BiosRhythms

TABLE OF CONTENTS

STAY CONNECTED

📰 sph.unc.edu/bios/BiosBeat

f facebook.com/UNCBios

🐦 twitter.com/UNCBioStat

COMMENTS/SUGGESTIONS?

✉ jjoberhaus@unc.edu

What could YOUR Annual Fund gift accomplishment?

$50,000
A full-ride scholarship for one student for a year

$15,000
In-state tuition cost for one semester in a master's program

$5,000
Global experience for one Master of Public Health student

$1,000
Purchase of one standing desk for use in a study area

$250
One student's registration to the annual ENAR conference

Gifts to the Annual Fund allow us to respond quickly to the greatest needs and most promising opportunities. To make a gift please use the envelope or visit giving.unc.edu/gift/sph.

I am thrilled this year to return to being chair of the marvelous Department of Biostatistics at UNC-Chapel Hill.

I wish to thank Dr. Jianwen Cai who has graciously and ably served as interim chair during this past year (from July 1, 2016, through June 30, 2017). This is an exciting department to be a part of, and I look forward to what will unfold over the next few years.

In this issue of BiosRhythms, you will learn about many interesting activities within the department as well as accomplishment of our students, alumni, staff and faculty, as well as some of the achievements made possible through generous contributions to the department and university.

You will learn about some of the data science and causal inference work we are doing. Data Science, the study of collecting, managing, analyzing, and interpreting data to solve problems is one of the most important endeavors of our age, and biostatistics is central to all of it. Thus the skills of biostatisticians are needed more than ever. Biostatisticians are best suited to the design, generation and analysis of data. They possess the knowledge and tools required to ensure that the application of statistics to data science and human health is both factual and cutting-edge, with reproducible

results. A major part of this work is in Causal Inference which studies how to ensure that the design and analysis of biomedical data yield a correct understand of the actions we need to take to improve health. A primary mission of the Department of Biostatistics at the UNC Gillings School of Global Public Health is the training and development of future leaders in biostatistics and data science, including the important area of Causal Inference and other domains in biostatistics, who will be integral to improving human health around the globe.

You will also read several inspiring stories of current and former students who benefited greatly from scholarships provide by the generous contributions of donors. You will also learning about a very exciting new grant to study asthma using state-of-the-art clinical trial designs. Several other exciting updates are also provided, including news that the Collaborative Studies Coordinating Center has moved to a new location, about new faculty in the department, leadership changes and other interesting events and achievements. Please enjoy!

With warmest regards,

MICHAEL R. KOSOROK, PH.D.
Distinguished Professor and Chair of Biostatistics

The meaning of "big data" can be summarized this way: data are more complicated than they used to be.

They're more complicated in several ways – in total amount (think of the billions of Facebook users we can now access online); in amount per person (with fitness trackers, we can gather vital statistics every few seconds for months, which yields an incredible amount of information for one individual); and in level of detail (brain imaging provides us with millions of pixels per image, all of which contain data ripe for analysis).

Big data also can move fast. There are many scenarios in which scientists need systems that can both gather data and continuously update the analysis of those data to create near-real-time monitoring. Imagine a program that screens emergency room data on a national level. As patients are admitted, the program monitors for any uptick in similar cases that might indicate an emerging trend. An abnormally high number of flu cases, for example, might lead researchers to identify a new influenza strain and activate an early response to it.

Big data hold nearly infinite possibilities for public health.

WHAT SHOULD WE KEEP IN MIND AS WE PARTICIPATE IN THE BIG DATA REVOLUTION?

We don't use the data we already have particularly well. The trajectory of big data will be defined by how quickly we learn to design better data collection systems that give us the right information, as well as analytics programs that transform those raw data into something useful. In our biostatistics department, we recognize the tremendous potential for creating new artificial intelligence (AI) tools that will change the face of public health research.

Many new developments involve something called "deep learning," a very impressive type of AI that analyzes data to solve incredibly difficult problems. For example, a program exists – developed by Andre Esteva, doctoral student at Stanford University, and colleagues – that can access photos of individuals online and identify with great accuracy whether they have a particular type of skin cancer.*

When creating programs such as this, which work with people's medical information, we always have to keep in mind the ethics of data sharing. As researchers, we shouldn't invade people's privacy or make it easy for others to do so.

> "
> *Our ability to comprehend the data and apply it for the public good is limited only by our imagination.*
>
> **DR. MICHAEL KOSOROK**

We also must be committed to scientific integrity. Anyone working with big data should understand statistical inference issues and avoid big-data hubris. Bad design, biases and uncertainty all are enhanced when more data points are involved.

As we continue improving the technical tools and study designs we use to work with big data, we must remember not to put everything into one box. Big data represent a continually evolving and fast-moving new area. If we can avoid constraining it too early, I think it will surprise us with the places it can take future research.

