

BiosRhythms

GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Department of Biostatistics

Department Turns 60, Honors Professor Gary Koch with Festschrift



Dean and Alumni Distinguished Professor Barbara Rimer and Dr. Gary Koch

The Department of Biostatistics at the University of North Carolina at Chapel Hill turned 60 years old in October 2009. In honor of the Department's anniversary, faculty, students, friends and alumni gathered in Chapel Hill October 11-15, 2009, to share in a memorable week of scientific presentations, fun and fellowship.

The five-day celebration was kicked off on Sunday with a friendly softball game and social for early arrivals. Beginning the afternoon of Monday, a Festschrift* was presented in honor of the work of Gary Koch, PhD, UNC-Chapel Hill biostatistics professor, director of the department's Biometric Consulting Laboratory, philanthropist and, along with former faculty member Dennis Gillings, PhD, co-founder of Quintiles Transnational Corp. (quintiles.com). In addition to original contributions and scholarly articles commemorating Koch's achievements, the Festschrift includes a commentary, biography and excerpts from an interview with Professor Koch. The volume will be published in *Statistics in Biopharmaceutical Research*, an American Statistical Association journal, in late 2010 or early 2011.

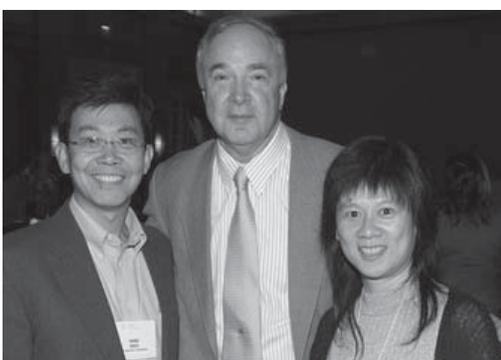
Following a hot breakfast in the "Gary Koch" tradition on Tuesday morning, the Festschrift wrapped up and the department's 60th anniversary celebration began. More than three hundred faculty, students, friends and alumni gathered at the George Watts Hill Alumni Center's Carolina Club for this three-day celebration. Over the course of three days, nine panel discussions were held, during which experts in statistics and biostatistics from around the country presented on topics including categorical data analysis, randomized trials in clinical research, data analysis using auxiliary and latent variables, innovative



Drs. Larry Kupper and John Bailer

clinical trial design, environmental statistics, faculty-student interaction in applied research, emerging applications in high-dimensional data analysis, population statistics, and non- and semi-parametrics.

Wednesday morning started off with a rousing breakfast in honor of Alumni Distinguished Professor Larry Kupper, PhD, before moving on with more panel discussions. Later that evening, a dinner banquet in honor of the 60th anniversary of the department was held, featuring Professor Emeritus Jim Grizzle, PhD, who gave a presentation on the department's history and impact. The celebration wrapped up on Thursday October 15, with a closing luncheon.



Dr. Koch with fellow faculty members Professor Haibo Zhou and Professor and Associate Chair Jianwen Cai

Photographs from the event can be viewed at http://www.sph.unc.edu/bios/bios_60th_and_festschrift_celebration_-_october_2009_13011.html.

MESSAGE FROM THE CHAIR



*Professor and Chair Michael R.
Kosorok, PhD*

This past year we celebrated our 60th anniversary as a department. Many other exciting events also happened this year, and I continue to be amazed at everything our faculty, staff, students and alumni accomplish. While we are sobered by the economic and humanitarian challenges the world continues to grapple with, we are also thriving in our research and educational productivity, and we have much to be optimistic about as we look to the future. I believe that things will continue to get better. I will now discuss some of the highlights of 2009.

In April, Dr. Guosheng Yin, who received his PhD from the UNC Department of Biostatistics in 2003, was the 2009 recipient of the James E. Grizzle Distinguished Alumni Award. At the time of the award, he was an associate professor in the Department of Biostatistics, Division of Quantitative Sciences, at the University of Texas M. D. Anderson Cancer Center. After the award, he moved to Hong Kong to become an associate professor, Department of Statistics and Actuarial Science, at the University of Hong Kong. Dr. Yin presented a lecture following the awards ceremony entitled "Bayesian Adaptive Designs for Early-Phase Clinical Trials."

In May, the 2009 Greenberg Lecturer, Professor Neils Keiding, from the University of Copenhagen, presented an outstanding and well-attended series of lectures on demographic and survival analytic methods for cross-sectional and current duration study designs, including some very interesting applications to the study of pregnancy rates and timing of pregnancies.

In October, we had a very enjoyable and well-attended 60th anniversary celebration that included a special Festschrift in honor of Professor Gary Koch's many contributions. Many eminent biostatisticians, including many of our own alumni and faculty, attended and participated in a number of impressive research presentations over four days. Professor Larry Kupper was also honored at a special breakfast, and Professor Chirayath Suchindran received an award for his service to students. More than 300 participants were present, and numerous generous individuals and corporate sponsors contributed time and financial support to make this a successful event. I wish to express particular gratitude to the planning committee chaired by Associate Professor Amy Herring.

Also in October, we had our closure meeting for last year's external review of our academic program. The feedback we received from external reviewers and our campus leaders was very positive, affirming that we are viewed as a "world class program." The campus was also very pleased with our ongoing plans for continued monitoring and improvement.

This past year was also successful for our students and for student recruitment. We welcomed 31 new graduate students and 10 new undergraduate students in fall 2009. We want to express thanks for the excellent work of the admission committees, chaired by Chirayath Suchindran (for graduate admissions) and Jane Monaco (for undergraduate admissions), and also the students and staff who helped. In addition, Dustin Long, one of our doctoral students, received a very prestigious university-wide 2010 Tanner Teaching Assistants Award for Excellence in Undergraduate Teaching.

We were fortunate to add several new faculty to our ranks: Michael Wu is a tenure-track assistant professor who comes to us from Harvard. Pei-Fen Kuan is a research assistant professor working in the UNC Lineberger Comprehensive Cancer Center who comes to us from the University of Wisconsin-Madison. Yun Li is a tenure-track assistant professor with a joint appointment in the Department of Genetics who comes to us from the University of Michigan. We also have two new joint research assistant professors: Eric Bair, who is in the dental school, and Denise Esserman, in the medical school.

Our faculty continue to be exceptionally productive in research and service. We congratulate Associate Professor Amy Herring for becoming President-Elect of ENAR (the Eastern North American Region of the International Biometric Society). We also congratulate Professor and Associate Chair Jianwen Cai for becoming a fellow of the Institute of Mathematical Statistics (IMS). In addition, Dennis Gillings Distinguished Professor Danyu Lin has been awarded a competitive renewal of his prestigious NIH MERIT award.

As in past years, faculty members and students have published many excellent papers in top-tier journals. Several new research grants were also awarded to the department this year.

More details on many of these grants and other grants -- as well as more information on many other Departmental achievements -- can be found later on in this newsletter which I invite you to enjoy.

With warmest regards,
Michael

FROM THE REGISTRARS

Hello everyone! Thanks for patiently awaiting the arrival of *BiosRhythms*. We are more than happy to provide another year's worth of exciting news for you to enjoy. A lot has been going on around here this year. We sang "Happy Anniversary" to Biostatistics this year as we turned 60! Can you believe it? We had a wonderful celebration in October to mark the anniversary, and the festivities included a Festschrift to honor Dr. Gary Koch. This was a fantastic event that was well attended by alumni, faculty, staff and current students. What an amazing turnout we had! It was great to see former students and faculty members during the celebration. If you were unable to attend, you can view photos from this event at http://www.sph.unc.edu/bios/bios_60th_and_festschrift_celebration_-_october_2009_13011.html.

Alumni are the reason we are as well known as we are, and your accomplishments have laid the foundation for us to continue building our strong department. For that, we must say a heartfelt "thank you." You contribute in ways you may not even realize, such as sharing your experiences in the department with a prospective graduate student, offering a graduate research assistantship or summer internship to a current student looking for practical experience, or offering financial support to the department to help meet a student's needs. Your kindness and generosity are appreciated more than you can imagine.

As usual, we will host UNC Biostatistics alumni receptions at ENAR and ASA again this year. ENAR will meet in New Orleans this spring, so save the date -- Monday, March 22 -- for our reception. The reception will be held at the Hilton New Orleans Riverside, from 5:30 to 7 p.m., in the Kabacoff Room. Please check at the hotel to make sure the location hasn't changed. You won't yet see us listed in the online program for ENAR, but we will be on the hotel directory and there will be a posting outside our room. We'll send a reminder e-mail about the reception closer to the date. Plans for the ASA reception will be posted on the Web when finalized. Visit our Web site to keep up with all current events and plans (<http://www.sph.unc.edu/bios/>). The receptions are a great way to catch up with friends and colleagues.

Speaking of catching up, be sure to check out Alumni News (p. 4) to see who's doing what in the career world, whose family is growing, who's getting hitched and everything else in between. If you have news, we will look forward to printing those tidbits in the next issue. E-mail them to mhobgood@bios.unc.edu. While we're on the subject of catching up and keeping in touch, let us remind you to visit our alumni Web page (http://www.sph.unc.edu/alumni/alumni_directory.html) and update your address and professional information. You don't have to be a member to update your information, but you are welcome to join the school's Alumni Association and contribute to the Department of Biostatistics, the school or the university. If you are interested in donating to the department directly, contact Stephen Couch (stephen_couch@unc.edu). We appreciate all the support from our alumni and friends.

That should about do it for us in this issue! You'll hear more from us by e-mail closer to our events. Please feel free to send an e-mail to say "hi." We love to hear from you all. We hope your holidays were joyous and your new year is a happy and prosperous one.

Warmest regards,

Melissa and Veronica



Melissa Hobgood



Veronica Stallings

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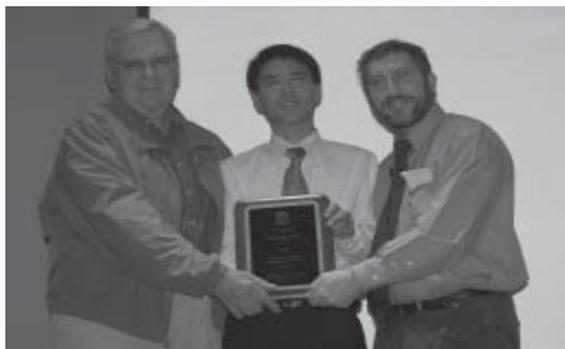
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Special thanks to Linda Kastleman!

Yin Receives Grizzle Award



Pictured above (left to right): Drs. James Grizzle, Guosheng Yin, and Michael Kosorok

Dr. Guosheng Yin (MS, 2000; PhD, 2003) is the 2009 recipient of the James E. Grizzle Distinguished Alumnus Award.

