

University of Georgia Franklin College of Arts and Sciences

Spring 2011

### **Departmental Notes and Headlines**

John Stufken, Professor & Department Head

Dear Alumni,

The academic year 2010-11, which is about to come to a close at the time that this column is written, has been very interesting and busy for the Department.

We welcomed a few new faculty at the beginning of the year. Kim Love-Myers is the new Associate Director for the Statistical Consulting Center. Kim received her PhD from Virginia Tech in 2007, had been working in postdoctoral positions at UGA since that time, and started her new position with us in July of 2010. Mark Werner, who holds a 2003 PhD from the University of Colorado Denver, joined us in August of 2010 as Lecturer after spending six years as Assistant Professor at American University of Cairo (some might say that Mark timed his departure from Cairo superbly). We are absolutely delighted with the addition of these faculty.

On the staff side, we are also delighted with the return of Julie Davis as Administrative Associate. Julie had left the Department in 2008 for greener pastures that, perhaps, were not quite as green as they had appeared to be from afar. She rejoined the Department in November of 2010. If you have any updates on your professional or personal life that you would like to share with us, you need to be in contact with Julie (an email to stat@uga.edu will do the trick).

Other faculty and staff saw an upgrade in the titles of their positions, including Kim Gilbert (from Temporary Lecturer to Lecturer), Jack Morse (from Temporary Instructor to Instructor), and Daphney Smith (from Administrative Assistant to Student Affairs Professional). Congratulations to all!

In terms of teaching, the Department significantly increased the number of credit hours that it produces. The major change is that, beginning in the Fall of 2010, we are now in charge of er to research), and the introduction of different tracks at the MS level.

On the research front, faculty continue to publish in some of the very best journals of the profession, are members of editorial boards for some of these journals, and were also in the past year invited to serve on multiple proposal review panels at the National Science Founda-



Chris Franklin was inducted into the Phi Kappa Phi Honor Society. Pictured (l-r): Dennis Duncan (President of the UGA PKP chapeter), Carol Cotton (the other faculty member inducted from Health Promotion and Behavior), Chris Franklin, and Maurice Daniels (Dean of School of Social Work and keynote speaker).

teaching introductory statistics for business students. We had done some of this in the past, through STAT 3000, but we are now in charge of teaching the entire MSIT 3000 offering, which used to be taught through the Department of Banking and Finance in the Terry College.

We also went through an extensive review of our graduate program, and made a number of changes. These include a new structure for the MS and PhD exams, the introduction of several new courses (especially aimed at exposing students earlition. In addition, we have a new recipient of the M.G. Michael Research Award among our midst: Jeongyoun Ahn, a 2011 recipient, is the 5th winner in the department's history of this Franklin College award. Please join me in congratulating Jeongyoun with this wonderful recognition.

Have you visited our website recently? If not, you should give it a try at http:// www.stat.uga.edu/. The page has been redesigned with help of staff in the Franklin College, and

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- Student Award winners Announced
- Statistics Building Renovations Updates
- World Statistics Day Coverage



### **Departmental Notes and Headlines Continued**

John Stufken, Professor & Department Head

#### Continued from Page I

we believe that it is much improved. Let us know what you think about the new site, provide us with suggestions for further improvements, and continue to send us updates that we can post under Alumni News.

We would also love to see you at our next reception for alumni and friends at the Joint Statistical Meetings in Miami Beach. The reception will be held at the Miami Beach Convention Center, room CC-A103, on Monday, August 1st at 5:30pm. This will be the 3rd such reception after Washington DC (2009) and Vancouver (2010), and we really want to see more of you in attendance. We can't make promises about the weather (or perhaps, given that it is in Miami Beach, we can), but we can promise that the food and the company will be great!

