# BiosRhythms

GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Department of Biostatistics

### The Collaborative Studies Coordinating Center turns 40

In 1971, Drs. Jim Grizzle and Dale Williams applied to the National Heart, Lung and Blood Institute's Lipid Research Clinics Program for a contract to serve as the program's central patient registry and coordinating center.

The award, roughly \$300,000 for the first year, was a pittance by today's standards but was enough to build the foundation for what would become one of the world's most prestigious center of its kind, the UNC Collaborative Studies Coordinating Center (CSCC).

Originally directed by Grizzle, the center was funded for 19 years, making it one of the longest running studies funded by the National Institutes of Health. (Soon, this honor likely also will be bestowed upon another of the center's flagship studies, the Atherosclerosis Risk in Communities, or ARIC, study.) In 1984, as the group grew, it became known, under Williams' leadership, as the CSCC.

In August 2011, the CSCC celebrated its 40th anniversary with an open house and small reception. The event was a homecoming for a number of CSCC alumni

and past directors Drs. Dale Williams, Ed Davis and Woody Chambless and was attended by current biostatistics and CSCC faculty members and staff. On display were training modules, current research posters and years of publications, reflecting several eras of the center's statistical research and data management.

A favorite pastime was getting reacquainted with old colleagues. Camaraderie is an unwritten goal in the CSCC's mission, and that was the case that afternoon. Past and present programmers, statisticians, researchers, faculty members and administrative staff members all met in the one room that has housed them all at one time or another since 1971 – the second floor conference room of the Bank of America Building on Chapel Hill's Franklin Street.

The directors reflected upon their leadership of the center. Most recent director Dr. Lisa LaVange welcomed past colleagues back to the center and spoke about current studies and the new data management system. Founding director Dale Williams recalled the early years of the center, telling a cautionary tale of his



(left to right): former CSCC directors Lisa LaVange, Woody Chambless, Ed Davis, Dale Williams and Jim Grizzle

own data management dilemma involving a surprise delivery of a tractor-trailer truck full of blank triplicate forms. Boxes of paper lined the halls and filled every nook and cranny of the center for weeks, he said, and the digital age could not come soon enough.

New computing methods had to be developed to manage huge trials. Dr. P.K. Sen developed new statistical methodology for early termination of clinical trials, Grizzle said.

All in all, the open house was a great celebration. Thanks to everyone who has contributed to the CSCC over the years. Because of you, the CSCC remains a vital and pioneering part of the UNC Department of Biostatistics and the health studies field, more generally. Cheers to a successful 40 years and to a bright 40 more.









(left to right): Dawn Stewart, Kay Sanford, Jan Smith, Lisa Reeves, James Locklear, Melvin Jackson, Varsha Shah, Ratna Thomas

## MESSAGE FROM THE CHAIR



Dr. Michael Kosorok, Professor and Chair

This past year has gone very well for our department in many ways, even though we, along with many others, continue to face budgetary challenges. In spite of these challenges, we have accomplished many things.

Through these complicated times, I continue to be amazed by everything our faculty and staff members, students and alumni accomplish. We continue to enjoy success in our research and educational productivity, and there is much cause for optimism as we look to the future. Overall, I believe things will continue to get better. Now, let's review some of the highlights of 2011.

In April, Dr. Jean Orelien (DrPH, 2007) was the 2011 recipient of the James E. Grizzle Distinguished Alumni Award. He is currently CEO of SciMetrika LLC in Durham, N.C. In May, the 2011 Greenberg Lecturer, Professor Roderick Little (University of Michigan), gave a series of interesting lectures on unification of Bayesian and frequentist statistical paradigms, survey sampling methods and missing data issues. In August, a session at the 2011 Joint Statistical Meetings was held in honor of biostatistics professor Gary Koch, PhD, whose Festschrift was published in May as a special issue of the American Statistical Association's journal Statistics in Biopharmaceutical Research.

This past year was successful for our students and for student recruitment. We welcomed 20 new graduate students and 14 new undergraduate (BSPH) students in fall 2011, bringing our total number of students to 144 graduate students (80 PhD, 32 DrPH, 22 MS and 10 MPH) and 26 undergraduates. We express thanks for the excellent work of the Admission Committees, chaired by Chirayath Suchindran (graduate admissions) and Jane Monaco (undergraduate admissions), and also the students and staff members who helped.

Congratulations to our department's two winners of the 2011 Eastern North American Region of the International Biometrics Society's Distinguished Student Paper awards. Liddy Chen and Tracy Nolen were recognized alongside 18 other students at the 2011 ENAR spring meeting in Miami, Fla. Sungkyu Jung and Wonyull Lee from UNC's Department of Statistics and Operations Research were also recipients. More recipients of this award were from UNC than any other school this year.

Our students also did very well at the 2011 Joint Statistical Meetings this summer. "A Statistical New World," directed by doctoral student Diana Lam, won the "Promoting the Practice and Profession of Statistics" video competition, sponsored by the American Statistical Association's Public Awareness Group. You can view the video at <a href="http://tinyurl.com/statisticalnewworld">http://tinyurl.com/statisticalnewworld</a>. UNC also won the statistical bowl team competition. The team included doctoral students Suprateek Kundu, Dustin Long and Ryan May. Kundu and Long also won first and second prizes, respectively, in the individual bowl competition.

Two undergraduates and a graduate student received special awards. William K. "Keith" Funkhouser III, a double major in biology and biostatistics at the School, was one of eight UNC undergraduates who studied in Asia as Phillips Ambassadors in spring 2011. Yu Zhou was named a winner in the 2011 Davis Projects for Peace initiative (www.davisprojectsforpeace.org), and Rebecca Rothwell was awarded a National Science Foundation (NSF) Graduate Research Fellowship for graduate study in biostatistics.

We are fortunate to have had several faculty promotions and new faculty appointments. Drs. Amy H. Herring and Hongtu Zhu were promoted to professor, and Dr. Michael Hudgens received an associate professor appointment. Lisa M. Wruck, PhD, was appointed as clinical assistant professor, and Feng-Chang Lin, PhD, was appointed as research assistant professor. Dr. Wruck will work primarily in the Collaborative Studies Coordinating Center, while Dr. Lin will work primarily in the North Carolina Translational and Clinical Sciences Institute (NC TraCS).

We are also sad to report the resignations of research associate professor Diane Catellier and Professor of the Practice Lisa LaVange. Dr. Catellier worked primarily in the CSCC and is now working at RTI in Research Triangle Park, N.C. Dr. LaVange was the CSCC director and is now director of biostatistics at the U.S. FDA. We appreciate their many contributions to UNC biostatistics.

Our faculty members continue to be exceptionally productive in research and service. We congratulate Dr. Pranab K. Sen for receiving the International Indian Statistical Association's Lifetime Achievement Award for his contributions to the fields of statistics and biostatistics. In addition, this summer, three faculty members became honorary fellows of the American Statistical Association: Drs. Fred Wright, Donglin Zeng and Hongtu Zhu. Zhu also was named as an Institute of Mathematical Statistics fellow. If you recall, we also had three new ASA fellows last year (Drs. Amy Herring, John Preisser and Haibo Zhou). This is a singular accomplishment for these faculty members and for the department. In October, Dr. Gary Koch received Ohio State University's 2011 Professional Achievement Award for his many accomplishments in the fields of statistics and biostatistics.

As with 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. I would like to mention a few of these specifically. Dr. Bahjat Qaqish received the American Society of Radiologic Technologists' Jean I. Widger Distinguished Author Award. In addition, Dr. Joseph Ibrahim was awarded a five-year competing renewal for a cancer genomics training grant titled, "Biostatistics for Genomnics and Cancer."

More details on these and other grants as well as information on other departmental achievements can be found later in this newsletter, which I invite you to enjoy.

With warmest regards,

Muhal R. Krunh

Michael

## FROM STUDENT SERVICES

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.

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 Washington, D.C., this spring, so save the date – Monday, April 2 – for our reception. We will be meeting in the Concord/Lexington room of the Hyatt Regency Washington at 6 p.m. You won't see us listed in the online program for ENAR. We'll send a reminder email about the reception closer to the date.

Plans for the ASA reception will be posted on the Web when finalized. Visit our website to keep up with all current events and plans (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. Email them to *mhobgood@bios.unc.edu*.







Veronica Stallings

While we're on the subject of catching up and keeping in touch, let us remind you to visit our alumni Web page (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 about does it for us in this issue! You'll hear more from us by email closer to our events. Please feel free to send an email to say "hi." We love to hear from you all. We hope your holidays were joyous and that your new year is a happy and prosperous one.