*See Esteva et al. (2017). Dermatologist-level classification of skin cancer with deep neural networks. Nature, 542, 115-118.

READ FULL INTERVIEW AND MORE AT:

sph.unc.edu/cphm/cph

Casual Inference Research Laboratory

The UNC Casual Inference Research Laboratory (CIRL), led by biostatistics professor Michael Hudgens, PhD and epidemiology professor Stephen Cole, PhD, made great strides in its first year.

An external advisory board of global leaders in causal inference was assembled to establish a national presence for the lab, and to craft medium-term goals. Epidemiology research assistant professor and CIRL member Jess Edwards, PhD, received a career development award from the National Institute of Allergy and Infectious Diseases, further strengthening these goals. Edwards' award will explore how to optimize clinical care decisions for people living with HIV.

In May of 2017, the CIRL hosted over 200 attendees at the Atlantic Causal Inference Conference (ACIC), a preeminent conference dedicated to methods for causal inference. The ACIC included prominent keynote speakers Susan Athey, PhD (Stanford University) and James Robins, PhD (Harvard TH Chan School of Public Health).
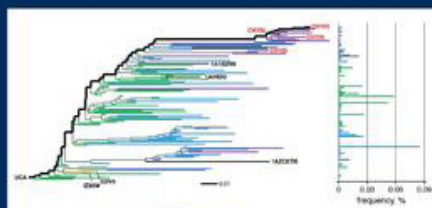
The Causal Inference Research Laboratory aims to host the ACIC again in the coming years, and to further the progress of adapting machine-learning methods to causal inference through ongoing internal research.
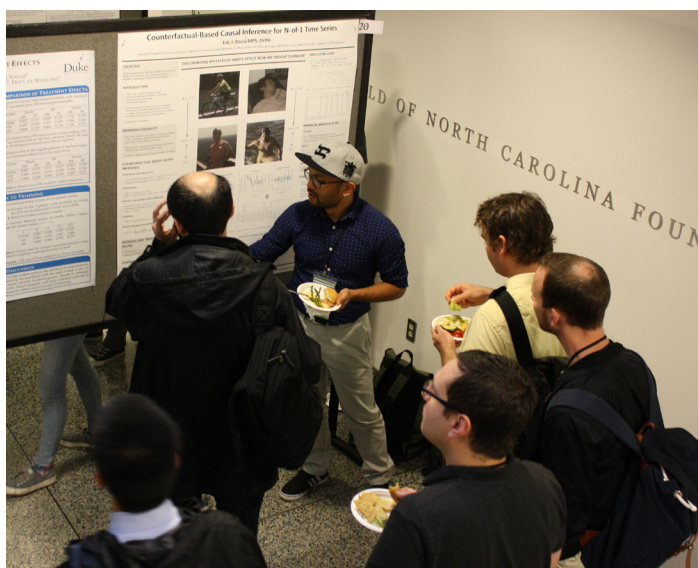
Conference presentter explains work

Hudgens co-edits book on quantitative methods

Michael Hudgens, PhD, professor of biostatistics at the UNC Gillings School of Global Public Health, is co-editor of a new book, Quantitative Methods for HIV/AIDS Research, published Aug. 15 by CRC Press. The text brings together the perspectives of statisticians and mathematicians engaged in research on HIV/AIDS.

"We hope that the work will inspire more statisticians, mathematicians and computer scientists to collaborate and contribute to the interdisciplinary challenges of understanding and addressing the AIDS pandemic," Hudgens said.

Hudgens also is director of the biostatistics core of the UNC Center for AIDS Research (CFAR) and elected fellow of the American Statistical Association. He has experience in collaborative research and statistical methodology development related to studies of infectious diseases, primarily HIV. Currently, he is associate editor for Biometrics, Journal of the Royal Statistical Society — Series B, and Journal of the American Statistical Association. He has been a faculty member at the Gillings School since 2004.

Hudgens' co-authors, from Duke University's Department of Biostatistics and Bioinformatics, are Cliburn Chan, PhD, associate professor, and Shein-Chung Chow, PhD, professor.

Matt Psioda

PHD 2016

The Fryer Fellowship helped me find the best of both worlds in academe

As far back as I can remember, I knew I wanted to be an educator. After completing my undergraduate and master's-level work in mathematics at the UNC Wilmington (NC Teaching Fellows Scholarship recipient), I began a position as a high school math teacher. Interestingly, teaching AP statistics was my first significant exposure to probability and statistics, and I think this experience truly sparked my interest in working with statistics and data. This led me to begin work as an entry-level SAS programmer at a contract research organization (CRO) in the Wilmington area.