I want to leave you with one other request. Any alumni may respond, but it will be especially valuable if we can hear from those who have graduated in the recent past. For assessment of our undergraduate and graduate programs, we are very interested to hear from those who are out in the workforce how useful (or useless) you find the courses that you took from our department in your current employment. Also, are there any statistical topics that you didn't take, either by choice or because we didn't offer a course in it, but that would have been very helpful in your current employment? In an effort to assess the effectiveness of our courses, and the gaps in our curriculum, such information could really help us to make improvements. The

higher the response rate, the better a picture we will get. I am counting on your help!

In closing, I very much hope that you will find this Newsletter informative and worth reading. If there are topics that you would like to see addressed in a future Newsletter, give us your feedback and we will see what we can do. I hope to see many of you in the coming year.

John Stufken

### **Statistical Consulting Center**

Jaxk Reeves, Director Kim Love-Myers, Associate Director

In the 2010-2011 academic year, the Statistical Consulting Center (SCC) has continued to grow and thrive. Currently under the direction of Dr. Jaxk Reeves and Dr. Kim Love-Myers (following previous Associate Director Dr. Jien Chen's departure in July of 2010), the SCC has worked with a variety of clients from within the university, as well as offand Consumer Sciences, the College of Education, the Odum School of Ecology, the College of Veterinary Medicine, and the Graduate School. This year, offcampus clients have accounted for roughly 30% of projects involving the SCC, and have accounted for over 50% of clientbased income.

At present, six Statistics graduate students are supported on consulting assistantships: Sandra Addo, Yi Chen, Xinyu Liu, An-

"This year, off-campus clients have accounted for roughly 30% of projects involving the SCC, and have accounted for over 50% of client-based income."

campus educational and corporate clients. On-campus clients have come to the SCC from many areas around the University, including the Franklin College of Arts and Sciences, the College of Agricultural and Environmental Sciences, the Warnell School of Forestry and Natural Resources, the College of Family drea Moncayo, Wenhui Sheng, and Jin Tang. Five other students are volunteering with the SCC in various capacities. All of the SCC's consulting assistants have done an excellent job supporting the work of the center.

Recently the SCC achieved an important milestone in securing

its future at the University of Georgia when the Office of the Vice President for Research agreed to continue to provide funding for one half of the Associate Director's salary over the next three years. Additionally, the Graduate School has expressed a wish to continue funding two of our consulting assis-

tantships in the coming academic year. The SCC is pleased that OVPR and the Graduate School support its mission at the University, and we are looking forward to continuing to serve the community and our graduate students.



Jaxk Reeves and Kim Love-Myers with clients in the Consulting Center.

### Spring 2011

### **Undergraduate Program**

Christine Franklin, Senior Lecturer & Undergraduate Coordinator

During the academic year June 2010 – May 2011, we proudly graduated the following 16 students with a BS degree in Statistics:

Summer 2010 Shelina Ramnarine

Fall 2010 Jessica Floyd, Corey Green, Stephen Morris, Thobile Richards, Kristen Danch-Powell, and Zachary Robbins

#### Spring 2011

Jessica Fawley, Carolanne Lott, Ralph Maddox, Lutfiyya Muhammad, Julia Orr, Manoj Rema, Neeraj Sriram, Christopher Tencza, and Nathan Ulrich.

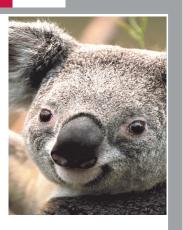
Many of these students were inducted into honor societies such as the National Statistical Honor Society Mu Sigma Rho, Phi Kappa Phi, and Phi Beta Kappa. Several of the students will continue with graduate school and others are planning on joining the workforce using the skill set they gained as a statistics major. Our students are sought out future employees in this data centric world. Congratulations to all our graduates!