Warmest regards,

Melissa and Veronica

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BiosRhythms is published by the Department of Biostatistics Gillings School of Global Public Health The University of North Carolina at Chapel Hill

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Special thanks to Linda Kastleman!

## ALUMNI NEWS



Dear fellow BIOS alumni and friends,

I'm pleased to be writing to you in my new role as head of the biostatistics section of the UNC Gillings School of Global Public Health Alumni Association.

As graduates of the department, you are automatically members of the School's Alumni Association, which was chartered in 1974 and does not charge dues.

Dr. Todd Schwartz

The Alumni Association benefits us all. Our departmental receptions at the Joint Statistical Meetings and ENAR are underwritten, in part, by the Alumni Association, and these semi-annual gatherings are a great way to reconnect with the department and your friends and colleagues. Save the date for our next gathering at the 2012 ENAR meetings scheduled for Monday, April 2, 2012, in Washington, D.C.

As an "alum-in-residence" here in Chapel Hill, I have a great vantage point to see how our alumni section can benefit currently enrolled students. My goals are to increase the level of student/alumni interaction and to encourage everyone to support the department at whatever level feels comfortable to each of you.

We value input from our alumni and current students. Many exciting events are coming your way, so please check the department's website <a href="https://www.sph.unc.edu/bios">www.sph.unc.edu/bios</a> and your email inbox for future announcements.

Also, you will find information on former classmates and colleagues using our searchable database – Alumni Online Community – at the Alumni Association's website www.sph.unc.edu/alumni.

As a member of the Alumni Association, you are a lifelong, valued participant in our School's mission and a part of the foundation upon which the School is built and continues to thrive. Thank you for all you do.

Best wishes to all,

Todd Schwartz (MS, 1998; DrPH, 2004) Research Assistant Professor UNC Department of Biostatistics

#### In memoriam



Mrs. Jean Pang Chang (MS, 1978), 62, of Greensboro, died on October 14, 2011 at Beacon Place in Greensboro, N.C.

Jean Chang

Mrs. Chang was retired from Ciba-Geigy/Syn-

genta as a systems analyst after 20 years of faithful service.

Following her retirement, she received

an associate degree in accounting, which enabled her to volunteer with the IRS's VITA (Volunteer Income Tax Assistance) program.

She is survived by her husband, Dr. Shoou-Yuh Chang; a daughter, Dr. Caroline Chang, and her husband Dr. Jeffrey Loh of Los Angeles, Calif.; a daughter Judy Chang (BSPH, 2005) of Haiti; one sister, Chin Pang; two brothers, Drs. Yuan Pang and Fei Pang; and one grandson; Ryan Loh.



Dr. Alcinda Lewis

Alcinda "Cinda" Lewis (MSPH, 1997; DrPH, 1981), 61, passed away on August 15, 2011, after a 13-month battle with pancreatic cancer. She was born Jan. 21, 1950 in Bakersfield, California.

Upon receiving her doctorate in public health from UNC, Cinda accompanied her family to Portland, Ore., where she primarily dedicated herself to her family and her home. In 1998, she was one of the founding members of the Columbia Chapter of the Women of Vision, an auxiliary of the humanitarian organization, World Vision.

Cinda is survived by Don Lewis (PhD, 1981), her loving husband of 38 years; children, Erik Lewis and Ashley Lewis Scibienski; son-in-law, Matthew Scibienski; sister, Kirsten Smith; brothers, William Moore III and Cameron Moore; and mother, Donna Moore

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C. William Snyder, 68, of Chapel Hill, N.C., died May 17, 2011 after a lengthy illness. Born on January 15, 1943 in Pennsylvania, and raised in Potsdam, New York, he was a DrPH student in the department from 2004-2007.

Bill, who practiced pediatric dentistry for 19 years, was a lifelong learner. He earned a BS from Clarkson University, a MS from the University of New Hampshire and a PhD from the University of Denver, all in mathematics. He then became an assistant professor at St. Lawrence University in Canton, NY. He earned his DDS from SUNY Buffalo School of Dental Medicine in 1977. After a career in dental practice, he was assistant professor of mathematics and public health at the University of New England from 2000 to 2004. He earned a MS in Statistics from the University of Southern Maine in 2004 before coming to UNC. He left the department to teach abroad. At times, he taught in Aruba, Israel, and the United Arab Emirates.

Bill is survived by his daughters Jennifer Lyon (Geoff) and Gretchen Wesley (Kevin); his brother David Snyder (Diane); sister Mary O'Brien (Tim); three grandchildren; and his partner, Martha Adamo.

## **ALUMNI NEWS**

#### Alumni notes

Michael Jiroutek (DrPH, 2002) is now director of biostatistics at Clinfinity in Raleigh, N.C.

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Paula Brown Stafford (BSPH, 1986; MPH, 1992), president of clinical development at Quintiles, was honored as a recipient of *Triangle Business Journal's* 2011 Women in Business award.

As president of clinical development, Stafford leads a business unit with 15,000 staff responsible for Phase I-III clinical development services, ranging from clinical monitoring to regulatory submission. In addition to her role at Quintiles, Stafford is chair-elect of the Clinical Data Interchange Standards Consortium (CDISC) and member of the Foundation Board of the UNC Gillings School of Global Public Health and the UNC-Chapel Hill School of Medicine CTSA External Advisory Board.

The Clinical Trials Statistical and Data Management Center (CTSDMC) in the University of Iowa College of Public Health, under the direction of Christopher Coffey (PhD, 1999), has been awarded two multi-million dollar grants from The National Institutes of Health.

A five-year grant has been awarded to help study migraine in children and adolescents between 8 and 17 years of age. The CTSDMC will serve as the data coordinating center for the study that compares amitriptyline and topiramate, two medications often used to treat migraine in adults but which have yet to be proven effective for use in children.

A seven-year grant has also been awarded to the CTSDMC to serve as the Data Coordinating Center for NeuroNext, a national initiative to accelerate the process of turning promising discoveries into new treatments for neurological diseases.

The objective of the newly created Network for Excellence in Neuroscience Clinical Trials, or NeuroNEXT, is to conduct studies of treatments for neurological diseases through partnerships with academia, private foundations and industry.

#### **Orelien wins Grizzle Award**

Dr. Jean Orelien (DrPH, 2007) is the 2011 recipient of the James E. Grizzle Distinguished Alumnus Award.

Orelien received his doctorate under the direction of Dr. Lloyd Edwards. He has more than a decade of experience as a senior statistician and project manager on projects funded by agencies of the Department of Health and Human Services. He is an expert

The network is designed to expand the National Institute of Neurological Disorders and Stroke's capability to test promising new therapies, increase the efficiency of clinical trials before embarking on larger studies, and respond quickly as new opportunities arise to test promising treatments for people with neurological disorders.

Coffey is the principal investigator for both of these projects. More information can be found at the University of Iowa News Services. (http://news.uiowa.edu/releases.html)



Orelien (right), with Dr. James E. Grizzle

in the development of sophisticated statistical programs, the utilization of statistical methods to analyze epidemiological data, and survey analysis. He has authored a number of technical and scientific papers and presentations and is a member of the American Statistical Association and the American Public Health Association.

Orelien is currently president and chief executive officer of SciMetrika LLC, a fast-growing population health consulting company he founded in 2001. A native of Haiti, Orelien returned to his homeland after the devastating earthquake in 2010. Orelien's company also is a longtime supporter of the UNC public health school's Minority Health Conference. The conference, the longest running student-led minority health event in the country, was initiated in 1977 by the UNC Minority Student Caucus to highlight health issues of concern to people of color and to attract students interested in minority concerns to public health.

Orelien presented a lecture following the UNC Biostatistics Awards Day ceremony titled, "Population Health in the Era of Health Reform: Role of the Biostatistician."

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.

## DEPARTMENT NEWS

#### Cai and Cooper serve as interim co-directors of CSCC





Dr. Jianwen Cai

Dr. David Couper

The Collaborative Studies Coordinating Center (CSCC) is currently under the interim leadership of Drs. Jianwen Cai and David Couper while the search for a new director is underway.

Former CSCC director and Professor of the Practice of biostatistics Lisa LaVange has been named director of the Office of Biostatistics in the Center for Drug Evaluation and Research (CDER) at the U.S. Food and Drug Administration (FDA).

LaVange leads an office of approximately 190 statisticians and staff that is recognized as a center of excellence for the development, research, application and communication of statistical methodology for drug regulation and development.

"While we are very sad to see Lisa go," said Dr. Kosorok, "we are pleased to see her take on this outstanding opportunity."



Dr. Lisa LaVange

An international search for a new director is planned for spring 2012. All inquiries may be directed to Dr. Amy Herring, chair of the search committee, at aherring@bios.unc. edu.

