Dear Alumni, Students, Staff, and Faculty,

As we approach 2018, we can report a very successful year. We added a number of excellent new faculty members, enhanced our presence in the area of biomedical informatics, expanded our PhD class to include 6 new students, maintained the high quality of our masters program while creating a specific track in Data Science, and have hired several staff biostatisticians in our Biostat Core.

All of these initiatives are in keeping with the ongoing progressive nature of Duke. As many of you know, Dean Nancy Andrews, who was very supportive of B&B, stepped down as of July 1. Dr. Mary Klotman, former Chair of the Department of Medicine, was selected as her successor and I am pleased to report that Dr. Klotman is equally supportive. She is developing a theme of “One Duke” and is promoting integration and collaboration across the entire Duke campus – and we are actively taking part by recruiting faculty into joint positions with other departments.

Honors to B&B Faculty
Jane Pendergast, PhD was honored with the prestigious American Statistical Association’s (ASA) Founders Award at the 2017 JSM in Baltimore. The Founders Award recognizes members who have rendered distinguished service to the association. To be considered for this award, nominees must have served the association for an extended time, usually in a variety of leadership roles within the ASA or through ASA outreach to other organizations. The individual's contributions will have had significant impact on the association beyond the time of her/his incumbency. The award citation detailed Jane’s accomplishments: “For service to the ASA over nearly three decades; for skilled and thoughtful leadership of the ASA during two terms on the board of directors, representing in turns the Council of Chapters and the Council of Sections, for service as chair of the Statistical Consulting section and the first chair of the Karl Peace Award Committee; and for supporting the ASA and other societies as chair of the Committee of Presidents of Statistical Societies and as secretary/treasurer of Section U of the American Association for the Advancement of Science.” Dr. Pendergast, professor of Biostatistics and Bioinformatics, joined the Duke faculty in 2015, after serving on the faculty at the University of Iowa and the University of Florida. “This award was an incredible thrill for me and I am both honored and grateful! I have always greatly enjoyed my service and leadership roles, and encourage others to get involved and volunteer their time to organizations of importance to them. Not only will your efforts be useful; they will be personally rewarding as well.”
We are also very excited to let everyone know that Megan Neely’s dedication to our educational programs was recognized across the entire school of medicine. Megan received the 2017 Gordon G. Hammes Faculty Teaching Award, which was presented to her by Dean Nancy Andrews at the annual Spring Faculty Meeting. This award honors a faculty member for continuing excellence in teaching and mentoring and for exemplary commitment to the education of graduate students within Basic Science Departments and Graduate Training Programs of the School of Medicine.

Educational Programs

MASTER OF BIOSTATISTICS

We now have three tracks in our Master of Biostatistics (MB) program: (1) Applied Biomedical Research; (2) Mathematical Statistics, prepares students for a PhD program in Statistics or Biostatistics; and (3) Biomedical Data Science, prepares students to work with big biomedical data requiring the use of multiple computing languages.

These schematics nicely describe our Core Competencies for both the MB and the PhD, as well as the MB tracks:

To enhance the training of our MB students, the Biostat Core developed the Biostatistics Core Training & Internship Program (BCTIP). This program, led by Gina-Maria Pomann and Samantha Thomas, gives real applied experience by involving students in every aspect of the research process from initial meetings with investigators, to study design, to analysis, to writing statistical reports and manuscript review. Interns also give presentations on current projects and the Duke community is invited to attend. Currently, BCTIP is training 14 interns, 8 rising second-year Masters of Biostatistics students who started in January 2017, and 6 rising second-year students who started in May 2017. The program will recruit interns to start in January 2018.
PhD IN BIOSTATISTICS

Our PhD program is flourishing. Tianhui Zhou, a 2017 graduate of our MB program, was awarded the prestigious Chancellor’s International Scholarship – one of only 4 international first-year PhD students chosen from across all of the basic science departments in the Duke School of Medicine. This award provides full stipend, tuition remission, health insurance, and fees for two years (24 months). Tianhui received a one-time $5000 supplement to his stipend.