The change was bittersweet. At the point I started my new job, I had never taken a course in statistical programming and barely knew how to open SAS! Every day brought an endless stream of new knowledge, which I found exhilarating. However, I missed the fulfillment of teaching others.

With a team of several of my colleagues, we developed a training program at UNC Wilmington. We brought master's students and recent undergraduates onto our team as interns, put them through an intense boot camp (my BIOS 511 students can relate), and paved the way for them to transition into entry-level SAS programmers.

The CRO role was too "inside the box" for me. I wanted variety and new challenges, and while there were many such opportunities at my company, my education level did not permit me to engage in them. It became clear that I needed to pursue a doctoral degree in biostatistics. As luck would have it, there was a renowned program just up the road!

With significant trepidation about starting doctoral coursework, I knew that I would need to be dedicated and focused. My anxiety was exacerbated by my need to work full-time to pay for my degree. Anyone who works in industry can appreciate just how "full" "full-time" can be.

Fate was kind, however. I was awarded the Fryer Fellowship during my first year in the doctoral program, and that award allowed me leave my position in industry and focus on my doctoral work. The Fryer Fellowship allowed me to devote myself more fully to my training, and thereby, to maximize my growth as a statistician while a student in the program.

Now that I have completed my doctorate and joined the Department of Biostatistics as a research assistant professor, I feel I have finally found my career path. The statistician in me is confronted daily with new and exciting challenges that require me to seek or develop new knowledge. The educator in me can teach our amazing students about cutting-edge ideas.

Psioda teaching

Without question, my success – and the success of students I am able to help – can be attributed, in part, to the sound foundation I was afforded through the Fryer Fellowship.

Psioda joined the Biostatistics Department in 2016, teaches Introduction to Statistical Computing and Data Management and at the CSCC is working on the Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN) and COMPASS Study.

Griffin Bell

CANDIDATE FOR BSPH

Work at UNC Project-Malawi confirmed career path in global health

Last summer, the UNC-CH Alumni Class of 1938 selected me as one of eight undergraduates to receive funds for an independent project abroad to provide an opportunity in support of facilitating 'understanding and communication between peoples of varying nationalities and cultures as methods of preserving world peace.'

Passionate about infectious disease prevention, I used the opportunity to get involved with ongoing research related to RTS,S – the first partially effective malaria vaccine. Through Dr. Michael Emch, professor of epidemiology at the Gillings School and professor and chair of the UNC Department of Geography, I had access to data from the 2009–2013 Phase III trial in Lilongwe, Malawi. However, before working with the data, I wanted to gain an in-depth understanding of the environment in which they were collected. After meeting with Irving Hoffman, MPH, professor of medicine at UNC and international director of UNC Project-Malawi, I decided to spend two months in Lilongwe working on the research.

The trial sites were located in seven African countries and the vaccine efficacy differed between sites. Something other than vaccine composition is possibly influencing RTS,S efficacy. During the Phase III Lilongwe trial, an ecological survey was administered four times over 24 months, obtaining values for roof type, window type, and other ecological factors, along with the location of the household. Using these data and spatial statistics, I am attempting to uncover whether there is spatial variation in vaccine efficacy and whether ecological variables explain this variation.

The idea is that ecological variables may be a proxy for transmission intensity or number of mosquitoes that are highly infected with the parasite. Under the guidance of Matthew

Bell's weekend hike to top of Mount Mulanje

Loop, PhD, clinical assistant professor of biostatistics at the Gillings School, I hope to turn my research this summer into a senior thesis. After exploring the high- and low-transmission neighborhoods in Lilongwe, looking through the old trial records, and speaking face to face with those involved in the trial, I feel capable of making a variety of consequential decisions regarding my analysis. As an undergraduate attempting to make my first ripple in a vast body of infectious diseases research, this is invaluable – and exciting.

My time in Lilongwe allowed me to observe and assist the planning of the next phase of trials. Malawi is one of three countries in which the World Health Organization Phase IV trial of RTS,S will be conducted. Beginning in fall 2018, 240,000 children will be cluster-randomized, with half receiving RTS,S. Though I carried out very simple tasks, I'll potentially have an expanded role when I return next summer.

The experiences in Malawi were all I had hoped for. I intend to pursue a career in global health by obtaining a doctorate in epidemiology after I finish my dual bachelor's and master's degree in biostatistics and possibly enter the Epidemic Intelligence Service (EIS), a two-year training program run by the Centers for Disease Control and Prevention. The program describes its participants as "boots-on-the-ground disease detectives" who travel the world to solve public health problems.

Anam Ahmad

CANDIDATE FOR BSPH

Ten weeks in Paris may have changed my career path

This year, I had the honor of being chosen as one of the Pasteur Foundation's five summer interns, selected from across the United States. This unique opportunity provides students with a stipend to live abroad in Paris for ten weeks and conduct research at the world-renowned Pasteur Institute. As an intern, I performed research in the Molecular Retrovirology lab, under the tutelage of my principal investigator.

