran for Team Zissou. The race benefited the Bob Perks Cancer Assistance Fund which supports local families in need. CDT/Joshua Sykes

DONATIONS TO THE STATISTICS DEPARTMENT
JULY 1, 2010—June 30, 2011

Dr. and Mrs. Steven F. Arnold
Dr. Ryan T. Elmore
Dr. Brenda L. Gaydos
Mr. Sami M. Huovilainen and Ms. Maria C. Lago-Teijeiro
Dr. Bruce G. Lindsay and Dr. Laura J. Simon
Dr. and Mrs. Scott E. Pammer
Dr. Peiyong Qu
Mr. and Mrs. Stephen V. Stehman
Drs. Kenneth A. and Vera Jean Suman
Ms. Helen D. Tai

Millennium Society Contributors
Dr. Bruce G. Lindsay and Dr. Laura J. Simon
Mr. and Mrs. Stephen V. Stehman

Corporate Contributors
Eli Lilly and Company Foundation
Minitab, Inc.

When making contributions to the Department, you can designate how you would like your gift used!

During this year, donations helped support the following:

- Winterfest Party
- Meals with Speakers in the Department's Colloquium Series

And also……..

- Travel grants to sixteen graduate students & three graduate teaching awards (thanks to the William Harkness Enhancement Fund)
- Colloquium Coffee and Cookies (thanks to Debashis Ghosh)
- Support of students' attendance at various meetings (thanks to faculty)
- Books donated to the Department Library (thanks to Dennis Friday (Ph.D. 1976, *Advisor*: G. P. Patil) who retired almost 2 years ago after serving 10 years as Chief of NIST Electromagnetics Division in Boulder, CO)

Information Requested for Future Issues of Stat News

Please send us information that we can publish in future newsletters. For example, include your current job and any information that you feel would be of interest to other alumni or those associated with the Department of Statistics. When sending the information, please indicate your permission to have the information printed in Stat News. Please send to Valarie Kelley vjk1@psu.edu.

STATNEWS is published by PENN STATE DEPARTMENT OF STATISTICS, 326 Thomas Building, University Park, PA 16802–2111
Editor: **Valarie J. Kelley**
Editorial Advisor: **Dr. Bruce G. Lindsay**

Produced by the Penn State Department of Statistics U.Ed. SCI xx-xx