BiosRhythms

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Message from the Chair

I want to begin by thanking all of you, the creative and accomplished faculty, staff, students, alumni and friends, who are a part of our thriving and successful Department of Biostatistics. This past year has been outstanding, and we have experienced many successes in research, teaching, mentoring, placement of graduates and other dimensions.

The 2015 Bernard G. Greenberg Distinguished Lecture Series was held on May 11-12. This year's speaker and award recipient was Susan A. Murphy, PhD, H.E. Robbins Distinguished University Professor of statistics and professor of psychiatry at the University of Michigan. Dr. Murphy received her doctorate in statistics from UNC-Chapel Hill. She was named a John D. and Catherine T. MacArthur Foundation Fellow for her work in developing the Sequential Multiple Assignment Randomized Trial, or SMART. She presented three very interesting lectures on mobile health, summarizing recent achievements and new developments in statistical science that are advancing this important new public health research area. The 2016 Greenberg Lecture will be given on May 12-13, 2016, by Duke University Arts and Sciences Professor of Statistics James O. Berger, PhD.



Michael R. Kosorok, PhD W.R. Kenan Jr. Distinguished

Professor and Chair

Congratulations to doctoral students Shaina Mitchell, Busola Sanusi and Briana Stephenson, as well as undergraduate student Larry Han. Shaina is one of twelve biostatistics or statistics doctoral students in the United States to win a prestigious National Science Foundation (NSF) Graduate Research Fellowship. Busola received a Faculty for the Future Fellowship from the Schlumberger Foundation. Briana received a junior researcher poster award at the 10th Conference on Bayesian Nonparametrics. Larry has been awarded a Goldwater Scholarship. Congratulations also to UNC's four winners of the 2015 Eastern North American Region (ENAR) of the International Biometric Society's Distinguished Student Paper awards. Guanhua Chen, PhD, Thomas Stewart, PhD, and Lu Mao from the Department of Biostatistics, and Eunjee Lee, from the Department of Statistics and Operations Research, were recognized alongside 16 other students at the 2015 ENAR spring meeting in Miami, Fla. For more than five years, our department has won substantially more ENAR student paper awards than any other department of biostatistics in the nation, an achievement that serves as a testament to the quality of our program and the skills of our students.

This year also has brought good news and success to our faculty. Congratulations to Yun Li, PhD, who was promoted to associate professor with tenure, and Jianwen Cai, PhD, who became a Cary C. Boshamer Distinguished Professor of biostatistics. We also welcomed three new faculty members this year—Research Assistant Professor Naim Rashid, PhD, Assistant Professor Quefeng Li, PhD, and Research Associate Professor Xianming Tan, PhD.

Our faculty members continue to be exceptionally productive in research, teaching and service. Jianwen Cai is the new president-elect of ENAR. Joseph Ibrahim, PhD, is completing his term as the coordinating editor of the *Journal of the American Statistical Association* and editor of the journal's Applications and Case Studies section. Michael Hudgens, PhD, received the 2015 Gillings School of Global Public Health McGavran Award for Excellence in Teaching. Danyu Lin, PhD, received the Committee of Presidents of Statistical Societies' 2015 George W. Snedecor Award. Jane Monaco, DrPH, received the 2015 UNC Class of 1996 Academic Advising Award.

More details on many of these accomplishments—as well as other departmental achievements—can be found in this newsletter, which I invite you to enjoy. Thank you again for your support of the Carolina Biostatistics community.

With warmest regards,

CELEBRATING STUDENT SUCCESS

BIOS students prove excellence with national awards - again!

Public Health Department of Biostatistics is the success of its students, individuals who will use their training in statistical methodology and its application to health-related issues to shape the future of public health in North Carolina and past faculty and staff, the biostatistics students of 2015 have proved to be among the top in the

In February 2015, it was announced that four Region (ENAR) of the International Biometric



Pictured are ENAR's Distinguished Student Paper Award winners with their advisers. Front row, left to right, are Dr. Tom Stewart, Eunjee Lee and Lu Mao. Not pictured is Dr. Guanhua Chen. Back row, left to right are Drs. Joseph Ibrahim, Hongtu Zhu and Danyu Lin, biostatistics professors.

