

September 2006



**UI College of Public Health**

UNIVERSITY OF IOWA

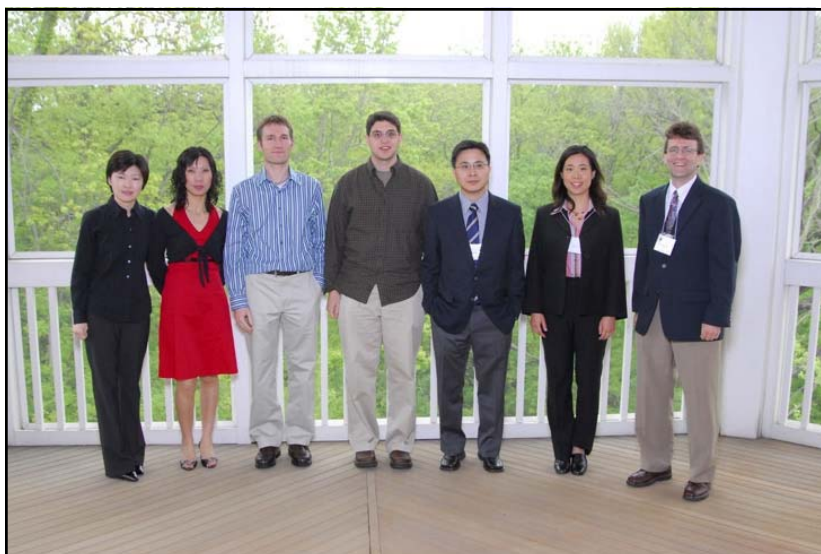
**Department of Biostatistics  
Newsletter**

# Letter from the Head

I know that this has been another great year for the Department of Biostatistics but I cannot remember any specific highlights – it has just been great all around. So rather than me try and come up with a list of highlights I will just encourage you read all the interesting details in this newsletter that describe some of the activities and growth over the past year.

My very best wishes, and please keep in touch!

Kathryn Chaloner



2006 Graduates: Qian Wang, Yajun Zhu, Patrick Breheny, Nathan Gotman, Wei Zhang, Xin Lu, with Jeff Dawson

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## Student Poster Presentations

**Minggen Lu**, Pendergast JF, Flanigan MJ, Brooks J, Chrischilles EA, Hunsicker LG. "Comparison of One-Year Survival of Hemodialysis and Peritoneal Dialysis Patients", Research Week, March 28-31, 2006; University of Iowa.

**Qian Shi**, Stierman LM, Dawson JD, Rizzo M. "Defining and Assessing Endpoints in Driving Simulator Tasks", Research Week, March 28-31, 2006; University of Iowa.

**Qian Shi**, Cowles MK. "Evaluating Early Proteinuria Changes as a Surrogate Endpoint for Renal Disease Outcomes: a Bayesian Approach", Midwest Biopharmaceutical Statistics Workshop, Ball State University, Muncie, IN, May 22-24, 2006.

Louis EKS, McEvoy S, **Qian Shi**, Rizzo M. "Useful Field of View Impairment in Partial Epilepsy", International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design, June 27-30, 2005, Rockport, Maine.

**Zugui Zhang**, Field RW, Smith BJ, Steck DJ. "Variation in Yearly Residential Radon Concentrations in the Upper Midwest", Research Week, March 28-31, 2006; University of Iowa.

**Zugui Zhang**: "Variation in Yearly Residential Radon Concentrations in the Upper Midwest", American Public Health Association meeting, Boston, MA, November 4-8, 2006; sponsored by Delta Omega.

## Oral Presentations at National Meetings

**Kwang-Youn Kim**, Huang J, Scheetz TE, Swiderski R, Philp AR, Casavant TL, Stone EM, Sheffield VC. "Position-Dependent Correlations in eQTL Mapping", ENAR, March 26-29, 2006, Tampa, FL.

**Minggen Lu**, Zhang Y, Huang J. "Estimation of the Mean Function of Panel Count Data Using Monotone Polynomial Splines", ENAR, March 26-29, 2006, Tampa, FL.