Yin received his doctorate under the direction of Dr. Jianwen Cai. Upon graduation, Yin joined the Department of Biostatistics at the University of Texas M.D. Anderson Cancer Center as a tenure-track assistant professor. He is an active researcher in the areas of survival analysis, cure rate models, and Bayesian methodology. Since joining the faculty of M.D. Anderson, he has had 52 papers published or in press, 39 of which are methodological papers. His impressive record of productivity in statistical methodology includes one sole-authored and seven first-authored papers in *Biometrics*, two first-authored papers in *JASA*, and one first-authored paper in *Biometrika*.

Yin was promoted to tenured associate professor in 2008 and also has been appointed as an adjunct faculty member at Rice University and Texas A&M University. He is recognized internationally and has been invited to talk at numerous institutions, including the Department of Biostatistics at Johns Hopkins University, Fudan University Cancer Hospital in China, the Department of Econometrics at the University of Geneva, and the Department of Statistics at Beijing University. Dr. Yin presented a lecture following the UNC award ceremony titled, "Bayesian Adaptive Designs for Early-Phase Clinical Trials."

The Grizzle Award was established to honor James E. Grizzle, PhD, former department chair, for his outstanding contributions to biostatistical research and consulting. It is presented to a graduate of the UNC-Chapel Hill Department of Biostatistics in recognition of an outstanding record in the development of new statistical methodology and application of statistical methods to important public health problems. Evidence of an outstanding record is measured by the quality and quantity of peer-reviewed publications in both statistical and subject-matter journals. The intent of the award is to recognize and encourage rising stars in the field of biostatistics.

In Memoriam

Kathy Lynn Holland, 49, passed away on August 22, 2009, from an infection related to surgery for ovarian cancer. Kathy received her BSPH and MS degrees from the University of North Carolina at Chapel Hill. She worked for 20 years at Quintiles Inc., where she contributed significantly to the development of many new medical drugs and devices. Kathy was a longtime member of Grace Baptist Church, where she was a deacon and played the piano. Her interests included music, reading, walking and rooting for her UNC Tarheels basketball team. She is survived by her husband, Matthew Jordan (MS, 1987); her daughters, Sophie Irina Jordan and Emma Rose Jordan; her sisters, Debbie Wilkerson and husband, Steve, and Cindy Haynes and husband, Keith; and her mother, Mabel Holland.

Dr. Mohamed Nabil El-Khorazaty (MS, 1971; PhD, 1975) passed away on December 30, 2009 in North Potomac, MD. He had been treated for multiple myeloma since 2003. Born in Cairo, Egypt he received his bachelor's and master's degrees in statistics from Cairo University and master's and doctoral degrees in biostatistics from the University of North Carolina at Chapel Hill. He attained full professorship at Cairo University and later served as a statistician at the Central Statistics Organization in Manama, Bahrain. He joined RTI International in 1994, where he was employed as senior research statistician until his death. His research interests included methods to estimate total number of events based on dual- and multiple-record recording systems and community-based studies of various social intervention strategies.

Beloved husband of Amelia Dale Horne (MPH, 1979; DrPH 1985) and father of Adam and Jill Ann. El-Khorazaty is also survived by his brothers Amir Ezzat Khalil, of Egypt, and Elham El-Khorazaty, of Canada, as well as several nieces and nephews.

Reconnecting with Old Friends and Colleagues from the Class of '96

UNC BIOS alumni Jon Schildcrout (MS, 1996), John Fieberg (MS, 1996), Randy Rieger (MS, 1996; PhD, 2000) and Dave Sundin (MS, 1996) developed close friendships during their time in Chapel Hill. These friendships have continued to grow over time and are highlighted by a few recent events. When Schildcrout married Stephanie Mayers in Nashville, TN on June 6, 2009, John, Dave and Randy were all in attendance to help celebrate. More recently, John, Randy and Jon collaborated on a paper titled, "Regression modeling of correlated data in ecology: subject-specific and population-averaged response patterns." The paper, now accepted in the *Journal of Applied Ecology*, reviews and compares marginal and conditional regression modeling approaches for analyzing correlated data. John and Dave even travelled back to Chapel Hill (from MN and CA, respectively) to watch in the Dean Dome as the Tar Heels beat Michigan State for the NCAA National Championship in spring 2009.



Pictured above (left to right): Randy Rieger, Jonathon Schildcrout, John Fieberg and David Sundin

Clegg and Williams Inducted as ASA Fellows

UNC-Chapel Hill biostatistics alumni **Limin Clegg** (PhD, 1997) and **Rick L. Williams** (PhD, 1989) were among 57 individuals who were inducted as ASA fellows in 2009. Clegg works for the U.S. Department of Veterans Affairs, and Williams works for RTI International. Congratulations to both of them for this great honor!

Alumni News

Stuart Gansky (BSPH, 1988; MS, 1992; DrPH, 1996) was promoted to professor at the Center to Address Disparities in Children's Oral Health, Division of Oral Epidemiology & Dental Public Health, at University of California, San Francisco, as of July 1, 2009.

Melvin Alexander (MSPH, 1979) is an operations research analyst in the Office of Quality Performance - Division of Modeling at the Social Security Administration. He also is a statistical consultant in the Departments of Neurosurgery and Diagnostic Radiology at the University of Maryland's Medical Center.

Deborah Valulick Dawson (PhD, 1981), director of the Division of Biostatistics and Research Design at the University of Iowa College of Dentistry, has been awarded the first Morris Bernstein Professorship in Dentistry. She received her ScM in biostatistics in 1976 from Johns Hopkins University and her PhD in biostatistics in 1981 from UNC.

Matthew Gurka (PhD, 2004), assistant professor at the University of Virginia School of Medicine, recently was interviewed by ABC News/Health regarding his study that examined the link between early child care experience and asthma risk. The article, titled "Number of Kids in Daycare May Affect Asthma Risk," can be found at <http://abcnews.go.com/Health/wireStory?id=9230224>.

Sonja Greven (MS, 2002) has been named winner of the 2009 David P. Byar Young Investigator Award, which is presented annually by the biometrics section of the American Statistical Association. The award is given to an investigator who has held a doctorate in statistics, biostatistics or related field for three years or less for best emerging work to be presented at the Joint Statistical Meetings. Greven is currently a postdoctoral fellow in the Department of Biostatistics at Johns Hopkins University. Her winning paper, co-authored with Thomas Kneib, is titled, "On the Behavior of Marginal and Conditional Akaike Information Criteria in Linear Mixed Models." Our warm congratulations!

ALUMNI NEWS

Hyunsoon Cho (PhD, 2009) is excited to share the news of her newborn son: "Jungil and I are very delighted to announce the arrival of Daniel J. Choi. He was born at 8 p.m., September 10, 2009, at UNC Hospitals. He weighed 6 lbs., 9 oz. God blessed my family with a precious son."

Jeffrey M. Gonzalez (BSPH, 2003) was profiled in the September 2009 edition of *Amstat News*. While pursuing his doctorate in survey methodology at the University of Maryland, College Park, and working for the Bureau of Labor Statistics, Gonzalez still found time to run five marathons this past year.

Christopher Portier (PhD, 1981), associate director of the National Institute of Environmental Health Sciences, began a six-month sabbatical on December 1, 2009. He is currently a guest of the Center for Environmental Toxicology and Risk Assessment of the University of Queensland in Brisbane, Australia.

Marta Gwinn, MD (MPH, 1988) recently retired from a career of more than 25 years as a medical epidemiologist in the U.S. Public Health Service at the Centers for Disease Control and Prevention (CDC). She states, "In 1987-88, I was lucky to have the opportunity to study biostatistics at UNC through CDC's career development program. I have worked in a number of CDC programs, most recently in the Office of Public Health Genomics (www.cdc.gov/genomics), and I am currently assisting OPHG with several projects as a contractor."

Brian Calingaert (MS, 1997) and his wife Anne welcomed the birth of their son Adam on June 8, 2009. Adam and his family, including big brother William (3), live in Raleigh. After almost 10 years working at the Duke Cancer Center, Brian recently left to join RTI Health Solutions in the Pharmacoepidemiology and Risk Management Division.

Dennis Cosmatos (DrPH, 1988) recently accepted a new position as senior director with statistical sciences at PAREXEL International, Expert Group, in Waltham, MA. This exciting position allows Cosmatos to apply his more than 20 years of clinical and nonclinical knowledge to challenging projects presented to PAREXEL by national and international clients in all therapeutic areas.

Francis Martinson (MPH, 1990; PhD, 1996) was promoted in April 2009 to research associate professor at the University of North Carolina School of Medicine. Martinson has been country director for the UNC Project, Malawi, an international research center for the UNC School of Medicine since 1999. The UNC Project currently employs about 300 people, including Malawians and expatriates.

Beth Skalicky Crooker (MPH, 2003) welcomed baby girl Lila to the Crooker family on October 20, 2009. Lila, the little sister of Benjamin Crooker, weighed in at 8 lbs., 4 oz.

Congratulations to **Rebekkah Dann** (MS, 2003; DrPH, 2006) who married in October 2009. She is now Dr. Rebekkah Dann Brown!

Virginia Howard (MSPH, 1982) completed her doctorate in epidemiology at the Medical University of South Carolina and is now an associate professor of epidemiology at the School of Public Health, University of Alabama at Birmingham.

Robert "Bob" McMahon (MS, 1987; PhD, 1989) lost his wife, Linda Fortney, on March 12, 2009, from heart disease. Please remember him and the family.

New Alumni Mentoring Listserv

The department is planning to establish an e-mail network of alumni so that we can provide prospective applicants, applicants, and newly admitted and current students an opportunity to converse with those who have completed the program and are in the workforce. More and more frequently, we are getting this request. If you are interested in being a participant, please contact Melissa Hobgood at hobgood@unc.edu, with "Alumni Mentoring" as the subject, and we will include you in our list of alumni mentors. It would be great for us to be able to list your degree, job title and employer as a means to direct you to the appropriate mentee. Who better to direct these interested students than our alumni? It is because of you and your successes that we have the reputation that we do! We look forward to hearing from you soon.

Koch Merit Scholarship in Public Health



Carolyn and Gary G. Koch

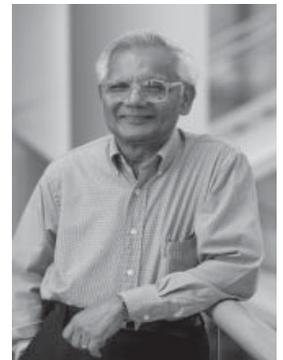
Professor Gary G. Koch and his wife Carolyn have funded a new, multi-year scholarship for doctoral students in the School.

