

BiosRhythms

GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Department of Biostatistics



It was the summer of 1985 when the Collaborative Studies Coordinating Center launched the Atherosclerosis Risk in Communities (ARIC) study. Sponsored by the National Heart, Lung, and Blood Institute (NHLBI), ARIC is a prospective epidemiologic study of 15,792 participants in four U.S. communities, designed to investigate the causes of atherosclerosis and its clinical outcomes, as well as variations in cardiovascular disease, risk factors and medical care by gender, race, location and year.

ARIC is uniquely comprised of two synergistic components: Cohort and Community Surveillance. Community surveillance provides population-based estimates of cardiovascular disease burden and trends, putting cohort results into context. For the **Cohort Component**, each ARIC field center randomly selected and recruited a sample of approximately 4,000 individuals aged 45 to 64 from their community to receive extensive examinations, including lab samples, echocardiograms, ultrasound of the carotid arteries, plus medical, social, and demographic data. Five visits have been completed. Semi-annual phone follow-up maintains contact and assesses health status. The fifth visit, completed in 2013, included a neurocognitive component and examined 6,538 participants, now aged in the 70s through 90s. In the **Community Surveillance Component**, medical records from all hospitals and state death records in the four communities, covering over 470,000 men and women aged 35 to 84 years, are abstracted and adjudicated to calculate annual incidence rates and long term trends of hospitalized myocardial infarction, heart failure, and coronary heart disease deaths. The CSCC is the ARIC Coordinating Center, and we manage all data and reports, coordinate study communications, develop study materials and provide statistical support for both components.

[See ARIC, page 4](#)

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Message from the Chair



Dr. Michael Kosorok,
Professor and Chair

This year I am mindful of the good people I have the privilege of working with, including the many hard-working and talented faculty, staff, students and alumni who have helped make our department productive and successful. Our department is thriving in terms of research, teaching, mentoring, and funding, and our future is bright. I will now review some of the highlights of this past year.

On April 10, Dr. Ju-Hyun Park, who received his PhD from the Department of Biostatistics in 2008, was the 2014 recipient of the James E. Grizzle Distinguished Alumni Award. He is currently an assistant professor at Dongguk University in South Korea and is an expert in the analysis of genome-wide association studies. This past May, the 2014 Greenberg Lecturer, Professor Jianqing Fan from Princeton University, gave a series of very interesting lectures on high dimensional data analysis and multiple testing. We are pleased to announce that in May 2015, Professor Susan Murphy from the University of Michigan will be the Greenberg Lecturer.

This past year was successful for our students and for student recruitment. We welcomed 41 new graduate students and 19 new undergraduate (BSPH) students in Fall 2014, bringing our total number of students to 157 graduate students (86 PhD, 23 DrPH, 44 MS and 4 MPH) and 32 undergraduate students. We are thankful for the excellent work of the admissions committees, chaired by Professor Chirayath Suchindran (for graduate admissions) and Clinical Associate Professor Jane Monaco (for undergraduate admissions), and also the students and staff who helped recruit this outstanding group of students.

Congratulations to our department's five winners of the 2014 Eastern North American Region of the International Biometrics Society's (ENAR) Distinguished Student Paper awards! Qian Liu, Xiaoxi Liu, Ai (Andy) Ni, Fang-Shu Ou, and Jing Zhou were recognized alongside 15 other students at the 2014 ENAR spring meeting in Baltimore, Maryland. For three straight years in a row, our department has won substantially more ENAR student paper awards than any other department. In addition, Thomas Stewart won a research poster award, also at ENAR. Furthermore, our biostatistics students won 4 out of 8 research awards at the June International Chinese Statistical Association (ICSA) meetings in Portland, Oregon; the winners were Guanhua Chen, Ting-Huei Chen, Qiang Sun, and Ran Tao. Additional student award winners include Natalia Gouskova, who received a Best Poster award at the Statistical Analysis of Multi-Outcome Data Workshop, and both Ting-Huei Chen and Zheng-Zheng Tang who received student paper awards from the Biometrics Section of the Joint Statistical Meetings of the American Statistical Association.

Postdoctoral research associate Josh Warren, PhD, was first-author on a paper in *Biometrics* that received the best paper in *Biometrics* award for a paper published in 2012; he accepted this award at the International Biometric Conference in Florence, Italy in July, 2014 before starting his position as assistant professor at Yale University. This is the second straight year UNC biostatistics won this award, with Dr. Yingqi Zhao, assistant professor at the University of Wisconsin-Madison, winning the previous year for a paper she first-authored as a student.

We are very fortunate to have several faculty promotions and new faculty appointments. Todd Schwartz, DrPH was promoted to research associate professor, Robert Agans, PhD was appointed clinical associate professor, and Bahjat Qaqish, PhD was promoted to full professor. New faculty members include: Assistant Professor Mengjie Chen, PhD (joint with the Department of Genetics), who received her PhD from Yale; Research Assistant Professor Josephine Asafu-Adjei, PhD (joint with the School of Nursing), who received her PhD from The University of Pittsburgh and was a postdoctoral research fellow at Harvard; and Research Assistant Professor Naim Rashid, PhD (joint with Lineberger Comprehensive Cancer Center), who received his PhD from UNC and was a postdoctoral fellow at Harvard. Unfortunately, six of our faculty members have departed: Drs. Rosalie Dominik, Bill Kalsbeek, Alan Karr, Pei-Fen Kuan, Fred Wright, and Michael Wu.

At the CSCC, the Hispanic Community Health Study (HCHS) received funding through 2020 (!) under the leadership of Professor and Vice Chair Jianwen Cai. Other CSCC faculty leaders of HCHS include Drs. Daniela Sotres-Alvarez and Sonia Davis. ARIC, along with the ancillary Neurocognitive Study (NCS), just completed the fifth visit in the fall. Drs. David Couper, Lisa Wruck, and Sonia Davis are three of our current CSCC faculty leaders on the landmark ARIC study.

Several biostatistics faculty, postdoctoral associates and students were co-authors on a path-breaking paper appearing in *Nature Genetics* which develops a roadmap for determining genetic causes of disease. Members of our department co-authored other papers in the *New England Journal of Medicine*, the *Journal of the American Medical Association* and in other top-tier journals.

More details on many of these accomplishments as well as many other departmental achievements can be found elsewhere in this newsletter, which I invite you to enjoy.

With warmest regards,

A handwritten signature in black ink that reads "Michael R. Kosorok". The signature is written in a cursive style.

Message from Student Services

Greetings! Thanks for patiently awaiting the arrival of *BiosRhythms*. We've had lots of great things happen in the Department that we'd like to report, so let's get started!

As in the past, we would like to thank you all for sharing your experiences with potential students. It warms our hearts to hear good things about the work we are doing. We'd also like to say thank you again for offering a graduate research assistantship or summer internship to current students who are looking for practical experience, or for offering a financial gift to the department that will assist a student with his or her aspirations. These contributions have proven to be priceless! Thank you again!

We had a very successful year for admissions with 41 new graduate students and 19 new undergraduate (BSPH) students. At present we have a total of 157 graduate students (86 PhD, 23 DrPH, 44 MS, 4 MPH) and 32 undergraduates! As always, we will continue to post our growth and progress.

Once again we will be hosting our UNC Biostatistics alumni receptions at ENAR and ASA.

ENAR will be in Miami, FL this spring, so save the date of March 16, 2015. The reception will be at the Hyatt Regency Miami from 5:30-7:00 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.



Veronica Stallings (left) and Melissa Hobgood

Seattle, WA will be the site this year for the ASA conference. Once the final details have been ironed out, they will also be posted on the Web. In the meantime, save the date of August 10, 2015! It's always a fun time to catch up.

Be sure to check out alumni news to see who's doing what in the career world, whose family is growing, who's getting hitched and everything else in between. Also, while you're at it, be sure to read about what Todd Schwartz, head of the Biostatistics section of alumni affairs, has in store for our alumni.

If you have news and missed this issue, we will look forward to publishing those tidbits next year. Email them to mbobgood@bios.unc.edu. While we're on the subject of catching up and keeping in touch, let me remind you to visit the Alumni webpage sph.unc.edu/alumni-pages/alumni-association-2 and update your address and professional information. It doesn't require membership dues to update this information, but you are welcome to join the Alumni Association and contribute to the Department of Biostatistics directly, the School or the University.