The purpose of my work was to help establish the conditions under which the lab's subsequent experiments would take place – to better analyze individual members of a protein family with potential links to cancer. In the first few weeks, I was trained in all the necessary lab skills. During the last several weeks, I conducted repeat trials of my experiments, measuring variations in protein expression as I modulated environmental factors. At the end of my ten weeks, the other four interns and I presented our findings through poster presentations to our colleagues at Pasteur.

Specifically, I worked in the molecular retrovirology lab, led by Dr. Simon-Wain Hobson. I collaborated with Rudolphe Suspene, the current principal investigator. The lab has done a great deal of research on APOBEC, a family of proteins known to edit DNA and linked to cancer.

My research this summer set out to see how different environmental conditions would affect their gene expression, and measured the results of every individual protein member of the family. The results will be used to help set up some of the lab's future experiments, and some experiments will be repeated for consistency. The research has many implications in mapping cancer development.

It was a distinct and formative experience to conduct research in another country. While I grew up learning French

Ahmad interned at the world famous Pasteur Institute

as a child, I had not spoken it fluently for seven years. I was surprised to find the language returned easily during the course of my time abroad. Furthermore, the cultural immersion was amazing — including the food offered at the on campus cafeteria (an absolute dream, especially crème brulee on Fridays).

The entire experience focused on motivating participants' continued passion for science, and in that, Pasteur certainly succeeded – with both the American interns, and the select group of European scholars who also shared the summer with us. I had the privilege of meeting with the Pasteur-sponsored Gillings School postdoctoral students working in France, and learned about the collaborative efforts of Pasteur and the Gillings School.

These friendships with other students and mentors certainly were made stronger outside the work environment, as well — seeing Paris together and travelling to other nearby places such as Brussels and Amsterdam. While my student research experiences had made me interested in research, the environment at Pasteur certainly has caused me to consider it seriously as a career.

In all aspects, this summer was a learning experience unlike any other and will stay with me for the remainder of my life.

Learn more about the internship at pasteurfoundation.org/scientific-careers/summer-internship

Dr. Emma Huang

PHD 2007

It's never a waste of time to explore new directions

People say that the lasting value of graduate school has less to do with what one studies than the fact that one learns how to conduct research. For me, an important part of research activity always has been the courage and freedom to explore new opportunities.

I attended UNC–Chapel Hill from 2002 to 2007 as a biostatistics graduate student and was honored to be a recipient of the Fryer award. The award allowed me to explore a wide variety of areas, all of which have since proved valuable, and taught me to capitalize on opportunities throughout my career.

During my time at UNC, I took classes in the statistics and genetics departments to broaden my perspective beyond my work in biostatistics. Biostatistics, particularly statistical genetics, is at the center of many multidisciplinary projects, and having the freedom to pick up skills in computing, bioinformatics and molecular biology has served me well.

Receiving the Fryer award meant I had no constraints on the commitments I could make, whether it was taking extra courses, working as a research assistant on breast cancer microarray studies or serving as a teaching assistant for courses in Bayesian statistics and survival analysis. Having these diverse experiences encouraged me to make the most of my opportunities.

After earning my doctorate, I ventured off in a new direction, moving to Brisbane, Australia, to work on a project about the genetics of sugarcane for the Commonwealth Scientific and Industrial Research Organization, the national research organization. The work quickly evolved into collaborations with researchers on other crops (wheat, tomato, barley, etc.) and on model organisms, animals and humans. These projects included genetics as well as statistical methodology and high-performance computing.

Being willing to bring my expertise to bear in new areas has opened many doors and allowed me to connect with many colleagues and friends. Without enabling one's scientific curiosity, it is easy to miss how frequently researchers in other fields are asking similar questions, and applying similar methods and technologies.

*Huang remains curious in varied career*

Most recently, I have reinvented myself yet again, or rather, returned to my previous self, by moving from precision agriculture to precision medicine. I lead a population analytics team with Janssen R&D, the pharmaceuticals branch of Johnson & Johnson. The team helps to develop and support cross-enterprise initiatives through analysis of large-scale population data. We tackle problems such as identifying new drug targets through human genetics; integrating data modalities, such as electronic health records, 'omics, and sensors to predict disease risk; and characterizing individuals with extreme traits to better understand disease pathways.

It's an exciting space to be in, and one in which both my graduate school studies and my experience in agriculture have been relevant numerous times. Although it may be hard to see how some of the paths we take meet up in the future, it's never a waste of time to explore new directions!