#### Little Presents 2011 Bernard G. Greenberg Lecture Series

The 2011 Bernard G. Greenberg Distinguished Lecture Series was held May 12 and 13. The speaker was Dr. Roderick J. A. Little, Remington Collegiate Professor of Biostatistics, University of Michigan. Little presented four lectures over the twoday 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: Calibrated Bayes: Spanning the divide between frequentist and Bayesian inference

Lecture II: Some methods for handling missing values in outcome variables

Lecture III: Subsample ignorable likelihood methods for regression with missing values of covariates -- throwing data away can actually pay!



Drs. Michael Kosorok and Roderick

Lecture IV: Measurement error as missing data: The case of epidemiologic assays

A slideshow of each lecture can be viewed at http://www.sph.unc.edu/bios/2011\_bernard\_g.\_greenberg\_distinguished\_ lecture\_series\_18538\_6238.html.

Named in honor of Bernard G. Greenberg, PhD, former dean of the UNC public health school and founding chair of the department, the Greenberg Lecture Series is held annually.

## **DEPARTMENT NEWS**

## IMPACT program holds its first annual research symposium

The first Innovative Methods Program for Advancing Clinical Trials (IMPACT) symposium, "New Paradigms in Clinical Trial Methodology," was held on Nov. 17, 2011, in Durham, N.C.

IMPACT is a collaborative, multidisciplinary effort led by Drs. Michael Kosorok of UNC, Marie Davidian of North Carolina State University, and Stephen George of Duke University, with the objective to make significant, innovative contributions to cancer trial design and analysis methods that have the potential to improve the efficiency and speed with which new therapies reach clinical practice.

Over 120 participants enjoyed hearing speakers from the three sponsoring universities, Columbia and Harvard universities, the Food and Drug Administration, the National Institutes of Health and the pharmaceutical industry.

An edited volume of research on clinical trials methodology is planned for publication in early 2013. The volume, "New Paradigms in Clinical Trials Methodology," will feature innovative articles related to this theme, which will undergo peer review and will be edited carefully by the organizers to ensure consistent style and cross-referencing of articles where appropriate. The volume will serve as a resource for researchers interested in advancing and applying the latest clinical trials methods.

IMPACT is a joint venture by Duke University, North Carolina State University, and the University of North Carolina at Chapel Hill, funded in part by a P01 from the National Cancer Institute. The symposium involved presentations on research topics spanning the many issues being addressed in the P01 grant.



(left to right): Drs. Michael Kosorok , Anastasios Tsiatis, Marie Davidian, Jianwen Cai

For more details about the project and archived agenda and speaker information from the symposium, please see *impact.unc.edu*.

Information about the 2012 symposium will be published on the website as it becomes available.

## 2012 P.K. Sen Distinguished Visiting Professorship awarded

The Department wishes to welcome Dr. Aluisio Pinheiro from the University of Campinas, Brazil, as the 2012 P.K. Sen Distinguished



Dr. Aluisio Pinheiro

Visiting Professor in Biostatistics.

Pinheiro is currently on the faculty of the Department of Statistics, University of Campinas, Brazil, and he is also that department's past chair. He obtained his PhD in statistics from UNC in 1997, MS in statistics from the University of Campinas in 1992, and BS in statistics from the National School of Statistics, Brazilian Bureau of Statistics in Rio de Janeiro, in 1989.

He has authored or co-authored 21 refereed publications in scholarly statistics and biology journals in areas including bioinformatics, functional data analysis, nonparametric inference and statistical genetics.

Additionally, the department would like to welcome Dr. Hildete Pinheiro, also from the University of Campinas, as a visiting professor. A 1997 PhD graduate of UNC's Department of Biostatistics, she will teach a course in the department on sample survey methods.

#### In memoriam Regina Elandt-Johnson, PhD

Professor Regina Elandt-Johnson, 92, of Chapel Hill, died on May 31, 2011.

Dr. Elandt-Johnson was born in Nowogrod, Poland in 1918. A World War II survivor, she received a master's in mathematics and a doctorate in statistics while living in Poland. She was a Professor in the Department of Agricultural Experimentation at Agricultural University, Poznan, Poland (1946- 1963), and the Department of Genetics at the Polish Academy of Science, Poznan, Poland (1962- 1964). She was Head of the Mathematical Statistics Department at the Agricultural University in Poznan, Poland, from 1963 to 1964.

Elandt-Johnson moved to Chapel Hill in 1964 and accepted a professorship in UNC's department of biostatistics. She remained in the department until she retired in 1985.

Elandt-Johnson authored many books and countless scientific publications in the fields of mathematical and applied statistics, survivorship analysis and statistical methods in epidemiology. In 2002, she was honored for her accomplishments with a distinguished recognition of 'Doctoris Honoris Causa' from Agricultural University, Poznan, Poland.

Elandt-Johnson was preceded in death by her husband Dr. Norman Johnson in 2004. She is survived by her relatives Marek, Margaret, Antoni and Filip in Chapel Hill and nieces and nephews in Poland.

## **DEPARTMENT NEWS**

#### **BSURE** in 2011

The Biostatistics Summer Undergraduate
Research and Education
(BSURE) Program hosted three students - Victoria Nneji from Columbia



Victoria Nneji



Weiyu Hu

University, majoring in applied mathematics; and Benjamin Gellman and Weiyu (Jack) Hu, both students at UNC-Chapel Hill. BSURE is a part of the UNC Summer Public

Health Fellowship Program (SPHFP).

Together with 30 other SPHFP participants, BSURE students learned about careers in public health during the first four weeks of the program. BSURE participants learned R language through a series of lectures given by Dr. Bahjat Qaqish and with the help of Biostastistics graduate student Noory Kim. Nneji, Gellman and Hu participated in research projects under the direction of Drs. Eric Bair and Anastasia Ivanova. Ivanova is also director of the BSURE program. More information about the UNC Summer Public Health Fellowship Program and BSURE can be found at www.sph.unc. edu/uncsphf.

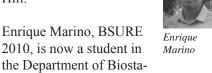
## News from past BSURE participants:



Nicole Mack, BSURE 2009, is now a graduate student in the Department

Nicole Mack of Biostatistics UNC-Chapel

Hill.



2010, is now a student in Marino the Department of Biostatistics at UCLA. Dr. John Preisser was BSURE advisor for both Mack and Marino.

#### Save the Date: Upcoming Events in 2012

April 1-4: Eastern North American Region (ENAR) Spring Meeting - Washington, D.C.; alumni reception to be held on April 2 at 6 p.m. at the Hyatt Regency Washington on Capitol Hill, Concord/Lexington meeting room

April 17: 44th nnual Fred T. Foard Jr. Memorial Lecture, featuring Joseph Coughlin, PhD, Massachusetts Institute of Technology

April 17: Biostatistics Awards Day and James E. Grizzle Distinguished Alumni Award, recipient and date TBA

June 6-7: Bernard G. Greenberg Distinguished Lecture Series, featuring Robert Tibshirani, PhD, Stanford University

July 28-August 2: Joint Statistical Meetings - San Diego, California; alumni reception date TBA

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

#### BIOS faculty, students in top form at 2011 Joint Statistical Meetings

Representatives from UNC's Department of Biostatistics were in top form at the annual Joint Statistical Meetings (JSM), held July 30-Aug. 4 in Miami.

A session was held at the conference in honor of biostatistics professor Gary Koch, PhD, whose Festschrift was published in May as a special issue of the American Statistical Association's journal *Statistics in Biopharmaceutical Research*. A Festschrift is a volume of articles or essays contributed by many authors to celebrate the life and work of a colleague, usually published on the occasion of retirement or to celebrate an anniversary.

Recognition was made at the conference of three faculty members recently named as American Statistical Association fellows - Drs. Fred Wright, Donglin Zeng and Hongtu Zhu. Zhu also was named as an Institute of Mathematical Statistics fellow.

Statistical organization leadership

positions held by UNC faculty this year include professor Amy Herring's role as president of the International Biometric Society's ENAR and professor Jianwen Cai's



Dr. Amy Herring

chairing of the American Statistical Association's biometrics section.

"It was very gratifying to see our department shine at the annual statistical meetings," said Michael Kosorok, PhD, professor and chair of the biostatistics department. "We truly have some of the finest students and faculty of any statistics or biostatistics program in the world."

Biostatistics graduate students won a video competition, a statistics team bowl competition and individual bowl awards, and numerous travel awards that allowed a large group of students to attend the conference.