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If you would like to make a donation to the Department, there are instructions on page 10. We appreciate all the support from our alumni and friends.

That should about do it for us in this issue! You'll hear more from us via emails closer to events. Please feel free to send an email to say hi. We love to hear from you all. We hope your holidays were happy and your New Year is a happy and prosperous one.

Warmest regards,

Melissa and Veronica

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Editor and Designer
Monika Soria Caruso
(919) 966-7268

E-mail: mcaruso@bios.unc.edu

Editorial Board
Stephen Couch, Amy Herring,
Linda Kastleman, Evie McKee and
Chirayath Suchindran

Contributing Writers
Monika Soria Caruso,
Forrest Demarcus,
Linda Kastleman and
Elizabeth Witherspoon

ARIC and the UNC Department of Biostatistics

ARIC has thrived under the direction and support of many faculty members in the biostatistics department. Two former CSCC Directors, Drs. Dale Williams and Woody Chambless, helmed it as principal investigators (PIs), as did Dr. Diane Catellier and current PI, Dr. David Couper. Contributing faculty include: Dr. Lisa Wruck, current co-PI; Drs. Jianwen Cai, Chirayath Suchindran, Bill Kalsbeek, and John Preisser; and others. UNC epidemiologists Drs. Gerardo Heiss (PI of the Forsyth Co, North Carolina field center) and Wayne Rosamond (co-PI of Surveillance) have provided substantial leadership. Vital members of the CSCC for decades, their offices are nestled amongst the statisticians on the 4th floor of CVS Plaza in downtown Chapel Hill. Beyond the investigator level, so much credit must be given to CSCC biostatisticians, data management and SAS programmers, and research staff who tirelessly, yet remarkably, tend to the day-to-day maintenance. Countless graduate research associates have also contributed over the years, and have been critical to the success of the ARIC Coordinating Center. Along the way, they gained valuable experience in study operations, completed statistical analysis for collaborative manuscripts, and identified topics for dissertations and master's papers.

To date, ARIC has published over 1,000 peer-reviewed manuscripts, more than 300 of which are co-authored by UNC Biostatistics faculty and students. At least 20 of these are methodological papers, which have in turn been cited over 500 times. Asked to pinpoint an important methodological contribution, Woody Chambless identified the 2011 *Statistics in Medicine* manuscript "Several methods to assess improvement in risk prediction models: Extension to survival analysis."

ARIC Impact

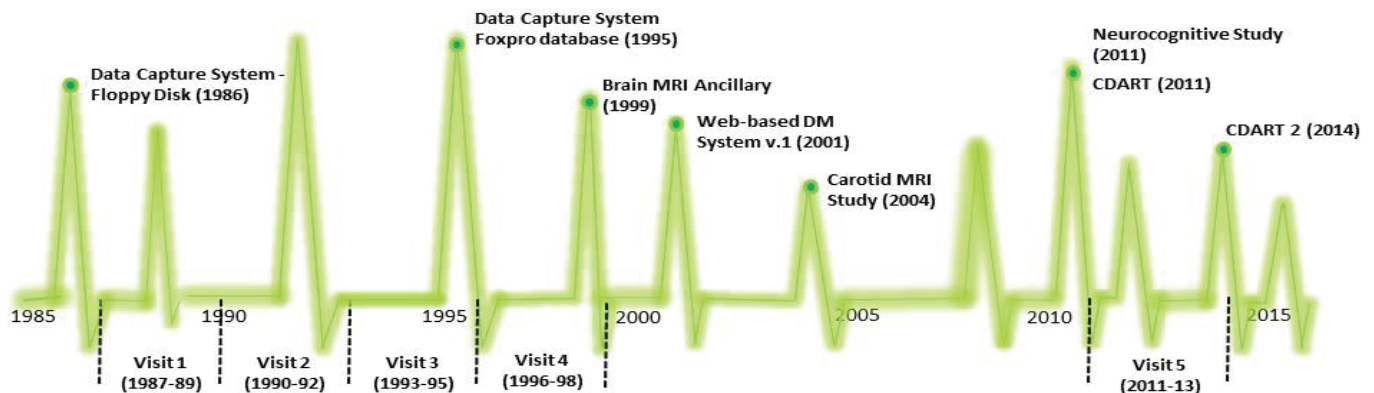
ARIC was one of the first multi-center studies to measure the thickness of arterial walls as a predictor of CV events. Complex imaging techniques started with ultrasound, and were upgraded to MRI more recently. The transition from identifying and counting events to studying sub-clinical disease and its progression to clinical outcomes was an important development in cardiovascular epidemiology, and ARIC was at the forefront of this transition. Measuring arterial wall thickness was an especially important contribution, leading to results that changed clinical care, such as the manuscript "Association of Coronary Heart Disease Incidence with Carotid Arterial Wall Thickness," co-authored by Chambless in a 1997 issue of the *American Journal of Epidemiology*.

ARIC has expanded well beyond its original mission. As of December 2014, 281 ancillary studies have collected data and reported on multiple therapeutic areas, notably cognitive impairment/dementia, diabetes, cancer, atrial fibrillation, lung function, nutrition, obesity, physical activity and Parkinson's disease. In addition, due to its high level of data quality and open-sharing plan, ARIC data is contributing to scientific inquiry well beyond manuscripts written by ARIC investigators. Especially noteworthy, ARIC data have contributed to more than 200 manuscripts published by genetics consortia.

Cutting-Edge Technology

Collecting data in a multi-center setting using cutting edge medical technology such as ultrasound and echocardiograms required building quickly on the work of smaller studies to develop protocols, training and quality control procedures to maintain reliability and validity of the data.

For the Surveillance Component, the CSCC ARIC team



developed a high-quality process for central review of events by a panel of experts. Abstractors and reviewers are recertified annually and extensive quality control is conducted to track reliability. The CSCC has developed expertise in managing the endpoint review process and has applied these methods to other studies, including the Women's Health Initiative, Jackson Heart Study, SPIROMICS, and the Hispanic Community Health Study.



Some members of the Coordinating Center's current ARIC team

The CSCC has had the unique challenge of maintaining an ongoing study at the cutting edge of data management technology for nearly 30 years. Starting in 1986, data was entered at the field centers on computers running DOS and transferred to CSCC on floppy disks. 1995 marked ARIC's transition to a remote entry network-based data management system (DMS). Starting in 2001, ARIC implemented a highly customizable web-based system, eliminating the need for data transfer from sites. Since 2011, ARIC has been using the state-of-the-art CDART web-based DMS, developed in partnership with NC TraCS, UNC's CTSA. Fall 2014 marks the rollout of CDART version 2, by far the most secure, stable, and versatile we have used to date (see the accompanying article about CDART on page 13).

The Future of ARIC

Having completed its fifth visit in 2013, ARIC investigators have submitted applications for renewal funding for visits 6 and 7 with a focus on cognition. ARIC is unique in its ability to associate midlife vascular risk factors with cognitive change after age 65. As such, it is well-positioned to evaluate the vascular contribution to cognitive decline. Several ancillary studies to evaluate other aging-related outcomes are also in development. Working with an aging cohort will provide exciting opportunities as well as methodological challenges ranging from simply collecting the data to adjusting analyses for substantial end-of-life censoring.

Continuing the ARIC tradition of implementing new technologies, ARIC investigators are evaluating the feasibility of using electronic health records for more efficient surveillance. We have also linked ARIC cohort data with Medicare claims data and are analyzing the resulting rich datasets.

Cheers to ARIC's upcoming 30th anniversary! The CSCC is proud of ARIC's many scientific contributions to public health and we look forward to many more years of excellence to come.

Save the Date!

March 15-18, 2015

Eastern North American Region (ENAR) Spring Meeting
Miami, FL.
UNC Biostatistics Reception: Hyatt Regency Miami
March 16, 5:30-7:00 p.m.

Thursday, April 16, 2015

47th Annual Fred T. Foard Jr. Memorial Lecture
Speaker: Marion Nestle, PhD
Chapel Hill, N.C.