Ivanova, Couper, Kosorok and Zeng are investigators on a $61 million grant to identify effective asthma treatments

A person struggles, then panics, gasping for air but unable to get any into the lungs — as if "I were trying to breathe air underwater" or "an elephant is sitting on my chest."

Those are the most common analogies cited for what a severe asthma attack is like. A new $61 million study led by researchers at UNC-Chapel Hill will try to identify more effective treatments to prevent such attacks and will do so by combining two tools — precision medicine and "big data" analysis. The project is titled Precision Interventions for Severe and/or Exacerbation-Prone Asthma (PrecISE) Network.
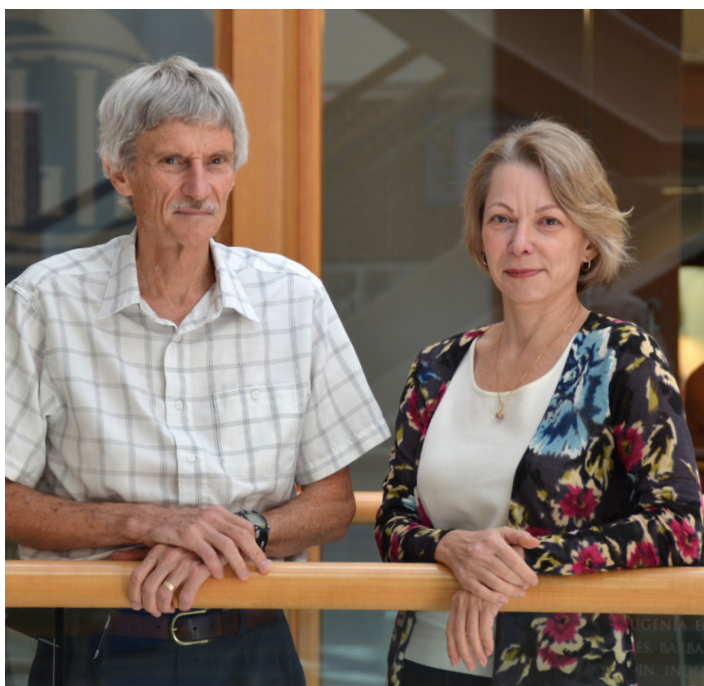
PrecISE study PI Ivanova with co-PI Couper

The five-year study is being led by Anastasia Ivanova, associate professor of biostatistics at UNC's Gillings School of Global Public Health. Co-principal investigators include David Couper, clinical professor of biostatistics, and David B. Peden, senior associate dean for translational research at UNC's School of Medicine and adjunct professor of environmental sciences and engineering.

The study, funded by the National Heart, Lung and Blood Institute (NHLBI), was awarded to Dr. Ivanova under the auspices of the Collaborative Studies Coordinating Center (CSCC), which is housed in the biostatistics department in the Gillings School of Global Public Health.

Severe asthma affects nearly 10 percent of people worldwide, and despite currently available treatments, the condition remains poorly controlled for many patients. The NHLBI study and clinical trials will support a personalized medicine approach to identify new therapies for severe asthma, tailored to an individual's disease and treatment history.

"People with severe asthma have trouble breathing almost all of the time and experience frequent, debilitating attacks," Ivanova said. "It's not only frightening; it can be deadly. The challenge with asthma is that it is a rather heterogeneous disease. It is caused by a combination of environmental and genetic factors"

Ivanova noted that her 14 year old son Danny Qaqish has a moderate form of asthma.

"I can only imagine what patients with severe asthma go through daily. Unlike patients with severe asthma, Danny's asthma does not affect his day to day activities. Danny is a year-around swimmer and asthma affect his swimming significantly. Swimming is a big part of his life as he swims 2-3 hours daily. We tried various medications and nothing has made him asthma free. He improved on daily inhaled corticosteroids but asthma still interferes with his swimming. On a taxi ride from our first PrecISE in person meeting I got some suggestions from physicians involved in PrecISE network regarding treatments that might help Danny further. I hope we will be able to get Danny's asthma under control. I also hope that in 5 years, when the PrecISE clinical trial is done we will learn a lot to be able to tailor asthma treatments to patient's phenotype " she said.

Dr. Ivanova and her colleagues hope to reduce the number of asthma attacks with an innovative large-scale study that will select patients and their treatments based on biomarkers.

Danny Qaqish after finishing the 5K race in the 2017 Southern Zone Open Water Championships held at Lake Echo, Seven Lakes, NC in June 2017. Danny swam for the NC state team and the team won the Championships.

> **"**
>
> *My son has a moderate form of asthma. I can only imagine what patients with severe asthma go thru daily.*
>
> **ANASTASIA IVANOVA**

"In addition to using specific biomarkers to pair patients with specific treatments aimed at those biomarkers, our study will allow changes to therapies as new data is gathered," Dr. Ivanova said. "So, if a patient is not doing well on his or her current therapy, it will be possible for the patient to switch therapies in the course of the trial."