Pictured is Christine Franklin, Undergraduate Coordinator, with some of the Spring 2011 graduates

### **Alumni Profile**

The Department's featured alumna is Terri Henderson. She has worked as a Senior Biostatistician/Patient-Reported Outcomes Lead for the past 3 1/2 years at Vistakon in Jacksonville, FL, which is the vision care division of Johnson & Johnson. During this time she has provided several internships for our students. When asked what she likes best about her job, she replied: "Every day is different. I like having a role that encompasses many roles like biostatistician, SAS programmer, legal consultant, educator, and starting to get into psychology and psychometrics." She also stated that the course she uses the most in her current position is the consulting class. She says that, "while knowing what to do is important, you have to know how to ask the questions to



understand the data, where it came from and the limitations of the data." When asked what she does for fun, Terri responded, "I just started a patio garden with pole beans, tomatoes, cayenne peppers, a mix of sweet peppers and a mix of hot peppers. I enjoy spending time with two Michael's – and the I8-month old is very energetic, especially when chasing the dogs! Come this fall we will be watching Georgia football."

### Graduate Program

Lynne Seymour, Associate Professor & Graduate Coordinator

Many of our senior students are discovering the great experiences of attending and presenting at workshops and conferences. Just this year,

For JSM 2011, we have 10 students who will be attending -- 9 of them are making presentations!

Over the last 2 years, we have been fortunate enough to have a US citizen or permanent resident among our beginning graduate students who was strong enough to write a proposal to the NSF's

Graduate Research Fellowship Program. This program is very prestigious -- Fellows receive \$30,000 over 3 years, with more money to cover tuition and other expenses, as well as access to the NSF's Teragrid (teragrid.org) computing environment. Last year, Andrew Brown, a rising 4th year PhD student working with Gauri Datta and Nicole Lazar, was our first student to submit a proposal to this program. This year, our second student Adam laeger submitted a proposal to the GRFP which was named an Honorable Mention -- a status of significant national academic achievement granted to only 17% of those proposals which were not funded but were nevertheless recognized for being meritorious. Adam has just finished his MS degree and will continue on with us to write his dissertation under the direction of TN Sriram.



### Statistics News

### World Statistics Day

Chris O'Neal, Graduate Teaching Assistant & Statistics Club President

Along with hundreds of institutions worldwide, the Department of Statistics recognized World Statistics Day on 20 October 2010 (20-10-2010). This was a special day proposed by the United Nations in order to hon-20-10-2010 or and bring to public attention the many accomplishments of statistics and statis-

The Statistics Club hosted a Tate

presentation boards outlining the wide range of disciplines where statistics shows up. Such topics included medicine, sports analysis, politics, stock markets, weather, cryptography, and genetics, as well as examples of probability paradoxes. The club also featured several probability games that passing students

The latter was a poster featuring

three lift-up doors, and behind

or a goat!

each was a photo of either a car

could play for prizes. These included playing cards and roulette, as well as an adaptation of the fabled Monty Hall Problem.

ticians over the years.

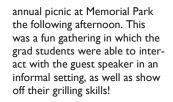
Center event by displaying

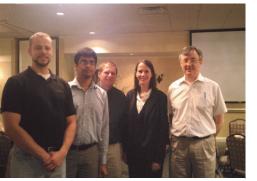
### **Annual Bradley Event**

Chris O'Neal, Graduate Teaching Assistant & Statistics Club President

The Department of Statistics hosted the 19th annual Bradley Lecture on 15 April 2011. This year the guest speaker was distinguished professor Dr. Peter McCullagh of the University of Chicago. His talk focused on the statistical modeling of distance

matrices, with applications such as genealogical trees. The faculty and graduate students had dinner with Dr. McCullagh at the Georgia Center afterwards, during which he presented his after dinner talk on statistical analysis of fruit fly sexual behavior. In addition, the department hosted its traditional gathering at the





This year's distinguished speaker was Dr. Peter McCullagh from the University of Chicago. Pictured (I-r): Andrew Brown, Adrijo Chakraborty, Chris O'Neal, Ashley Askew, and Peter McCullagh.



The Department of Statistics recognized World Statistics Day on the 20th of October, 2010.