Thursday, April 23, 2015

Biostatistics Awards Day
Chapel Hill, N.C.

May 11-12, 2015

UNC Department of Biostatistics Greenberg Lecture Series
Speaker: Susan Murphy, PhD
Chapel Hill, N.C.

August 8-13, 2015

Joint Statistical Meetings
Seattle, Wa.

Thursday, August 20, 2015

Biostatistics Grizzle Alumni Award
Speaker: Qingxia (Cindy) Chen, PhD
Chapel Hill, N.C.

May 12-13, 2016

UNC Department of Biostatistics Greenberg Lecture Series
Speaker: Jim Berger, PhD
Chapel Hill, N.C.

Awards Day

Park wins Grizzle Award

Dr. Ju-Hyun Park, MS, PhD (2006, 2008), is the 2014 recipient of the James E. Grizzle Distinguished Alumni Award. He is currently an assistant professor in the Department of Statistics, Dongguk University, Seoul, the Republic of Korea, and a special volunteer in the National Cancer Institute's biostatistics branch of the Division of Cancer Epidemiology and Genetics.

Before moving to Dongguk University, Park completed a postdoctoral fellowship at the National Cancer Institute under the direction of Dr. Nilanjan Chatterjee, where he won the Outstanding Research Paper by a Fellow award for his work in two consecutive years. During this time, Park made high impact breakthroughs in the design and analysis of genetic epidemiology studies. His first-authored paper in *Statistica Sinica* was the first paper to show a predictor-dependent formulation of the Chinese restaurant process, derived from a fully coherent probability model. This is a major breakthrough of relevance to Bayesian statistics and machine learning. Park has also first-authored papers in *PNAS* and *Nature Genetics*.

Park presented a lecture titled *Hidden Heritability and Risk Prediction Based on Genome-wide Association Studies*.



Grizzle Award winner Dr. Ju-Hyun Park, with Drs. Jim Grizzle (left) and Michael Kosorok.

Delta Omega Awards

Faculty

Dr. Hongtu Zhu

Undergraduate Student

Ms. Jessica Liang

Alumnus

Sean O'Brien, MS, PhD
(1998, 2002)

Graduate Students

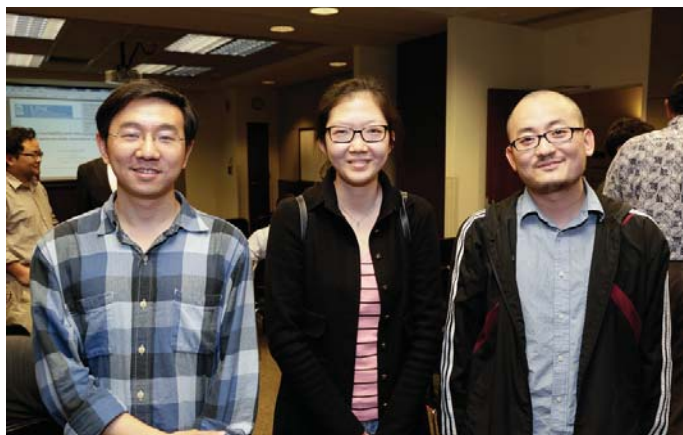
Mr. Qiang Sun
Ms. Yamini Virkud
Ms. Jing Zhou
Ms. Xuan Zhou
Dr. Ruoqing Zhu

Academic Excellence

Mr. Andy Ni

Service

Ms. Emily Butler



Award winners Andy Ni, Yu Deng and Qiang Sun

2014 dissertation awards

Barry H. Margolin Dissertation Award for Excellence in Doctoral Research

Naim Rashid

“Model-based approaches for the detection of active regulatory elements from next generation sequencing data”

Larry Kupper Dissertation Publication Award

Soyoung Kim

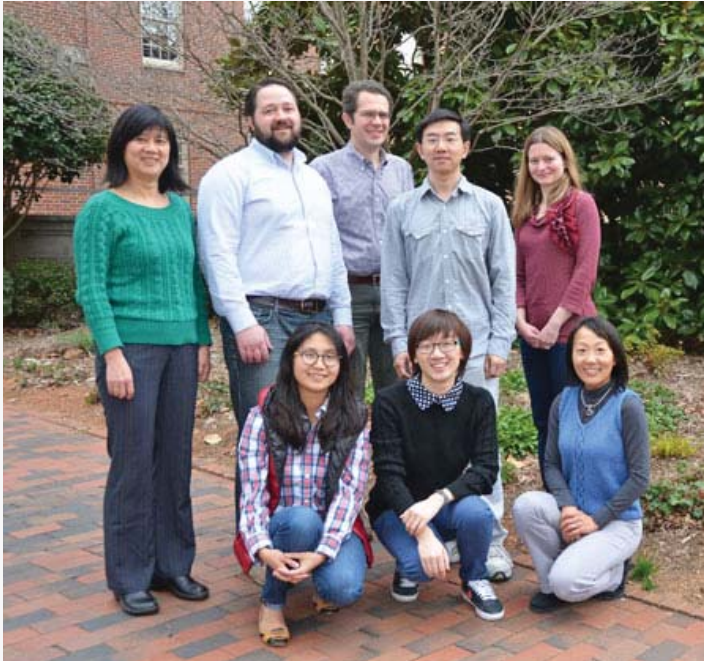
“More efficient estimators for case-cohort studies with univariate and multivariate failure times”

Regina C. Elandt-Johnson Award for Best Master's Paper

Yu Deng

“Empirical comparison of small sample performance for the logrank test and resampling methods with high censoring rates”

BIOS students win whopping percentages of national paper and poster awards at ENAR



Some of the winning students and their advisers pose in front of Rosenau Hall. Standing (l-r) are Dr. Jianwen Cai, Thomas Stewart, Dr. Eric Bair, Ai (Andy) Ni and Dr. Amy Herring. In front (l-r) are Qian Liu, Jing Zhou and Fang-Shu Ou.

Six students in the Gillings School of Global Public Health's Department of Biostatistics received awards for their research at the International Biometric Society's Eastern North American Region (ENAR) spring meeting, held March 16-19 in Baltimore.

Qian Liu, Xiaoxi Liu, Ai (Andy) Ni, Fang-Shu Ou and **Jing Zhou** were among the more than 150 students nationwide who submitted papers for review by a panel of judges. Only 20 papers were selected for prizes.

Thomas Stewart, in collaboration with UNC biostatistics professors Drs. Donglin Zeng and Michael Wu, won a research poster award for his work, "Support Vector Classifiers and Missing Data: An Investigation of the Complete-Case Solution and a Proposal of an EM-like Solution," one of only five poster awards presented.

"We're so excited about the recognition these students have received," said Michael Kosorok, PhD, W.R. Kenan Jr. Distinguished Professor and chair of the Gillings School's biostatistics department. "Over the past five years, on average, our students have won twice as many awards as any other biostatistics or statistics department at the ENAR conference, and that's the case this year, as well – evidence that UNC biostatistics is at the frontier of research worldwide."

"You do the math!" exclaimed Amy Herring, ScD, biostatistics professor and mentor-cheerleader for her students. "That's 25 percent of the paper awards and 20 percent of the poster awards. Wow! We are so proud of these students. Their work is exceptional."

The winning papers included:

Biclustering via Sparse Clustering (Qian Liu, in collaboration with Dr. Kosorok and Eric Bair, PhD, research assistant professor of endodontics, in UNC's dentistry school and of biostatistics at the Gillings School);

Support Vector Hazards Regression for Survival Outcome (Xiaoxi Liu, in collaboration with Donglin Zeng, PhD, biostatistics professor);

Variable Selection for Case-Cohort Studies with a Diverging Number of Parameters (Ai Ni, in collaboration with Jianwen Cai, PhD, biostatistics professor);

Quantile Regression Models for Current Status Data (Fang-Shu Ou, in collaboration with Drs. Zeng and Cai); and

Bayesian Factorizations of Big Sparse Tensors (Jing Zhou, in collaboration with Dr. Herring).

The International Biometric Society is an international organization for the advancement of biological science through the development of quantitative theories and the application, development and dissemination of effective mathematical and statistical techniques. Its members include biologists, mathematicians, statisticians and others interested in applying similar techniques. The Eastern North American Region (ENAR) includes the majority of the United States and Canada.