Vanderbilt University); current student Lu Mao; and Eunjee Lee, currently a student in the UNC College of Arts and Sciences' Department of Statistics, were recognized at the annual ENAR spring meeting held in Miami in March. Selected for the strength

"We continue to be national leaders in the number of students winning the prestigious ENAR paper awards," said Michael R. Kosorok, PhD, W.R. Kenan Jr. Distinguished Professor and chair of biostatistics. "We are quite proud of our students' success."



Shaina Mitchell

Evidence of student success in 2015 does not stop there. Shaina Mitchell was one of twelve statistics students in the United States to win a prestigious National Science Foundation (NSF) Graduate Research Fellowship in 2015. The award supports graduate students pursuing research-based master's and doctoral degrees in science and engineering. Mitchell is the fifth UNC-Chapel Hill biostatistics student to receive an NSF fellowship. She follows in the footsteps of Naomi Brownstein, Sheila Gaynor and current BIOS graduate students Emily Butler and Erika Helgeson.

"Above all, this grant will give me greater flexibility in my research, which will allow me to work on the noncommunicable diseases through modifiable risk factors like nutrition and physical activity.

Two Department of Biostatistics doctoral students also received awards to attend the annual American Statistical Association winners from across the nation to win the ASA's Section on Statistics in Epidemiology (SIE) Young Investigator Award and present a paper at JSM. Ni presented his paper, "Variable Selection in Additive Hazards Model with Case-Cohort Design." Similarly, Ran Tao was one of nine winners to present a paper at JSM, thanks to a travel award that is part of the ASA Biometrics Section's David



Find more examples of student success at sph.unc.edu/bios.

UNC Biostatistics students consistently produce high-quality, high-impact publications. Here is just a sample of the recent work coming out of the department.

Nonparametric Bayes Modeling for Case Control Studies with Many Predictors

Biometrics — September 2015 Jing Zhou, Amy H. Herring, Anirban Bhattacharya, Andrew F. Olshan, David B. Dunson and the National Birth Defects Prevention Study

It is common in biomedical research to run case-control studies involving high-dimensional predictors, with the main goal being detection of the sparse subset of predictors having a significant association with disease. Usual analyses rely on independent screening, considering each predictor one at a time, or in some cases on logistic regression assuming no interactions. We propose a fundamentally different approach based on a nonparametric Bayesian low rank tensor factorization model for the retrospective likelihood. Our model allows a very flexible structure in characterizing the distribution of multivariate variables as unknown and without any linear assumptions as in logistic regression. Predictors are excluded only if they have no impact on disease risk, either directly or through interactions with other predictors. Hence, we obtain an omnibus approach for screening for important predictors. Computation relies on an efficient Gibbs sampler. The methods are shown to have high power and low false discovery rates in simulation studies, and we consider an application to an epidemiology study of birth defects.

SPReM: Sparse Projection Regression Model for High-Dimensional Linear Regression Journal of the American Statistical Association — April 2015 Qiang Sun, Hongtu Zhu, Yufeng Liu and Joseph G. Ibrahim

The aim of this article is to develop a sparse projection regression modeling (SPReM) framework to perform multivariate regression modeling with a large number of responses and a multivariate covariate of interest. We propose two novel heritability ratios to simultaneously perform dimension reduction, response selection, estimation, and testing, while explicitly accounting for correlations among multivariate responses. Our SPReM is devised to specifically address the low statistical power issue of many standard statistical approaches, such as the Hotelling's T² test statistic or a mass univariate analysis, for high-dimensional data. We formulate the estimation problem of SPReM as a novel sparse unit rank projection (SURP) problem and propose a fast optimization algorithm for SURP. Furthermore, we extend SURP to the sparse multirank projection (SMURP) by adopting a sequential SURP approximation. Theoretically, we have systematically investigated the convergence properties of SURP and the convergence rate of SURP estimates. Our simulation results and real data analysis have shown that SPReM outperforms other state-of-the-art methods.