**Qian Shi**, Stierman L, Dawson JD, Rizzo M. "Defining and Assessing Endpoints in Driving Simulator Tasks", Joint Statistical Meeting, August 6-10, 2005, Minneapolis, MN.

## Presentations at Biostatistics Student Academic Club Meetings

**Patrick Breheny**: "A Short Guide to SAS Macros", April 17, 2006.

**Minggen Lu**: "Estimation of the Mean Function of Panel Count Data Using Monotone Polynomial Splines", February 2, 2006.

**Wei Zhang**: "An Adaptive Dose-Finding Design Incorporating Both Toxicity and Efficacy" and **Kim, Kwang-Youn**: "Expression as Phenotype eQTL Mapping in the Mammalian Eye", November 7, 2005.

**Zugui Zhan**: "The Concordance Correlation Coefficient and HS Application in Radon Measurements" and **Qian Shi**: "A Literature Review of the Surrogate Endpoints", March 20, 2006.

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## Nancy Parizek

In June 2006, Nancy Parizek resigned her duties as Program Coordinator for Biostatistics and will continue her responsibilities entirely for the Department of Epidemiology. Nancy came to the Department of Preventive Medicine in 1996, and shortly thereafter assumed responsibilities for training programs in both Biostatistics and Epidemiology. We would like to thank Nancy for her contributions to our graduate program. Nancy's office is still just down the hall across from the Epidemiology faculty corridor.



## 2005-2006 Graduates

### MS Program

Patrick J. Breheny	Enrolled in PhD program
Nathan M. Gotman	Statistical Programmer at the Yale Center for Perinatal, Pediatric and Environmental Epidemiology
Mei Huang	Biostatistician, CTSDMC, University of Iowa
Yu-Hui Huang	Enrolled in PhD program
Yoosang Kim	Admitted to PhD program at University of Illinois, Chicago
Jihey Lee	Currently interviewing
Mingjin Li	Biostatistician, Pharmaceutical Products Development
Xin Lu	Applications Development & Support, Center for Health Effects of Environmental Contamination (CHEEC), University of Iowa
Sanjukta Modak	Biostatistician, Johns Hopkins University
Yingwei Qi	Biostatistician, Mayo Clinic
JonDavid Sparks	Enrolled in PhD program
Qian Wang	Pursuing PhD in Geography at University of Iowa
Lixun Zhang	Admitted to PhD program at Yale University
Li Zhou	Statistical Analyst, Northwestern University
Yajun Zhu	Biostatistician, Eli Lilly and Company

### MPH Program—Biostatistics

Anna M. Hassebroek      Statistician at the National Marrow Donor Program, Minneapolis

### PhD Program

**Kwang-Youn Kim**, PhD Thesis: “Statistical Methods for Detecting Positional Correlation of Expression and Genetic Interactions with eQTL Data”, under the direction of Professors Jian Huang and Val Sheffield. Kwang-Youn has begun a postdoc year in Val Sheffield's Lab at the University of Iowa. You may read his abstract at <http://www.public-health.uiowa.edu/biostat/pdf/KY-Kim-thesis-abstract.pdf>.

**Bongin Yoo**, PhD Thesis: “Estimation and Design Considerations in Mixed Effects Cox Regression Model”, under the direction of Professor Michael P. Jones. Bongin is currently a biostatistician with Bristol-Myers Squibb. You may read his abstract at <http://www.public-health.uiowa.edu/biostat/pdf/Yoo-thesis-abstract.pdf>.

**Wei Zhang**, PhD Thesis: “Analysis of Doubly Censored Survival Data with Applications to GBV-C and HIV Studies”, under the direction of Professors Kathryn Chaloner and Ying Zhang. Wei is currently a biostatistician with Boehringer-Ingelheim Corporation. You may read Wei's thesis abstract at <http://www.public-health.uiowa.edu/biostat/pdf/Wei-Zhang-Thesis-abstract.pdf>.

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## Student Awards

**Wei Zhang** is the recipient of the 2006 Milford E. Barnes Award for Biostatistics. He is pictured here with Jane Pendergast.



**Bongin Yoo** and **Yu-Hui Huang** were inducted into the Alpha Phi Chapter of Delta Omega, Public Health Honor Society on Friday, May 12, 2006.