## CAROLINA SURVEY RESEARCH LABORATORY

#### Survey Research Unit has new name, new leadership

How many people does it take to fill Bill Kalsbeek's shoes? Apparently, the answer is three! As of July 2011, Dr. William D. Kalsbeek, professor and director of the Survey Research Unit, entered phased retirement after 33 years of teaching, 21 of which were dedicated to running the Survey Research Unit (SRU).

Under Kalsbeek's leadership, the SRU has grown from a 1,000-square-foot operation with 12 calling stations to a modern 5,000-square-foot center with 45 calling stations, three monitoring stations, and the capacity to conduct telephone, mail, web and interactive voice response (IVR) surveys. In addition to sample design and selection for a wide variety of research studies, the SRU has the capacity to conduct advance psychometric analysis for scale development and validation, as well as qualitative research involving focus groups and cognitive interviewing.

Since its inception, SRU researchers have conducted hundreds of population-based research projects leading to hundreds of research publications, written dozens of its own peer-reviewed papers, and mentored dozens of master's and doctoral students in survey methodology. The SRU continues to offer a place for students to obtain real-world experience working on collaborative studies and methods research involving sample design, data collection and analysis.

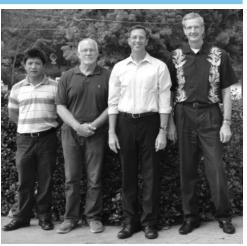
Kalsbeek is succeeded by Drs. Zeng, Agans and Bowling, each of whom has unique skills and strengths to lead the SRU into the next era of population-based research at UNC.

Donglin Zeng, PhD, an associate professor of biostatistics, has an extensive list of publications on statistical methods for biased sampling data and meta-analysis in clinical trials and observational studies. His expertise is in statistical approaches for different sample designs involving multiple frames, network-based sampling or other complex designs. He has developed efficient methods for handling non-responses and biased sampling issues in survey studies.

Robert Agans, PhD, research associate in the Department of Biostatistics, has worked with Kalsbeek at the SRU for the past decade. He brings considerable experience managing the operations at the SRU, budgeting data collection projects, writing proposals and grants, supervising staff and students, and directing all data collection efforts in the field.

Agans' particular expertise is in questionnaire design and development. Validated scale development through appropriate psychometric techniques is just one of the services offered at the SRU. Agans manages qualitative data analysis gathered through focus groups, cognitive interviews and CATI pretesting.

J. Michael Bowling, PhD, is a research associate professor in the UNC Department of Health Behavior and Health Education and adjunct associate professor in the Department of Biostatistics. He is a senior biostatistician with the UNC Lineberger Comprensive Cancer Center and the



(left to right): Drs. Zeng, Bowling, Agans, Kalsbeek

associate director for frsearch at the UNC Injury Prevention Research Center.

Bowling brings considerable experience in designing and managing large-scale survey projects, many of which involved multi-staged complex survey designs. These include statewide mail surveys of primary care physicians, public school teachers and employers, numerous statewide and national random digit dialed (RDD) telephone surveys, and statewide personal interview surveys involving perinatal health, dental health and HIV risk behaviors.

Bowling has worked with the SRU since its inception. This collaboration has involved teaching survey research methodology, planning and implementing statewide telephone and personal interview surveys, and coauthoring survey research books and articles in national journals.

The name of the unit also has changed. The new name, Carolina Survey Research Laboratory, reflects the group's broad impact and larger university-wide role.

## COLLABORATIVE STUDIES COORDINATING CENTER

#### 2011 at the CSCC

The Comparison of Antipsychotics for Metabolic Problems (CAMP) study ended in 2011, producing a paper published online in July in the American Journal of Psychiatry. CSCC co-authors included project manager Kim Ring and principal investigator (PI) Lisa LaVange. The article concluded that switching from several traditional drugs to the newer aripiprazole improved non-HDL cholesterol levels and other metabolic parameters in patients with schizophrenia, while still effectively treating the main disorder. CAMP, along with Comparison of Optimal Antipsychotic Treatments for Schizophrenia (COATS) and Metformin in Treatment of Antipsychotic-Induced Weight Gain in Schizophrenia (METS), are completed studies that the center has coordinated with the Schizophrenia Trials Network. A Comparison of Long-Acting Injectable Medications for Schizophrenia (ACLAIMS) study is still active, due to run through mid-2014.

Early in 2011, the Atherosclerosis Risk in Communities (ARIC) study extended its life with a fifth visit to its surviving original cohort, an estimated 8,200 people. These patients were last examined in the late 1990s. This extension which completes 28 years of ARIC coronary heart disease surveillance, will serve as a deeper resource for the ongoing ARIC ancillary studies. CSCC's Dr. David Couper serves as PI.

The CSCC also co-leads a neurocognitive study, which builds on ARIC. This study examines the role of vascular risk factors experienced in middle age – including hypertension, diabetes and lifestyle – in the development of dementia and cognitive decline in the elderly. A comprehensive examination of thousands of patients, the new study will include detailed neurocognitive testing and brain imaging.

Two CSCC studies reached recruitment

goals this year. The Hispanic Community Health Study/Study of Latinos (HCHS/SOL) began recruiting participants in early 2008. It enrolled 16,000 Hispanic men and women of Mexican, Puerto Rican, Cuban, Dominican, and Central and South American heritage from four clinical sites in just over three years. HCHS/SOL is the largest study conducted to date of the fastest-growing minority population in the U.S.

The Randomized Intervention for Children with Vesicoureteral Reflux (RIVUR) study also reached its recruitment goal. The study randomized 607 participants at 19 clinical sites across the country. Recruitment for the trial began in January 2007 and ended in May 2011. Follow-up of participants will continue through May 2013. The baseline data closed on Sept. 1, 2011, which allowed baseline publications to begin in 2011.

Another notable HCHS/SOL achievement in 2011 was the prodigious production of 16 posters and presentations based on preliminary data. Between March and July, these findings were presented at the yearly conferences of the AAS, the IADR, the AHA CV Epidemiology meeting, the ATS, and the ADA. CSCC investigators were co-authors on all of these presentations.

## Bangdiwala leads multi-center study to examine cultural factors, obesity in Latino youth

Shrikant Bandiwala, PhD, research professor of biostatistics, was recently awarded a three-year grant by the National Institutes of Health to lead a multi-center study of overweight, obesity and cardiometabolic risk factors among Hispanic children living in the U.S. Hispanic Community Children's Health Study of Latino Youth (SOL-Youth) is the first national study of its kind.

Childhood obesity strongly influences the risk of cardiovascular diseases and diabetes in adulthood. U.S. Latino youth are more overweight or obese than non-Hispanic white youth and are at risk for lasting cardiovascular complications into adulthood. The SOL Youth study will examine a wide range of cultural factors such as family environment, physical and social, associated with obesity in Latino boys and girls ages 8 to14 years from the Bronx (N.Y.), Chicago, Miami and San Diego.

Study findings will inform practice and policy efforts to develop obesity-prevention programs in Latino youth, thus improving the health of future generations. The study plans to enroll 1,600

Latino boys and girls ages 8 to 14 years and expects to complete enrollment by July 2013.

The specific aims of the

SOL Youth study are:



Dr. Kant Bangdiwala

(1) to evaluate the influence of youth acculturation and intergenerational differences in acculturation between youth and parents on youth's lifestyle behaviors and cardiometabolic risk profiles; (2) to test the association of parenting strategies and practices with children's lifestyle behaviors and cardiometabolic risk profiles; and, (3) to assess the influence of youths' psychosocial functioning on youth lifestyle behaviors and cardiometabolic risk profiles.

SOL Youth is an ancillary study to the NIH-funded Hispanic Community Health Study/Study of Latinos (HCHS/ SOL). The study is sponsored by the National Heart, Lung, and Blood Institute and six other institutes, centers and offices of the National Institutes of Health.

## DEPARTMENT RESEARCH

## Herring, Ibrahim, Truong and Zou receive funding from NIH and NSF

Professor Amy Herring, PhD, has been awarded a five-year grant titled "Bayesian Methods for High-Dimensional Epidemiologic Data" from the National Institute of Environmental Health Sciences. The project addresses a critical need of finding clues to the etiology and pathogenesis of congenital malformations, using data from the largest population-based study ever conducted on the causes of birth defects.

While birth defects are the leading cause of infant mortality, the leading cause of death among children ages 1 to 4, and the fifth-ranked cause of premature mortality in the United States, many individual defects are too rare to be studied comprehensively. These new statistical methods incorporate current knowledge of embryonic development and allow some borrowing of information across different birth defects while keeping each defect as a separate entity of interest in the statistical model. These novel methods will allow researchers to investigate the simultaneous influence of multiple exposures and combinations of exposures on multiple outcomes.