The Gary G. and Carolyn J. Koch Merit Scholarship in Public Health will grant an annual stipend of \$25,000, for up to five years, to one highly qualified student seeking a doctoral degree at the School. Gary Koch, PhD, a faculty member in our department since 1967 and professor since 1976, has directed the School's Biometric Consulting Laboratory for more than 20 years. The BCL trains graduate students in biostatistics for collaborative activity with health science investigators.

Koch's wife, Carolyn, holds a master's degree in education and has taught in the N.C. public schools.

Sen Creates Biostatistics Scholarship in Mother's Memory

With the aid of family, colleagues, friends and former students, funding for the Pranab K. Sen Distinguished Visiting Professorship now awaits a state match in order to reach an endowment total of \$500,000. Additionally, Dr. Sen and his wife, Gauri, recently created the Kalyani Sen International Student's Scholarship in Biostatistics in memory of Dr. Sen's mother. This meaningful fund will be made available to international doctoral students in the Department of Biostatistics with an emphasis on enhancing the social, economic and cultural diversity found within our department. Dr. Sen has been at UNC for 45 years and serves as the Cary C. Boshamer Distinguished Professor of Biostatistics at UNC's Gillings School of Global Public Health and is a professor of statistics and operations research at UNC's College of Arts and Sciences.



Dr. Pranab Sen

In Memoriam

H. Bradley Wells (MSPH, 1953; PhD, 1959), 82, of The Pines Retirement Community in Davidson, N.C., died after a long illness on October 28, 2009. He is survived by his wife of 62 years, Tressie Zorn Wells, and their four children and their families.

Dr. Wells received his Bachelor of Science degree from Emory University and worked for two years at the Georgia State Health Department. He then completed master's and doctoral degrees in biostatistics at the UNC School of Public Health. Upon joining the faculty at UNC, he spent 25 years teaching and conducting national and international research. During that time, he spent two years as a consultant for the Ford Foundation, performing demographic research in India, and another year as a visiting fellow at the East-West Cultural Center in Honolulu. He served as professor of biostatistics and director of the UNC POPLAB (International Program of Laboratories for Population Statistics) from 1976-1980. Wells made significant research contributions in sample registration system and capture-recapture methods. After retirement from UNC, he spent the next 18 years on the faculty in the Department of Medicine at the Bowman-Gray School of Medicine in Winston-Salem, N.C.

DEPARTMENT HAPPENINGS

Save the Date: Upcoming Events in 2010

- *March 3: Memorial service for Dr. Barry Margolin, 1-5 p.m., in the UNC Blue Cross Blue Shield of North Carolina Foundation Auditorium, Michael Hooker Research Center, UNC-Chapel Hill.
- * March 21-24: ENAR - Hilton New Orleans Riverside; alumni reception on March 22, Kabacoff Room, 5:30-7 p.m.
- * April 15: 42nd annual Fred T. Foard Jr. Memorial Lecture, featuring Jeanne Lambrew, PhD, Deputy Director, White House Office of Health Reform
- * April 15: Biostatistics Alumni Day, featuring Grizzle Award winner Antonio Sanhueza, PhD, Universidad de La Frontera, Temuco, Chile
- * May 11-13: Bernard G. Greenberg Distinguished Lecture Series, featuring Professor Marvin Zelen, Lemuel Shattuck Research Professor of Statistical Science, Harvard School of Public Health
- * July 31-August 5: JSM - Vancouver Convention Center, Vancouver, B.C.; alumni reception date TBA
- *August 3: Memorial session honoring Dr. Margolin, 2 p.m., to be held at JSM, Vancouver, B.C.

For more information about upcoming events, please visit our Web site at www.sph.unc.edu/bios.

Keiding Presents 2009 Bernard G. Greenberg Lecture Series



The 2009 Bernard G. Greenberg Distinguished Lecture Series was held May 4 and 5. The speaker was Dr. Niels Keiding, director of the Danish Graduate School in Biostatistics, Institute of Public Health at the University of Copenhagen. Keiding presented four lectures over the two-day period, all held in the Blue Cross and Blue Shield of North Carolina Foundation Auditorium in the Michael Hooker Research Center on the UNC campus.

The schedule was as follows:

Lecture I: Event History Analysis and the Cross-Section

Lecture II: Time-to-Pregnancy: Classical Designs

Lecture III: Time-to-Pregnancy: Current Duration Data

Lecture IV: Describing Episodes of Drug Treatment from Joint Observation of a Prescription Registry and a Cross-Sectional Survey

Named in honor of Bernard G. Greenberg, PhD, former dean of the School of Public Health and founding chair of the department, the Greenberg Lecture Series is held annually.

DEPARTMENT HAPPENINGS

CSCC Awarded SPIROMICS Genomics and Informatics Center

In early 2009, the Collaborative Studies Coordinating Center (CSCC) in the UNC Gillings School of Global Public Health's Department of Biostatistics was selected by the National Heart, Lung and Blood Institute (NHLBI) of the National Institutes of Health (NIH) to serve as the Genomics and Informatics Center for SubPopulations and Intermediate Outcome Measures in COPD Study (SPIROMICS), a study of patients with chronic obstructive pulmonary disease (COPD). The contract spans seven years, and the total award is more than \$8 million. Dr. Lisa LaVange, director of the CSCC, is principal investigator; Betsy Carretta, MPH, is project manager.

SPIROMICS supports the prospective collection and analysis of phenotypic, biomarker, genetic, genomic and clinical data from subjects with chronic obstructive pulmonary disease (COPD) for the purpose of identifying patient subpopulations and surrogate markers for use in future clinical trials. The NHLBI award is the result of cross-campus collaboration, with contributing faculty from the CSCC and other members of the biostatistics department, the departments of medicine and of bioinformatics in the UNC School of Medicine, and the School of Information and Library Science. Co-investigators include Drs. Richard Boucher, Claire Doerschuk and Wanda O'Neal in medicine; Drs. Fred Wright and Wei Sun, biostatistics; Drs. Jane Greenberg and Javed Mostafa, information and library science; and Dr. Patricia Basta and Amy Perou, of the biospecimen processing facility.

In addition to UNC-Chapel Hill, awards were made to six clinical centers (Columbia University, University of California at Los Angeles, University of California at San Francisco, University of Michigan, University of Utah and Wake Forest University) and a radiology center (University of Iowa). Subjects will be enrolled at each of the clinical centers, undergo molecular fingerprinting and extensive phenotyping at a baseline clinical examination and be followed for three years to identify disease outcomes. The clinical and molecular data will be analyzed to determine homogeneous patient subgroups and to identify and validate surrogate markers of disease severity, which will be useful as intermediate outcome measures for future therapeutic clinical trials. Secondary aims are to develop bioinformatics resources that will enable the utilization and sharing of data in studies of COPD and related diseases, to build a well-described cohort of participants for longitudinal evaluation, and to create a collection of clinical, biomarker, radiographic and genetic data on that cohort that can be used by external investigators for other studies of COPD.

"The results from this study have the potential to rapidly accelerate the development of new therapies for COPD and its clinical subtypes," LaVange said. "We are very excited to be working with colleagues from all across the UNC-Chapel Hill campus in this exciting and important study."

The Genomics and Informatics Center accomplished foundational project work in 2009 by convening 5 in-person steering committee meetings and many teleconferences, establishing early subcommittees, building the Web site and refining potential biomarkers. Mostafa and Greenberg, along with their graduate students, have made progress on developing an ontological database of genetic terminology. As of the end of the year, the Center is focusing on putting the finishing touches on the study protocol.

For more information, visit www.csc.unc.edu/spir.

Lin and Wright Awarded New Gillings Innovation Laboratory



Dr. Danyu Lin

Funding for a two-year Gillings Innovation Laboratory in statistical genomics was awarded to Danyu Lin, PhD, Dennis Gillings Distinguished Professor of Biostatistics, and Fred Wright, PhD, professor of biostatistics. The goal of this innovation laboratory is to develop new statistical methods to study the associations between genetic variants and complex diseases. An important aspect of this work will be the development of user-friendly, open-source software. This innovation laboratory will help researchers throughout the world better understand genetic risks and better interpret the biological complexity of genetic association.



Dr. Fred Wright

Gillings Innovation Laboratories (GILs) are funded through a generous \$50 million gift from Dennis and Joan Gillings. GILs are intended to address pressing public health needs, including topics as diverse as water and the environment, drug safety, statistical genomics, and 21st-century public health teaching. All of these research projects have potential to benefit people across North Carolina and around the world.

DEPARTMENT HAPPENINGS

Update: Biostatistics Summer Undergraduate Research and Education (BSURE) Program



Pictured above (left to right): Dr. Dominick, Misha Lavrov, Amanda Wachtel, Dr. Priesser, Nicole Mack, Dr. Ivanova, Brett Jepson and Dr. Qaqish

The Biostatistics Summer Undergraduate Research and Education (BSURE) Program hosted three students in 2009: Nicole Mack, a junior at NC State University, majoring in statistics and math education; Amanda Wachtel, a junior at the University of Alabama, majoring in mathematics (statistics track); and Misha Lavrov, a sophomore at Duke University, majoring in mathematics. The participants learned about biostatistics and SAS through a series of lectures given by Drs. Anastasia Ivanova, Bahjat Qaqish and biostatistics graduate student Brett Jepson. They also participated in research projects under the direction of Drs. John Priesser, Rosalie Dominik and Bahjat Qaqish. The program ended with students presenting what they had worked on while in the BSURE Program. Mack's presentation was titled, "Be Safe Be Smart BSURE: Biostatistics Summer Undergraduate Research and Education Presentation." Wachtel's was titled, "Secondary Analyses of Assisted Living Study and SAVVY RCT." Lavrov's was titled, "Methods of Ranking Gene Expression in Microarray Experiments."

"Unlike previous years, all aspects of BSURE 2009 were run entirely by the Department of Biostatistics, including student recruitment and housing arrangements," says Ivanova, current director of BSURE. "I want to thank Dr. John Priesser, Dr. Rosalie Dominik and Dr. Bahjat Qaqish, faculty mentors of BSURE students; Dr. Lloyd Edwards, former director of BSURE; Evie Mckee; Dr. Suchindran; and Dr. Jane Monaco for helping make BSURE 2009 a success."

The BSURE program is an 8-week summer undergraduate program in the UNC Department of Biostatistics. For more information, please visit www.sph.unc.edu/bios/the_biostatistics_summer_undergraduate_research_and_education_bsure_program_5735_5017.html.