**2006 International Chinese Student Association (ICSA) Student Travel Award:**  
**Minggen Lu** was named the recipient of the travel award; he presented at the ENAR meeting in Tampa, FL in March.

**University of Iowa Jakobsen Conference Winner:**  
**Zugui Zhang** received 3<sup>rd</sup> Place in Biological and Health Sciences.

## Midwest Biopharmaceutical Workshop



Five of our students attended the Midwest Biopharmaceutical Workshop in Muncie, Indiana, this past May. Pictured are Yu-Hui Huang, Cicci Shi, Mir Masoom Ali, Ph.D., Professor of Statistics at Ball State University, Patrick Breheny, Yang Lei, and Li Liu.

## Zugui Zhang to Present at APHA Poster Session

**Zugui Zhang** was nominated by the local Alpha Phi Chapter of Delta Omega to present a poster at the American Public Health Association annual meeting, November 4-8, 2006 in Boston, MA. His abstract was successfully reviewed and he has been invited to present with eighteen other student presenters from schools of public health across the country. The title of Zugui's poster is "Variation in Yearly Residential Radon Concentrations in the Upper Midwest." The Delta Omega poster session will take place on November 6 from 10:30-11:30 a.m. The APHA has more than 10,000 attendees each year at its annual meeting. Congratulations, Zugui!

## Biostatistics Student Organization (BSO) 2005-2006 Activities

The BSO has enjoyed another successful year, full of many activities and learning opportunities. The BSO was officially recognized by the University of Iowa as an official student organization on 9/29/05. To kick off the start of the academic year, the BSO held their first activity, a potluck picnic at City Park. The picnic was well attended by both new and returning students and faculty.

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The Biostatistics Student Academic Club (BSAC) was also started early in the academic year. The BSAC gave students opportunities to share their talents and research interests with other students in the department. The BSAC met 5 times over the course of the year and each session was well attended and enjoyed by all. Talks and presentations were generally given by students who were working on their dissertations or by students who had knowledge of other interesting statistical topics. The speakers for BSAC were Wei Zhang, Minggen Lu, Zugui Zhang, and Patrick Breheny. The topics were both varied and exciting, and ranged from SAS macros to Surrogate Endpoints to Monotone Polynomial Splines.

To help graduating students prepare for the next phase of their lives, the BSO prepared a wonderful career seminar in February. Speakers from the Pomerantz Career Center presented information on interviewing for jobs and creating resumes. Dr. Doug Langbehn also discussed the job market for Biostatisticians and gave valuable advice on how to find jobs.

The BSO also organized study sessions for those who were taking the M.S. comprehensive exam or Ph.D. qualifying exam. The study group met for 8 sessions and was attended by about 8 people at each session. Those who attended the study sessions found the sessions to be very useful in preparing for the difficult examination.

The BSO also planned other fun activities such as a Bowling Night at Coral Lanes and a Movie Night at the Asian Pacific American Cultural center. To cap off another successful year, the BSO had another potluck picnic at City Park in May. The BSO would like to thank all those who helped out and participated in the activities to ensure another great year in the Department of Biostatistics.

### **Graduating Students Recognition Lunch May 10, 2006**



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## Meet the DMC!

The Clinical Trials Statistical & Data Management Center (CTSDMC) turns 17 this year. Like a typical teenager, the Center is growing up fast, taking on new responsibilities, and making its mark on the world.

In the last two years, the Center's staff has doubled from approximately 15 to 30 employees. Much of this growth has been due to a \$21 million NIH Grant. The Clinical Islet Transplantation Consortium (CITC) study has created several new positions including research assistants, database administrators, and biostatisticians. CITC is an international research consortium whose goal is to improve methods and outcomes for islet transplantation in patients with Type I diabetes. The CTSDMC is the Data Coordinating Center for the study and is working with investigators to develop and implement several aspects of the research.

The Center's growing plans also include a recently awarded NIH-sponsored study evaluating adolescent bracing for scoliosis. The CTSDMC will be the Data Coordinating Center for the BRAIST multi-center trial, which is led by University of Iowa investigators in the Department of Orthopedics and Rehabilitation and involves 13 other medical centers in the United States.