Herring leads the research for this project, which includes subcontracts with Duke University and The University of Texas at Austin.

Professor Kinh Truong, PhD, has received funding from the National Science Foundation for a three-year proposal titled "Feature Extraction Involving Multichannel Time Series."



Dr. Kinh Truong

The project has several broad-range impacts. The proposed unified approach provides major insights into issues related to function estimation in life sciences. It also makes an essential contribution in the search for better techniques to study sampling properties of the methods in brain and genomic research.

Additionally, the proposed methods will be useful in developing teaching materials for a course in statistical fMRI and neural spike

train analysis to graduate students. Finally, a much broader health significance of this project will be its contribution to the better understanding of brain diseases.

Joseph Ibrahim, PhD, Alumni Distinguished Professor of biostatistics, was recently awarded a competitive renewal of his project "Bayesian Approaches to Model Selection for Survival Data" from the National Institute



Dr. Joseph Ibrahim

of General Medical Sciences. Now in its 13th year, the study aims to develop several novel statistical methods for motif discovery in genomic sequence data. This methodology has major applications in chronic diseases such as cancer, AIDS, cardiovascular disease and environmental health.

Ibrahim is the lead principal investigator, and subcontracts have been awarded to Boston University, The University of Connecticut, and the University of Texas at Austin.

Ibrahim was also awarded a five-year renewal of his training grant "Training in Genomics and Cancer" from the National Institute of General Medical Sciences.

The program is designed to train predoctoral (PhD) and postdoctoral students in statistical genomics with a primary emphasis in cancer genomics. The goal is to train biostatisticians in the biology, etiology and genetics of cancer, and to conduct state-of-the-art biostatistical methodologic research relevant to the genomics of cancer and related areas of genomics. The project aims to produce biostatisticians who can collaborate with other scientific researchers and oncologists on research issues related to genomics and cancer.

Associate Professor Fei Zou, PhD, has been awarded funding from the National Institute of General Medical Sciences for the competitive renewal of her proposal "Robust Methods for Complex Trait mapping with Collaborative Cross."



Dr. Fei Zoı

The project is motivated by a new mouse resource, the Collaborative Cross (CC), and the urgent need for appropriate analytical tools for interpreting new CC data. The proposal not only addresses common

analytical challenges encountered with this data, but also identifies unique features of CC projects and develops novel statistical methods to address these unique features.

## Qaqish wins national writing award for radiology journal article

Bahjat Qaqish, MD, PhD, associate professor of biostatistics, has received the American Society of Radiologic Technologists' Jean I. Widger Distinguished Author Award.



Dr. Bahjat Qaqish

Qaqish, also a member of the UNC Lineberger Comprehensive Cancer Center, co-authored "Survey of R.T.s with Doctorates: Barriers to Conducting Research," which appeared in the May/June 2010 issue of the journal *Radiologic Technology*.

The award, named for a longtime *Radiologic Technology* editor, honors the best peer-reviewed article published in the Society's journals. Qaqish and his collaborators accepted their award at the Society's 2011 annual Governance and House of Delegates Meeting in Albuquerque, N.M., in June.

## Male circumcision lowers prevalence of precancerous lesions among African men, study finds

Michael Hudgens, PhD, research associate professor, co-authored an international study led by UNC researchers showing that among Kenyan men, circumcision is associated with a lower prevalence of human papillomavirus-associated precancerous lesions.

"Our data are the first to show that male circumcision may reduce HPV-associated penile precancerous lesions," said Jennifer Smith, PhD, senior author and associate professor of epidemiology at UNC. "This finding represents an additional public health benefit of male circumcision."

### DEPARTMENT RESEARCH

#### Nearly one in five young adults has high blood pressure, study shows

The number of young adults in the United States with high blood pressure may be much higher than previously reported, according to a new study by researchers at the University of North Carolina at Chapel Hill.

Chirayath Suchindran, PhD, professor in the department, co-authored this study, which appeared online in May 2011 in the journal Epidemiology.

Researchers analyzed data on more than 14,000 men and women between 24 and 32 years old in 2008 from the National Longitudinal Study of Adolescent Health, known as Add Health, funded by the National Institutes of Health. They found 19 percent had elevated blood pressure, also referred to as hypertension. Only about half of the participants with elevated blood pressure had ever been told by a health-care provider that they had the condition.

"The findings are significant because they indicate that many young adults are at risk of developing heart disease, but are unaware that they have hypertension," said lead author Quynh Nguyen, an epidemiology doctoral student. Hypertension is a strong risk factor for stroke and coronary heart disease, the leading cause of death for adults in the U.S.

#### Study reveals that many cancer survivors struggle with PTSD

Little is known about the trajectory of posttraumatic stress disorder (PTSD) symptoms in cancer survivors, despite the fact that such knowledge can guide treatment. A new study examined changes in PTSD symptoms among long-term survivors of non-Hodgkin's lymphoma and identified demographic, clinical, and psychosocial predictors and correlates of PTSD symptomatology.

Study authors from the Department of Biostatistics are Lloyd Edwards, PhD, professor, and Habtamu Benecha, doctoral student.

More than one-third of long-term non-Hodgkin's lymphoma survivors were found to experience persisting or worsening PTSD symptoms.

Early identification of those at prolonged risk with standardized measures and treatments that target perceptions of the cancer experience might improve long-term outcomes.



Dr. Llovd Edwards

The lead author of this study is Sophia Smith, PhD, of Duke University Medical Center.

School-led consortium identifies genomic regions that could influence severity of cystic fibrosis

Biostatistics researchers from UNC Gillings School of Global Public Health are among a team of researchers who have pinpointed regions of the human genetic makeup that contribute to the debilitating symptoms of cystic fibrosis (CF).

Their findings provide insight into the causes of the wide variation in lung disease severity experienced by CF patients. The work also may lead to new ways to diagnose and treat CF and more common lung diseases such as COPD (chronic obstructive pulmonary disease).

Fred Wright, PhD, biostatistics professor, was lead author of the study, which appears in the journal Nature Genetics. The study was the work of the North American CF Gene Modifier Consortium. Dr. Fred which brought together dozens of investigators from the United Wright States and Canada to identify which regions of the genome are associated with lung disease severity in almost 3,500 CF patients.

"Biostatistics is quickly becoming key in genomics, and we could not have made sense of these data without rigorous analytic approaches," said co-author Fei Zou, PhD, associate professor of biostatistics at UNC. Wright and Zou both emphasized the efforts of other UNC biostatisticians, including assistant professor Wei Sun, PhD, who developed specialized software used by the group in its analyses.

Additional co-authors from the UNC biostatistics department include Ethan M. Lange, PhD, assistant professor; Gregory M. Mayhew, MS, doctoral student; and Seunggeun Lee, PhD, recent graduate of the department.

Payment, shipping bans stub out cigarette-selling websites

Amy Herring, ScD, associate professor of biostatistics, co-authored a study that was published online in the journal PLoS One.

The study, led by Kurt Ribisl, PhD, associate professor of health behavior and health education at UNC, found that using credit cards to pay for cigarettes bought on Internet sites lowered the number of vendors offering cigarettes online and reduced consumer traffic to the most popular cigarette-selling websites.

"This promising approach to controlling the sale of restricted goods online has implications for regulating other products such as alcohol, firearms, quack cures and medicines sold without a prescription," Ribisl said.

CFAR biostatistics core renewed, receives CDC award

The UNC Center for AIDS Research (CFAR) received an award renewal notice from the National Institutes of Health for an additional five years. Michael Hudgens, PhD, associate professor, is director of the UNC CFAR biostatistics core.

The CFAR biostatistics core also recently received the prestigious Charles C. Shepard Science Award from the Centers for Disease Control and Prevention (CDC) for the paper "Maternal or infant antiretroviral drugs to reduce HIV-1 transmission," published in The New England Journal of Medicine in 2010.



Hudgens

The CDC annually presents this award to authors of the most outstanding peer-reviewed research paper published by CDC Dr. Michael scientists. The statistical analysis for The New England Journal paper was conducted by the

CFAR biostatistics core. Dr. Hudgens was a co-author on the publication.

## **FACULTY & STAFF**

#### What Woody Sees

By Wayne Rosamond\*

There is Woody Chambless, 1, 2, 3, Sits in his office, What does he see?

He sees papers piling, in stacks till they fall, Looking for pen and paper, he's on a conference call,

He sees the clock on the wall, it's time to go, But what he really wants is his espresso.

There is Woody Chambless, 1, 2, 3, Sits in a meeting, What does he see?

He sees bios students queuing at the door, He sees Chris and Sandy wanting to talk more.