Center for Innovative Clinical Trials Continues to Thrive

Under the leadership of Alumni Distinguished Professor Joseph G. Ibrahim, the Center for Innovative Clinical Trials (CICT) continues to engage in very fruitful collaborations with pharmaceutical companies, including Amgen, Merck and Novartis. This collaborative work has provided insight to CICT researchers on important statistical, scientific and practical research problems in clinical trials in the pharmaceutical industry. One Amgen project involves developing new statistical methods for patients who cross over on their treatment during the course of the trial. Another Amgen project looks into experimental design issues based on meta-analysis. Here, the goal is to determine a sample size needed to carry out a meta-analysis of drug safety (toxicity) data. A project with Merck compares rare adverse events between two treatment arms when the status of the event may be uncertain. The motivation comes from post-marketing safety studies, where the most important adverse events are likely to be extremely rare (i.e., 5 or fewer events per 10,000 patients) and where the observed events have uncertain status. (An event has uncertain status if it is very difficult to diagnosis and requires careful medical record examination to determine with certainty.) The rarity of the events, combined with the uncertainty of the status, makes this problem unique, and no existing statistical methods are available for performing valid analysis in this setting. The research team has made significant progress and expects to be able soon to submit a paper for publication that presents a valid statistical analysis approach.

These collaborations have led to new and interesting practical research problems in clinical trials that have not been previously addressed and will lead to new research directions in clinical trials. The collaborations have resulted in pursuing practical research issues in clinical trials that could have a major impact on future design and analysis of clinical trials and a major impact on public health in general. They have led to interesting and substantial datasets which would not have otherwise been available. These partnerships have resulted in financial support from industry for tackling and engaging in joint research on important scientific collaborations in clinical trials. The CICT has led to new models and modes of research that are unprecedented in the statistical community. These university-industry or university-government partnerships are new types of research models in the statistical community. UNC sets a great example and trend with these new and innovative types of research models. Partnerships such as these will perhaps become the norm of collaborative research in biostatistical science in the years to come. It is a very exciting time to do research in biostatistical science.

Lin Receives Prestigious MERIT Award to Continue Research in Survival Analysis

Danyu Lin, PhD, Dennis Gillings Distinguished Professor of Biostatistics, has been awarded a competitive renewal of the prestigious Method to Extend Research in Time (MERIT) Award by the National Institutes of General Medical Sciences (NIGMS), a branch of the National Institutes of Health (NIH).

Lin's grant was originally funded by the NIH in 1992 and competitively renewed in 1997, 2001 and 2005, at which time it was converted to the MERIT Award. MERIT awards provide long-term stable support to investigators whose research competence and productivity are distinctly superior and who are likely to continue to perform in an outstanding manner, according to the NIH. The provision of long-term stable support is expected to foster continued creativity and spare the investigators the administrative burdens associated with preparation and submission of full-length research grant applications. This may allow investigators the opportunity to take greater risks, be more adventurous in their lines of inquiry or take the time to develop new techniques.

The broad, long-term objectives of this research are to develop semiparametric regression models and associated inference procedures for the statistical analysis of "censored data," a form of incomplete information about the development of disease or death, commonly encountered in biomedical studies. For the last 17 years, this NIH grant has enabled Lin to develop highly innovative statistical methods for the analysis of censored data. His methods have been published in leading statistical and genetic journals and widely used by biomedical researchers.

Kosorok Receives Funding from National Science Foundation

Michael R. Kosorok, PhD, professor and chair of biostatistics, has won a \$100,000, three-year award from the National Science Foundation for his grant titled, "Collaborative research: novel methods for pharmacogenomic data analysis using gene clusters." The proposed study has been motivated by the urgent need to overcome drawbacks of existing methods. It will feature novel statistical methods, rigorous theoretical development, extensive numerical studies, development of public software and a direct impact on practical studies.

The goal of the study is to develop a systematic framework using principal component analysis (PCA) based methods to detect gene clusters differentially expressed and/or with joint predictive power. More specifically, the investigators will (1) develop novel methodology to detect gene clusters marginally differentially expressed; (2) develop penalization methodology to detect gene clusters with joint predictive power for the disease clinical outcomes of interest; and (3) conduct extensive numerical studies and develop publicly available software. The proposed study will enrich the family of high-dimensional methodologies in general. In addition, analysis of breast cancer, colon cancer, and lymphoma microarray data will lead to a deeper understanding of the genomic mechanisms underlying those cancers. Methodologies developed in this study can be applied in other areas, including image processing, immunology, molecular dynamics, small-angle scattering and information retrieval.

Monaco Conducts High School Outreach Project for Future Biostatisticians

What does a biostatistician do? Is the field of biostatistics a good fit for me? What courses should I take in high school and college to prepare me to be a biostatistician? Clinical Assistant Professor Jane Monaco hears these questions often in her role as Director of Undergraduate Studies in the department. She also hears this: *Why haven't I heard about biostatistics before? Now I understand biostatistics is a great but relatively little-known career. I wish I knew about biostatistics sooner.*

As part of the grant from the ASA Biometric Section, "Developing the Next Generation of Biostatisticians" Dr. Monaco has been answering these and other questions for many prospective students. Dr. Monaco visited advanced placement statistics and calculus classes in six local high schools during spring 2009. She gave a presentation introducing the field of biostatistics as rewarding, high-impact and relevant. Almost 400 high school students participated in the events. The presentation, which was given live in the high schools, is now available on our departmental Web site as a multimedia, narrated slide show. (See www.sph.unc.edu/bios/prospective_students_13235_10577.html.) Prospective students can learn about typical projects, educational requirements, career opportunities and salary information in the field of biostatistics. The presentation also contains helpful information from current students and faculty about the impact of biostatisticians in public health.

"I enjoyed this project immensely," says Dr. Monaco. "I am passionate about sharing information about our career field with these talented students, who may not be aware of what we do. Biostatistics has been described as 'one of the best careers you may never have heard of.' Through continued outreach, I hope that some day biostatistics will be one the best careers you hear about often!"

DEPARTMENT GRANTS

Herring Awarded Grants from NCMHD and NCI



Dr. Amy Herring

Associate Professor Amy Herring, ScD, has been awarded a six-month, \$22,020 subcontract from the National Center for Minority Health and Health Disparities through the University of Connecticut. The ongoing Connecticut Center for Eliminating Health Disparities Among Latinos (CEHDL), led by Rafael Perez-Escamilla, PhD, is an EXPORT Center funded by the NIH Center on Minority Health and Health Disparities. Dr. Herring's role in this project is to provide statistical expertise and support to CEHDL staff in repeated measures analyses, longitudinal study analyses, structural equation modeling and other complex analyses, for several research studies including: (a) diabetes intervention among Latinos: best practices, (b) food insecurity, meal skipping, nutrient intakes and pregnancy outcomes among low-income Latinas, (c) determinants of breastfeeding initiation and (d) food insecurity and domestic violence during pregnancy. Herring will also conduct statistical analyses within these areas with the CEHDL study data specified above.

Professor Herring was also awarded a two-year, \$100,000 grant titled, "Workshop for Junior Biostatisticians in Health Research" from the National Cancer Institute. This workshop is designed to enhance the skills and knowledge of junior biostatistical researchers in four key areas: interdisciplinary collaboration, publication, grant writing, and career development and promotion. Senior researchers will meet with junior investigators the day prior to the annual ENAR meeting to provide advice and tips that will help the next generation of biostatisticians meet emerging challenges in medical and public health research.

Lin and Hudgens Win Competing Renewal



Dr. Danyu Lin



Dr. Michael Hudgens

Danyu Lin, PhD, Dennis Gillings Distinguished Professor, and Michael Hudgens, PhD, research associate professor of biostatistics, have won a competing renewal from the National Institute of Allergies and Infectious Diseases for two years in the amount of \$114,130. The grant, titled "Statistical Issues in AIDS Research," is an R01 through the University of Washington (James Hughes, PI). The goal of this research is to address important statistical issues in the design and analysis of clinical and epidemiologic HIV/AIDS studies with incomplete observations. Specific aims include developments of new statistical methods for (a) trials of mother-to-child transmission of HIV, (b) analysis of competing risks data with interval censoring and covariates, (c) two-phase designs and complex sampling plans and (d) optimizing epitope-mapping algorithms. The asymptotic properties of the proposed estimators and test statistics will be investigated rigorously with the use of counting-process martingale theory, modern empirical process theory and other probability tools. Their operating characteristics in practical settings will be evaluated extensively through computer simulation. The usefulness of the proposed methods will be illustrated with real HIV/AIDS studies.

Zhu Awarded R21 from National Institute on Aging



Dr. Hongtu Zhu

Hongtu Zhu, PhD, associate professor of biostatistics, was awarded a two-year grant from the National Institute on Aging for \$183,419. Titled "Longitudinal Analysis of Biomedical Imaging Data," this R21 proposes to develop new statistical tools and to evaluate these tools and 4-D image processing for analysis of imaging data, in combination with behavioral and clinical information obtained from longitudinal neuroimaging studies. As these tools are developed, they will be evaluated and refined through extensive Monte Carlo simulations and data analysis. The efficacy of the tools developed under this grant will be tested by both simulated longitudinal datasets and the ADNI (Alzheimer's Disease Neuroimaging Initiative) dataset for early detection of Alzheimer's Disease. Moreover, the companion software for all developed statistical tools, once validated, will be disseminated to imaging researchers. This longitudinal analysis software will provide much-needed imaging tools for analyzing complex, correlated imaging data in the biomedical, behavioral and social sciences and will be applicable to a variety of longitudinal neuroimaging studies, e.g., on major neurodegenerative diseases, neuropsychiatric disorders, substance use disorders and brain development.

Hudgens Awarded Grant from NIAID

Michael Hudgens, PhD, research associate professor in UNC Gillings School of Global Public Health's Department of Biostatistics, has been awarded an R01 grant titled, "Causal inference in infectious disease prevention studies" for \$1,251,396 from the National Institute of Allergy and Infectious Diseases. The grant includes a subcontract to Dr. M. Elizabeth Halloran of the Fred Hutchinson Cancer Research Center.

The project aims to develop statistical methods for quantifying the effects of interventions to prevent infectious diseases. The main motivating examples for the research are studies of vaccine effectiveness. Two particularly challenging problems in vaccine studies entail assessment of (1) indirect effects of vaccination and (2) vaccine effects on post-infection endpoints. Evaluating (1) is a non-standard problem because indirect effects measure the effect of vaccinating one individual on another individual's health outcome. Assessing (2) is challenging because infected vaccinees may not be comparable to infected controls. The proposed research will adapt and develop modern causal inference methodology for use in evaluating (1) and (2). Similar research will be conducted motivated by studies to prevent transmission of HIV from mother to child where issues similar to (2) arise.