### Student Awards

#### The Department's annual student awards went to:

Best Senior: Hsin-Ping Wu Best Beginning Theoretical: Sandra Addo Haileab Hilafu

Best Beginning Applied: Adam Jaeger

The department also wishes to congratulate the following award winners:

Outstanding Teaching Award: Adam Jaeger Andrew Hoss

Honorable Mention for the NSF Graduate Research Proposal: Adam Jaeger

IIRG Award:

Jung Ae Lee

### Spring 2011

Nicole Lazar Professor



### Statistics Capstone Course Three Years and Going Strong!



This year saw the third group of undergraduates complete the department's Capstone Course. Capstone is a yearlong project-based course, in which students, working in teams, analyze data provided by scientists from around the University. Projects this year involved climate patterns, both globally and in Georgia; treatments for stuttering; changes in pronunciation of words; and water allocation for greenhouse plants. The course is also part of the University's Writing Intensive Program, which meant that the students spent a good deal of time learning about how to communicate their ideas in writing.

In addition to analyzing the data from the scientists, students this year also had the opportunity to collect and analyze their own data. The Campus Transit Authority asked the Capstoners to study bus riding on campus and municipal buses. There were two distinct questions of interest, so the class split into teams, with each group being responsible for one of the questions. Students working on the first transit project were interested in estimating the total number of "passenger miles" on campus bus routes. This is the total cumulative distance, in miles, travelled by passengers on the bus (for instance, five students each travelling a mile contribute five passenger miles). To get the estimate, students rode the campus buses at random times and counted the number of rid-



Measuring the distance between bus stops for a class project

Ode To A Capstoner Pondering A Data Analysis Project in April....

Another year of Capstone's done. It sure has been a lot of fun! With weather, stuttering, Spanish, and flowers, We all put in a lot of hours. Riding buses, correcting drafts, Honing our statistical crafts. Learning Matlab and learning R To please Dr. Seymour and Dr. Lazar. Sometimes the data was confusing – or fake! "The data was"? Oops, that's a mistake! And so, as the year draws to its close, We say "farewell" to our data woes....



ers. Finally, they accurately measured the distance between bus stops using a measuring wheel. Putting the two pieces together allowed them to obtain the desired estimate. Students working on the second transit project were interested in estimating how many students, faculty, and staff, who can ride municipal buses for free with a swipe of their UGA ID card, took rides that originated and ended within the campus. These students also rode buses at random times and counted riders who swiped a UGA card. Aggregating the collected data over routes and days led to the desired estimate.

We ended the year with a poster session, to which the entire department was invited. Students got the chance to present their work to faculty, graduate students, and clients, and to receive feedback on their analysis. The team for next year's Capstone Course (Nicole, Cheolwoo and TA Adam Jaeger) are already busy planning!





### Statistics News

### **Colloquium Series**

Daniel Hall, Associate Professor & Associate Department Head

In 2010-11, the UGA Department of Statistics' Colloquium Series continued its long history of distinguished speakers and fascinating talks on topics from all areas of the statistical sciences. In recent years additional indirect cost returns from grants obtained by our faculty as well as increased funding from the Franklin College has allowed the series to feature out-of-town speakers almost exclusively, which has afforded great opportunities for interaction with eminent statisticians visiting our campus. During 2010-11 several talks have been jointly sponsored by the Department of Statistics and Department of Epidemiology & Biostatistics. In addition, we continue our long traditions of holding a joint UGA-Clemson statistics colloquium and hosting the Bradley Lecture, an event held each spring in honor of the

late Professor Ralph A. Bradley featuring a distinguished speaker and co-sponsored by the graduate student Stat Club.

The fall colloquium series was highlighted by research talks by several well-known senior statisticians and biostatisticians including Thomas A. Louis from Johns Hopkins, Dennis D. Boos of North Carolina State, Douglas P. Wiens of U. of Alberta, Nitis Mukhopadhyay of U. of Connecticut, and Richard Samworth of Cambridge. Talks in the fall ranged from the theoretical to the applied, with subjects in probability theory, experimental design, statistical education, variable selection, and several other areas.

