



Biostatistics Newsletter 2020

Special Points of Interest

- **Greetings from the Chair**
- **Faculty and Staff**
- **Accomplishments and Awards**
- **2020 Seminar Series**
- **Post Doc/ Visiting Scholars**
- **2020 Graduates**
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NEWSLETTER DATE: NOVEMBER 2020

HOLIDAY GREETINGS FROM THE DEPARTMENT CHAIR

Peihua Qiu, Professor and Founding Chair

In this holiday season, I first want to thank our faculty, staff and students for your hard work in the past year. I would also like to thank our alumni and friends for your continued support. The department experienced a tremendous amount of difficulty in the past several months to protect the health of our students, staff and faculty, continue delivering high-quality educational programs, and perform top-notch research in the challenging environment nationwide. I am proud to tell you that our department had another successful year. In the last 12 months, the department successfully recruited three new faculty members and two new MS biostatisticians. Their joining of the department strengthens our expertise greatly in biostatistical research, education and service. The department currently has 25 faculty members, 32 PhD students, and 66 MS/MPH students. Many of our faculty members are leaders in our research areas, and our graduate programs are already very strong. This is reflected in the honors and recognitions received recently by our faculty and students from different national organizations, including the Ebola vaccine research, in which our faculty member Dr. Ira Longini played a key role, was selected as one of the National Geographic's top 20 scientific discoveries of the decade. The department faculty currently has 6 ASA fellows, 2 Institute of Mathematical Statistics (IMS) fellows, and 2 American Association for the Advancement of Science (AAAS) fellows.

With regard to our methodological and collaborative research, the department faculty and students published over 100 papers in refereed journals last year. Many of them were published in top journals, including *Lancet*, *New England Journal of Medicine*, *Science*, and *Journal of Clinical Oncology*. The department received \$8.7 million in extramural research funding last year to help with our research. During the current COVID-19 epidemic, our faculty members Drs. Natalie Dean, Ira Longini and Yang Yang played a leadership role in advising university top administration on making university policies for fighting against COVID-19, and in educating general public some basic knowledge of infectious diseases and their vaccine trials. Our Data Coordinating Center has been fully functioning, under the leadership of Dr. Sam Wu. The center currently helps many research projects across the campus for study design and data management.

The quality of our graduate programs is always our priority. Last year, the department formed two faculty committees to review all core courses of our MS and PhD programs. The committees provided some constructive suggestions for possible improvements of these courses. After careful discussions among all faculty, some modifications/adjustments have been implemented recently. During last year's faculty retreat, the department decided to create a new concentration in health data science for our MS in Biostatistics program. Under the leadership of Dr. Qing Lu, our proposal for this new concentration has recently been submitted to the university for review and approval. I am sure that these efforts will greatly improve the graduate programs in our department and the educational programs within the entire UF Health Science Center. In the past summer, we successfully recruited 7 PhD, 4 on-campus MS, and 23 online MS students. In the 2019-2020 academic year, the department graduated 4 PhD, 7 on-campus MS, and 9 online MS students. I would like to take this opportunity to congratulate all recent graduates on their success in the graduate study in our department, and wish them the best in their future career.

Please enjoy reading the newsletter about this year's wonderful accomplishments and moments. I look forward to the upcoming new year and your continued support in the future.

Take care, stay safe, and have a wonderful holiday season!



Faculty



Left to Right Front: Zhigang Li, Yang Yang, Qing Lu, Ji-Hyun Lee, Natalie Dean, Wei Xue, Peihua Qiu, Subharup Guha, Baiming Zou, Qinglin Pei, Xiang-Yang Lou, Robert Parker, Steven Foti
 Back: Yichao Yu, Rhonda Bacher, Babette Brumback, Shu Wang, Arlene Naranjo, Yueh-Yun Chi, Somnath Datta, Sam Wu
 Not pictured: Jason Brant, Susmita Datta, Jonathan Fischer, Zhiguang Huo, John Kairalla, Ira Longini, and Arkaprava Roy

Staff



Left to Right: Renee Douglass (Fiscal Assistant), Melissa Stabel (Assistant to the Chair), Deana Nance (Business Manager), Melissa Layne (Administrative Assistant), Kristen Cason (Academic Assistant)

Dr. Arkaprava Roy



Dr. Arkaprava Roy joined the department as an Assistant Professor in June 2020. Prior to joining UF, he was a postdoctoral associate at Duke University. Dr. Roy's primary focus is on data science and in developing innovative statistical modeling frameworks and corresponding inference methodology motivated by complex applications. He received his PhD from NC State, the department of statistics.