Paper Awards

Yunro Chung was awarded a Young Research Travel Award from the International Conference on Advances in Interdisciplinary Statistics and Combinatorics to present *Statistical Challenges in Investigating the Effect of Busulfan Delivered by Targeted Pharmacokinetics in Phase I Oncology Trial*.

Natalia Gouskova received a “Best Poster” award at the Statistical Analysis of Multi-Outcome Data workshop at the University of Cambridge (U.K.).

Four of eight International Chinese Statistical Association student research awards were presented to UNC Bios students: **Guanhua Chen**, for *Personalized Dose Finding Using Outcome-weighted Learning*; **Ting-Huei Chen**, for *Using a Structural Equation Modeling Approach with Application in Alzheimer’s Disease*; **Ran Tao**, for *Analysis of Sequence Data Under Multivariate Trait-Dependent Sampling*; and **Qiang Sun**, for *Hard Thresholded Regression Via Linear Programming*.

The Joint Statistical Meetings of the American Statistical Association awarded travel awards to **Ting-Huei Chen** and **Zheng-Zheng Tang** to present their papers *Prediction of Cancer Drug Sensitivity Using High-Dimensional Genomic Features* (Chen) and *Meta-Analysis of Sequencing Studies with Heterogeneous Genetic Associations* (Tang).

The Biostatistics Student Association

is off to another strong start in academic year 2014-2015 with more than a dozen undergraduate and graduate students working together to serve the UNC-CH Biostatistics student body!

Upcoming events include student-led panels on choosing one’s research topic and a discussion on the dissertation. We continue to have great turnouts for our frequent Student Social Hours around Chapel Hill and the Triangle.

Awards & Recognition

Kristen Elizabeth Rhodin and **Subodh Rajesh Selukar** were inducted into Phi Beta Kappa, the nation’s oldest and most honored college honorary society.

Erika Helgeson has been awarded a prestigious National Science Foundation Graduate Research Fellowship. **Scott Karl Van Buren** and **Eric Van Buren** received honorable mentions.

Courtney Sanford was honored as a Buckley Public Service Scholar.

Eric J. Daza co-authored an article in *The Journal of Nutrition* on a study which examined how breastfeeding promotion messages integrated into microcredit sessions encourage Nigerian women to breastfeed longer.

John Bainbridge co-authored three articles in the July 2014 issue of *Journal of Immunological Methods* relating to his work with the Duke Human Vaccine Institute.

Avner Halevy and **Nicolas Ballarini** led a production team that tied for first place in the American Statistical Association’s “You’ve Got Talent!” contest. The winning performance, “A Statistical Love Song,” can be viewed on YouTube at y2u.be/sji0uDSGJV0

For the second year in a row we will also be co-hosting two UNC-CH BIOS Alumni Career Panels with the BIOS Alumni Association, and the second BIOS-STOR Student Mixer with students in the Statistics and Operations Research department.

Back by popular demand will be the BSA T-Shirt Fundraiser, so keep an eye out in the coming months for some more great “μNC” gear! All our information is posted on the new BSA website, UNCBSA.weebly.com.



Pictured above: New BIOS PhD's Beth Horton, Jennifer Clark and Jing Zhou with Dr. Amy Herring at the Doctoral Hooding Ceremony. (photo credit: Siying Li)

2014 BSPH graduates

Zachary Acuff
Erin Comerford
Timothy Ford
Jae Wook Ha
Kaitlyn Paige Hamlett
Jack Hu
Jessica Zexi Liang
Jacob Rhyne
Courtney Belle Sanford
Yue Shan
Edward Yu
Laura Yiling Zhou

*December 2013 & May, August
& December 2014 MS Graduates*

Amanda Beller
Habtmu Benecha
Christopher Glessner
Noory Yong Kim
Jessica Lavery
Nicole Mack
Cara Ostrom
Samuel Shuoyuan Pan
Paul Slubicki
Amelia Wallace
Laura Wiener
Ji Zhang
Qingyao Zheng
Xuan Zhou

*December 2013 & May, August
& December 2014 MPH Graduates*

David Henke
David Herman-Giddens
Yamini Virkud

*December 2013 & May, August
& December 2014 DrPH Graduates*

Natnaree Aimyong
Christian Douglas
Yunfei Wang
Kelley Wekheye

*December 2013 & May, August
& December 2014 PhD Graduates*

Naomi Brownstein
Andrea Byrnes
Guanhua Chen
Ting Huei Chen
Wonil Chung
Jennifer Jinjin Clark
Emil Cornea
Sayan Dasgupta
Natalia Gouskova
Min Jin Ha
Steven Hoberman
Bethany Horton
Noorie Hyun
Zakaria Khondker
Ha Na Lee
Ja-an Lin
Lan Liu
Qian Liu
Shangbang Rao
Naim Rashid
Amy Richardson
Zhengzheng Tang
Eugene Urrutia
Zhaoyu Yin
Ni Zhao
Jing Zhou
Ruoqing Zhu
Baiming Zou

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.

John and Diane Fryer Fellowship in Biostatistics

Yue Jiang
Busola Sanusi

Dat Endowed Fellowship

Crystal Nguyen

Bernard G. Greenberg Scholarship in Biostatistics

Arkopal Choudhury
Xiaotong Jiang
Evan Zucker

Annual Fund Scholarship (School of Public Health)

Benjamin Langworthy
Kyung Taek David Lim

North Carolina Minority Presence Fellowship

Shaina Mitchell

Class of 2014 Scholarship (School of Public Health)

Derek Marsh
Craig McGowan

Michel A. Ibrahim Fellowship

Shaina Mitchell

Smith Anderson Biostatistics Fellowship

Sean McCabe

Kaylani Sen award

Pratyadipta Rudra

Koch Merit Scholarship

Nuvan Rathnayaka

Gillings Merit Scholarship (School of Public Health)

Arkopal Choudhury

Biostatistics Endowed Fellowship

Vasyl Zhabotynsky

Mohberg Family Scholarship

Kayla Kilpatrick

Hardison Scholarship in Bioinformatics

Chong Jin

The following UNC students received **Koch Travel Awards** and/or other departmental funding to present results of their research at scientific meetings: Guanhua Chen, Yu Deng, Natalia Gouskova, Kuan-Chieh Huang, Noorie Hyun, Siying Li, Qian Liu, Xiaoxi Liu, Lu Mao, Andy Ni, Fang-shu Ou, Pourub Roy, Pratyadipta Rudra, Ran Tao, Hongtao Zhang, and Xin Zhou.

You can support the Department of Biostatistics, our students and the Gillings School in many ways:

1. Talk personally with a member of our staff by calling 919-966-0198.
2. Make a gift in our office at 107 Rosenau Hall.
3. Make a secure gift online at spb.unc.edu/gift/school-donate-now *
4. Mail us your check, payable to the Public Health Foundation, to:
Public Health Foundation
P.O. Box 309
Chapel Hill, N.C. 27514-0309

Be sure to include "Biostatistics" in the memo line.

* Giving online is easy, safe and time-saving.

Visit spb.unc.edu/gift/school-donate-now.

You will be directed to our online donation form, which accepts gifts to all UNC departments and funds.

From the box labeled "Please select a fund," select "Biostatistics" or "Other." Click "Search Funds."

Enter the amount you'd like to give, and click "Add to Cart."

We thank you for your support!

Stafford establishes the Turnbull Scholarship to honor her mentor

Fortunate is the graduate who can reflect on her college years and name a professor whose influence has shaped her life and career. For Paula Brown Stafford, one of those professors was Craig Turnbull, PhD.

Turnbull established the UNC biostatistics department's Bachelor of Science in Public Health program in 1975 and led it until his retirement in 2006. The program was the first of its kind in the country and has served as a model for others. Turnbull was on the UNC public health school's faculty for 35 years, enabling hundreds of students to find rewarding careers in public health, medicine and research.