There also will be extensive data collection during the clinical trials to help refine treatments, not only for the study participants, but also for others with similar or identical biomarkers. Ten medical centers across the U.S. have been approved by the National Institutes of Health (NIH) to conduct the trials.

Biostatistics faculty members Michael R. Kosorok, who is the W.R. Kenan Jr. Distinguished Professor and chair of the department, and professor Donglin Zeng are also participating in the project. Asthma is a chronic disease and patients will be switching treatments during the trial. This gives an opportunity to apply sequential, multiple assignment, randomized trial (SMART) design, methodology that Michael and Donglin have been working on. Crystal Nguen and Yue Jiang are graduate research assistants working on PrecISE.

## A year of transitions, physical moves and new faces

The journey of a thousand days begins with two-tenths of a mile — isn't that how the proverb goes?

The saying certainly rings true for the Collaborative Studies Coordinating Center this year, given that moving the center's quarters from East Franklin Street, in Chapel Hill, N.C., where it has been for nearly five decades, to West Franklin Street, Chapel Hill, has been one of the Center's arduous accomplishments.

Over the years, the CSCC often was teased with talk of moving to modern spaces — such as Carolina North, Southern Village or the Europa Center — only to see plans quietly fade away. The university finally found a home for the CSCC at the new Carolina Square complex (where University Square once stood). The mixed-use buildings in the complex include businesses, apartments and UNC offices. The Carolina Population Center and staff members in the Gillings School's Department of Epidemiology will share space with CSCC in the new, convenient-to-campus location.

Carolina Square a new hub of activity off Franklin Street
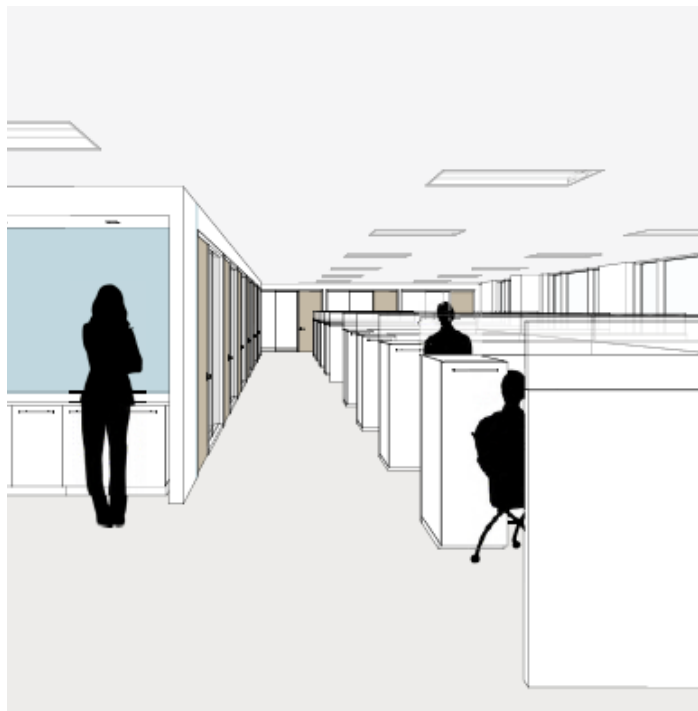
New airy work spaces permit sunlight to penetrate all offices

The new space includes modern videoconferencing, with AV-equipped conference rooms; training areas; a café; and a 21st-century climate control system. The open, sunlit layout of the workspaces and the large central cafe will encourage conversations, such that no face stays unfamiliar for long.

This past year began with the retirement of one of the CSCC's most tenured faculty members, Shrikant Bangdiwala, PhD. Bangdiwala began working at the center in 1980, when it was known officially as the Lipids Research Clinics' Central Patient Registry. He was co-investigator for CSCC's Studies of Left Ventricular Dysfunction (SOLVD), Longitudinal Studies of Child Abuse and Neglect (LONGSCAN) and the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), among many others. Bangdiwala, an in-demand educator, both at UNC and abroad, developed the "agreement chart" for displaying categorical concordance data.

Bangdiwala now leads the staff of biostatisticians at McMaster University's Population Health Research Institute (PHRI), in Hamilton, Canada, but he will always have a home at Carolina.

NEW FACULTY

Matthew Loop, PhD, joined the CSCC in late 2016 as a clinical assistant professor. After earning a doctorate in biostatistics from the University of Alabama at Birmingham (UAB) in 2015, he held a postdoctoral fellowship in epidemiology at UAB. Loop's statistical research has focused on the performance of methods for spatial data analysis in large national cohorts. His applied research has focused on geographic variation in risk factors for cardiovascular disease (CVD), treatment patterns and outcomes in Medicare beneficiaries with heart failure, and the associations between air pollution and CVD.