In addition, the Department currently has slots in two government-funded fellowships. Through a joint effort with the Department of Civil and Environmental Engineering, one of our graduate students has been on a National Science Foundation Research Training grant for the study of the microbiome over the past year and will continue through the current school year. We also partnered with NC State to attract a five-year T32 training grant from the National Heart and Lung Institute. This award provides stipend and partial tuition for one student this year and the 2018-2019 year and then 2 students for the three years after that. And finally, through much effort from Huiman, Greg, and Megan, we have a very nice PhD handbook, which our 6 entering students have found enormously helpful.

NEW CERTIFICATE PROGRAM

Adding to the array of academic offerings from the Department, Steve Grambow is leading the development of a new blended (ie, online and in-person) clinical research training program, ‘the Fundamentals of Clinical Research,’ for Chinese physicians at Beijing Friendship Hospital (BFH), Capital Medical University, in Beijing, China, to be offered in mid-2018. This certificate-based program will provide BFH physicians and health sciences professionals an introduction to the quantitative and methodological principles of clinical research with the goal of enhancing their ability to collaborate in the design, implementation, analysis, and interpretation of clinical and translational research studies.

The program combines fundamental principles of biostatistics and clinical research design and will have three distinct components: (1) a six-week, online eLearning self-study that is being translated into Chinese; (2) a three-week, interactive series of webinars to initiate a team-based project; and (3) an in-person workshop hosted at BFH in Beijing where participants will complete development of their team-based projects and present them as the capstone activity of the training program. Steve, current CRTP director, and Bill Wilkinson, Professor Emeritus and founding director of CRTP are collaborating on development of the eLearning curriculum for the program. Steve and Bill have been co-directing online clinical research training courses for targeted clinical audiences together for the past 12 years.
HIGH THROUGHPUT SEQUENCING COURSE

As part of the National Institutes of Health (NIH) Big Data to Knowledge (BD2K) initiative, B&B faculty members Kouros Owzar and Cliburn Chan, together with faculty from the Duke Center for Genomic and Computational Biology, were awarded an R25 grant to host a 6-week summer course on High Throughput Sequencing (HTS). Over 80 qualified applicants applied and 24 students were chosen with the goal that the course would teach the next generation of scientists the biological, statistical, computational and informatics knowledge for implementing a well-designed genomics experiment. Genomics technologies are advancing and the ability to run genomics experiments and analyze the resulting data is a critical skill set for future researchers in biology and medicine. Due to the complexity of the genome and the vast quantities of data generated per experiment, making sense of genomic data poses unique statistical and computational challenges. We are very pleased that this course has again been funded for 2018 as well.

BROAD EDUCATION

We don’t only concentrate on degree and certificate programs. We see our mission to provide an educational component across the School of Medicine to enhance research in all the biomedical areas. The Biostat Core holds a monthly applied seminar series to further statistical knowledge on an applied level. These talks focus on advances in biostatistical methods and statistical programming techniques and their translation into addressing biomedical research questions. The seminars are primarily geared toward applied statistical researchers, but they are open to all, and frequently attract medical investigators who want to learn more about statistical concepts and methods.

Departmental growth

As we reported last year, the demands on our administrative staff were exceeding capacity, but we were fortunate to fill our needs with two excellent new hires. Crystal Hoffman, joined B&B in February 2017 as an HR Specialist to assist with the increased volume of work related to the HR and payroll activities. Crystal started at Duke in December 2014 in the University Center Activities & Events Department as a Staff Specialist with responsibilities including student payroll, purchasing, financial transactions and reconciliations. Prior to Duke, Crystal worked in student financial aid and leasing and marketing management. She earned a BA in Public Relations from State University of New York at Oswego. Crystal and her husband Todd have two young sons and live in Mebane.
Our new staff assistant, Tasha Allison, has a long history with Duke. She started in Accounting Services in 2002, left in 2007, but couldn’t stay away and came back in 2011 to work with Student Affairs until we attracted her to B&B in May. She has a 12 year-old daughter and a son in college who plays football. She coordinates our events and also helps the Core.