Dr. Craig Turnbull and Paula Brown Stafford

Brown Stafford (BSPH, 1986; MPH, 1992), president of clinical development at Quintiles and chair of the Gillings School's Public Health Foundation, says she is very grateful for Turnbull's mentorship and the career the program empowered her to have. Along with her husband, Gregory W. Stafford, she has established the Craig D. Turnbull Endowed Scholarship Fund.

"I am honored to have worked for Quintiles for 29 years and have the financial ability to recognize not only the School, but the biostatistics program and Craig Turnbull," she says. "Greg and I set up the fund in a way that will allow others also to give in Dr. Turnbull's name to help support future BSPH students in biostatistics."

Brown Stafford describes being a sophomore without a major. A biostatistics student in her dorm recommended she pay a visit to Dr. Turnbull.

"I remember meeting this enthusiastic professor who had frog paraphernalia throughout his office," she says. "He showed such passion! As he shared details of the program and the opportunities available, I knew the BSPH program was the perfect fit for me."

In her junior year, she learned of Quintiles, then a start-up company, and she applied for an internship. That led to a full-time position after graduation.

"If it weren't for Craig Turnbull," Brown Stafford says, "I wouldn't have been at the right place at the right time to be blessed by such a wonderful career."

Turnbull noted that in the early 1970s, he and other former students at the School had established the Bernard Greenberg Scholarship to honor their beloved mentor, former biostatistics chair and Gillings School dean.

"Now, my professorship is complete," Turnbull said, upon hearing of his former student's gift. "I am so pleased that Paula and Greg are doing this to benefit future undergraduate biostatistics students," he said. "And of course, I'm very touched and appreciative that they have honored me in this way."

--Elizabeth Witherspoon

Department news

Kalsbeek retires from the Carolina Survey Research Laboratory ~ a farewell from Robert Agans



Dr. William Kalsbeek

Bill had a vision back in 1990 when he founded the Survey Research Unit. He saw a real need for a population-based data collection center at UNC. Throughout the years, he has collaborated with dozens of investigators on a wide variety of topics, and, as a result, has made a lasting impact on the field of public health. Many a researcher would be proud to have such a long and illustrious career.

As a self-funded unit, he had the luxury of running the center as he saw fit with minimal interference from others, but that also meant that he would have to find continuous funding to support the staff needed to run the center throughout the years. That wasn't always easy. The one thing that has rung loud and clear throughout the years was that you have to go after everything aggressively. And that has pretty much been our modus operandi.

As we reflect and look back over the years of Bill's tutelage, we at the survey center would like to send him a heart-felt thanks for sticking with it and not giving up the ship when so many others would have. We believe that it has all been worthwhile.

Gravens-Mueller receives first Hosking Memorial Award

The James D. Hosking Memorial Award is an annual honor that recognizes a CSCC staff member who has demonstrated outstanding performance in their field (e.g., biostatistical research, data management, statistical computing). 2014 is the award's initial year, but the James D. Hosking Memorial Fund has been growing since its inception in 2007, upon Jim's passing. The prize is to be used by the recipient to increase growth and development in their field of clinical trials research, via training or education.

As a former colleague of Jim's, **Lisa Gravens-Mueller** takes personal pride in being celebrated in her mentor's name. "I am very excited to be the first recipient of the CSCC's Jim Hosking Award, a prestigious annual award created to honor the late Jim Hosking, who was on the faculty in the CSCC. I look forward to using the award to attend a statistical conference in the spring of 2015." Ms. Gravens-Mueller was peer nominated, and then selected by an internal committee headed by Kathy Roggenkamp. Lisa is currently the project manager of our RIVUR and FAVORIT studies.

History of the department, 1949-2011

The UNC-CH Department of Biostatistics has a long and prestigious history! Read about sixty years of excellence in research, training and collaboration in *Strength in Numbers: The Rising of Academic Statistics Departments in the U.S.* (eds. Agresti and Meng, 2013).

Professor Jianqing Fan presents 2014 Bernard G. Greenberg Lecture Series

The Bernard Greenberg Distinguished Lecture Series spotlights excellence in the field of biostatistics. This year's speaker and award recipient was Dr. Jianqing Fan, Frederick L. Moore Professor in Finance and Chair of the Department of Operations Research & Financial Engineering at Princeton University. The series took place May 28 and 29, during which time Fan presented three lectures titled *Are assumptions in high-dimensional inference verifiable?*, *FDR control under dependence*, and *Robust sparse quadratic discrimination*. A slideshow of the lectures can be viewed at sph.unc.edu/files/2014/06/bios_greenberg_lectures_2014.pdf

The biostatistics department's annual lecture series honors the first chair of the UNC-Chapel Hill biostatistics department, Dr. Bernard G. Greenberg, who later served with distinction as dean of the School of Public Health from 1972 to 1982.



Collaborative Studies Coordinating Center

HCHS/SOL findings summarized in publication by the NHLBI

A comprehensive health and lifestyle analysis of adults from a range of Hispanic and Latino origins shows that this segment of the U.S. population is diverse, not only in ancestry, culture and economic status, but also in the prevalence of several diseases, risk factors and lifestyle habits.

Data were derived from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), a landmark seven-year research effort that enrolled 16,415 Hispanic/Latino adults living in San Diego, Chicago, Miami and the Bronx, N.Y., who self-identified as having Central American, Cuban, Dominican, Mexican, Puerto Rican or South American origins.

A comprehensive summary of findings to date was released Feb. 24 by the National Heart, Lung and Blood Institute, as the *Hispanic Community Health Study Data Book: A Report to the Communities*.



Jianwen Cai, PhD, professor and vice chair in the Department, is the principal investigator for the HCHS/SOL Coordinating

Center.

Cai says the HCHS/SOL study is the culmination of several years of work by researchers from a variety of areas.

“I’m very proud of our team at UNC’s Gillings School of Global Public Health that contributed so much to this landmark and historic study,” Cai said. “Building from our core biostatistics department team, we’ve had a large contingent of investigators from the Gillings School of Global Public Health and beyond, including the School of Dentistry. A great number of CSCC research and administrative staff members, statisticians, graduate research assistants, and undergraduate interns are the unsung heroes who have made this project a success day in and out.”

Sonia Davis, DrPH, Professor of the Practice of biostatistics and director of the CSCC, has high praise for the research team.

“The CSCC is proud to be an integral part of this important public health research,” Davis said. “We expect continued findings from HCHS/SOL to impact public health and medical practice for the U.S. Hispanic/Latino population for years to come. The complexities of this particular study design relied heavily on our faculty and staff’s extraordinary expertise in the design, implementation and analysis of community-based studies, continuing the CSCC’s more than 40-year history at the forefront of public health research projects.”

In Memoriam

We mourn the passing of **Joy Cook**, who succumbed to a cystic fibrosis-related illness on May 18th, 2014. Joy was a strong and bright person, and a model researcher at the CSCC. A lifelong Tarheel, her senior year at UNC was put on hold by major CF complications and a lung transplant surgery in December 2006 at UNC Hospitals. Afterwards, while recovering, she strove with great commitment to earn a double major in Public Policy



and Communications in 2007. She *Photo by Jason Smith. ©2010 Endeavors magazine.*

began working at the CSCC shortly after, contributing to both of our lung-related projects, SPI-ROMICS and the Bronchiectasis Research Registry. In her spare time, Joy was active in her church and various CF charities, such as the Sweet Melissa Fund and the yearly Great Strides walks. We will miss her greatly, and extend our deepest sympathies to her family and friends.

New release of Carolina Data Acquisition and Reporting Tool

The CSCC, in collaboration with North Carolina Translational and Clinical Sciences (NC TraCS) Institute, launched an all-new release of the CDART data management system in October. CDART is a sophisticated research data management system which is comparable to commercial systems yet provides substantially more versatility and ease-of-use at a much lower cost. CDART supports flexible data collection methods; ensures data quality, integrity and security; and includes comprehensive reporting and data extraction capabilities.

Two large longitudinal studies for which the CSCC is the data and statistical coordinating center - ARIC (Atherosclerosis Risk in Communities) and HCHS/SOL (Hispanic Community Health Study/Study of Latinos) - started using the new CDART release in October. Documentation is underway for the FDA’s 21 CFR part 11 compliance.

We are excited to share CDART with researchers within and beyond UNC. For more details, see our web site at www.csc.unc.edu.