In his first year at Chapel Hill, Loop has served as principal investigator for the CSCC on the ECHO-SOL2 and PREMIERS studies, as well as being a supporting investigator for four other studies. He was appointed to the statistics committee of the American Heart Association Council on Epidemiology and Prevention and, in November, was responsible for arranging the 2017 CSCC Visionary Speaker seminar, by Frank Harrell, PhD, professor and founding chair of the biostatistics department at Vanderbilt University.

Loop is a fresh source of energy for the center, organizing occasional after-hour gatherings while welcoming his second child to the world in May.

Matt Psioda, PhD, also joined the CSCC in 2017 (page 6).

STUDY HIGHLIGHTS

The Adolescent Medical Trials Network (ATN) for HIV/AIDS Interventions had an explosive first year, causing the CSCC to hire nine (and counting) additional research and data management staff. Calls for RFPs yielded three ancillary studies, approved in 2016, and the large PrecISE award (see page 10). The Aging and Cognitive Health Evaluation in Elders (ACHIEVE) study, an ancillary of the Atherosclerosis Risk in Communities (ARIC) study, got underway in mid-2017. The CSCC serves as the project's data coordinating center. The Medical Optimization and Management of Pregnancies with Overt Type 2 Diabetes (MOMPOD) study is now underway.

In addition to new studies, existing ones continue to be very fruitful. The center was awarded a grant to extend the work done on its original SubPopulations and InteRmediate Outcome Measures in COPD Study (SPIROMICS) contract. The CSCC also is in the process of responding to the RFP for a third visit of the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) in December, and we are hopeful to continue coordinating this landmark study.

LEADERSHIP CHANGES

As 2018 approaches, we await the arrival of a familiar face. In January, Lisa LaVange, PhD, will return to Chapel Hill to serve as associate chair of the biostatistics department and as director of the Collaborative Studies Coordinating Center. After Sonia Davis, DrPH, Professor of the Practice of biostatistics, ended her term as director earlier this year, Ed Davis, PhD, former department chair and previous CSCC director, has provided interim leadership.

LaVange was most recently director of the Office of Biostatistics in the Center for Drug Evaluation and Research (CDER) at the U.S. Food and Drug Administration. There, she was responsible for overseeing the work of more than 200 statisticians tasked with developing policies and procedures to guide statistical review of regulatory submissions, coordinating biometric research, and providing comprehensive statistical services to CDER scientific and regulatory programs. LaVange's faculty appointment is effective Jan. 1, 2018, pending review and approval by the UNC Board of Trustees.

Given the significant growth the center experienced in 2017, we at the CSCC anticipate a bold and exciting 2018!

THE CSCC HAS A REFRESHED WEBSITE:

sites.cscc.unc.edu/cscc

2017 JAMES E. GRIZZLE DISTINGUISHED ALUMNUS AWARDEE

Seunggeun (Shawn) Lee, PhD 2010

Assistant Professor of Biostatistics **|** University of Michigan School of Public Health

2017 BERNARD G. GREENBERG DISTINGUISHED LECTURE SERIES

Robert E. Kass, PhD

Maurice Falk Professor of Statistics and Computational Neuroscience **|** Carnegie Mellon University

PRESIDENTIAL EARLY CAREER AWARD FOR SCIENTISTS AND ENGINEERS

Matthew Wheeler, PhD 2013

Centers for Disease Control and Prevention

STUDENT AWARDS & HONORS

- **Brian Barkley** BiostatMCW 2017: Biostatistics in the Modern Computing Era Travel Award
- **Nathan Smith Bean** Anderson Scholarship
- **Elizabeth Chase** National Science Foundation Graduate Research Fellowship
- **Jie Chen** SPH Annual Award
- **Katherine Gora Combs** Public Health Service Commissioned Officers Foundation for the Advancement of Public Health Scholarship
- **Emma Grace Crenshaw** Phi Beta Kappa
- **Fei Gao** ENAR Distinguished Student Paper Award
- **Gilson Honvoh** Mindel C. Sheps Scholarship
- **Yue Jiang** ENAR RAB Poster Award

- **Chong Jin** ASA travel award, Distinguished Student Paper Award from the Section on Statistics in Genomics and Genetics (SGG) of the American Statistical Association
- **Madeline Kowalski** Greenberg Fellowship
- **Taylor Lagler** National Science Foundation Graduate Research Fellowship
- **Rachel Nethery** ASA Travel Award
- **Michael Nodzenski** SPH Gary G and Karolyn J. Koch Merit Scholarship and Hardison Award
- **Ana Sofia Potella Perez** SPH Elizabeth Reaves Martin Moore Scholarship
- **Victor Ritter** Max Halperin Scholarship
- **Bryce Rowland** Doctoral Merit Scholarship and SPH Annual Award
- **Akshay Sankar** Phi Beta Kappa
- **Arvind Sivashanmugam** Phi Beta Kappa