Doubly Robust Learning for Estimating Individualized Treatment with Censored Data Biometrika — March 2015

Yingqi Zhao, Donglin Zeng, Eric Laber, Rui Song, Ming Yuan and Michael R. Kosorok

Individualized treatment rules recommend treatments based on individual patient characteristics in order to maximize clinical benefit. When the clinical outcome of interest is survival time, estimation is often complicated by censoring. We develop nonparametric methods for estimating an optimal individualized treatment rule in the presence of censored data. To adjust for censoring, we propose a doubly robust estimator which requires correct specification of either the censoring model or survival model, but not both; the method is shown to be Fisher consistent when either model is correct. Furthermore, we establish the convergence rate of the expected survival under the estimated optimal individualized treatment rule to the expected survival under the optimal individualized treatment rule. We illustrate the proposed methods using simulation study and data from a Phase III clinical trial on non-small cell lung cancer.

FACULTY FEATURES

Joseph Ibrahim ends term as *JASA* editor

Selected for his editorial experience and research accomplishments, Joseph G. Ibrahim, PhD, Alumni Distinguished Professor and director of graduate studies in biostatistics, will wrap up his three-year term as coordinating editor of the *Journal of the American Statistical Association (JASA)* and editor of the journal's Applications and Case Studies section in January 2016. Here, Ibrahim takes time to reflect upon his term as editor.

Q: What did it mean to you to be selected as editor?

A: It's a real honor. It's more prestige than anything; it's like getting an award, in a way. There's no money involved—of course you do this for free, it's a service—but it's very prestigious. Only a handful of people have been editor for this journal.

Q: Where is JASA now, compared to when you began as editor?

A: I'm very satisfied with my role as editor, but it's very hard to know if you've made an impact in the journal. Quality sometimes is very hard to measure. What is easier to measure is that we have published some excellent papers in my three years, and some great discussion papers. Also, our review times have been really good. People have gotten reviews for first submissions in three months. Very satisfied with that. And I think we've been very fair.

Q: Your biggest challenge as editor?

A: One of the biggest challenges for me is getting associate editors to act on a paper in a reasonable amount of time, either to send it out for review or to make a recommendation on a paper once the referees' reviews are completed. Sometimes the [associate editors] just sit on it. So that's been a big challenge.

Q: Your most enjoyable experience?

A: From the papers that are submitted throughout the whole year, we usually select two discussion papers per year. One of the most satisfying things is to go through that process of choosing a discussion paper, getting discussants and seeing the rejoinder play through, and then seeing it presented at the Joint Statistical Meetings as an invited paper in the *JASA* invited paper session. So that's been the fun part of the job, making these selections and seeing these papers through.

Q: What advice would you give to students and faculty who would like to publish in JASA?

A: Only submit your best work. If your paper is rejected, don't lose hope. You've got to keep trying. Especially for junior people, it's very important for their career to publish in journals like *JASA*, for promotion, for recognition, etc. It carries a lot of weight. It's very hard to get tenure at a top institution when you're publishing in low-level journals, but *JASA* really stands out. It is called the flagship journal of the [American Statistical Association].

Q: What's your biggest takeaway from your time as editor?

A: It's a huge time commitment if you want to do the job right. At the same time, it's very satisfying because you make the ultimate decision as to what goes in that journal for three years. Thus, you can dictate certain methodological directions in the field and determine which application areas are more important than others for the journal. So you have a lot of control in that three-year period on the statistical directions and impact in the field.