Department Research

Selected Publications

In a new study, researchers from The University of North Carolina at Chapel Hill, North Carolina State University and other national and international institutions have taken the first steps toward developing a roadmap that may help scientists narrow down the genetic cause of numerous diseases. Their work also sheds new light on ways heredity and environment can affect gene expression. Co-authors from the Department of Biostatistics include faculty members **Fei Zou, PhD**, professor, and **Wei Sun, PhD**, associate professor; **Kai Xia, PhD**, postdoctoral researcher in biostatistics at the time of the study and now assistant professor of psychiatry at UNC; **Vered Madar, PhD**, postdoctoral research associate; **Wonil Chung, PhD**, and **Min Jin Ha, PhD**, recent graduates; **Guanhua Chen**, **Ting-Huei Chen** and **Zhaoyu Yin**, doctoral students. The study was published online April 13 in *Nature Genetics*.

One third of all children affected with febrile urinary tract infections suffer from vesicoureteral reflux, a condition in which the urine flows backward into the kidneys from the bladder. A new study, co-authored by **Myra Carpenter, PhD**, found that children with vesicoureteral reflux receiving antimicrobials over a two-year period (antimicrobial prophylaxis) had a substantially reduced risk of urinary tract infection recurrences compared with children receiving a placebo. Carpenter was a co-author and co-principal investigator. The study was published online in *The New England Journal of Medicine* on May 4.

Motivated by the gene co-expression network estimation problem, researchers have developed a new framework for estimation and statistical inference of partial correlation matrix. **Wei Sun, PhD**, associate professor, co-authored the study. In their article published in the May issue of *Biometrics*, they demonstrate the effectiveness of their method in both simulation and real data analysis.

Recently, increasing attention has focused on making causal inference when interference is possible. The *Journal of the American Statistical Association* has published a study that considers inference about treatment effects when the population consists of groups of individuals where interference is possible within groups but not between groups. The methods are illustrated by two examples which consider the effects of cholera vaccination and an intervention to encourage voting. **Michael Hudgens, PhD**, associate professor, was co-author of this study.

Anastasia Ivanova, PhD, associate professor, and **Steven Hoberman, PhD**, recent graduate, co-authored “Higher order response-adaptive urn designs for clinical trials with highly successful treatments.” Their study appears in the January 2015 issue of the *Journal of the Royal Statistical Society, Series C*.

Web-based and live counseling programs effectively can reduce risk of heart disease for patients at high risk for the disease, and Web-based programs are particularly cost-effective, according to research published online May 26 in *JAMA Internal Medicine*. **Shrikant Bangdiwala, PhD**, professor, was a co-author of the study.

In epidemiological cohort studies, the outcomes of primary interest are relatively rare, even after many years of follow-up; therefore, the cohorts must be very large so as to yield reliable information about the effects of exposures or other covariates on the event times. According to research published in the *Journal of the American Statistical Association*, the proposed methods in a new study can drastically reduce the cost of epidemiological cohort studies while incurring little loss of statistical efficiency relative to full-cohort sampling. **Donglin Zeng, PhD**, professor, and **Danyu Lin, PhD**, Dennis Gillings Distinguished Professor, are co-authors of the study.

Faculty Awards & Recognition

Kathy Roggenkamp, MA, was selected by her students to receive one of the School’s annual Teaching Innovation Awards.

Todd Schwartz, DrPH, was promoted to research associate professor, **Robert Agans, PhD**, to clinical associate professor, and **Bahjat Qaqish, PhD**, to full professor in 2014.

Koch wins ASA's Peace Award for outstanding contributions



Dr. Gary Koch

Gary G. Koch, PhD, professor of biostatistics at UNC Gillings School of Global Public Health, has been named recipient of the American Statistical Society's 2014 Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society.

First presented in 2012, the Peace Award recognizes statisticians who have made substantial contributions to the statistical profession and to society in general. The award was established by Christopher K. Peace, son of Karl Peace, to honor his father's life and work

Koch, who has served on the UNC public health school faculty since 1967, directs the biostatistics department's Biometric Consulting Laboratory, which he established with Dennis Gillings in 1980. He has received the Gillings School's top awards for teaching and mentoring, including the McGavran Award for Excellence in Teaching (1992), the

John E. Larsh Jr. Award for Mentorship (2007), and the Greenberg Alumni Endowment Award (2012).

"I cannot think of a more appropriate recipient of the Karl Peace award than Gary Koch," said Koch's colleague John Preisser, PhD, research professor of biostatistics at the Gillings School. "The Department of Biostatistics, the Gillings School and its alumni around the globe, as well as Koch's many admirers, colleagues and former students, are delighted that this award recognizes the far-reaching influence of his work on improving human welfare."

Preisser co-authored a 2011 biography of Koch in the *Journal of Statistics in Biopharmaceutical Research* and managed the production of a video conversation with Koch, available on YouTube.

Koch accepted the award at the 2014 Joint Statistical Meetings (JSM) conference.

JSM is the largest gathering of statisticians held in North America. Attended by more than 6,000 people, it is the joint conference of the American Statistical Association, International Biometric Society, Institute of Mathematical Statistics, International Chinese Statistical Association, International Indian Statistical Association, International Society for Bayesian Analysis, Korean International Statistical Society, Royal Statistical Society and Statistical Society of Canada.

Previous awardees are Richard Macey Simon, of the National Cancer Institute (2013) and Fritz Scheuren, of the University of Chicago's National Opinion Research Center (NORC), and Marvin Zelen, of Harvard University and the Frontier Science Foundation (2012).

Selected Grants

Wei Sun, PhD, associate professor, received a grant from the National Institutes of Health to develop statistical methods and software for RNA-seq data analysis, with specific aims on dissecting the genetic basis of allele-specific expression (ASE), quantitative assessment of autosomal imprinting in humans, as well as the genetically controlled measurement of escape from X-inactivation in mouse and human.

Hongtu Zhu, PhD, professor, was awarded two competitive renewals. His project through the National Institutes of Mental Health proposes to analyze imaging, behavioral, and clinical data from a longitudinal neuroimaging database on early brain development in high-risk children. His study through the National Science Foundation concerns developing innovative advanced statistical tools for the analysis of ultra-high dimensional functional data with spatial-temporal correlation.

Michael Kosorok, PhD, professor and chair, received funding from the National Science Foundation to develop a new approach for analyzing censored data which is theoretically justified, easy-to-compute, and can be applied to high-dimensional data. The motivation for this research arises from the ongoing development of personalized medicine, in which medical treatments are tailored to a patient based on the patient's genetic profile and other personal biomedical information.

Faculty & Staff

Cai elected ENAR president

Jianwen Cai, PhD, professor and vice chair of the Department of Biostatistics, has been elected to lead the International Biometric Society's (IBS) Eastern North American Region (ENAR), the international biostatistics professional organization. Cai took office as president-elect on Jan. 1, 2015, and will serve successive years (2016-2017) as president and past-president.

"I'm very pleased that our department is able to contribute such an able leader to this major biostatistics professional organization," said Michael R. Kosorok, PhD, W.R. Kenan Jr. Distinguished Professor and chair of the department.

A number of Gillings School biostatistics faculty have held the three-year leadership role in ENAR, most recently Amy Herring, ScD, professor and associate department chair, who served from January 2010 through 2012.

Other faculty members who have served as ENAR president include Gary Koch, PhD, professor and director of the Biometric Consulting Laboratory; Lisa LaVange, PhD, former Professor of the Practice of biostatistics and director of the biostatistics department's Collaborative Studies Coordinating Center, now director of biostatistics at the Center for Drug Evaluation and Research at the U.S. Food and Drug Administration; retired professor Jim Grizzle, PhD; and the late Bernard Greenberg, PhD, founding chair of the department.

Alumni who have served as ENAR president include Peter Imrey, PhD, professor of medicine at Case Western Reserve University and affiliate statistics professor at the University of Illinois at Urbana-Champaign; Eric (Rocky) Feuer, PhD, branch chief in the Surveillance Research Program (SRP) at the National Cancer Institute; and DuBois Bowman, PhD, chair of biostatistics at Columbia University's Mailman School of Public Health.