Kendall Mincey joined B&B on July 10 as a Program Coordinator for the Master of Biostatistics and Doctoral Program in Biostatistics. Kendall received a bachelor’s degree in arts at East Carolina University. She joined B&B after nine years at Pathways Elementary School in Hillsborough. She served as the data manager as well as the payroll and purchasing administrator. Kendall’s background includes teaching and administration. Kendall has a husband, Nick, and three sons (Adam, Luke, and Drew). Her oldest son, Adam, and his wife just had a new baby girl, Harper, at the end of November. Kendall enjoys good food, art, and volunteering in addition to being very active in her church.

NEW FACULTY

Frank Rockhold, PhD

Frank Rockhold arrived fulltime at Duke and DCRI in 2016 after a full 40+ year career in the pharmaceutical industry including senior research positions at Lilly, Merck, and GlaxoSmithKline, where he recently retired as Senior Vice President of Global Clinical Safety and Pharmacovigilance. He has also held faculty appointments at six different universities. The transition to Duke was relatively easy given he has lived here since 2010 and he served an adjunct role in the department for 2 years prior to his full-time appointment. Since coming to Duke, Frank has been serving as a faculty advisor to a number of large clinical trials, collaborating on trial design, serving on data monitoring committees, and mentoring the junior staff and faculty. One big difference, Frank notes, in the work at Duke is the ability to work with clinicians that are still seeing patients and their ability to translate that into trial design. “Like all large organizations, Duke has its work silos but is has been a pleasant discovery to recognize the power of the DCRI and Duke brand to inspire a strong sense of teamwork”. This brand and the academic platform have allowed him to further his own passion and dedication to the mission of disclosure and transparency in clinical research. Away from the department, he and his wife Barbara spend time at their house on Bald Head Island and enjoy their German Shepard, Kemba. (seen in photo)
Sheng Luo, PhD

After 9 years at the University of Texas Health Science Center, Sheng Luo joined the B&B Department this August. He received his PhD in Biostatistics at John Hopkins. “It’s an exciting time to be at Duke; the quality of research that is taking place, the opportunities for greater collaboration, and the resources that can be leveraged within the Department and at DCRI, all made it an easy decision to come here.” Sheng’s academic interests focus on statistical methods for neurodegenerative disorders such as Parkinson’s and Alzheimer’s diseases. He is already well ensconced with one methodology project funded by the NIH. Outside the department, Sheng is training for his third marathon which will take place in January in Houston. In the meantime, he is covering the miles in Cary and around Durham.

David Carlson, PhD

David Carlson holds a joint appointment in the Department of Biostatistics and Bioinformatics and the Department of Civil and Environmental Engineering. After receiving his Ph.D., M.S., and B.S.E. in Electrical and Computer Engineering from Duke, David completed postdoctoral training at Columbia University and returned to Duke and joined us in July of this year. David’s research is focused primarily in machine learning and data-driven science. Amongst many different projects, he is currently working with electronic health records to analyze and predict how health record markers will respond to differing protocols within the precision medicine context. When asked why he chose to return to Duke, he noted that there are “exciting research opportunities at the intersection of health and engineering. Because of the interdisciplinary nature of my work, the placement of the engineering school right next to the hospital and their close interaction provides me with unique opportunities not available anywhere else.” In his spare time, David enjoys hiking, cooking, and spending time with his wife and two cats.

Warren Kibbe, PhD

Warren Kibbe joined the Department as division chief for Translational Biomedical Informatics and also as the Chief Data Officer for the Duke Cancer Institute. Prior to Duke, he served as Acting Deputy Director of the National Cancer Institute (NCI) where he was also the director of the Center for Biomedical Informatics and Information Technology. At NCI, Dr. Kibbe emphasized the importance of creating a multi-disciplinary workforce able to apply advanced computing techniques to cancer research and cancer care.