Dr. Joseph Ibrahim



Biostatistics faculty members honored at international conference

Two members of the biostatistics faculty at UNC Gillings School of Global Public Health were honored at the 2015 Joint Statistical Meetings (JSM), held Aug. 8-13, in Seattle.



Dr. Michael R. Kosorok

Michael R. Kosorok, PhD, W.R. Kenan Jr. Distinguished Professor and chair of biostatistics, was selected to present an Institute of Mathematical Statistics Medallion Lecture at the conference on Aug. 11. His talk was titled "Recent Developments in Machine Learning for Personalized Medicine," and discussed several new analytical tools for extracting precision medicine from clinical trial data. These methods seek to determine a rule to decide which treatment a particular patient should receive based on his or her current health state, past health history, genomics and other measurements available to the physician.

Medallion Lecturers are selected on the basis of the importance and timeliness of their research.

"Precision medicine is becoming extremely important because of its promise to dramatically improve human health, but many approaches don't have a good statistical foundation, and those methods tend to not be reproducible or, even worse, can be misleading," Kosorok said. "I feel

this area has a lot of promise, especially if we do things statistically right, to come up with significant improvements in human health, in many different disease areas."

On Aug. 12 at JSM, Danyu Lin, PhD, Dennis Gillings Distinguished Professor of biostatistics, was presented with the biannual George W. Snedecor Award. The award is given by the Committee of Presidents of Statistical Societies (COPSS) and recognizes an individual'scontributions to statistical theory in biometry and a noteworthy publication in biometry by him or her within three years of receiving the award. Lin's nominated publication was titled, "Efficient estimation of semiparametric transformation models for two-phase cohort studies."

According to COPSS, Lin was recognized "for foundational contributions to the field of biometry, especially for semiparametric regression models with censored data; for influential research in genome-wide association studies and next-generation sequencing studies; for steadfast service to the profession."



RESEARCH IN APPLICATION

Dr. Michael Kosorok's research, as related to precision medicine, is having an impact right here in Chapel Hill. Kosorok, doctoral student Jonathan Hibbard and a team of statisticians from the Collaborative Studies Coordinating Center (CSCC) were brought in by the North Carolina Jaycee Burn Center at UNC for statistical support during the Laser Induced, Biologically Engineered Remodeling of Thermally Injured Skin Trial (LIBERTI). The trial, using the Sequential Multiple Assignment Randomized Trial (SMART) design, is seeking to determine the best treatment regimen for each burn patient, based upon their personal epidemiologic and biologic factors such as skin texture, and their desired outcome, such as itching relief or changes to the scar's

appearance. In three blocks of 12 weeks each, patients receive three treatment options: standard medical therapy, a CO2 laser treatment and a pulsed-dye laser treatment, with patients receiving one treatment option each block. By randomizing patients into one of 12 treatment combinations, clinicians will be able to determine which treatment path will work best for a future patient according to his or her needs.

"We're excited. It will be the first SMART design in surgery, and it will have tremendous potential for things moving forward," said C. Scott Hultman, MD, Ethel and James F. Valone Distinguished Professor of Plastic and Reconstructive Surgery. Hultman serves as the division chief of UNC Plastic and Reconstructive Surgery.



Photos courtesy of Dr. C. Scott Hultman

ALUMNI UPDATES

CHECKING IN WITH BIOS ALUMNI



AMY RICHARDSON

PhD, UNC-Chapel Hill, Biostatistics, 2014 MS, UNC-Chapel Hill, Biostatistics, 2011

Richardson is a statistician working on the Google Search Infrastructure Team.

On her work:

I work on maintaining some software that's used in forecasting different metrics for server capacity planning. I also do some work on analyzing various Web page retrieval algorithms and other numerical aspects involved in maintaining the Google Search back ends.

On a recent, exciting project:

I worked on a big data analysis comparing several algorithms that were to be used in one of the last stages of the Web page retrieval process. I suggested a way to improve the algorithm using a biased sampling model, and they decided to use this algorithm instead of the others they were considering, so the project had quite a bit of impact.