Lin Awarded Recovery Act Funds

Dennis Gillings Distinguished Professor Danyu Lin, PhD, received an administrative supplement for his grant, "Statistical Methods in Current Cancer Research." The additional funding of \$236,483 will enable Lin to work with Yun Li, PhD, a joint faculty member with the Department of Genetics who has played a critical role in the recent discoveries of genetic loci influencing complex diseases. The broad, long-term objectives of the parent grant are the development of statistical methods for the designs and analysis of clinical and epidemiological cancer studies, with or without genetic components. The specific aims include: (1) exploring semiparametric linear transformation models for univariate and multivariate continuous response variables, (2) developing graphical and numerical techniques to assess model adequacy and predictive accuracy under semiparametric transformation models for right-censored failure-time data, (3) studying semiparametric transformation models for the analysis of univariate and multivariate failure-time data subject to interval censoring, (4) pursuing statistically efficient and computationally feasible procedures for the analysis of accelerated failure-time and accelerated hazards models with right-censored data, (5) investigating variance-components models for the joint linkage and association analysis of complex disease traits in family studies, (6) handling complex data structures (e.g., family data, selective genotyping, and correlated genetic and environmental factors with missing values) in the analysis of haplotype-disease associations, and (7) addressing the issue of population stratification in genetic association studies of unrelated individuals.

Ibrahim Wins Competitive Renewal from the National Cancer Institute



Dr. Joseph Ibrahim

Alumni Distinguished Professor Joseph Ibrahim, PhD, has won a competitive renewal of his R01 grant, "Inference in Regression Models with Missing Covariates," from the National Cancer Institute. This grant also includes Associate Professor Hongtu Zhu, PhD, as a co-investigator and subcontracts to Dr. Ming-Hui Chen at the University of Connecticut and Dr. Stuart Lipstiz at Brigham and Women's Hospital in Boston.

The objective of this project is to develop Bayesian and frequentist methodology for model assessment tools in a variety of statistical models in the presence of missing data, including generalized linear models (GLMs), models for longitudinal data and survival models. The proposed methodology has major applications in chronic diseases such as cancer and AIDS, as well as cardiovascular disease and environmental health. This grant was first awarded to Ibrahim in September 1997.

FACULTY & STAFF NEWS

Herring Elected President of ENAR

Amy Herring, ScD, associate professor of biostatistics, has been elected president of the Eastern North American Region (ENAR) of the International Biometric Society (IBS), effective January 2010.

IBS is the largest professional organization of biostatisticians and biometricians in the world, drawing its 5,800 members from more than 25 countries. ENAR is the largest subgroup of the organization, incorporating 1,600 members from the United States and Canada.

Herring, who has held several other leadership positions in the organization, will serve a three-year term.

"I am very excited to begin my service as president-elect of ENAR," Herring said. "Through the office, I hope to bring more visibility to our field by highlighting the role biostatisticians play in helping to detect signals in massive data sets (e.g., genomic data, air pollution data, biosurveillance and functional MRI data), characterize complex human exposures, help ensure safety and efficacy of prescription drugs and guide personalized medicine."

The Department of Biostatistics has a strong history of leadership in the society, with previous members of the faculty - including the late Dr. Bernard Greenberg and Drs. Jim Grizzle, Gary Koch and Lisa LaVange - having previously served as president.

Cai Elected as IMS Fellow

Jianwen Cai, PhD, associate chair and professor of biostatistics, has been named a fellow of the Institute of Mathematical Statistics (IMS). Fellowship in the IMS recognizes distinction in research in statistics or probability by publication of independent work of merit.

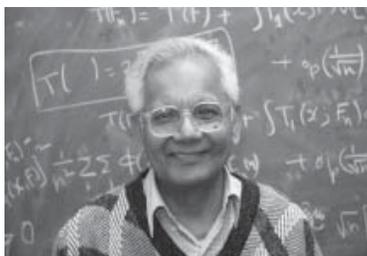


Dr. Jianwen Cai

Cai, one of 17 IMS members chosen as fellows in 2009, is being recognized "for outstanding contributions in multivariate survival analysis and analysis of correlated survival data, outstanding teaching and service to the profession." The new fellows were presented at the IMS Presidential Address and Awards session at the Joint Statistical Meetings on August 3, 2009, in Washington, D.C.

Nominees for IMS fellowship are assessed by a committee of his/her peers for the award. Established in 1933, the Institute of Mathematical Statistics is a member organization which fosters the development and dissemination of the theory and applications of statistics and probability. The IMS has more than 4,500 active members throughout the world. Approximately 5 percent of the current IMS membership has earned the status of fellowship.

Sen Co-Authors Book



Dr. Pranab Sen

Pranab K. Sen, PhD, Cary C. Boshamer Distinguished Professor of Biostatistics, has recently co-authored a book with Drs. Julio M. Singer and Antonio C. Pedroso de Lima of the University of Sao Paulo, Brazil. Published in November 2009, the book, *From Finite Sample to Asymptotic Methods in Statistics*, presents a broad view of exact statistical inference and the development of asymptotic statistical inference and provides a justification for use of asymptotic methods for large samples. The book was published by Cambridge University Press.

Key features of this book include a lucid treatise of basic statistical inference, an explanation of the role of asymptotic methods in statistical inference, and an appraisal of the limitations of asymptotic methods in real applications. Designed as a textbook for advanced undergraduate or beginning graduate students in statistics, biostatistics, or applied statistics, the book also may be used as a reference for academic researchers.

Schwartz Receives Faculty Award for Excellence

Todd Schwartz, PhD, research assistant professor in the departments of biostatistics and nursing, was awarded the UNC School of Nursing's Inaugural Faculty Award for Excellence in Doctoral Mentorship and Education. This award was created by the nursing school's doctoral students, who voted on and presented this inaugural award. Schwartz has taught doctoral students their required statistics sequence (regression and ANOVA) in UNC's School of Nursing since 2006.



Dr. Todd Schwartz

Ivanova Published in Inaugural Issue of ASA Journal

Anastasia Ivanova, PhD, associate professor of biostatistics, was published in the inaugural issue of the American Statistical Association's new journal, *Statistics in Biopharmaceutical Research*. Ivanova co-authored the article, "Comparison of Isotonic Designs for Dose-Finding." More about this journal can be found at <http://pubs.amstat.org>.



Dr. Anastasia Ivanova

Bangdiwala Appointed to Editorial Board of WHO Journal



Dr. Shrikant Bangdiwala

Kant Bangdiwala, PhD, professor in the Department of Biostatistics, was appointed to the editorial board of *Public Health Reviews*. The journal, long published by the World Health Organization, will now be published by the Ecole des Hautes Etudes en Sante Publique (EHESP), the national public health school in France. Antoine Flahault, MD, a noted epidemiologist and infectious disease specialist, will be the editor. Thomas Ricketts III, PhD, professor in the Department of Health Policy and Management and director of the North Carolina Rural Health Research Program and Program on Health Policy Analysis, was also appointed to the editorial board.

Biostatistics Gets Ready to Bid a Fond Farewell to Kupper

Lawrence L. Kupper, PhD, Alumni Distinguished Professor of biostatistics, will retire on June 30, 2010. After receiving his doctorate from the UNC Department of Statistics in 1970, Kupper accepted a tenure-track assistant professor position with the UNC Department of Biostatistics and has been a faculty member in this department since that time.

Kupper's research interests concern the development and application of innovative statistical methods for the design and data analysis of public health studies, with specific emphasis on environmental, occupational and women's health. His work has led to improved statistical methods for quantifying human health risks due to exposure to harmful substances present in the workplace and in the ambient environment.

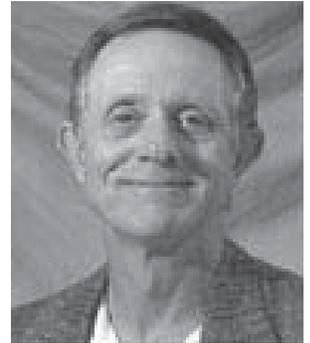
Kupper has sole-authored and co-authored more than 160 peer-reviewed articles in highly respected statistical and subject matter journals. In addition to co-publishing several book chapters, he is co-author of three textbooks: *Applied Regression Analysis and Other Multivariable Methods* (four editions), *Epidemiologic Research: Principles and Quantitative Methods*, and *Quantitative Exposure Assessment*. Dr. Kupper is also the first author of a nearly completed book, *Exercises and Solutions in Biostatistical Theory*, which will be published in spring 2010 by Chapman & Hall/CRC Press.

In 1971, Kupper was instrumental in beginning a training grant in environmental biostatistics funded by the National Institute of Environmental Health Sciences (NIEHS), serving as the grant's program director from 1972 through 2006. This training grant has been responsible, both directly and indirectly, for the training of hundreds of biostatistics and UNC School of Public Health (SPH) doctoral and postdoctoral students. Currently funded through June 2011, the grant is the largest training grant ever funded by NIEHS. Kupper has personally mentored the research efforts of about 20 doctoral students, 20 postdoctoral students, and close to 50 master's students. Three of his doctoral students won the Bernard G. Greenberg Outstanding Doctoral Dissertation Prize at the UNC's School of Public Health.

Kupper has received numerous teaching and mentoring awards, including two university-wide awards at UNC -- the 2007 UNC Mentor Award for Lifetime Achievement in Teaching and Mentoring and the 1996 UNC Distinguished Teaching Award for Post-Baccalaureate Instruction. He has also been recognized with three awards at the School -- the 2003 John E. Larsh Jr. Award for Mentorship, the 1990 Bernard G. Greenberg Alumni Endowment Award and the 1985 McGavran Award for Excellence in Teaching. In 1986, Kupper was elected a fellow of the American Statistical Association (ASA). In 1995, he received the Distinguished Achievement Medal from the ASA's section on statistics and the environment.

Kupper has held numerous administrative posts during his academic career. In the Department of Biostatistics, he served as director of graduate studies, deputy chair and associate chair for many years. Schoolwide, he has served as a member and chair of the Appointments, Promotion, Tenure (APT) Committee, and has been both a member and chair of several faculty, chair and dean search committees. At the UNC level, he has served as a member of teaching award and other university-wide committees. Additionally, Kupper was a member of the UNC APT Committee from 2003-2007, and he chaired this UNC APT Committee during the 2006-2007 academic year.

Once he retires, Kupper plans to do some consulting work, to write more books and to continue to work with his wife, Sandra Martin, PhD, on her research projects concerning domestic violence and related women's health areas. He also plans to continue to play golf, do more travelling and become a gourmet chef.