“I now have a three-part role at Duke which is much more diffuse. To identify where we don’t have access to data or aren’t using the data effectively and use team science approaches to include all users in the clinical research process; patients, researchers, advocacy groups, providers. Secondly, to harness precision medicine techniques for a better understanding of the intersection of patient care, clinical phenotype data, genomics, proteomics, metabolomics, pathology and imaging and how we can effectively build systems and deploy technology to impact our day to day work while improving patient outcomes. And finally, to highlight Duke research and show its relevance on a national scale. Our research has important implications for the future of health care in the country and we need to raise our visibility.” Kibbe said.
The move to Durham has been easy. In the past 15 years Kibbe has had the opportunity to visit and watch as the city has steadily transformed from a quiet place to a vibrant city, with a great food scene. After living in Washington, DC and Chicago, he looks forward to being able to bicycle to work most of the year. With his espresso machine already plugged in, Kibbe joins a large cohort within the department who enjoy their java!

Ricardo Henao, PhD
Ricardo Henao joined the department as an assistant professor after coming from the Department of Electrical and Computer Engineering in the Pratt School of Engineering. He received his PhD from the Technical University of Denmark and completed his postdoctoral work at Duke. Ricardo’s current research focus includes genomic medicine and machine learning. His current grant work includes serving as the statistical investigator for novel host-based diagnostics of febrile illness in the warfighter and development and application of mathematical methods for tracking biochronocity and baseline variation. Other grants include QuBBD: Deep Poisson Methods for Biomedical Time-to-Event and Longitudinal Data and Host-derived biomarker signatures to differentiate acute viral, bacterial, and fungal infection.

Ricardo is originally from Colombia but made it to Durham and Duke by way of Denmark. After suffering a dramatic front tire blow out on his bicycle on Erwin Road last month, he has been considering getting a car for the first time. But he still prefers his road bike and is not entirely sold on the idea of driving a car.

BIOSTATISTICS CORE and RESEARCH LABS
It goes without saying that the Biostatistics Core and our research labs are also expanding and we are constantly rearranging and interviewing to meet the demand and fill positions. Our website, which is frequently changing to add additional folks, nicely presents each of the Biostat Core staff. The link to the staff profile is https://biostat.duke.edu/biostatistics-core/staff-profiles. In total, in 2017 we have hired 9 new research staff.

Future Biostatisticians
Grants manager Tim Durning demonstrated how much we depend on him when he and wife Allison welcomed their second, Daniel Richard Durning, born 7/21/2017. Danny's brother Jack, 4, loves his little brother and was thrilled to have his Dad home for a bit.
As we reported last year, Shannon Clarke is back with us helping Andrew Allen grow the Center for Statistical Genetics and Genomics. Interestingly, Shannon’s family is growing as well and none too soon; she managed to play a major role in a faculty candidate visit on November 28 before giving birth November 30 to little Elliott. Shannon and husband Jeff are very proud of big brother Harrison, who has been such a helpful and attentive and helpful big brother to “his Elliot”.

Ben Goldstein and wife, Cheng Li, and brother Malcolm (3.5) just made it into the 2017 newsletter. Noah Li Goldstein was born Tuesday evening, December 12, at 8lb 2oz. Despite a long wait for Noah’s turn to join the rest of the family, mom and baby are doing great.
Departmental Events

The theme this year for the Fifth annual Duke-Industry Statistical Symposium was “Real World Experience and Randomized Controlled Trials.” Our list of industry partners expanded and this year the conference was co-sponsored by Amgen, Boehringer-Ingelheim, ICSA, Janssen, NC-ASA Chapter, PAREXEL, PPD, Quintiles and SAS. Warren Kibbe had just joined us and presented an opening keynote on “Real World Evidence, EHR’s and Cancer Surveillance.” Then on the second day, as a special treat, Rob Califf had just returned to Duke after leaving the post of Commissioner of the FDA and, as his custom, he delivered a provocative talk titled “Evidence Generation in the Commercial (Sickness) Real World vs the Health Real World: Motivation for Change?”