On Carolina Biostatistics:

I didn't like it at the time, but they sort of force you to explore a lot of different areas in statistics. I think you become familiar with a lot of different statistical techniques as a student at UNC and for me, at Google, that's been useful because I'm aware of a lot of different ways to attack a problem. All of the hard work I did as a UNC student also made me into a very efficient worker; I feel that UNC Biostatistics gave me better timemanagement skills.

On advice to students following her path:

Apply to a lot of the companies here in Silicon Valley. There's a lot of opportunity for people with statistical expertise. Get a wide skill set. Get expertise in a lot of different statistical methods.

WILLIAM PAN

DrPH, UNC-Chapel Hill, Biostatistics and Demography, 2003 MS, UNC-Chapel Hill, Biostatistics, 1999

Pan is an assistant professor of global environmental health at Duke Unversity, with a joint appointment at the Duke Global Health Institute and the Nicholas School of the Environment. Pan is also an adjunct assistant professor in the Department of International Health at Johns Hopkins Bloomberg School of Public Health.

On his work:

I do a lot of interdisciplinary work in low- and middle-income countries that involves anything from looking at risk factors for infectious disease to studying toxicology and how toxicology might influence the risks for different types of illnesses, both infectious and chronic.

On the importance of biostatistics in public health:

I think whenever anyone does any kind of public health research, whether it involves infectious, chronic or other kinds of disease burdens, the integrating factor is that everyone needs to have a properly designed study, collect data and test hypotheses. This is particularly true in low- and middle-income countries, and interdisciplinary settings. There are lots of ways of getting this done, from very simple to complex, but the people who have the best skills to do that are statisticians.

On Carolina Biostatistics:

I had an excellent adviser in Dr. [Chirayath] Suchindran. He was one of the most important people that I've had supporting me. Then I had a great dissertation adviser who introduced me to field research. Both Suchi and Dick Bilsborrow have been instrumental. And the faculty overall—it didn't matter which class I was taking—the faculty was top-notch and generally cared about making sure I understood what was going on. I think most students felt the same way.

William Pan (third from right) at Villa Carmen, a biological reserve in the foothills of the Andes Moutains in Peru.



Chen receives 2015 James E. Grizzle Distinguished Alumni Award



On August 20, 2015, Qingxia (Cindy) Chen, PhD, was presented with the James E. Grizzle Distinguished Alumni Award. Chen received a doctoral degree in biostatistics in 2005 from the Gillings School of Global Public Health and currently serves as an associate professor with tenure in the Vanderbilt University Department of Biostatistics.

Since successfully completing her training in biostatistics at UNC, Chen is establishing herself as a leader in missing data and survival analysis research. Working as a very independent researcher, she has published a substantial number of both methodological and collaborative papers of the highest quality. She has published 57 refereed papers, a noteworthy feat at this stage of her career. Chen has several first-authored methodologic papers in the *Journal of the American Statistical Association*, and the *Biometrics, Statistics*

in Medicine and *Biometrika* journals. Chen's independence in developing and pursuing research ideas has led to her being listed as first or second author on many methodological papers related to the UNC Center for Innovative Clinical Trials (CICT), for which she is an investigator. Chen also has an impressive list of papers currently under review by journals.

This award, named for James E. Grizzle, PhD, professor emeritus and former chair of UNC's biostatistics department, is presented annually to an outstanding alumnus or alumna.

WHERE IN THE WORLD ARE OUR ALUMNI?

Boost connections with fellow alumni and current students. Plug into the Gillings School of Global Public Health's Alumni Association and the WellConnected online directory. Learn more at sph.unc.edu/alumni.