The department was fortunate enough to have the opportunity to recruit new faculty this year, so the spring colloquium series was augmented by several job talks in the areas of statistical education and bioinformatics. These research talks were delivered by an exciting group of candidates who are all doing cutting edge research in their respective fields of specialization. In addition, the "regular" spring series included an all-star lineup of statisticians, including Vijay Nair of U. of Michigan, Jeffrey S. Morris of M.D. Anderson Cancer Center, Samuel Kou of Harvard, Peter Hall of U.C.-Davis and U. of Melbourne, and our joint UGA-Clemson colloquium speaker, Dennis Lin of Penn State University. Finally, the 2011 Bradley Lecture featured Peter McCullagh of the University of Chicago as our distinguished guest speaker. Although this Newsletter will reach you after Dr. McCullagh's visit to UGA in April, 2011, the Bradley Lecture is a great time to come back to

visit the department. Please consider attending next year when the Bradley Lecture will be given by R. Dennis Cook of the University of Minnesota.

We encourage you to visit http://www.stat.uga.edu/research /colloquia to keep up with our Colloquium Series. There you will find full details for all the talks in the series including their scheduling, talk titles and abstracts, and links to the speakers' webpages at their home institutions. And please support the Department of Statistics at UGA. Your support will help the Colloquium Series continue to enhance the educational experience of our students, provide research opportunities for our faculty, and enrich the academic environment of the department.

### Staff Profile

After being a stay-at-home mom for six years, Julie joined the department in 2007 as an Administrative Associate. Her primary duties are technical typing (Latex), creating the departmental newsletter, updating the website, alumni relations, and most demanding of her time, assisting the business manager with business-related tasks. In 2008, Julie transferred to the External Affairs Division to pursue an interest in IT-related duties, but after a brief time there, decided to re-join her former department in November 2010. We are very glad to have her back!

Julie received her AB degree in Anthropology in 1998 from the University of Georgia, where her husband Russ (14 years married) also received his degrees in Sociology and Criminal



Justice. Julie and Russ have three children: Megan is eleven years old, and the two twins, Colin and Ryan, are eight. In her spare time, Julie most enjoys the thrill of riding the roller coasters at Six Flags over Georgia!

### Statistics News Spring 2011 Volume 4

Department Head: John Stufken Business Manager: Timothy Cheek Newsletter Editor: Julie Davis

Contributors: Timothy Cheek, Julie Davis, Christine Franklin, Daniel Hall, Nicole Lazar, Kim Love-Myers, Chris O'Neal, Lynne Seymour, and John Stufken

This newsletter is also available online at www.stat.uga.edu

### 2010-2011 Colloquium Speakers:

#### Fall Semester, 2010

Pritam Ranjan, Acadia University Yongdai Kim, Seoul National University, South Korea Hui Zou, University of Minnesota Seong-Hee Kim, Georgia Institute of Technology Dennis D. Boos, North Carolina State University Greg Rempala, Medical College of Georgia Ou Zhao, University of South Carolina Myung Hee Lee, Colorado State University Thomas A. Louis, Johns Hopkins Bloomberg School of Public Health Liping Tong, Loyola University Chicago Jing Wang, University of Illinois at Chicago Douglas P. Wiens, University of Alberta Nitis Mukhopadhyay, University of Connecticut-Storrs Richard Samworth, Cambridge University

#### Spring Semester, 2011

Jaejik Kim, Medical College of Georgia Jeffrey S. Morris, The University of Texas MD Anderson Cancer Center Julie Patterson, University of Illinois - Urbana-Champaign Liang Liu, Delaware State University Qunhua Li, UC Berkeley Anna Bargagliotti, University of Memphis Hanwen Huang, University of North Carolina at Chapel Hill Hui Jiang, Stanford University Jennifer J. Kaplan, Michigan State University Hao Wu, Emory University Laine Bradshaw, University of Georgia Samuel Kou, Harvard University Bimal Sinha, University of Maryland at Baltimore County Peter Hall, University of Melbourne & University of California at Davis Yuhong Yang, University of Minnesota Hemant Tiwari, University of Alabama at Birmingham Peter McCullagh, University of Chicago Dennis K.J. Lin, Pennsylvania State University Vijay Nair, University of Michigan