He sees management tables, and QC reports, He sees Wayne flipping through pages...he's out of sorts.

There is Woody Chambless, 1, 2, 3, Opens up PubMed, What does he see?

He sees 300 papers, all with his name. Many of the colleagues wish they could say the same.

He sees ARIC's 900 papers in *JAMA*, *Nature*, and *Circ*,

But it was his genius that made them all work

There is Woody Chambless, 1, 2, 3, Reads a new paper, What does he see?

He sees Poisson regression, logistic models too.

Sampling variance, measurement error out the wazoo,

But he also sees solutions...ones that are hard to find,

We will be calling you...hope you don't mind.

There is Woody Chambless, 1, 2, 3, Stands in his garden, What does he see?

He sees the sun, the greenhouse, and the tools of this trade,

The hoe, the tiller...and the spade,
He sees roses...red, yellow, and pink,
He sees something more...something deeper

Here...is Woody Chambless, 1, 2, 3, Stands with us now, What does he see?

He sees the people he mentored...and shaped...and led,

He sees the friendship and respect that 25 years has bred.

We were privileged to have been witness to your career,

We hope you see the difference you made here.

\*adapted from Peepo! by A. Ahlberg, 1980

#### Departures

Dr. Lisa LaVange left UNC to take a position at the U.S. Food and Drug Administration.

Dr. Diane Catellier left UNC in April to take a position at the Research Triangle Institute. Catellier joined the Statistics and Epidemiology Research Unit at RTI.

After four years as an administrative assistant in the Department of Biosttistics, Tania Osborn joined the Proposal Management group in the UNC Office of Sponsored Research.

Matt McGrievy, a systems specialist at the CSCC, moved away from the Chapel Hill area in June.

#### **BIOS** births

Stephanie and Scott Zentz welcomed the birth of their son, Talon Kennedy Zentz, on Jan. 31, 2011 at 12:43 p.m. Weighing in at 7lbs., 1oz., he beat out his three older siblings as the largest birth yet!

Dr. Hongtu Zhu and Ling Zhao welcomed the birth of their third child, Maximus Dingwen Zhu, on Nov. 17, 2011. Older sisters Victoria and Bowen are very excited to have a baby brother.

#### Chambless retires after 29 years

Lloyd "Woody" Chambless retired from UNC on December 31, 2011, after 29 years of service to the Collaborative Studies Coordinating Center (CSCC), the biostatistics department and the University of North Carolina at Chapel Hill. Chambless began his career in our department in 1980 as a postdoctoral trainee on Dr. Lawrence Kupper's training grant titled Biostatistics for Research in Environmental Health (now in its 35th year in the department). In 1982, he was appointed as research associate



Dr. Lloyd Chambless

professor, and in 1984 to research professor. Chambless has successfully led many large important studies at the CSCC, including Atherosclerosis Research in Communities Project (ARIC), PI from 1989-201;, Postprandial Lipidemia Study (PPL) 1990-1993; Coordinating Center for Asymptomatic Carotid Atherosclerosis Study (ACAS), 1988-1998; Statistical Coordinating Center for Periodonitis and Vascular Events (PAVE), 2001-2006; and Statistical Coordinating Center for Vitamin Intervention (VISP), 1996-2008.

Chambless served as director of CSCC from 1997 to 2005. He was visiting professor at the Institute for Epidemiology, University of Muenster, Muenster-Germany, from 1995 to 96. He has authored 217 publications during his tenure here, taught BIOS 145 (Principles of Experimental Analysis) and BIOS 168 (Design of Public Health Studies) and mentored numerous graduate students.

When asked what he will do in his retirement, Chambless said "I need to finish analysis for several papers related to CSCC work, and I hope to continue collaboration with colleagues in Italy and in Brazil. Add to that a couple of NIH committees, and it is somewhat less than a complete halt to biostatistical activities. I am inspired by so many young people speaking out recently on what directions they think the country should be moving, and I would like to figure out a way to contribute. Much of my time, however, will shift to gardening, grandkids, biking, traveling with my wife, trying to learn to play the piano, and a very long reading list."

## FACULTY AND STAFF

Service appreciation



Evie McKee (left) and Carolyn Hagy (right) with Chancellor Holden Thorp

#### 5 years

Gina Andrews Ashley Bizzell Elizabeth Carretta Forrest Demarcus Lisa Dusenberry Franklyn Gonzalez Michael Kosorok Pingping Wu Hongtu Zhu

#### 10 years

Vidya Antony James Bartow Elizabeth Reeves Katherine Roggenkamp Todd Schwartz Dawn Stewart Hongqing Tian Marston Youngblood Donglin Zeng Fei Zoui

## 15 years Janet Smith

#### **20 years** Carolyn Hagy Ding Zhao

## 25 years James Locklear

### **30 years** Nancy Cohn

#### Welcome, postdocs!

Mihye Ahn, under the direction of Drs. Haibo Zhou and Hongtu Zhu

Zaixing Li, Zhaohua Lu and Partha Sarathi Mukherjee, under the direction of Dr. Hongtu Zhu

Joshua Warren, under the direction of Dr. Amy Herring

#### 2011 staff awards

Lisa Dusenberry is the 2011 recipient of the department's annual Staff Excellence Award. As a business services coordinator at the CSCC, Lisa has displayed leadership skills with her staff of undergraduate students, and in tasks assigned by the director and others in the department. Her positive attitude, in-



(left to right): David Hill, Lisa Dusenberry, Dr. Kosorok, Natalia Gouskova, Christine Kantner

novative approach to problem-solving and unwavering sense of teamwork make her an invaluable member of the CSCC. We feel very fortunate to have Lisa on our staff and are pleased to honor her with this award.

The Department also recognized staff members for achievements during the year through the Star Heels awards program, sponsored by TIAA-CREF. The following employees are our 2011 Star Heels winners: Natalia Gouskova, applications specialist (CSCC); David Hill, IT support (McGavran-Greenberg); and Christine Kantner, administrative assistant (SRU).

## Sen awarded IISA Lifetime Achievement Award



P. w w Ir

Dr. P.K. Sen

Dr. Pranab K. Sen, Cary C. Boshamer Distinguished Professor of biostatistics, was selected as this year's winner of the International Indian Statistical Association's Lifetime Achievement Award for his contributions

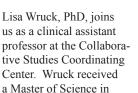
to the fields of statistics and biostatistics as a researcher, educator, and mentor. Sen accepted the award on April 23 at the 2011 IISA conference in Raleigh, N.C. Sen is the fourth recipient of the prestigious IISA award, and the first recipient from UNC's Department of Biostatistics.

Sen is known for his seminal work on asymptotic methods, nonparametrics, multivariate and sequential analysis, bioinformatics, and clinical trials. He is also the 2010 winner of the Wilks Award, one of the most prestigious awards presented by the American Statistical Association.

Sen was made an honorary lifetime fellow of the IISA in 2000. He is an elected member of the Institute of Mathematical Statistics (1968), the American Statistical Association (1969) and the International Statistical Institute (1973).

Professors Malay Ghosh and Michael Schell interview Professor Sen in a YouTube video at <a href="http://tinyurl.com/interview\_sen">http://tinyurl.com/interview\_sen</a>.

#### New faculty and staff





Dr. Lisa Wruck

Public Health from Tulane and a doctorate from Harvard, both in biostatistics. She was a senior biostatistician at Rho prior to joining the department.

Amit Kumar, a statistical programmer, joined the staff at McGavran-Greenberg this year.

The CSCC welcomed three new staff members: Elaine Dempsey, applications specialist; Jeff Sink, applications technician; and Carl Smalley, system specialist.

## Faculty promotions

Several faculty members were promoted within the department this year. Drs. Amy Herring and Hongtu Zhu were promoted to professor, and Dr. Michael Hudgens received an associate professor appointment.

#### Visiting faculty

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Our department welcomed several visiting faculty members in 2011. Leila Amorim, from Federal University of Pernambuco, Brazil, and Wenbin Lu from North Carolina State University (NCSU), were sponsored by Dr. Jianwen Cai. Jung-Ying Tzeng, from NCSU, was sponsored by Dr. Fred Wright.

## STUDENT NEWS

## BIOS graduate students dominate JSM's video competition, statistics bowl

"A Statistical New World," directed by doctoral student Diana Lam, won the Promoting the Practice and Profession of Statistics video competition, sponsored by the American Statistical Association's Public Awareness Group.