- **Marcus Spearman** SPH Atkins Scholarship

- **John Sperger** SPH Gillings Merit Award

- **Briana Stephenson** SPH Gillings Dissertation Award, ISBA - Bayesian Nonparametrics Meeting Travel Award, and ENAR Fostering Diversity in Biostatistics Workshop Travel Award

- **Chalmer Thomlinson** Mohberg Scholarship

- **Jin Wang** ENAR Travel Award

- **Ting Wang** Society for Clinical Trials Thomas C. Chalmers Student Scholarship

- **Doug Wilson** ENAR RAB Poster Award

- **Rebbecca Wilson** Grad School Dissertation Completion Fellowship for Diversity in the Sciences

- **Qingning Zhou** ASA Epidemiology Section Norman Breslow Prize Outstanding Paper

- **Xuan Zhou** ASA Biopharmaceutical Award

FACULTY AWARDS & HONORS

Drs. Annie Green Howard, **Michael Love** and **Xianming Tan** received 2017 IBM Junior Faculty Development Awards

Dr. Michael Kosorok is now a fellow of the American Association for the Advancement of Science (AAAS), the world's largest general scientific society and publisher of the journal Science

Dr. Yun Li is now a member of the Genomics, Computational Biology and Technology Study Section, Center for Scientific Review, NIH

Dr. Jane Monaco was selected by students to receive 2017 "Celebrate Teaching!" award

FACULTY TRANSITIONS

Dr. Josephine Asafu-Adjei is now at Eli Lilly and Company

Dr. Shrikant Bangdiwala retired and is now at McMaster University as a Professor in the Department of Health Research Methods, Evidence and Impact

Dr. Mengjie Chen moved to University of Chicago

Dr. Lloyd J Edwards moved to the University of Alabama to become Chair of the Biostatistics Department

Dr. Amy Herring is now at the Duke University Department of Statistical Science

Dr. Yuchao Jiang is an assistant professor in the Department of Biostatistics and Department of Genetics at UNC

Dr. Feng-Chang Lin has been promoted to Research Associate Professor

Dr. Matthew Loop is a Clinical Assistant Professor at the CSCC

Dr. Michael Love is an assistant professor in the Department of Biostatistics and Department of Genetics at UNC

Dr. Matt Psioda is a Research Assistant Professor at the CSCC

Dr. Sonia (Davis) Thomas is now at RTI International

Dr. Fei Zou returned from leave

UNC
GILLINGS SCHOOL OF
GLOBAL PUBLIC HEALTH

THANK YOU TO OUR DONORS

Those listed have given gifts of $500 or more between July 1, 2016, and June 30, 2017.

- **Susan Shearer Atkinson** (BSPH 1982, MS 1984, PhD 1990)
- **William Cudd Blackwelder** (PhD 1977)
- **Paula Brown Stafford** (BSPH 1986, MPH 1992) **& Gregory W. Stafford**
- **Edward Carroll Bryant** (DrPH 1983)
- **Jianwen Cai & Haibo Zhou**
- **Lisa Tomasko Dooley** (MS 1991, DrPH 1997)
- **Brenda Kay Edwards** (PhD 1975)
- **Eli Lilly & Company Foundation Matching Gifts Program**
- **Mr. Jerry Gray Gentry** (MSPH 1969)
- **George Howard** (MSPH 1982, DrPH 1987) **& Virginia Jackson Howard** (MSPH 1982)
- **Peter Bert Imrey** (PhD 1972)
- **Johnson & Johnson Matching Gifts**
- **Gary Grove Koch & Carolyn J. Koch**

- **Michael R. Kosorok & Pamela W. Kosorok**
- **Danyu Lin**
- **Jane Holland Monaco** (MS 1998, DrPH 2003) **& Thomas J. Monaco, Jr.**
- **Morgan Stanley Global Impact Funding Trust, Inc.**
- **Natalie Cheung Rotelli** (BSPH 1999, MPH 2003) **& Matthew Rotelli**
- **Sterling Foundation**
- **Maura Ellen Stokes** (BSPH 1978, MSPH 1979, DrPH 1986)
- **Triangle Community Foundation**
- **Fredrick Seymour Whaley** (MSPH 1975, PhD 1983)
- **Diane Everts Yerg** (MSPH 1973) **& Thomas R. Yerg**
- **Ming Zhong** (MS 1994, PhD 2000) **& Xumin Nie**