Sijia Yue

Sijia Yue joined the Department of Biostatistics as a Data Management Analyst II in June. Sijia recently received her Master of Science degree in Biostatistics from Columbia University's Mailman School of Public Health. Sijia will collaborate with BERD faculty and consult with research collaborators at CTSI. She will assist in study design, data analysis, and report writing.



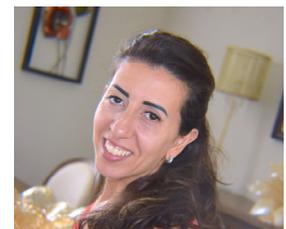
Dr. Jonathan Fischer



Dr. Jonathan Fischer joined the Department of Biostatistics as Clinical Assistant Professor July 1. He received his PhD in Statistics from the University of California, Berkeley, in 2018 for work in statistical genomics under the direction of Yun S. Song. He subsequently remained at Berkeley to work as a postdoctoral researcher and lecturer until his arrival at UF. With teaching experience in both statistics and data science, Dr. Fischer is excited to support and contribute to the Biostatistics curriculum. Additionally, possessing expertise in the analysis of various types of transcriptomic data, he is eager to take advantage of the many collaborative research opportunities available here in the Department.

Amira Qumseya

Amira Qumseya joined our department as a Data Management Analyst II in August. Amira Qumseya joined the Children's Oncology Group at UF. Amira received a Master of Science degree in Biostatistics from Florida State University in 2016. She also holds Master degree in Business Administration from Laurence Technological University. Mrs. Qumseya will be working with COG faculty assisting in study design, data synthesis & analysis, and research publications.



Dr. Jason Brant

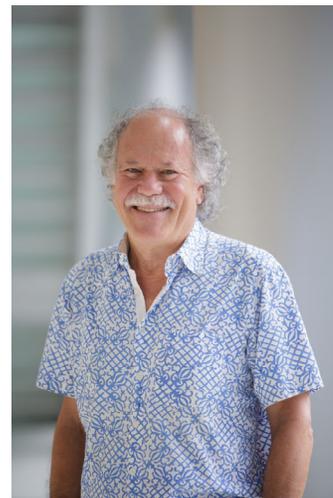


Dr. Jason Brant joined our department in November as a Research Assistant Professor. Dr. Brant will focus on bioinformatics and the computational biological needs of the UF Health Cancer Center (UFHCC) as a member of the Division of Quantitative Sciences. Dr. Brant's research interests are focused on the role of DNA methylation and chromatin structure in regulating gene expression and how perturbations in the epigenome can result in disease onset and progression. He received his doctorate degree from the University of Florida in the department of Biochemistry and Molecular Biology under the mentorship of Dr. Thomas P. Yang. In addition to utilizing and developing new bioinformatics tools, Dr. Brant is also interested in developing interactive web applications for the visualization of complex data sets.

Dr. Ira Longini published article in Science about COVID-19

By the time China instituted a ban on travel to and from Wuhan City on Jan. 23, most Chinese cities had already received travelers infected with the coronavirus now known as COVID-19, according to a new study that found the Wuhan travel ban may have only delayed the epidemic's spread by three to five days in mainland China.

The findings by an international team of infectious disease transmission experts, including Ira Longini, Ph.D., a professor of biostatistics at the University of Florida College of Public Health and Health Professions and the UF College of Medicine, appear today in Science.



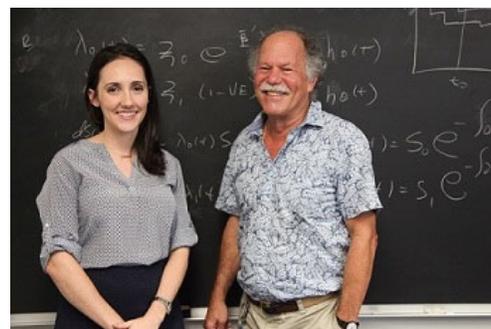
Change Maker Project



Joining the Change Maker Project, a part of the Health-Street Project, Ji-Hyun Lee, Professor, and three students, Sam Anyaso, Natalie DelRocco, and Meilin Jiang, went to a local middle school. At Howard Bishop Middle School, they gave a lecture entitled “What is statistics/data science” and conducted a mini project with the middle school students.