"I am very excited to have this opportunity to serve the ENAR community and continue this legacy of our department," Cai said.

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



Dr. Jianwen Cai

Other News

Several people joined the department as a postdoctoral research associates in 2014: Maximillian Chen (Dr. Joseph Ibrahim, advisor); Emil Cornea (Dr. Hongtu Zhu, advisor); Daniel Hernandez-Stumpfhauser (Dr. Amy Herring, advisor); and Ying Yan (Dr. Haibo Zhou, advisor).

Dr. Li Liu, associate professor at Wuhan University, is a visiting scholar. She is working with Dr. Fei Zou.

Josephine Asafu-Adjei, research assistant professor of biostatistics (joint with nursing), and Mengjie Chen, assistant professor of biostatistics (joint with genetics), joined the faculty in 2014. Marcus Herman-Giddens joined the department as an instructor.

Several new adjuncts were appointed to the department in 2014: Dr. Alan Karr as adjunct professor; Dr. Rosalie Dominik as adjunct associate professor; and Drs. Pei-Fen Kuan, Michael Wu and Richard Zink as adjunct assistant professors.

Former faculty member Dr. Pei-Fen Kuan is now an assistant professor at Stony Brook University. Former faculty member Dr. Alan Karr is now the director of the Center of Excellence for Complex Data Analysis at RIT International. Staff members who left include Danielle Bass, who transferred from the CSRL to the Business School, and Chris Anderson, who transferred from the CSCC to the Department of Nutrition. Other departing faculty and staff this year were Dr. Rosalie Dominik, research associate professor, and Courtney Page, research specialist.

Ravi Mathew and Myra Carpenter both retired from the CSCC, and Ricky Christian and Bill Kalsbeek retired from the CSRL.



Dr. Yun Li

Li among most-cited researchers

Yun Li, PhD, assistant professor of biostatistics and of genetics (UNC School of Medicine), is among the most-cited researchers in the sciences and social sciences, according to data collected by Thomson Reuters.

About 3,200 researchers earned the distinction by writing the greatest number of reports officially designated as highly-cited papers, thereby being ranked within the top 1 percent most cited for their subject field and year of publication.

“Citations offer a direct testament to work that scientists themselves judge to be the most important to ongoing research,” said Gordon Macomber, managing director of Thomson Reuters Scientific and Scholarly Research. “By analyzing these citation connections, one can identify the most impactful people, publications, programs and more. The listings in Highly Cited Researchers truly reflect positive assessment by peers and constitute a searchable database containing an elite selection of the world’s most influential scientific researchers.”

“It is awesome that three Gillings faculty members are on this list,” said Barbara K. Rimer, DrPH, dean of the Gillings School, “and we are so proud of them. Their inclusion there speaks to their productivity, influence and impact. That they are from three departments speaks to the collective breadth and depth of our faculty members.”

The complete list of top-cited researchers and information about Thomson Reuters’ methodology for selecting researchers can be seen on the Highly-Cited website.

Service Appreciation



Vera Bennett (second from left) was awarded the 2014 Biostatistics Staff Award for Excellence. Star Heels awards also were presented to (l-r) **Jeffrey Sink**, **Yonghong Nie**, and **Maria de los Angeles (Nana) Abreau**.

5 Years

Shelia Burgard
Yonghong Nie
Ping Shen
Yanping Teng

10 Years

Ashley Britt
Kwanhye Jung
Terry Mehlman
Jeffrey Oberhaus
Pedro Quiebrera
Yue Shen
Michael Hudgens
Jane Monaco

15 Years

Anastasia Ivanova
John Preisser, Jr.

25 Years

Veronica Stallings

Alumni news



Dear fellow BIOS alumni and friends,

As president of the Biostatistics section of the UNC Gillings School of Global Public Health Alumni Association, I'm pleased to remind you that graduates of our department are automatically members of the School's Alumni Association, which does not charge dues.

Dr. Todd Schwartz

One important way the Alumni Association benefits us is through the searchable database – Alumni Online Community – found under the 'Directory' link at the Alumni Association's website sph.unc.edu/alumni. Please check it out and take a moment to ensure your contact information listed there is current and accurate. This is one way to network our alumni with current students seeking mentoring in various capacities.

I also encourage you to explore the giving options listed at sph.unc.edu/gift/make-a-gift as one way to support the department at whatever level you might choose. You can find an option to support the Department, or you may search to find various scholarships, which provide financial assistance to our students.

This past year, we convened two alumni panels: one for doctoral alumni and one for master's alumni. These were very well represented and included broad representation from our impressive alumni base. These panels were very well received by the current students, as evidenced by strong engagement with the panelists.

As usual, please don't forget to look for our receptions for alumni and friends at ENAR and the Joint Statistical Meetings, which are partially sponsored by the Alumni Association. These events are a great way to reconnect with the Department and your friends and colleagues. Be sure to read our email announcements carefully, as we have sometimes modified the usual format to be an off-site dinner at a nearby restaurant.

Please save the date for our next scheduled gathering at the 2015 ENAR meetings in Miami, currently scheduled for Monday, March 16, 2015. This special event also serves to celebrate the School of Public Health's 75th Anniversary. See sph.unc.edu/alumni-pages/75-years for additional information.

We also extend a cordial invitation to you to join us for the Department's Grizzle Lecture. The date for the Grizzle Lecture will be announced in the coming weeks.

I value any feedback you may have, so please feel free to contact me. Please visit the department's website sph.unc.edu/bios/biostatistics to remain connected to the department, and check your email inbox for future announcements. If you have not been receiving email from the department, please contact me so you can receive these timely notices.

With best wishes from your department!

Todd Schwartz (MS, 1998; DrPH, 2004)
Research Associate Professor

In Memoriam

Herbert Aron David, PhD died on July 14, 2014, in Columbia, Md. from complications of Parkinson's disease. Dr. David was a professor in the department from 1964 to 1972.

Agam Nath Sinha (PhD 1971) died on May 21, 2014, in Trenton N.J. P.K. Sen was his advisor during his time at UNC.

Xiaojian Tan, PhD passed away on September 30, 2014, in Durham. Tan was on medical leave from the Master of Public Health program in the department under the direction of Fei Zou.

1960s

Devendra Jain (MSPH, 1967) shares this update: "I retired in the year 2001 from the post of Deputy Director General (Senior Grade), Indian Council of Medical Research (ICMR), Department of Health Research, Ministry of Health and Family Welfare, Government of India. I worked with the ICMR almost for 30 years. Prior to joining ICMR, I worked as a Statistician with the W.H.O. International Agency for Cancer Research, Lyon (France), for about two and half years. My son Jayant and daughter Shruti doing well in their jobs. Recently my wife Jyotsna is not keeping good health." The department sends well wishes to Dr. Jain's wife Jyotsna.

1970s

Priscilla A. Guild (MSPH, 1971) was awarded the Citation of Merit from the North Carolina Public Health Association. It was in recognition of her more than 48 years of work at the local, state, and national level in the field of biostatistics and administration.

1980s

Robert McMahon (MS 1987, PhD 1989) was promoted to professor of psychiatry at the University of Maryland School of Medicine, effective July 2013. Dr. McMahon serves as director of biostatistics and data management at the Maryland Psychiatric Research Center, a leading center for research into the causes and treatment of schizophrenia. He is also happy to announce that his daughter, Elizabeth McMahon, graduated from high school and entered college in 2013.

1990s

George Luta (MS 1996, PhD 2006) received a promotion to associate professor with tenure on July 1, 2014 in the Department of Biostatistics, Bioinformatics and Biomathematics at Georgetown University.

Tara Smith Strigo (MPH 1995) started 2014 off with a change and accepted a position at Duke Medical Center as director of research for general internal medicine.

Richard Zink (MS 1999, PhD 2003) went to press and is now published! In July 2014, SAS Press released *Risk-Based Monitoring and Fraud Detection in Clinical Trials Using JMP and SAS*, authored by Dr. Richard Zink.