COLLABORATIVE STUDIES COORDINATING CENTER

CSCC's Dental Toolkit improves data management

Beginning in 2011, the Collaborative Studies Coordinating Center (CSCC) began work on an extension to its state-of-theart data management system, the Carolina Data Acquisition and Reporting Tool (CDART), known as the Dental Toolkit. Developed in collaboration with colleagues at the University of North Carolina at Chapel Hill School of Dentistry and the North Carolina Translational and Clinical Sciences Institute (NC TraCS), the Dental Toolkit takes full advantage of CDART's versatility to aid dental examiners in the field.

The idea for the toolkit came from Steve Offenbacher, DDS, chair of the Department of Periodontology at UNC, who recognized the potential in CDART to reform the unwieldy methods of dental data capture used at the time. He sought funding from the National Center for Advancing Translational Sciences (NCATS), which then launched the UNC collaboration. Shortly thereafter, the CSCC was able to get the feature running on CDART version one.

"I've been very proud of the work our team has done designing the Dental Toolkit, and CDART in general," said Hope Bryan, CSCC IT/data management manager, who directs CDART development.

The toolkit comprises a set of dental-specific data collection forms, reports and algorithms within CDART that facilitate and streamline data collection for a dental exam. Highly detailed interactive images of the mouth give technicians a clear and accurate means to catalog, measure and comment upon patients' teeth and gums. The forms can also be adjusted

easily to suit the dental examiner's preferred examination order and style.

The Dental Toolkit catalogs data such as plaque and gingivitis indices, periodontal exams and dental caries. It also provides an immediate evaluation of subject eligibility, which would otherwise require tedious calculation of complex toothspecific inclusion and exclusion criteria.

One recent study that successfully employs the Dental Toolkit is the randomized, controlled PREMIERS (PeRiodontal treatment to Eliminate Minority InEquality and Rural disparities in Stroke) trial conducted by UNC and the University of



South Carolina, which tests whether intensive periodontal treatment reduces risk for recurrent vascular events among ischemic stroke and transient ischemic attack (TIA) survivors. This study, for which the CSCC serves as the data coordinating center, is funded by the National Institute on Minority Health and Health Disparities and functions as a collaboration among dentistry, neurology and public health professionals at the two schools.

PREMIERS also takes advantage of the flexible algorithm functionality built into CDART to implement a type of randomization called biased-coin minimization. CDART's real-time algorithm functionality provides a platform for implementing minimization and other adaptive clinical trial designs and re-randomization designs with ease.

The toolkit is currently being used by six studies at the UNC dental school. In the upcoming year, the CSCC plans to develop new collaborations between schools of dentistry and medicine, and to make CDART and the Dental Toolkit available to researchers outside UNC.

"The Dental Toolkit and CDART reflect our center's mission," said Sonia Davis, DrPH, CSCC director, "namely—to collaborate with health researchers to produce high-quality, innovative tools and methods that improve the practice of clinical trials and advance health research."

CAROLINA SURVEY RESEARCH LABORATORY

CSRL studies tobacco communication among high-risk populations

Although cigarette use has declined among Americans, regulators face the challenge of communicating the dangers of new tobacco products along with reaching smokers in diverse communities who may not respond to traditional forms of anti-tobacco communication. To address these issues, the U.S. Food and Drug Administration (FDA) and the National Institutes of Health (NIH) announced in 2013 the award of a \$20 million, five-year grant to fund a University of North Carolina center that studies issues related to tobacco prevention communication and regulation.

The UNC Center for Regulatory Research on Tobacco Communication (CRRTC) is one of 14 Tobacco Centers of Regulatory Science (TCORS) across the United States. TCORS is designed to generate research in seven FDA tobacco-related interest areas to inform the regulation of tobacco products to protect public health, including:

- Diversity of tobacco products
- Reducing addiction
- Reducing toxicity and carcinogenicity
- Adverse health consequences
- Communications
- Marketing of tobacco products
- Economics and policies

Despite decades of work to reduce tobacco use in the United States, it continues to be the leading cause of preventable death and disease.