New challenges to testing treatments during an outbreak

Researchers testing new treatments and vaccines amid a disease outbreak, such as the COVID-19 pandemic, face a number of challenges. Unpredictability in size, geographic location and the duration of the outbreak can make it difficult for scientists to determine if a drug actually works. An international team of infectious disease experts, including [Natalie Dean](#), Ph.D., and [Ira Longini](#), Ph.D., faculty in the Department of Biostatistics, propose a core protocol for such trials in a commentary published in [The New England Journal of Medicine](#). Dean and Longini played an integral role in the design and analysis of trials testing the effectiveness of the new Ebola vaccine, rVSV-ZEBOV.



Dr. Natalie Dean receives prestigious UF award



Natalie Dean, Ph.D., an assistant professor in the department of biostatistics in the College of Public Health and Health Professions and the College of Medicine, has received UF's Excellence Award for Assistant Professors for 2020. The award is one of the university's top honors for a junior faculty member. Congratulations, Natalie.

Department 2020 Awards

The Department would like to recognize the hard work of each of our faculty, staff and students and would like to congratulate the Award Winners for 2020 below:

- 2020 MS Outstanding Student Award – Dongyuan Wu
- 2020 MS Outstanding Student Award – Hanyu Qian
- 2020 Online MS Outstanding Student Award – Samia Tahir
- 2020 Best Ph.D. Preliminary Exam Award – Fan Yi
- 2020 Outstanding Student Support Award – Dr. Babette Brumback
- 2020 Outstanding Teacher Award – Dr. Zhigang Li

2020 Travel Awards

The Department would like to recognize the hard work of each of our students and would like to congratulate the Travel Award Winners for 2020 below:

- Quran Wu
- Shangchen Song

Due to COVID-19, there were fewer travel awards issued and they were primarily issued as *conference awards* to many students for virtual participation

Women: underrepresented in science coverage

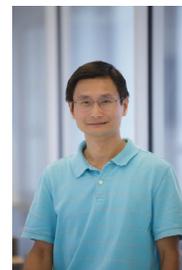
Natalie Dean, Ph.D. along with a fellow UF professor were featured in University of Florida News encouraging women to speak out in their fields. "University of Florida epidemiologist Natalie Dean has lent her expertise to national and international news coverage countless times. But she continues to see women scientists underrepresented in the media, so she tweeted an appeal to female colleagues."

Drs. Dean and Yang release study on COVID-19 spread

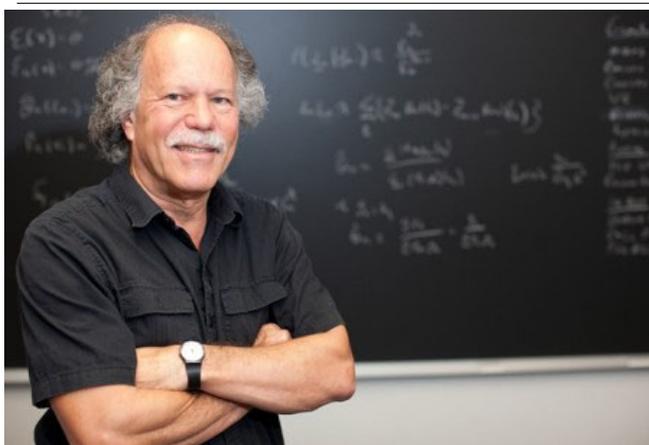
Dr. Natalie Dean and Dr. Yang Yang released a study on the spread of COVID-19 among people and their close contacts and it was reported in EurekaAlert “The Lancet Infectious Diseases: Study from Chinese city of Guangzhou provides key insights on how COVID-19 spreads in households”

Dr. Yang Yang: NSF Grant Award

Dr. Yang Yang was awarded a grant from the National Science Foundation (NSF). He is a Co-Investigator on the project entitled “Technological Solutions for Monitoring the Spreading of COVID-19”. This is a joint proposal with Purdue researchers. The overall PI is Ninghui Li, a computer security scientist, and one of UF Biostatistics’ former faculty, Dr. Faming Liang, an additional Co-I.



Commentary by Dr. Ira Longini published in The Lancet



Small, single-vaccine clinical trials may not provide sufficient evidence that a COVID-19 vaccine is effective enough to provide significant protection, writes a group of World Health Organization scientists, including the University of Florida’s Ira Longini, Ph.D., in a commentary published in the journal The Lancet.

“You need large numbers and multiple products in many different settings tested in many different kinds of people to assess whether they’re really safe and effective,” said Longini, a professor in the department of biostatistics in the UF College of Public Health and Health Professions and the UF College of Medicine.

Department of Biostatistics Food Drive

The Department of Biostatistics annually holds a food drive. We were able to collect and donate 112 pounds of food to a local food bank. Thank you all who participated!