Dr. William Clarke, CTSDMC Director, is pleased with the progress the center has made so far. "We now have a highly qualified staff that is functioning very well. We have grown into a sophisticated research organization that can handle all aspects of a clinical trial. I am really proud to be part of this team. I will always be grateful to those who came on early in the process and held things together as we grew," said Dr. Clarke.

In addition to the new studies, CTSDMC continues to function as the Data Management Center for the "International Study of Unruptured Intracranial Aneurysms" (ISUIA) and the "Carotid Occlusion Surgery Study" (COSS). ISUIA is an NIH-funded study that investigates the natural history of unruptured intracranial aneurysms and the risks associated with surgical and endovascular repair. The ISUIA study is approaching its third year. Subjects enrolled in COSS have been diagnosed with a symptomatic carotid artery occlusion and have an increased risk of having a subsequent stroke.

The goal of that study is to test whether or not a surgical operation called "Extracranial Intracranial Bypass" reduces the risk of subsequent stroke at two years. COSS is also funded by NIH and is in its fourth year.

The recent growth spurt has staff members scattered throughout Westlawn. However, the Center will be moving to a space in the newly renovated Old Capital Town Center. "We are very excited to have the entire staff of the CTSDMC in contiguous space at Old Capital Mall," says Dixie Ecklund, CTSDMC Associate Director. "Our rapid growth has forced staff into various nooks and crannies throughout Westlawn which impacts on our ability to perform as a team. We are very much looking forward to moving into the newly renovated space and feel this will enhance our quality of work as well as our quality of life."



Pictured: Front Row, L – R:

Rick Peters, Karen Canady, Ram Kunwor, Megha Chapagai, Sanjay Ghimire, Keith Provin, John Marmet, Ellen Balas, Ken Singletary, Jon Yankey, Dixie Ecklund.

Back Row, L – R:

Jill Kuennen, Qian Shi, Mei Huang, Emine Bayman, Gordana Lenert, Holly Riss, Carol Jaspersen, Michele Costigan, Cindy Diltz, Huaming Tan, Mary Kemp-Highstrom, Jamie Willits, Julie Qidwai.

Not pictured:

Kathryn Chaloner, William Clarke, Beth Shields, Jeri Sieren, Kim Thrush, Jun Xiang.

For more information please see the Center's web page at <http://ctsdmc.public-health.uiowa.edu/home.asp>.

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## Calling for Alumni News!

You are important to us and we need to hear from our alumni! Please send us information on your careers, families, and anything else going on in your lives. This newsletter is for you and if we don't hear from you we can't spread the word! Please send information to Terry Kirk, C22-N GH, or Ann Weber, C22-C GH, Department of Biostatistics, College of Public Health, 200 Hawkins Drive, Iowa City, IA 52242 or via email at [terry-kirk@uiowa.edu](mailto:terry-kirk@uiowa.edu) or [ann-weber@uiowa.edu](mailto:ann-weber@uiowa.edu).

## Faculty News

### Joe Cavanaugh Receives CPH 2006 Collegiate Teaching Award

Joseph Cavanaugh, associate professor of biostatistics, teaches Introduction to Biostatistics, which enrolls students from a broad range of disciplines and includes undergraduate and graduate students, as well as professional students with advanced degrees. He also teaches categorical data analysis, and he has developed and taught two advanced biostatistics seminar courses. He has received consistently high student evaluation scores and praise for his ability to make biostatistics relevant and accessible to scholars at all levels. Several students described Dr. Cavanaugh as a dedicated mentor and role model. He currently serves as a biostatistician for the Iowa Scholars in Clinical Investigation program at the UI and is serving on six doctoral committees. He has been honored with a number of teaching awards throughout his academic career, including the 2000 William T. Kemper Fellowship for Excellence in Teaching while at the University of Missouri-Columbia.