Lam worked with fellow students Eric Jay Daza, Christian Douglas, Alison Wise, Jennifer Clark, Suprateek Kundu, and Annie Green Howard. and with student services managers Melissa Hobgood and Veronica Stallings, to write lyrics, act and sing in the musical production. Professional camera operator Kurt Nolen, husband of biostatistics student Tracy Nolen, served as videographer and editor. The team was awarded \$500 and (so far) more than 3,100 views on YouTube. The award-winning video can be seen at http://tinyurl.com/statisticalnewworld.



(left to right): Dustin Long, Ryan May, Michael Anderson, Suprateek Kundu

UNC's win in the statistical bowl team competition was powered by doctoral students Suprateek

Kundu, Dustin Long and Ryan May. Kundu and Long also won first and second prizes, respectively, in the individual bowl competition.

Kundu says that when he and Long faced each other in the final round, "I told Dustin, 'the best thing that can happen is UNC wins; the worst thing that can happen is...UNC wins!' Most importantly, it was a fun experience. And UNC won - hands down!"

## **BIOS volunteers with FEMMES**

Women from the UNC biostatistics community, including alumni and undergraduate and graduate students, volunteered this fall with the Females Excelling More in Math, Engineering and Science (FEMMES) program at UNC. The goal of FEMMES is to give young women hands-on experience in fields where they are often greatly underrepresented.

The biostatistics volunteers organized three different hands-on activities, more than any other department at UNC, for the Saturday program that introduced 120 fourth-to sixth-graders to the excitement of biostatistics. Volunteers included Amanda Piltzer, Andrea Byrnes, Jennifer Clark, Rebbecca Wilson, Laura Zhou, Allison Briggs, Erica Browne, Amelia Wallace, Naomi Brownstein, Elena Bordonali, Annie Green Howard, Beth Horton and Emily Butler.

## 20 new graduate students and 14 undergraduates join biostatistics in fall 2011

In August 2011, the Department of Biostatistics welcomed the fall 2011 incoming class. Of 34 new students, 14 are enrolled in the BSPH undergraduate program, six in the PhD program, five in the DrPH program, seven in the MS program and two in the MPH program.

Among the graduate students, there are 15 U.S. citizens. International students hail from China, Canada and the United Kingdom. The majority of graduate students are mathematics or statistics majors. Other majors include nutrition, nursing, ecology and biological engineering.

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

#### Delta Omega awards

Delta Omega is a National Honor Society that encourages research, provides scholarships, and recognizes achievements in the field of public health. In 2011, the following people received honors from the Delta Omega Society:

Faculty Award for Outstanding Scholarship, Teaching, and Research: Haibo Zhou, PhD

Book Award for Outstanding Scholarship: Shankar Viswanathan, DrPH

Alumni Award: Jean Orelien, DrPH

Service Award: Alison Wise

Outstanding Academic Achievement Award for Graduating Students 2010-2011: Yijuan Hu, PhD, Seunggeun Lee, PhD, Xiaoxi Liu, MS

**Undergraduate Award:** Sendhilnathan (Hari) Ramalingam

## STUDENT NEWS

#### 2011 Biostatistics Graduates

#### May 2011

Yijuan Hu	PhD
Xiaoxi Liu	MS
Szu-Po Peng	MS
Shankar Viswanathan	DrPH
Andrea Wong	MPH

#### August 2011

Cristina Baraian	MS
Tyler Bardsley	MS
Kunthel By	PhD
Jaeun Choi	PhD
Jason Coarse	MS
Jill Ann El-Khorazaty	MS
Aiko Hattori	MPH
Visalakshi Jeyaseelan	MS
Chae-Ryon Kang	PhD
Changfu Xiao	PhD
Magdalena Lopez	MPH
Flora Mulkey	MS
Zheng Ren	MS
Alexandra Tronetti	MS
Shiliang Wang	MPH

#### December 2011

Laura Farnan Yi Gong Zhaowei Hua Diana Lam (move to PhD) Jeanine Matuszewski Ryan May Cicely Mitchell Amy Richardson (move to PhD) Xiaoshan Wang Yihui Zhou

#### Phi Beta Kappa inductee

One of the eight public health students inducted into Phi Beta Kappa in 2011 is from the Department of Biostatistics. Douglas Roy Wilson Jr. joined what is considered the nations's oldest and most honored of college honorary societies. Less than 1 percent of all college students qualify for membership into Phi Beta Kappa.

#### **Zhou wins prestigious Davis Projects for Peace award**

Yu Zhou, a UNC sophomore in the Gillings School of Global Public Health's BSPH program, was been named a winner in the 2011 Davis Projects for Peace initiative.

Zhou, who studies biostatistics, developed Young Scholars International, a program that will allow UNC undergraduates studying abroad to enrich their experience by leading high school seminars in the countries they visit. Zhou will receive \$10,000 to implement the project.

#### **BSA** update

This year, the Biostatistics Student Association (BSA) enjoyed increased student-faculty interaction outside of the classroom. Dessert socials, game nights and picnics were held during both semesters.

Faculty and staff members, students and family members participated in the Outer Banks Half Marathon and 8K race. There was increased participation in the Tobacco Trail Half Marathon in the spring, and the Warrior Dash Carolinas in the summer.

The Warrior Dash was a 3.08-mile race that had 12 obstacles along the course, including jumping over fire and crawling through mud with barbed wire overhead.

If you would like to show your support for the 2012 Relay for Life Team (even just to cheer on our team's walkers), please contact bethjab@email.unc.edu. For other information, please contact BSA co-presidents Alison Wise at awise@bios.unc.edu or Joe Rigdon at jrigdon@live.unc.edu.

#### Rothwell awarded NSF fellowship for graduate study in biostatistics

Rebecca Rothwell was awarded a National Science Foundation (NSF) Graduate Research Fellowship for graduate study in biostatistics.

Rothwell

The award provides support for three years of study in addition to an annual stipend. The NSF program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering and mathematics disciplines who are pursuing researchbased graduate degrees.

Rothwell graduated from the UNC Department of Biostatistics in May 2011 with a BSPH in biostatistics and a BA in mathematics. Her senior honors thesis, "New Insights on Heat Pain Temporal Summation- Results from the OPPERA study," under the direction of Dr. Eric Bair, also was awarded an honorable mention at the Undergraduate Statistics Project Competition (USPROC), sponsored by the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE).

The purpose of USPROC is to encourage the development of data analysis skills, enhance presentation skills, and recognize outstanding work by undergraduate statistics students. Rothwell plans to pursue a doctoral degree in biostatistics.

#### **Prestigious external fellowships** awarded to BIOS students

Naomi Brownstein, doctoral student, NSF Graduate Research Fellowship Program

Polina Kukhareva, master's student, Fulbright Fellowship for Non-U.S. Students

## STUDENT PUBLICATIONS

## The following biostatistics students made presentations at the Eastern North American Region (ENAR) of the International Biometric Society meeting in March 2011:

	Guanhua Chen, "Statistical Methods for Analyzing Customized Copy Number Variation Array," with Wei Sun and Patrick F. Sullivan Liddy M. Chen, "Sample Size Determination in Shared Frailty Models for Multivariate Time-to-Event Data," with Joseph G. Ibrahim and
	Haitao Chu
	Emil A. Cornea, "Regression Models on Lie Groups," with Hongtu Zhu and Joseph G. Ibrahim
	Yijuan Hu, "A Robust Likelihood-Based Framework for Disease Association Studies with Copy Number Variation," with Danyu Lin and
	Wei Sun
	Zhaowei Hua, "SBLFM: Semiparametric Bayesian Local Functional Models for Diffusion Tensor Tract Statistics," with David B. Dunson and Hongtu Zhu
	Chaeryon Kang, "The Interactive Decision Committee for Chemical Toxicity Data Analysis," with Hao Zhu, Fred A. Wright, Fei Zou and
	Michael R. Kosorok
	Zakaria S. Khondker, "The Bayesian Covariance Lasso," with Hongtu Zhu, Haitao Chu, Weili Lin and Joseph G. Ibrahim
	Suprateek Kundu, "Single Factor Transformation Priors for Density Regression," with David Dunson
	Diana Lam, "Bayesian Influence Methods with Missing Covariates in Survival Analysis," with Joseph G. Ibrahim and Hongtu Zhu
	Hana Lee, "Detecting Significance Level of Brain Activity Using Self-Calibrated Method," with Young Truong and Xuemei Huang
	Ja-An Lin, "Projection Regression Models for Multivariate Measure: Theory and Applications," with Hongtu Zhu and Joseph G. Ibrahim
	Dustin Long, "Comparing Competing Risk Outcomes within Principal Strata," with Michael G. Hudgens
	Siddhartha Mandal, "Statistical Inference for Dynamic Systems Governed by Differential Equations with Applications to Toxicology," with
	Pranab K. Sen and Shyamal D. Peddada
	Cicely E. Mitchell, "Discrete-Time Semi-Markov Two-State Modeling of Human Papillomavirus Type-Specific Persistence," with Michael G. Hudgens, Caroline King, Susan Cu-Uvin, Yungtai Lo, Ann Rompalo, Jack Sobel and Jennifer S. Smith
	Tracy L. Nolen, "Randomization-Based Inference within Principal Strata," with Michael G. Hudgens
	Naim Rashid, "A General Mixture Regression Framework for The Detection of Biologically Relevant Loci from NGS Data," with Wei Sun
	and Joseph Ibrahim
	Zhengzheng Tang, "Estimating and Improving Next-Generation Sequence-Based Genotype Accuracy," with Matthew R. Nelson and Claudio
	J. Verzilli
	Yi Zhang, "Statistical Methods for Evaluating Diagnostic Accuracy of Incomplete Multiple Tests," with Haitao Chu and Donglin Zeng
	Yingqi Zhao, "Detecting Disease Surveillance Using Local Spatiotemporal Methods"
	Xin Zhou, "A Statistical Framework for Illumina DNA Methylation Arrays," with Pei Fen Kuan, Sijian Wang and Haitao Chu
	Yihui Zhou, "Small-Sample Differential Expression Analysis with RNA-seq Data," with Fred A. Wright
П	Ruoging Zhu, "Recursively Imputed Survival Trees," with Michael R. Kosorok