Xinrui Zhang, PhD: PPHP's 2020 Outstanding Alumni!

Xinrui Zhang is a senior principal biostatistician at Novartis Pharmaceuticals Corporation. In this role, she is responsible for planning and execution of exposure-response and exploratory biomarker analyses to support multiple oncology compounds. She also contributes to implementation of modern and innovative trial/experimental designs, statistical models and data exploration



Dr. Susmita Datta elected to prestigious positions



Dr. Susmita Datta, Professor, has been elected to serve in the regional committee (RECOM) of the Eastern North American Region (ENAR) of the International Biometric Society for the 2021-2023 term.

Dr. Datta was also elected as one of the three Board of Trustees members of the International Indian Statistical Association (IISA) for 2020-2022 term.

Dr. Dean: 50 experts to trust in a pandemic

Dr. Natalie Dean selected by Elemental on a list of “50 experts to trust during a pandemic” as part of their “Six Months In” series.

Congratulations Natalie!



January

Dr. Weng Kee Wong

Professor of Biostatistics, University of California, Los Angeles

- Title: *Using Animal Instincts to Find Efficient Experimental Designs for Biomedical Studies*

February

Dr. Barry Nussbaum

Adjunct Professor, University of Maryland Baltimore County Chief Statistician, Environmental Protection Agency (retired)
2017 President, American Statistical Association

- Title: *It's Not What We Said, It's Not What They Heard, It's What They Say They Heard*

August

Dr. Sayar Karmaker

Assistant Professor of Statistics, University of Florida

- Title: *Time-varying models and applications*

September

Dr. Christoph Lange

Professor of Biostatistics, Harvard School Public Health

- Title: *An exact, unifying framework for region-based association testing in family-based designs, including higher criticism approaches, SKATs, multivariate and burden tests*

October

Dr. Ruth Pfeiffer

Senior Investigator/Biostatistics Branch Division of Cancer Epidemiology & Genetics National Cancer Institute, NIH,
HHS

- Title: *Inference for case-control studies with incident and prevalent cases*

November

Dr. Amy Willis

Assistant Professor, Department of Biostatistics, University of Washington

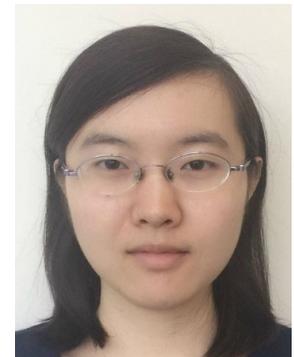
- Title: *Measurement error in compositional data and the replicability of microbiome studies*

POSTDOC

Arrivals



Dr. Zachary Madewell joined the department on April 3, 2020 as a Post Doc Associate to Dr. Natalie Dean. Dr. Madewell was awarded a Ph.D. degree from University of California, San Diego in March 2020. His dissertation was titled: *Risk factors and surveillance for arboviruses and their vectors in Guatemala and Puerto Rico.*



Dr. Guanhong Miao joined the department on September 16, 2020 as a Post Doc Associate to Dr. Samuel Wu. Dr. Miao was awarded a Ph.D. degree from University of Florida in August 2020. Her dissertation was titled: *Techniques for Privacy Preserving Data Collection and Analysis.*

Departures

Dr. Janaka Peragaswaththe Liyanage joined the department on September 25, 2018 as a Post Doc Associate to Dr. Zhigang Li. Dr. Liyanage was awarded his Ph.D. from the University of Nebraska-Lincoln in August 2018. His dissertation was titled: *Threshold Selection for High Dimensional Adaptive Thresholding Covariance Estimator.*

Dr. Diana Rojas joined the department on August 16, 2017 as a Post Doc Associate to Dr. Ira Longini. Dr. Rojas was awarded her Ph.D. in Epidemiology from UF in August 2017. Her main field of study is epidemiology

VISITING SCHOLARS RESEARCH PROGRAM

THE DEPARTMENT ESTABLISHED A VISITING RESEARCH SCHOLAR PROGRAM IN 2015 Commenced

There were no visits started in 2020 due to COVID-19.

Concluded

- **Anran Zhang**, invited by Dr. Yang, a 12 month visitor from Shandong, China, Shandong University
- **Dr. Yawen Hou**, invited by Dr. Qiu, a 12 month visitor from Guangdong, China, Jinan University

Doctor of Philosophy

Tyler Grimes—Ph.D. Mentor Somnath Datta, Ph.D.