2000s

Natalie Cheung Hall (MS 2003) contributed an article to the October *Amstat News*, titled *You are the Master of Your Master's*. (See magazine.amstat.org/blog/2014/10/01/masters-oct14/)

2010s

Jessica Lavery (MS 2014) didn't waste any time showing off her skills after graduation! She joined the Department of Obstetrics and Gynecology at Columbia University Medical Center in New York City on July 15.

Cicely Mitchell (DrPH 2012) launched the Art of Cool Festival, a progressive jazz and alternative soul music festival located in downtown Durham, as well as the StArt of Cool jazz education program. Cicely is co-founder and president of the Art of Cool Project.

Andrew Williams (BSPH, 2013) completed his Masters of Science in Analytics at NC State in May and is now working as an Analytics Consultant at Cigna Healthcare in Raleigh.

Send your news and photos to
mhobgood@bios.unc.edu.

Whenever you have updates for a future BiosRhythms
or the website, please write to us!



Department of Biostatistics
Gillings School of Global Public Health
CB# 7420, 3101 McGavran-Greenberg Hall
The University of North Carolina at Chapel Hill
Chapel Hill, N.C. 27599-7420

WE THANK the following alumni, friends, faculty, staff, students and organizations, whose generosity provides much-needed funds to support biostatistics graduate education. We are very grateful for your help. The names listed represent gifts received from Dec 1, 2013 - Dec. 31, 2014. 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, whose members contributed funds for the publication of this issue of *BiosRhythms*.

Keir Davis Adam (BSPH '90, MS '92) & Nazir Ahmed Adam
M. Taylor Alexander Jr. (MSPH '80)
Barbara Vineyard Alexander (MSPH '78)
Nikita Arya (MS '03)
Susan Shearer Atkinson (BSPH '82, MS '84, PhD '90) & Douglas K. Atkinson
A. John Bailer (PhD '86) & Jennifer Faris-Bailer
Jill June Blacharsh
William Cudd Blackwelder (PhD '77)
Michael N. Boyd (MS '81, PhD '82)
Kerrie Eileen Boyle (DrPH '84)
Edward Carroll Bryant (DrPH '83)
Benjamin Harding Buck (BSPH '12)
Roger Carl Byrd
Jianwen Cai
Brian Calingaert (MS '97)
Hsing-Yi Chang (MPH '91, DrPH '96)
Guanhua Chen (MS '10, PhD '14)
Qingxia Chen (PhD '05)
Mun Hui Chia (MSPH '77)
Thomas Ross Coleman (MS '89) & Nancy Kiernan Coleman
Patrick Comerford & Kathryn Comeford
Renee Avery Connelly (MSPH '83)
Marla DeLuca Curran (MS '97, DrPH '02)
Clarence E. Davis Jr. & Sherrilyn E. Davis
Sonia Kropp Davis (BSPH '88, MS '90, DrPH '94) & Jody Thomas
Allison Mary Deal (MS '07)
Michael A. DeSpirito (MS '06) & Janice H. DeSpirito
Diane E. Medcalf Living Trust
Guoqing Diao (PhD '05)
John R. Fieberg (MS '96) & Ann Fieberg
Terry Lynn Flanagan (MPH '89)
Daniel Herbert Freeman Jr. (PhD '75)
Robinson Fulwood (MSPH '76)
Stuart Gansky (BSPH '88, MS '92, DrPH '96) & Karen L. Gansky
George Arthur Garland (MSPH '69)
Jerry Gray Gentry (MSPH '69)
GlaxoSmithKline
Lucinda Howell Glover (MPH '88)
G. Jay Graepel (PhD '81)
Kerry Brent Hafner (MS '84, PhD '89)
Natalie Cheung Hall (BSPH '99, MPH '03)
Nellie Ingrid Hansen (MPH '88) & Ronald Ray Benson Sr.
Melissa Anne Hays (MPH '95)
H. Carlisle Henley Jr. (MSPH '62, PhD '71) & Martha Lillian Henderson
Amelia Dale Horne (MPH '79, DrPH '86)
Annie Green Howard (PhD '12)
George Howard (MSPH '82, DrPH '87) & Virginia Jackson Howard (MSPH '82)
George Harris Huntley (BSPH '84)
Peter Bert Imrey (PhD '72)
Deborah Dundas Ingram (PhD '83)
Robbin F. Itzler
Cathy Anne Jenkins (MS '04)
Clifford LeRoy Johnson (MSPH '70)
Johnson & Johnson
Brian Paul Kilgallen (MS '98) & Teresa Kilgallen
Haesook Teresa Kim (MS '90, PhD '94)
Gary Grove Koch & Carolyn Johnson Koch
Matthew Allen Koch (MS '91, PhD '91) & Lilin Macapayag Koch
Michael R. Kosorok & Pamela W. Kosorok
Kenneth Joseph Koury (PhD '82) & Mary Lou Koury
Carrie Sheldon Lanning (BSPH '99) & Chris Lanning
Kelvin K. Lee (PhD '78)
Kerry Lamont Lee (PhD '75)
Carol Christine Leininger (MPH '79)
Marcia Joanne Levenstein (MS '76)
Danyu Lin
Lauren E. Lindblad (MS '02)
Stuart Roger Lipsitz (MS '85)
Yu Lou (MS '89) & Jun-Guo Zhao
Gheorghe Luta (MS '96, PhD '06) & Anca Dana Dragomir
Pauline Rabon Lyna (MPH '92)
William Whiting Lyon (MSPH '74)
Joseph Vernon Mauney (BSPH '95, MS '97) & Gretchen Riser Mauney
Evelyn J. McKee
Richard Warren McLain (BSPH '82)
Robert Patrick McMahon (MS '87, PhD '90)
Diane E. Medcalf & Ralph F. Medcalf Jr.
Anne Ruth Meibohm (MS '81, PhD '92)
Merck & Company, Inc.
Mary Jane Mietlowski (MSPH '75) & William Mietlowski
Jane Holland Monaco (MS '98, DrPH '03) & Thomas Joseph Monaco Jr.
Jeanenne Little Nelson (MSPH '77, PhD '96)
Leonard Oppenheimer (MS '68) & Ruth Zelig
Michael Anthony Penne (BSPH '96, MPH '00)
Pfizer Foundation
Barbara Alison Prillaman (MS '95)
Xiang Qin (MS '99)
Dana Quade
Paul Joseph Rathouz (MS '93)
Kristen E. Rhodin
Kimberly Boomer Ring (MPH '97)
Eric Alan Rodgman (MPH '86)
David William Ross
Subir Roy (MSPH '66)
Ben Lovett Sanford (MS '03)
Jerald Scott Schindler (DrPH '86) & Sharon M. Schindler
Todd Andrew Schwartz (MS '98, DrPH '04) & Rachel Ann Schwartz
Kofi Alavi Semanya (PhD '81) & Joyce Gyamerawah Semanya
Carol J. Shannon (MSPH '82)
Chuan-Feng Shih (MS '91)
Fraser B. Smith (MS '85, PhD '92)
Steven Michael Snapinn (MS '82, PhD '83) & Sylvia Wallace Snapinn (MPH '81)
Ellen Sim Snyder (MS '84, PhD '93)
William Anthony Sollecito (DrPH '83) & Michele Sollecito
Paula Brown Stafford (BSPH '86, MPH '92) & Gregory Wayne Stafford
Seth Michael Steinberg (MS '81, PhD '83)
Maura E. Stokes (BSPH '78, MSPH '79, DrPH '86)
Robert Charles Sykes (MSPH '75)
Gene Dennis Therriault (MSPH '71)
Craig David Turnbull (MPH '65, PhD '71) & Patricia Ann Turnbull
Jia Yin Wan (BSPH '01)
B. Peyton Watson (PhD '82)
Victor John Weigman Jr.
Fredrick Seymour Whaley (MSPH '75, PhD '83)
Paige Leigh Williams (BSPH '83, MS '85, PhD '90)
Wayne Edward Wormsley (MPH '85)
Joy Wu (MS '06)
Thomas Robison Yerg (MPH '73) & Diane Everts Yerg (MSPH '73)
Carl Nobuo Yoshizawa (PhD '84)
Ming Zhong (MS '94, PhD '00) & Xumin Nie
Laura Yiling Zhou (BSPH '14)
Haibo Zhou
Bin Zou (MS '01)