Dr. Larry Kupper

New Faculty

Pei-Fen Kuan, PhD, research assistant professor in the UNC Lineberger Comprehensive Cancer Center, with a primary appointment in biostatistics, joins us from the University of Wisconsin. Kuan received her Bachelor of Science degree in statistics from the National University of Singapore, and both her master's and doctoral degrees in statistics from the University of Wisconsin-Madison.

Michael Wu, PhD, assistant professor, comes to us from Harvard University. Wu received his Bachelor of Science degree in Mathematical and Computational Science from Stanford University, and both his master's and doctoral degrees in biostatistics from Harvard, where he combined his biostatistical focus with computational molecular biology and genetics.

New Joint Faculty

Eric Bair, PhD, is a research assistant professor in the School of Dentistry, with a joint position in biostatistics.

Denise Esserman, PhD, is a research assistant professor in the Department of Medicine, with a joint position in biostatistics.

Yun Li, PhD, is an assistant professor in the Department of Genetics, with a joint appointment in biostatistics.

Visiting Faculty

Nian Sheng Tang, professor of statistics at Yunnan University in Kunming, China, is collaborating with Hongtu Zhu, PhD.

Staff Promotions

Jingjing Wu, biostatistician

New Staff

Betsy Carretta, project manager (CSCC)

Yonghong Nie, statistical computing (CSCC)

Ping Shen, statistical computing (CSCC)

Yanping Teng, biostatistician (CSCC)

Gary Wolgast, data management (CSCC)

Retired Staff

Nancy Anderson, statistical computing (CSCC)

Departures

Paula Gildner, research associate (CSCC)

Niantao Jiang, biostatistician (CSCC)

New Postdocs

Li Chen, under the direction of Dr. Danyu Lin

Yair Goldberg, under the direction of Drs. Michael K.

Kosorok, Jason Fine and Danyu Lin

Ruixin Guo, under the direction of Drs. Joseph Ibrahim and Hongtu Zhu

Bernard Omolo, under the direction of Dr. Joseph Ibrahim

Jiaping Wang, under the direction of Drs. Joseph Ibrahim and Hongtu Zhu

Wangli Xu, under the direction of Dr. Haibo Zhou

FACULTY & STAFF NEWS

BIOS Births!

On May 13, 2009, Daniela Sotres-Alvarez and Jorge Gutierrez-Marmolejo welcomed their first daughter into the world. Ana Camila Gutierrez-Sotres was born at UNC Hospitals, weighing in at 6 lbs., 12 oz. In Daniela's words, "Since she was born, she sleeps wonderfully and really inspired me to finish my dissertation and make my final defense on Dec 16, 2009."

Braxton Jace Hill was born on Wednesday, May 27, 2009, at 2:41 p.m., to David Hill (biostatistics tech support specialist) and his wife, Kristie. He weighed 6 lbs., 12 oz. and was 21.75 inches long.

The Department of Biostatistics Presents 2009 Staff Awards

Debbie Quach is the 2009 recipient of the department's annual Staff Excellence Award. As an accounting technician in the department's fiscal office, the scope of Quach's work includes preparing budgets for grant proposals, advising faculty members about contract and grant expenditure rules, staying informed about University travel regulations and general finance rules, and being a good steward for federal and state funds. As our department has \$18 million in annual expenditures, this stewardship is of utmost importance. Since she joined the department in 2005, Quach has exemplified, on a daily basis, teamwork, creativity, enthusiasm, productivity and flexibility. We feel very fortunate to have Debbie on our staff and are pleased to honor her with this award.

The Department of Biostatistics also recognized staff members for achievements during the year through the Star Heels awards program, sponsored by TIAA-CREF. The following employees are our 2009 Star Heels winners: Anna Hoffmeyer, head calling room supervisor (SRU); Kwan Jung, applications specialist (CSCC); Joy Kloetzer, calling room supervisor (SRU); and Tania Osborn, administrative assistant (McGavran-Greenberg Hall).



Pictured above (left to right): Anna Hoffmeyer, Dr. Michael Kosorok, Debbie Quach, Kwan Jung and Joy Kloetzer

Service Appreciation

5 Years

Ashley Britt
Lisa Gravens-Mueller
Michael Hudgens
Matthew McGrievy
Terry Mehlman
Jane Monaco
Jeffrey Oberhaus
Jingjing Wu

10 Years

Stephen Campbell
Anastasia Ivanova
John Preisser Jr.

Los Angeles Homeless Services Authority Project Completed

The Survey Research Unit (SRU) has ended its year-long collaboration with the Los Angeles Homeless Services Authority (LAHSA). The SRU was involved in the design and analysis of the 2009 Los Angeles homeless count (HC09). Additionally, the SRU utilized its survey call center to conduct an extensive hidden homeless telephone survey (N=4,288) of Los Angeles households and developed an estimate of this often-missed population in the overall homeless count. The primary purpose of the HC09 was to determine how many people are homeless on a given day within Los Angeles County. The HC09 findings estimated that 42,694 people were homeless when the count took place in January 2009 and that two-thirds of the homeless population was unsheltered. This finding represents a 38 percent decrease in comparison to the last homeless count in 2007. Given the recent downturn of the U.S. economy, many expected the count to go up rather than down. The HC09 results can be viewed in detail at LAHSA's Web site (www.lahsa.org). Robert Agans, PhD, and Bill Kalsbeek, PhD, were the investigators for this \$368,000 subcontract to UNC.



Dr. Robert Agans



Dr. William Kalsbeek

Funding Approved for Project with Emory University

The Survey Research Unit (SRU) will be conducting a telephone survey (N=1,200) as part of a study examining the unique sociocultural experiences of African-American males and how these experiences may affect their risk for sexually transmitted disease and HIV-testing behavior. The research literature shows that HIV disproportionately affects African-American males in the United States, particularly in the southeastern states. A substantial portion of the telephone sample will consist of cell-only households, which involves cutting-edge procedures in survey sample designs. Data collection will begin in fall 2010. Robert Agans, PhD, and Bill Kalsbeek, PhD, will be the investigators for this \$554,000 subcontract to UNC.

Kalsbeek Awarded Global Adult Tobacco Survey

Professor William Kalsbeek has been awarded a one-year, \$155,966 grant entitled, "Provision of Statistical Support in Sampling for the Global Adult Tobacco Survey," from the Centers for Disease Control and Prevention Foundation. Under Kalsbeek's direction, the Survey Research Center will provide technical support upon request in the development and implementation of sampling-related tasks in 15 countries currently committed to participating in the Global Adult Tobacco Survey (GATS). With the goal of facilitation, the process of developing and implementing high-quality sample designs in all participating GATS countries, three specific goals have been set: (1) successfully execute the scientific principles and procedures set out in the GATS sampling manual; (2) select samples that will meet country needs related to GATS; and (3) enhance the capacity of participating GATS countries to design, select and use scientific samples.

The Global Adult Tobacco Survey is a nationally representative household survey launched in February 2007 as a new component of the ongoing Global Tobacco Surveillance System. The GATS enables countries to collect data on adult tobacco use and key tobacco control measures. Results from the GATS assist countries in the formulation, tracking and implementation of effective tobacco control interventions, and countries are able to compare results of their survey with results from other countries.

COLLABORATIVE STUDIES COORDINATING CENTER

A Busy Year for the CSCC in 2009

The CSCC continued to expand its workload, staff and prestige in 2009. While approaching the 25-year mark for the stalwart Atherosclerosis Risk in Communities (ARIC) study, the CSCC began several new projects.

In February 2009, the CSCC was selected as the Genomics and Informatics Center for the SubPopulations and Intermediate Outcome Measures in COPD Study (SPIROMICS). The UNC team, led by Lisa LaVange, PhD, includes faculty from the School of Medicine, the School of Information and Library Science (SILS), and the public health school's Department of Epidemiology. Read the stand-alone article in this magazine for a full description of the study.

In September, the Center earned the coordinating role in the Comparison of Depression Interventions after Acute Coronary Syndrome (CODIACS) study. The multi-center feasibility/vanguard study assesses the feasibility and estimates the effectiveness of an enhanced care intervention relative to standard care for depressive symptoms in 150 persistently depressed (3-months) post-ACS patients. Patients with an acute coronary syndrome (ACS) and comorbid depressive symptoms will be recruited from a network of hospitals connected with five field centers (at Columbia, Washington, Duke, Emory and Yale universities). Dr. Diane Catellier is principal investigator of the CODIACS coordinating center. CODIACS is one of two Grand Opportunities (GO) grants awarded to the CSCC in 2009. GO grants are a keystone of the American Recovery and Reinvestment Act (ARRA).

The second GO grant is ancillary to the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), designed to further investigate sociocultural and psychological risk factors of cardiovascular disease among U.S. Hispanics/Latinos. The study involves a follow-up interview of 5,280 HCHS/SOL participants, during which a battery of questionnaires are administered to better understand the importance of these factors in characterizing the cardiovascular health of this minority population. The CSCC serves as the coordinating center for this study, and Dr. Lisa LaVange is the principal investigator.



Lisa Reeves

Additional ARRA funding was received in the form of administrative supplements to two existing CSCC projects. David Couper, PhD, received an administrative supplement to "A Genomic-wide Association Study of Ischemic Brain Vascular Injury," and Myra Carpenter, PhD, received an administrative supplement to the "Clinical Study of Vesicoureteral Reflux in Children." As a result of both ARRA and traditional funding in 2009, the CSCC is expanding its faculty and staff with active recruitment at several levels and looks forward to the challenges these new projects pose.

Late in the year, the CSCC joined with UNC's School of Medicine, the Department of Epidemiology at UNC Gillings School of Global Public Health, the UNC Lineberger Comprehensive Cancer Center, and the TraCS Institute to study cancer outcomes in people with diabetes. The study, funded by the pharmaceutical company sanofi-aventis, is a large, multi-site retrospective study on insulin users with type 2 diabetes. It is designed to determine whether diabetic patients exposed to insulin glargine have a higher incidence of cancer than diabetic patients exposed to other insulins or to other glucose-lowering medications. Data will be collected from administrative and electronic medical record databases.

In 2009, the CSCC began work on the United Arab Emirates-UNC Epidemiologic (UAEE) Health and Indoor Air Quality study, which was awarded in 2008. The study examines indoor and outdoor air pollution exposures, chronic health conditions, respiratory symptoms, individual and household-level characteristics, health behaviors, obesity and "nutritional transition" in 600 randomly sampled households of Emirati citizens. Sponsored by the UAE Environmental Agency, the study is one of four components of the UAE National Strategy for Environment and Health, in which UAE and UNC researchers work collaboratively to develop a 10-year national plan to improve environmental and health conditions in the UAE.