"The goal is to inform and shape how the FDA regulates tobacco products by doing high-impact research that will ultimately help reduce tobacco use," said Kurt Ribisl, PhD, professor of health behavior at UNC's Gillings School of Global Public Health and principal investigator of the CRRTC, which is based at UNC Lineberger Comprehensive Cancer Center.

The Carolina Survey Research Laboratory (CSRL) takes a lead role gathering data for the CRRTC and is implementing four large data collection efforts over four years, beginning in 2014, to reach the CRRTC's goal.

"The data the CSRL gathers is essential to achieving the goals of CRRTC," said Robert Agans, PhD, co-director of the CSRL. "Our administration of surveys ensures the CRRTC is able to provide the public with clear, understandable and accurate information about the chemicals in tobacco products."

The CSRL has designed and collected data on a national sample of 5,014 adults and 1,125 adolescents in Year 1. Emphasis was placed on oversampling vulnerable populations such as smokers, young adults ages 18-25 years, gays, lesbians and bisexuals, as well as people living in poverty. Telephone interviews were conducted in English and Spanish and included people living in cellphone-only households. The adolescent survey paralleled the adult survey but targeted youths between the ages of 13 and 17 years.

The current year, Year 2, involves developing Web and paper surveys for all Year 1 respondents who agreed to be contacted for follow-ups, more than 90 percent of respondents. Year 2 surveys aim to test novel methods of communication risk, especially among vulnerable populations.

Years 3 and 4 will include repeating the adult and adolescent telephone and Web surveys to test and improve the messaging, based upon previous findings with emphasis on source credibility and intentions to quit.

The CSRL is part of the CRRTC's Biostatistics and Survey Methods Core, which provides shared biostatistical, survey sampling, data collection and statistical programming services to the center. J. Michael Bowling, PhD, research professor in the Department of Health Behavior, directs the Biostatistics and Survey Methods Core, and is supported by the CSRL co-directors Donglin Zeng, PhD, and Agans.

2015 Awards, Honors and Grants

Selected Student and Alumni Awards and Honors

American Statistical Association Fellows Jill Dever, PhD

Frank Potter, PhD Paul Rathouz, PhD

Annual Fund Scholarships (Gillings School of Global Public Health) Bridget Lin Ilana Trumble

LASPAU Ciência sem Fronteiras (Science without Borders) Scholarship Pedro Luiz Baldoni

Elandt-Johnson Award for Best Biostatistics Master's Paper (Department of Biostatistics) Xuan Zhou

John and Diane Fryer Fellowship in Biostatistics Sarah Reifeis

Fulbright Fellowship for Non-U.S. Students Rongrong Qu

> Barry Goldwater Scholarship Larry Han

Gillings Merit Scholarship (Gillings School of Global Public Health) Ilana Trumble

Bernard G. Greenberg Scholarship in Biostatistics Rimli Sengupta

> Max Halperin Award Andrew Allmon

Hardison Scholarship in Bioinformatics Kevin Donovan

Junior Researcher Poster Award (10th Conference on Bayesian Nonparametrics) Briana Stephenson

Kupper Dissertation Publication Award (Department of Biostatistics) Zheng-Zheng (Jane) Tang, PhD

Barry H. Margolin Award for Excellence in Doctoral Research (Department of Biostatistics) Guanhua Chen, PhD

> Mohberg Family Scholarship Bryan Blett

National Science Foundation Graduate Research Fellowship Shaina Mitchell

Phi Beta Kappa Spring 2015: Larry Han Fall 2015: Andrea Lane and Parker Xie

Smith Anderson Biostatistics Fellowship Jipcy Amador Sulbaran

> Royster Fellowship Sarah Reifeis

Schlumberger Foundation Faculty for the Future Fellowship Busola Sanusi

Selected Faculty Awards and Honors

Class of 1996 Academic Advising Award (UNC-Chapel Hill) Jane Monaco, DrPH

Cary C. Boshamer Distinguished Professorship (UNC-Chapel Hill)