### 2011 Mu Sigma Rho Inductees:



Graduate Inductees: Ashley Askew, Andy Bartlett, Huanyao Gao, Qianying Hong, Siyan Hu, Adam Jaeger, Leopold Matamba, David Nelson, Chris O'Neal, Eugine Song, Junqi Yin, Guannan Wang, Xuedong Wu



Undergraduate Inductees: John Averick, Jessica Floyd, Alexander Lyford, Stephen Morris, Julia Orr, Jamaal Parker, Zachary Robbins, Neeraj Sriram, Christopher Tenza, and Nathan Ulrich



### Alumni Updates

#### Susan A. Baldwin BS 1979

Susan A. Baldwin has her 30 year anniversary with Southern Company on 6/8/11. Susan is an IT Project Manager, PMP certified, with Southern Company Services and works in the Project Office of the Strategic Planning & Compliance organization of Information Technology. She manages various projects supporting primarily the Distribution or Transmission focus of the company. She also completed an external Careers in Action Leadership Foundations training class in December, 2010.

#### Dipankar Bandyopadhyay PhD 2006

Dipankar is an Assistant Professor of Biostatistics at the Medical University of South Carolina (MUSC). Starting Fall 2011, he will join the Division of Biostatistics at the University of Minnesota School of Public Health as an Associate Professor on the tenure track. He has been heavily involved with MUSC's College of Dental Medicine in studying the overall dental health status of Gullah-speaking African-Americans with Type-2 diabetes. He recently received federal funding (a 2-year R03 award) from the National Institutes of Health/National Institute of Dental and Craniofacial Research (NIH/NIDCR) to study the effects of spatial clustering and covariate selection in improving predictions of periodontal disease status.

#### Lucy Swart Beauchamp

#### BS 1971

Lucy is the Executive Director of the Belmont Bay Science Center Foundation and concentrates on providing hands-on STEM (Science, Technology, Engineering and Mathematics) education to K-12 students. "One of our programs "Arts on the Go", a collaborative effort with the Center for the Arts and Prince William County Public Schools, just won

If you would like your update included in our next newsletter, please send your information to stat@uga.edu with "alumni updates" in the subject line.

To update your address, email, or phone number in our database, please send that information to records@uga.edu. the Agnes L. Colgan Community Service Award from the Prince William Chamber of Commerce. This award recognizes the outstanding non-profit program in the community."

#### **Gene Brewer**

#### MS 2005

"I finished my Ph.D. in Psychology from the University of Georgia in 2010. After finishing my degree I was hired as an Assistant Professor of Psychology at Arizona State University."

#### June A Conner (Truett)

#### BS 1971

"I retired from teaching after 35 years of service. I currently spend my time enjoying my 7 grandchildren, reading, and doing all sorts of craft projects! I am also a 7 year survivor of colon cancer!"