The B&B Annual Distinguished Lecturer this year was a great hit. Scott Zeger, Professor and co-Director, of the Johns Hopkins mHealth initiative met with several groups of faculty and students and gave two fascinating forward-thinking lectures that were both well attended. For a more statistically oriented audience he spoke about “Bayesian Hierarchical Models to Improve Clinical and Public Health Decisions,” followed the next day by a more general talk with the same theme of improving medical decision making: “Precision and Population Medicine; Two Sides of the Same Coin.”

Alumni news

This past year B&B awarded 29 Master of Biostatistics degrees. Seven of these students are now enrolled in PhD programs at University of Pittsburgh, UNC Chapel Hill, Penn State, University of Michigan, University of Texas Health Science Center, and Duke; six of our graduates are now employed by various Duke groups, while two others are working for other academic medical centers; and seven others are working in industry.
We are fortunate that we still see some of our alumni as we attend meetings with investigators around campus. Several Duke groups have hired and continue to hire our graduates:

**B&B Biostatistics Core**
Tracy Trong – Core
Steven Wolff – Core
Siyun Yang – Core
Ryan Simmons – Core

**Duke Cancer Institute:**
Samantha Thomas
Lauren Howard
Alex Sibley – DCI Bioinformatics
Dadong Zhang – DCI Bioinformatics
Xiaodi Qin – DCI Bioinformatics
Yao Song – DCI Bioinformatics

**Duke Clinical Research Institute**
Rachel Greenberg – faculty
Di Lu – DCRI Outcomes
Liqi Feng – DCRI Outcomes
Shuaiqi Zhang – DCRI Outcomes
Hillary Mulder – DCRI Center for Predictive Modeling
Angie Wu – DCRI Center for Predictive Modeling
Sam Lusk – DCRI Center for Predictive Modeling

**Other locations at Duke**
Ted Berkowitz – Durham Veteran’s Administration
Rachel Kozink – Duke University Medical Center Addiction Center
Leah Gerber – Urology
Shalini Jha – Duke Human Vaccine Institute
Dongshunyi Li – Research aid in Ralucca Gordon lab
Alumni around the country

It was great to hear from Ran Gao after she received our 2016 newsletter. She took a position at Abbvie in the greater Chicago area after leaving Duke and has updated us with her current activities:

“Having had an excellent learning experience at Duke, I decide to pursue a higher degree in Biostat. I am starting my PhD training in Biostat at UIC School of Public Health since Sep 2016. Actually, Kouros wrote a recommendation letter for me, and it helped a lot to my application.

I am also working at Astellas Pharma (located 30 min North from Chicago City) as a data analyst analyzing real world data (insurance and EMR database). I enjoy my work a lot, and I am grateful to the knowledge and skills I learned from our program at B&B.

It’ll be really nice to visit our department in the near future. I miss professors and my old classmates.”

Christine Ju sent holiday greetings last December and reported:

I started working at Chiltern, a CRO, in January of this year and am enjoying my experience so far. Although it is extremely fast paced, I have had the opportunity to be a part of many different therapeutic areas and have been the lead statistician on five different studies, with two more coming up at the start of next year. My studies have so far been early phase clinical trials, but am looking forward to leading phase 3 studies.

Josh has just finished his third semester of his PhD program and will be taking his qualifiers before this summer. He doesn’t seem very stressed right now, but I’m sure that will change soon. After he passes his qualifiers, we are planning a trip to Machu Picchu and the Galapagos Islands.

It’s been an extremely busy year, but Josh and I are very happy with the opportunities we’ve been given here in California and to be close to family. I have attached a photo from our trip to Alaska earlier this year.

Be sure to check out our website frequently to keep updated about all the exciting events in the department: www.biostat.duke.edu. Sharon Updike is great about highlighting our news.

PLEASE LET US HEAR FROM YOU.

We’d love to know what you’re doing and what events have taken place in your lives. In future issues we will include a section that reports on recent happenings such as weddings, births, promotions, new jobs, and maybe even new puppies.