Jianwen Cai, PhD

Medallion Lecture (Institute of Mathematical Statistics) Michael R. Kosorok, PhD, W.R. Kenan Jr. Distinguished Professor and Chair

Edward G. McGavran Award for Excellence in Teaching (Gillings School of Global Public Health) Michael Hudgens, PhD

George W. Snedecor Award (Committee of Presidents of Statistical Societies) Danyu Lin, PhD, Dennis Gillings Distinguished Professor

Teaching Innovation Award (Gillings School of Global Public Health) Jane Monaco, DrPH

Selected Grants

Big Data to Knowledge Training Program (National Institutes of Health) Michael R. Kosorok, PhD, W.R. Kenan Jr. Distinguished Professor and Chair

Biostatistics and Mental Health Neuroimaging and Genomics Training Grant (National Institute of Mental Health) Hongtu Zhu, PhD

> Data Safety and Monitoring Board Independent Statistical Analysis Center (Sunovion Pharmaceuticals Inc.) Sonia Davis, DrPH

Save the Date in 2016!

Keep up with all that's going on in the UNC Department of Biostatistics at sph.unc.edu/bios! Mark your calendar, and join us on these dates:

Eastern North American Region (ENAR) Spring Meeting

March 6-9, 2016, in Austin, Texas

Biostatistics Awards Day and Grizzle Alumni Award Lecture

April 21, 2016, in Chapel Hill, N.C. Lecturer: Michael Pennell, PhD

Department of Biostatistics Greenberg Lecture Series

May 12-13, 2016, in Chapel Hill, N.C. Lecturer: James O. Berger, PhD

American Statistical Association Joint Statistical Meetings

July 30 to Aug. 4, 2016, in Chicago, Ill.

YOUR GENEROSITY HAS GLOBAL IMPACT

Sanusi awarded Faculty for the Future Fellowship

This year, Busola Sanusi, a doctoral candidate in the biostatistics department at the UNC-Chapel Hill Gillings School of Global Public Health, received a Faculty for the Future Fellowship from the Schlumberger Foundation.

The Faculty for the Future program recognizes outstanding female students from developing countries or emerging economies who are enrolled in a doctoral program in the physical sciences, engineering or technology.

Sanusi, who is from Nigeria, was asked in her application to demonstrate her commitment to teaching and encouraging young women in the sciences.

"A goal that involves people needs the input of people," she said. "If I can train more women with similar interests, there is a great chance of eventually affecting many others. I am passionate about teaching, and the Faculty for the Future Fellowship is giving me an opportunity to make this passion a reality."

The Schlumberger Foundation particularly seeks applicants with a desire to contribute to the socio-economic development of their home countries through returning to teach there, pursuing relevant research or addressing matters of related public policy.

"After the completion of my doctorate, I intend to become a professor and establish a collaborative research center for infectious diseases and other health-related issues in my home country," said Sanusi. "I see myself using my position to encourage and motivate young women scientists."

"The aim is to inspire young women to be more involved in applied statistical research by providing them with expertise through workshops and symposia," she added. "I strongly believe in the possibility of eventually transporting this idea to other parts of Africa. By enlightening young women through paired mentorships and growing their professional networks, the number of females in STEM fields is bound to increase."

Called "role models for the next generation" by the Schlumberger Foundation, Faculty for the Future Fellowship winners like Sanusi also help improve gender balance at the faculty level. So far, the community of recipients includes 560 women.

You too can support Carolina Biostatistics and the next generation of public health leaders. Go to <u>sph.unc.edu</u> to make your gift.





Thank You to Our Donors

We thank all alumni, friends, faculty, staff, students and organizations whose generosity provides much-needed funds to support biostatistics graduate education. Those listed have given \$100 or more between July 1, 2014, and June 30, 2015.

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