#### **Gary Gensler**

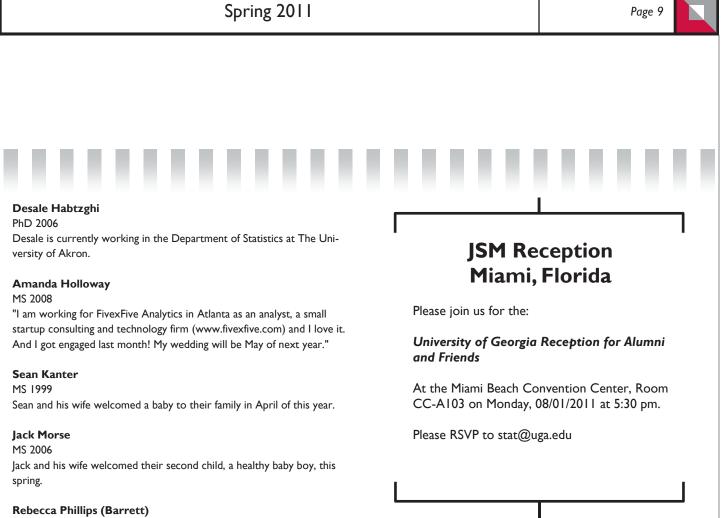
#### MS 1992

"We welcomed a second girl, Eliana Lilly, into the family on January 30, 2010. She joins big sister Maya, now 8. I'm in my 19th year as a Biostatistician with the EMMES Corporation. I currently work on the Age-Related Eye Disease Study 2 the National NeuroAids Tissue Consortium and a special project with the FDA, in addition to helping develop other new studies. I recently co-authored a publication in Opthalmology looking at the association between c-reactive protein and certain genetic variants on the prevalence of age-related macular generation. For about a decade I taught novice programmers at my company to use SAS to improve their work efficiency. I am finishing my second year taking classes at the George Washington University towards earning my PhD."

#### **Becky Grant**

#### AB 1993

Becky has living in Zurich, Switzerland for the past four years. "I'm working as an actuary at a global reinsurance firm which is headquartered here. The actuarial profession has turned out to be a good choice for me in more ways than one, most recently due to the fact that it is recognized internationally. I completed my Fellowship of the Society of Actuaries (FSA) in 2000 while working in the U.S., and at the time I did not know I would be living overseas. I moved to Switzerland with my husband in 2007 as a result of his job being transferred, and was able to find an actuarial job quickly here since there is a high demand. Speaking only English was not a problem since it is the official business language. I never expected my UGA statistics degree would one day help me work in Switzerland, but that is how it has turned out, and I am grateful for that."



MS 2007

In May of 2011, Rebecca completed a Master of Business Administration from Kennesaw State University. She works for Synovus Bank as a Research Analyst in the Card Services division, and has been with this company since 2007.

#### Tom Ryan

#### PhD 1977

"The 3rd edition of my book, Statistical Methods of Quality Improvement, is scheduled to be published in late July. The publisher is Wiley. Another book, Sample Size Determination and Power, will be published by Springer early next year. That will be my fifth statistics book. In addition to these books, I also teach online courses and do occasional online consulting."

#### John H (Jack) Schuenemeyer PhD 1975

"This year I had a book published (with coauthor L. J. Drew) titled, "Statistics for Earth and Environmental Scientists" published by Wiley in Feb of this year. Details can be found at www.earthstatbook.com. Also, I was appointed to the Am Stat Assoc, Committee on Energy Statistics."

#### David and Wendy Smith PhD 2001

David and Wendy Smith are enjoying life in Cookeville, TN. David is Associate Professor in Mathematics at Tennessee Technological University. Wendy teaches part time and enjoys spending time with their two daughters Margaret (6) and Katherine (4).

#### Marshall Smith

#### MS 1996

"My son Caleb, a senior in High School at Regents School of Austin lead his football team to the TAPPS Division 3 State Championship as the Quarterback. This Spring, he has signed a letter of intent to play baseball for Auburn University beginning in 2011."

#### Susanta Tewari

#### PhD 2008

"I am currently in my 2nd year of post doctoral training at National Library of Medicine, NIH, Bethesda, MD. I am working on 'Coalescent Analysis', a branch of theoretical population genetics."

#### Steve VanWieren

#### MS 1995

"I was promoted to Vice President, Data Quality at Equifax. I also revived my music career by becoming the lead singer in a band."



### Statistics News

### **Building Under Construction**

The Statistics Building was constructed in the 1950s for use by the UGA Physical Plant, and was considered ready for being razed in the mid-80s. For the more than 25 years that the Department has occupied the building, there has always been a dire need for renovations and improvements. While some of these have happened over the years, it wasn't until the arrival of Tim Cheek (the current business manager) in 2007 that a replaced with brighter and more energy efficient products. The next major effort will seek to improve conditions in the A. Clifford Cohen Reading Room, which is used primarily for individual studying, study groups, Statistics Club activities, tea time (which provides a venue for faculty and students to intermingle), and receptions for visiting speakers.



major effort was started to address the situation. Improvements that have been completed are: Renovation and upgrades of the classrooms, conference room, front lobby, kitchen area, and no less than ten faculty offices; creating a new mailroom; repainting hallways, restrooms, and lobbies; and a major construction effort to accommodate students with disabilities to safely enter the classroom areas. Efforts have also addressed the replacement of very old furniture and lighting fixtures. Much of the office lighting has been





makes way for the new!