## The following biostatistics students made presentations at the Joint Statistical Meetings (JSM) of the American Statistical Association in August 2011:

(1)	5W1) of the American Statistical Association in August 2011.
	Kunthel By, "Estimating Equations for Regression Models with Cluster-Specific Intercepts," with Bahjat Qaqish
	Ting-Huei Chen, "Genome-Wide eQTL Mapping by Iterative Multivariate Adaptive LASSO (LMAL)," with Wei Sun and Fred Wright
	Sayan Dasgupta, "A Comparative Study of Power of the Association Tests for Linkage Disequilibrium"
	Zhaowei Hua, "MSBLFFM: Multivariate Semiparametric Bayesian Local Factor Functional Models for Diffusion Tensor Tract Statistics,"
	with David Dunson and Hongtu Zhu
	Linglong Kong, "Multiscale Adaptive Composite Quantile Regression Models for Neuroimaging Data," with Hongtu Zhu
	Suprateek Kundu, "Single-Factor Transformation Priors for Density Regression," with David Dunson
	Siddhartha Mandal, "Statistical Inference for Dynamic Systems Governed by Differential Equations with Applications to Toxicology," with
	Pranab K. Sen and Shyamal D. Peddada
	Jeanine Matuszewski, "Asymptotic Properties of an R2 Statistic for Fixed Effects in the Linear," with Lloyd J. Edwards
	Flora Mulkey, "Identification of Significant Features in High-Dimensional Data Using Supervised Principal Components," with Eric Bair
	Zheng Ren, "Using Reinforcement Learning Strategies to Discover the Optimal Treatment for Advanced Colorectal Cancer Patients," with
	Michael R. Kosorok
	Yunfei Wang, "Use of Selective Phenotyping to Increase Power of Genetic Association Studies of Quantitative Biomarkers," with Ethan M.
	Lange
	Ying Yuan, "Varying Coefficient Model for Modeling Diffusion Tensors along White Matter Bundles," with Hongtu Zhu, Martin Styner,
	John H. Gilmore and Steve Marron

## IMPACT OF GIVING

The Department of Biostatistics is fortunate to have an array of awards and fellowship funds that help to recruit the best students, invest in those with the greatest potential, and award those with the greatest achievements. Endowed and expendable scholarship funds and special travel awards have helped launch some of our most accomplished graduates. Please join us in congratulating the following who have earned these awards and thanking those who have made these awards possible.

The Regina Elandt-Johnson Award for Best Master's Paper in Biosta-



Naomi Brownstein (center) with Drs. Kosorok and Cai

tistics this year was given to Naomi Brownstein.

Brownstein's paper is titled "Tests of Trend between Disease Outcomes and Ordinal Covariates." Brownstein's work was supervised by Dr. Jianwen Cai. The Elandt-Johnson Award was established in 1999. This award is given by the department to current biostatistics students.

Li Chen was selected as the 2011 recipient of the Larry Kupper Dissertation Publication Award. Li's dissertation is titled "Model Checking and Prediction with Censored Data."

Li's advisors were Drs. Danyu Lin and Donglin Zeng. The Kupper Dissertation Publication Award is a yearly award established by friends and colleagues of professor emeritus Dr. Larry Kupper.

The award honors the best doctoral dissertation-based paper appearing in a prestigious biostatistical journal in a given calendar year.

Justin Ritz was awarded the Hardison Scholarship in Bioinformatics. Justin is a first-year doctoral student who comes to us from upstate New York. The Hardison Scholarship, established in 2001 and awarded to an outstanding applicant, is made possible by gifts from the Hardison family.

The Mohberg Family Scholarship was awarded to Matthew Psioda, a first-year doctoral student from Wilmington, North Carolina. The scholarship was established by Dr. Noel Mohberg in 2002. Mohberg earned his doctoral degree from the department in 1972. He and his family reside in Plainwell, Michigan.

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## IMPACT OF GIVING

The Barry H. Margolin Award for Excellence in Doctoral Research this year was given to Liddy Chen.



Dr. Liddy Chen (right), with Connie Margolin

Chen's paper is titled "Design Considerations for Complex Survival Models"

This award honors the quality of the recipient's dissertation, the potential for leadership in research, teaching and service by the recipient, and for the recipient's overall performance in the department.

The Bernard G. Greenberg Scholarship in Biostatistics was awarded to Jessie Wang, a first-year master's student. The scholarship is named after Dr. Bernard G. Greenberg, founder and former chair (1949-1972) of the Department of Biostatistics, and is made possible by generous contributions from the Greenberg family and friends.

Wang also received a Merit Assistantship from the University's Graduate School program, as did Lia Weiner and Emily Butler, also first-year students.

Megan Kincaid received the Glaxo-SmithKline Scholarship, made possible by a GlaxoSmithKline donation to an applicant chosen by the department. Brianna Stephenson was this year's recipient of the Smith Anderson Biostatistics Fellowship. This scholarship is designated for a graduate student or teaching assistant and is made possible by the firm of Smith, Anderson, Dorsett, Mitchell & Jernigan, LLP.

Guanhua Chen, a doctoral student, received the inaugural Annual Spirit of Giving Scholarship. This scholarship was made possible by contributions to the Alumni Association Scholarships fund.

Chen, along with fellow student Pourab Roy, was also the recipient of a UNC Cancer Research Fund Fellowship award. The fund was established to provide support for UNC Gillings School of Global Public Health cancer-focused graduate scholars. Chen and Roy are both doctoral students in the department.

Jonathan Hibbard and Matthew Psioda received the John and Diane Fryer



Hibbard (left), with Diane Fryer Medcalf

Fellowship in Biostatistics. Jonathan and Matthew are both first-year students. The fund is made possible by contributions from Diane Fryer Medcalf and the late John Fryer, longtime UNC biostatistics professor.

Ms. Jing Zhou was the recipient of the Max Halperin Scholarship. The award is offered to a first- or secondyear doctoral student and is made available by donations from friends and family of Max Halperin. Valerie Smith, a first-year graduate student, received both a Gillings Merit Scholars award and an Ibrahim Fellowship.

The Biostatstics Community Fund/ Gary G. Koch Scholars Program was established on the occasion of the department's 60th anniversary and a festschrift to honor Dr. Gary Koch.

This year, funds are being awarded to Donna Wilson, a master's student. Donors to this fund include Paula Brown Stafford, Peter Imrey, Ed Bryant, William Sollecito, Karl Peace, Karen and Stuart Gansky, and an anonymous donor.

The Gary G. Koch Travel Fund was set up at this same time and is used primarily to offset expenses our students incur when they travel to conferences to make presentations. This year, Hana Lee, Zhaowei Hua, Flora Mulke, Jeanine Matuszewski, Kunthel By and Ting-Huei Chen were awarded travel stipends from this fund. Donors include Mike Boyd, John Preisser and Lisa Carmichael, and Carol Lenninger.

The Annual Fund Scholars program is administered by the dean's office and provides two awards for biostatistics students. This year, one of these scholarships was made possible by a gift from Peter Imrey in honor of Professor Gary G. Koch. This year's recipients were first-year students Lia Weiner and Emily Butler.





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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.

We also thank the SPH Alumni Association, who contributed funds for the publication of this issue of BiosRhythms.

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