CSCC staff members Debbie Rubin-Williams, Aluoch Ooro and Lisa Reeves visited the UAE in September to guide training at sites in Abu Dhabi, Al Ain and Dubai. The travel was long, but the cultural exposure was grand. Needless to say, it was a site visit like no other. Data collection began in October and extends to May 2010. The CSCC plans to make another visit in February 2010 to train interviewers for an ancillary study.



Pictured above are (far left) Debbie Rubin-Williams, and (far right) Lisa Reeves and Aluoch Ooro on their visit to the UAE

31 New Graduate Students and 10 Undergraduates Join Biostatistics in Fall 2009



Biostatistics fall 2009 incoming class

In August 2009, the Department of Biostatistics welcomed the fall 2009 incoming class. Of 43 new students, 10 are enrolled in the BSPH undergraduate program, 13 in the PhD program, 5 in the DrPH program, 12 in the MS program and 3 in the MPH program. Our total number of students is 130 graduate students (70 PhD, 30 DrPH, 21 MS and 9 MPH) and 14 undergraduate students.

Among the graduate students, there are 16 U.S. citizens. International students come from China, India, South Korea, Argentina, Thailand and Taiwan. The majority of graduate students are mathematics or statistics majors. Other majors include biology, medicine, industrial engineering, physics and economics. For the second year in a row, we have more men (17) than women (14) in the incoming class.

Ten juniors joined the BSPH in biostatistics program in 2009. These talented students have an average GPA of 3.7 (of 4.0). Their average math SAT is 730 (of 800), and their average total SAT is 1430 (of 1600). The group includes two students who graduated from North Carolina School of Science and Math and one student who is attending UNC-Chapel Hill and Duke University on a Robertson Scholarship. Four of the 10 incoming BSPH students plan to double-major in the disciplines of math, biology or chemistry. Four of the 10 are planning to attend medical school following graduation.

We welcome this talented and interesting group of scholars to our department!

2009 Graduates

May 2009

Yeonseung Chung	PhD
Carolyn Marie Deans	MPH
Chelsea Lynn Erickson	MS
Xia Max He	MS
Aaron Timothy Jones	MS
Tsui-Shan Lu	PhD
Matthew Brett Matheson	MS
Yonghong Nie	MS
Zhengzheng Tang	MS
Diana Chen	BSPH
Emily Roe	BSPH
Ye Yang	BSPH

August 2009

Lung Chang Chien	DrPH
Ashley Pinckney	MS
Phillip Brian Smith	MPH
Hengrui Sun	MPH
Yufan Zhao	PhD

December 2009

Ryan May	MS
Li Chen	PhD
Hyunsoon Cho	PhD
Steven William Enck	DrPH
Ramon Isreal Garcia	PhD
Arpita Ghosh	PhD
Eunhee Kim	PhD
Yimei Li	PhD
Jamie Perin	PhD

STUDENT NEWS

BSA FUN

The focus of the Biostatistics Students Association (BSA) this year has been to increase student-faculty interaction outside the classroom. The BSA has organized a number of socials at the R&R Grill, which included at least two faculty members at each event. A new program is a faculty “Show and Tell,” during which two faculty members will briefly present their research interests to students over lunch. This will help students become more aware of research in our department and will facilitate informal discussion. These are scheduled monthly.

We have also compiled hometown information on students, faculty and staff and are organizing this information for display in the department hallway and online (see map below). We hope to also organize a “Where are they now?” map for alumni. If you are interested, please e-mail your current city/state/country to mhobgood@bios.unc.edu. You also may want to include where you work and what you do.

You may have noticed that the BSA Web site was not functioning recently. We are working on revamping the Web site, so stay tuned!

Katy Jaffee (katyj@email.unc.edu) and Alison Wise (awise@bios.unc.edu), BSA co-presidents



Delta Omega Awards

Delta Omega is a National Honor Society which encourages research, provides scholarships, and recognizes achievements in the field of public health. In 2009, the following people received honors from the Delta Omega Society:

Faculty Award for Outstanding Scholarship, Teaching, and Research: Amy Herring, PhD

Book Award for Outstanding Scholarship: Daniela Sotres-Alvarez

Alumni Award : Rosalie Dominik, PhD

Service Award: Dustin Long and Leann Long

Outstanding Academic Achievement Award for Graduating Students 2008-2009: Yonghong Nie (MS), Ju-Hyun Park (PhD)

Undergraduate Award: Andrew Morgan



Pictured above (left to right): Dustin Long, Dr. Michael Kosorok and Leann Long

Recipients of ENAR Distinguished Student Paper Awards

Each year, the Eastern North American Region of the International Biometric Society (ENAR) offers recognition to the top 20 research papers authored by graduate students in biostatistics or statistics during the previous year. Four of the top 20 papers to receive awards in 2009 were presented to UNC students Hongyuan Cao, Ramon Garcia, Yimei Li and Bingqing Zhou. A fifth award was received by a recent UNC graduate, Yeonseung Chung, who is now conducting post-doctoral research at Harvard University.

Biostatistics Student Travel Awards

In 2009, the Biostatistics Student Travel Fund was able to help send 18 biostatistics graduate students to ENAR and ASA meetings, where they made presentations on their research.

The travel fund was created and endowed in 2001 by Julie McMillan, MPH, and other graduates of the department. Dr. Gary Koch has offered to match contributions to this fund up to a specified amount. If you are interested in contributing, please see page 27 of this newsletter, "Opportunities for Giving," for further details. Thank you for your support.

Undergrad Hari Ramalingam Receives Taylor Mentored Research Fellowship

Hari Ramalingam (BSPH) was awarded a Summer Undergraduate Research Fellowship (SURF) from the Office of Undergraduate Research and a Taylor Mentored Research Fellowship for summer 2009. Ramalingam is a second-year undergraduate student pursuing majors in biostatistics and biology. He worked under the direction of Dr. Scott Magness in the UNC Department of Medicine to study the role of different levels of the stem cell marker SOX9 in colorectal cancer. The results of this research project will be presented in the Undergraduate Research Symposium scheduled for April 2010.

Two BIOS Undergraduates Inducted into Phi Beta Kappa

On November 23, 2009 the Phi Beta Kappa Society at the University of North Carolina at Chapel Hill held its fall ceremony to induct this year's 146 new members, two of whom are students of this department. Andrew Parker Morgan is a May 2009 graduate with a degree in biostatistics and biology, and Patrick Nathaniel Healy is a senior biostatistics and biology major.

Phi Beta Kappa, the nation's oldest college honorary society, is open to undergraduates in UNC's College of Arts and Sciences and professional degree programs who meet stringent eligibility requirements. The organization has 280 chapters nationwide. UNC's chapter, Alpha of North Carolina, was founded in 1904 and is the oldest of seven chapters in the state.

A student who completes 75 hours of coursework with a grade-point average of 3.85 (on a 4.0-point scale) or better is eligible for membership. Also eligible is any student who has completed 105 hours of coursework and has a 3.75 grade-point average. Grades earned at other universities are not considered. Fewer than 1 percent of all college students qualify as members.

STUDENT NEWS

2009 Student Awards

Margolin Award

Dr. Xiaoyan Shi was this year's recipient of the Barry H. Margolin Award for Excellent Doctoral Research. Shi's dissertation research is titled "Diagnostic Measures for Missing Covariate Data and Semiparametric Models for Neuroimaging" and was written under the direction of Joseph Ibrahim, PhD, and Hongtu Zhu, PhD.

Shi's doctoral dissertation made significant contributions to two different areas: diagnostic methods for missing data problems and statistical models for neuroimaging.

Shi developed several novel methods for addressing missing data problems. In one paper, she developed two different types of conditional residuals and used them to construct goodness-of-fit statistics for testing various misspecifications, including missing data mechanisms in model assumptions. In another paper, she formally developed a general local influence method to carry out sensitivity analyses of minor perturbations to generalized linear models in the presence of missing covariate data, as well as developed several local influence measures to identify influential points and test model misspecification.

Current statistical methods for analyzing neuroimaging data are primarily developed for cross-sectional imaging studies only. However, both cross-sectional and longitudinal imaging studies are essential to understanding the neural development of neuropsychiatric disorders, substance use disorders and the normal brain. Shi addressed this issue by developing an adjusted exponentially tilted empirical likelihood (E TEL) for the analysis of cross-sectional and longitudinal neuroimaging data. She also constructed goodness-of-fit statistics for testing possible model misspecifications and applied them to the classification of time-dependent covariate types. Shi's proposed adjustment to the E TEL method dramatically improved its finite sample performance over the original E TEL. Her proposed goodness-of-fit statistics overcome two important problems of many existing test statistics caused by dimensionality and the subjective choice of parameters, such as bandwidth.

Shi's work tackles very important statistical and modeling issues as well as subject-matter issues in medical imaging and will add substantially to the statistical literature in these two areas.



Pictured above (left to right): Connie Margolin, Dr. Xiaoyan Shi and Dr. Michael Kosorok

Elandt-Johnson Award

Giovanni Veronesi was selected to receive the 2009 Regina C. Elandt-Johnson Award for Best Master's Paper in Biostatistics. Giovanni's master's paper, titled "Comparing Methods for Measurement Error Correction in Survival Analysis When the Variable of Interest is Change Over Time," focused on measurement error in an exposure variable for which there was no uniformity in time between measurements or the number of measurements in the sample to be studied. Veronesi developed a well-behaved estimator and applied it to real world-data from a large epidemiological longitudinal study. His methods show promise in the application of exploring the effect of change in exposure of incidence of disease and are already being applied by a doctoral student in epidemiology. Veronesi's work was supervised by Woody Chambless, PhD.

Halperin Award

Yingqi Zhao, a second-year doctoral student in the Department of Biostatistics, was this year's recipient of the Max Halperin Scholarship Award. Zhao joined the UNC biostatistics department in 2007 with honors from Wuhan University, China, with degrees in statistics and finance. Her research area at UNC focuses on spatio-temporal counting processes as applied to real-time disease surveillance, and she is currently a research assistant in a Gillings Innovative Laboratory project, under the direction of Michael Kosorok, PhD (biostatistics) and David Richardson, PhD (epidemiology).



Dr. Michael Kosorok and Yingqi Zhao

The Halperin award is named in honor of Dr. Max Halperin, a graduate of the UNC-Chapel Hill Department of Statistics. The award is designed to encourage the development of young biostatisticians.