## **Externally Funded Grant Projects in the Department of Statistics**

Below is a listing of all new externally funded grant projects since July, 2010

### Gauri S. Datta, Professor, PI Agency/Project: NSA, "Some New Solutions to Small Area Estimation Problems: Expanding the Scope of Small Area Estimation."

Research on small area estimation has experienced a rapid growth in the last thirty years. Small area estimates are used by a broad range of customers including policy makers at the federal, state and local levels as well as the private sector for determining resource allocation and decision making. The current proposal will explore new research methodology which will broaden the scope of small area estimation. Some of the goals include addressing measurement error in covariates, model robustness, constructing accurate prediction intervals, hypothesis testing to determine a better model, and developing nonparametric point and interval estimates of small area means.

### Dan Hall, Associate Professor, Co-PI Agency/Project: NIH, "Biomarkers of Exposure to and Health Effects from SHS in Outdoor Smoking Areas."

In the setting of bars and restaurants where indoor smoking is banned and outdoor smoking areas are available, this project is conducting systematic exposure and acute health endpoint assessments in nonsmokers using environmental markers and biomarkers of secondhand smoke (SHS) exposure, and biomarkers of acute oxidative stress and pulmonary injury. These data are important for human health risk assessment and policy making relevant to SHS exposures in these outdoor settings – an area of growing public health concern.

### John Stufken, Professor, PI Agency/Project: NSF, "Optimal Design for Non-Linear Models, with an Emphasis on Categorical Data."

The proposed work focuses on identifying optimal and efficient designs for two types of problems. The first is on design selection for a generalized linear model with multiple covariates. If an experimenter can select the values of these covariates at the design stage, which values should be selected? This question is explored for different models. The second is on design selection for fMRI studies. The study focuses in particular on obtaining efficient designs under a proposed nonlinear model for use in event-related fMRI studies.

### Dan Hall, Associate Professor, Co-Pl Agency/Project: U.S. Army, "A Rigorous Framework for Situational Awareness in Strategic, Uncertain Man-Machine Environments."

Uninhabited agents such as unmanned aerial vehicles (UAVs) are assuming increasingly prominent roles in contemporary wartime theaters. Though unmanned, UAVs rely on human operators. Therefore their effectiveness has the potential to be improved by better models of human decision making in this setting. This project, which brings together investigators in the fields of psychology, computer science and statistics, will measure and validate probability assessment in tasks that simulate those in operating theaters, and will provide data for formulating these models.

### T.N. Sriram, Professor, PI Agency/project: NSA, "Robust Dimension Reduction Methods in Regression, Time Series, and Multivariate Association."

This research project, funded by NSA, develops families of dimension reduction methods firmly rooted in divergences known as density power divergence and alpha divergence, which include many well known divergences and distances as special cases. The advantage of developing dimension reduction methods using such divergences is that they are known to yield estimators that are inherently robust to data contamination and possible presence of heavy-tailed distributions, sustaining only minimal loss of efficiency. The focus is on theory and applications of the novel methodologies.

### Lily Wang, Assistant Professor, PI Agency/Project: ASA/NSF/BLS, "Flexible and Robust Estimation for Complex Survey Sampling."

Dr. Wang was awarded the 2010 -2011 ASA/NSF/BLS Research Fellowship. The ASA/NSF/BLS Fellowship Program is sponsored by the American Statistical Association in cooperation with Bureau of Labor Statistics (BLS) from the National Science Foundation. The Program is designed to improve the collaboration between government and academic research. Research Fellows are provided the unique opportunity to address some of the complex methodological problems and analytic issues relevant to BLS programs.



### Your Gift to Statistics Counts!

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