### Jeff Dawson Leads Biostat Component of Driving Studies



Dr. Jeff Dawson is a key member of several research teams throughout the university. One of these is the Division of Neuroergonomics of the Department of Neurology, a multidisciplinary group that evaluates driving performance in normal and neurologically-impaired subjects, such as those with Alzheimer's disease, Parkinson's disease, sleep apnea, and stroke. The overall goal of the research in this area is to quantify the difference in driving abilities between impaired and normal populations, and to ascertain how off-road cognitive tests can help distinguish between safe and unsafe drivers. In order to investigate these issues, participants are tested in a driving simulator and in a vehicle that has been instrumented to capture vehicle performance measures at a rate of 10 frames per second. In addition to the main clinical issues that are investigated, the team also considers methodological issues, such as the statistical properties of the different ways of defining and measuring vehicle control. Several Biostatistics graduate students have worked with Dr. Dawson as part of this research team since 2000, leading to a number of scientific presentations and publications.

For more information about this area of research, feel free to check out the web pages at [www.uiowa.edu/~neuroerg/](http://www.uiowa.edu/~neuroerg/).

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## New Training Grants and Awards

### AMGEN Fellowship

Qian “Cicci” Shi has been awarded an AMGEN Fellowship for 2006-07. This is an educational gift from the AMGEN Healthcare Institute to support an outstanding post-comprehensive exam doctoral student to complete his or her PhD thesis in Biostatistics. This award will support her for one year to work on her thesis which concerns Bayesian methods for evaluating surrogate endpoints in randomized clinical trials. Her thesis adviser is Dr. Kate Cowles from the Department of Statistics & Actuarial Science. Cicci was selected from a pool of talented PhD students.

### NIH Training Grant

The Department of Biostatistics has been awarded an NIH Training Grant from the National Institute of General Medical Sciences. The goal of the training program, “Statistics in Microbiology, Infectious Diseases and Bioinformatics”, is “to train biostatisticians to take a leadership role in developing new interdisciplinary scientific research. This will be achieved by providing rigorous training in the disciplines of both statistics and microbiology, and providing interdisciplinary training in bioinformatics. This training program will provide a structure that will strengthen existing collaborations, and train a new generation of biostatisticians to advance biomedical and clinical research.” The grant will support PhD students in both Statistics and Biostatistics during their PhD studies, and will also support PhD students in Microbiology to learn some biostatistics to further their PhD thesis. The first two fellows, both in the PhD program in Biostatistics, are Patrick Breheny and Yu-Hui Huang.

### Biostatistics Faculty Publications During 2005

- Gilman S, Koeppe RA, Little RJA, **An H**, Junck L, Giordani B, Persad C, Heumann M, and Wernette K. Differences between Alzheimer’s disease and dementia with Lewy Bodies in cerebral glucose metabolism and neuropsychological function. Experimental Neurology 191(Suppl.1): 95-103, 2005.
- An H** and Little RJA, Comment on “Semiparametric estimation of treatment effect in a pretest-posttest study with missing data” (Comment). Statistical Science 20(3):282-301, 2005.
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- Flamme GA, Mudipalli VR, Reynolds SJ, Kelly KM, Stromquist AM, Zwerling C, **Burmeister LF**, Peng SC, and Merchant JA. Prevalence of hearing impairment in a rural midwestern cohort: Estimates from the Keokuk County Rural Health Study, 1994 to 1998. Ear & Hearing. 26(3):350-360, 2005.
- Rautiainen RH, Ledolter J, Sprince NL, Donham KH, **Burmeister LF**, Ohsfeldt R, Reynolds SJ, Phillips K, and Zwerling C. Effects of premium discount on Worker’s Compensation claims in agriculture in Finland. AJIM 48:100-109, 2005.
- Merchant JA, Naleway AL, Svendsen ER, Kelly KM, **Burmeister LF**, Stromquist AM, Taylor CD, Thorne PS, Reynolds SJ, Sanderson WT, and Chrischilles EA. Asthma and farm exposures in a cohort of rural Iowa children. Env Health Perspect 113(3):350-356, 2005.
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- Uc EY, Rizzo M, Anderson SW, Qian S, Rodnitzky RL, and **Dawson JD**. Visual dysfunction in Parkinson disease without dementia. Neurology 65:1907-1913, 2005.
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## Student Publications

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