Sayan Dasgupta received funds from this year's John and Diane Fryer Fellowship, given by the Department of Biostatistics and made possible by contributions from the late John Fryer and Diane E. Medcalf.

Megha Parikh won the Bernard Greenberg Scholarship, an award offered to outstanding applicants by the Department of Biostatistics as a supplement to a traineeship or graduate research assistantship. This scholarship is named for Bernard G. Greenberg, founder and former chair of the Department of Biostatistics, and is made possible by generous contributions by the Greenberg family and friends.

Noo Rei Hyun has been awarded the Mohberg Scholarship, offered to an outstanding applicant to the department and made possible by gifts to the Public Health Foundation by the family of Noel Mohberg.

Alexandra Balaban received the David and Lucy Hardison Scholarship, offered to an outstanding applicant to encourage studies in bioinformatics in the department. This award is made possible by the gifts of the Hardison family.

Malcolm Jefferson received the GlaxoSmithKline Scholarship, made possible by a GlaxoSmithKline donation to an applicant chosen by the department.

Dustin Long Wins University Teaching Award

Biostatistics doctoral student Dustin Long has been selected as a 2010 recipient of the prestigious Tanner Teaching Assistants Award for Excellence in Undergraduate Teaching. Long will receive the award at a banquet to be held at the Carolina Club on April 15, 2010. Congratulations to Dustin for this wonderful and deserving honor!

School-Wide Travel Award Recipients

In 2009, three students from the Department of Biostatistics received UNC Gillings School of Global Public Health Student Travel Awards. Annie Green Howard received funds for her May-August internship/practicum in Thailand. Zhaowei Hua's award was for attending a conference in Italy. Yiyun Tang's award was to attend a conference in Washington, D.C.

Several BIOS Students Win School-Wide Awards in 2009

Christopher Bryant was one of eight recipients of the 2009 UNC Gillings School of Global Public Health's Annual Fund Scholarship.

Sayan Dasgupta is one of 24 graduate students from UNC Gillings School of Global Public Health to receive a merit award. He won a Doctoral Merit Assistantship.

Bingqing Zhou received the 2009 UNC Gillings School of Global Public Health's Robert and Kristen Greczyn Scholarship in Public Health.

Students Make Presentations at ENAR and ASA Joint Statistical Meetings

The following biostatistics students made presentations at the Eastern North American Region of the International Biometric Society meeting in March 2009:

- Hongyuan Cao, "Finding Critical Value for t-Tests in Very High Dimensions," Authors: Hongyuan Cao, Michael Kosorok
- Li Chen, "Checking Transportation Models with Censored Data," Author: Li Chen
- Hyunsoon Cho, "Bayesian Case Influence Measures and Applications," Authors: Hyunsoon Cho, Hongu Zhu and Joseph G. Ibrahim
- Ramon Garcia, "Variable Selection for the Cox Regression Model with Covariates Missing at Random," Author: Ramon Garcia
- Arpita Ghosh, "Risk Effect Estimation for Multiple Phenotypes and Gene-Environment Interaction: A Conditional Likelihood Approach," Authors: Arpita Ghosh, Fei Zou and Fred A. Wright
- Joyee Ghosh, "Bayesian Variable Selection for Latent Class Models," Authors: Joyee Ghosh and Amy H. Herring
- Yijuan Hu, "A General Framework for Estimating Genetic Effects and Gene-Environment Interactions with Missing Data," Authors: Yijuan Hu, Danyu Lin and Donglin Zeng
- Eunhee Kim, "Semiparametric ROC Models with Multiple Biomarkers," Authors: Eunhee Kim and Donglin Zeng
- Yimei Li, "Multiscale Adaptive Regression Models for Imaging Data," Authors: Yimei Li, Hongtu Zhu, Joseph G. Ibrahim and Dinggang Shen
- Xiaoyan Shi, "Intrinsic Regression Models for Medial Representation of Subcortical Structures," Authors: Xiaoyan Shi, Hongtu Zhu and Joseph G. Ibrahim
- Daniela Sotres-Alvarez, "Latent Transition Models to Study Change in Dietary Patterns over Time," Authors: Daniela Sotres-Alvarez, Amy H. Herring and Anna Maria Siega-Riz
- Matthew W. Wheeler, "Using Finite Multivariate Mixtures to Model Adverse Birth Outcomes," Authors: Matthew W. Wheeler and Amy H. Herring
- Yufan Zhao, "Reinforcement Learning Design for Cancer Clinical Trials," Authors: Yufan Zhao, Michael R. Kosorok and Donglin Zeng
- Bingqing Zhou, "Competing Risks Regression for Stratified Data," Author: Bingqing Zhou

The following biostatistics students made presentations at the Joint Statistical Meetings of the American Statistical Association in August 2009:

- Jaeun Choi, "Simultaneous Analysis of Survival Time with Cox Proportional Hazards Model and Longitudinal Outcomes with Generalized Linear Mixed Model," Authors: Jaeun Choi, Jianwen Cai and Donglin Zeng
- Arpita Ghosh, "Risk Effect Estimation for Secondary Phenotypes and Gene-Environment Interaction: A Conditional Likelihood Approach," Authors: Arpita Ghosh, Fred A. Wright and Fei Zou
- Yimei Li, "Multiscale Adaptive GEE Methods for Longitudinal Imaging Data," Authors: Yimei Li, Hongtu Zhu, Joseph G. Ibrahim and Dinggang Shen
- Ritendranath Mitra, "Determining Chromatin Features from Genome-Wide Tiling Arrays Using Continuous Time Hidden Markov Models," Author: Ritendranath Mitra
- Yiyun Tang, "Developing an Adaptive Individualized Therapy Trial for Life-Threatening Chronic Disease," Authors: Yiyun Tang and Michael R. Kosorok
- Xiaoyan Wang, "Accelerated Failure Time Marginal Means Models for Recurrent Events with a Terminal Event," Authors: Xiaoyan Wang and Jianwen Cai
- Yufan Zhao, "Reinforcement Learning Treatment Strategies Based on Support Vector Regressions in a Non-Small Cell Lung Cancer Trial," Authors: Yufan Zhao and Michael R. Kosorok
- Bingqing Zhou, "Competing Risks Regression for Clustered Data," Author: Bingqing Zhou

OPPORTUNITIES FOR GIVING

Gifts to the Department of Biostatistics may be earmarked for one of our gift funds. If you make a gift with no designation, the gift will go into a general fund for the department.

Biostatistics Alumni Fund - to support the Barry H. Margolin Dissertation Award for the best doctoral dissertation in the department each year

Biostatistics Community Fund: Gary G. Koch Scholars Fund - funds will be disbursed according to varying needs for each student selected

Biostatistics Global Scholars Fund - to recruit and retain exceptionally bright students from around the world

Bernard Greenberg Scholarship Fund - to provide support for merit-based scholarships for students in the department

Gary G. Koch Student Travel Funds - travel funds will be used to allow biostatistics students the freedom to present at national and international conferences and share ideas with other emerging leaders in the field

John and Diane Fryer Fellowship - to support a fellowship in biostatistics and to recruit outstanding students

The C. David and Lucy S. Hardison Endowed Scholarship Fund in Bioinformatics - to support a scholarship fund in honor of David and Lucy Hardison

James D. Hosking Memorial Fund for CSCC Professional Development - to support training and travel expenses for staff to increase their growth and development in the field of clinical trials research

Kalyani Sen International Student's Scholarship in Biostatistics Endowment Fund - to enable an international student to receive educational support in their final year of seeking a doctoral degree in the Department of Biostatistics

Kupper Dissertation Publication Award Fund - to honor yearly both the doctoral student and the dissertation adviser of the best doctoral dissertation-based paper published in a prestigious biostatistical journal

Regina C. Elandt-Johnson Master's Paper Award in Biostatistics - to provide an award in the name of Regina C. Elandt-Johnson to a student in the Department of Biostatistics for the accomplishment of an outstanding master's paper

Roy Kuebler Fund - to support junior faculty sabbaticals

Max Halperin Scholarship Fund - to provide a fellowship to a deserving first- or second-year doctoral student currently enrolled in the department

Mohberg Scholarship in Biostatistics - to support a scholarship fund in honor of the Mohberg family

Pranab K. Sen Visiting Professorship in Biostatistics - to support visiting faculty from developing countries

The Biostatistics Student Travel Fund - to support biostatistics student travel

The Biostatistics Staff Development Fund - to support an annual Staff Award for Excellence in the department

The Nguyen V. Dat Endowed Scholarship in Biostatistics - to provide scholarship support to a graduate student in biostatistics

Checks should be made payable to the UNC-Chapel Hill School of Public Health Foundation. So that your gift may be properly credited, please indicate "BIOSTATISTICS" in the memo line and please indicate further whether it should be applied to one of the gift funds named above.

Mail to:

UNC Gillings School of Global Public Health
The University of North Carolina at Chapel Hill
Campus Box 7400
Chapel Hill, NC 27599-7407

Department of Biostatistics
Gillings School of Global Public Health
CB# 7420, 3103-E McGavran-Greenberg Hall
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Chapel Hill, NC 27599-7420

WE THANK the following individuals and corporations, whose donations provide much-needed funds to support biostatistics graduate education. We are very grateful for your help. If you know of a name we have omitted, please let us know and we will make a correction in the next issue of *BiosRhythms*.

Corporations

GlaxoSmithKline Inspire Pharmaceuticals, Inc. Quintiles Transnational Corp.
Rho SAS Institute, Inc.

Individuals

Alan Harris Alexander	Brian Paul Kilgallen (MS '98)	Barbara Alison Prillaman (MS '95)
Barbara Vineyard Alexander (MSPH '78)	Carolyn Johnson Koch	Xiang Qin (MS '99)
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Terry Lynn Flanagan (MPH '89)	William Whiting Lyon (MSPH '74)	Steven Michael Snapinn (MS '82, PhD '83)
Robert E. Fry (MSPH '72)	Juliana Meimei Ma (MS '81, PhD '86)	Sylvia Wallace Snapinn (MPH '81)
Karen L. Gansky	Yi-Wen Ma	Yvonne Herbert Sparling (MS '96)
Stuart Gansky (BSPH '88, MS '92, DrPH '96)	Gretchen Riser Mauney	Paula Brown Stafford (BSPH '86, MPH '92)
Jerry Gray Gentry (MSPH '69)	Joseph Vernon Mauney (BSPH '95, MS '97)	Seth Michael Steinberg (MS '81, PhD '83)
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Peter Bert Imrey (PhD '72)	Margaret Polinovsky	Bin Zou (MS '01)
Christopher James Johnson (MPH '92)	John Steven Preisser Jr. (PhD '95)	

*Deceased