Thesis Dissertation Title: *Some Contributions to the Differential Network Analysis of—Omics Data*

Guanhong Miao—Ph.D. Mentor Sam Wu, Ph.D.

Thesis Dissertation Title: *Techniques for Privacy Preserving Data Collection and Analysis*

Zhongkai Wang—Ph.D. Mentor Babette Brumback, Ph.D.

Thesis Dissertation: Title: *Model-Based Standardization to Adjust for Confounding with Clustered Data*

Lu You—Ph.D. Mentor Peihua Qiu, Ph.D.

Thesis Dissertation: Title: *Dynamic Disease Screening by Online Risk Monitoring*

Master of Science

Chen Bai, M.S.—Mentor: Samuel Wu, Ph.D.

Jiaqi Chen, M.S.—Mentor: Steven Foti, Ph.D.

Dain Chun, M.S.—Mentor: Babette Brumback, Ph.D.

Alexandra Mueller, MS—Mentor: Ji-Hyun Lee, Ph.D.

Hanyu Qian, M.S.—Mentor: Arlene Naranjo, Ph.D.

Yingjie Qiu, M.S.—Mentor: Qinglin Pei, Ph.D.

Xuyang Song, M.S.—Mentor: Yang Yang, Ph.D.

Dongyuan Wu, M.S.—Mentor: Zhigang Li, Ph.D.

Master of Science Online

Charvi Bhatt, MS—Mentor: Zhiguang Huo, Ph.D.

Vladislav Bravman, MS—Mentor: Rhonda Bacher, Ph.D.

Dustin Duffy, MS—Mentor: Somnath Datta, Ph.D.

Christopher Powell, MS—Mentor: Yang Yang, Ph.D.

Sumia Tahir, MS—Mentor: Somnath Datta, Ph.D.

Chi Tang, MS—Mentor: Zhiguang Huo, Ph.D.

Maryam Yazdanfar, MS —Mentor: Peihua Qiu, Ph.D.

Zhiyao Zhu, MS—Mentor: Qinglin Pei, Ph.D.



Congratulations! We are very proud of these new gator graduates!

Dear Biostatistics Family,

2020 has been one of the most difficult years of our lives. In particular, the global COVID-19 pandemic has brought many of our lives to a standstill.

With so much going on, I know many people feel helpless. What can any of us do in the face of something so big, amorphous, and unwieldy?

My situation is unique, in that I get to work with some of the exceptional people who know exactly what needs to be done in this uncertain time. They don't have instant solutions, but they know the strategies that can help us find our way there. Among those researchers are our Biostatistics faculty, who have been attacking COVID-19 head-on all year long. Our Biostatistics faculty include some of the world's foremost infectious disease modelers, and they've built models to predict the virus's spread, they've proposed core protocol to accumulate information across outbreaks and drive clinical drug trials for COVID-19 treatments and vaccines, and they've been actively working with the WHO across large vaccine trial strategies.

At the end of the day, the efforts from the Biostatistics Department at UF PPHP position the world to better contain the virus and to identify the vaccine and treatment strategies that work best, even down to different population groups. The Biostatistics team is working tirelessly to protect our world from COVID-19. On top of that, they're investing time with media outlets to help share this knowledge out to the public, because an informed public has less to fear and is better-equipped to participate in this battle.

So, over the last year, maybe you, like so many of us, have asked, "what can I do about all this?" After all, COVID-19 feels like something that's happened to us, rather than something we could control. If you're still asking that question, please consider supporting our Biostatistics Department this year. As a relatively young department, Biostatistics is poised to grow and expand upon this amazing work, but that can only happen if alumni and friends – you – are willing to help.

We're always grateful for your financial support, in whatever amount is right for you. In a year of budget cuts and costly unexpected transitions to hybrid education and remote work, your support means more now than ever before. If you want to support something specific, [please click here to pick a time to chat with me](#), and we'll make it happen.

Regardless of whether you support us in word, deed, or gifts, thank you for being part of our PPHP family, and Go Gators!

Sincerely,

Tom

—

Thomas J. Goodwin IV, JD

Director of Advancement

College of Public Health & Health Professions, University of Florida

C: [352-327-8664](tel:352-327-8664) | O: [352-273-6540](tel:352-273-6540)

E: TomGoodwin@php.ufl.edu | 1225 Center Drive, PO Box 100185, Gainesville, FL 32610

[Click here to talk with Tom!](#)

THANK YOU to the following supporters who made gifts to the department in 2020!

\$0-\$500

Joanne August	Deana Nance
Rhonda Bacher	Arlene Naranjo
Babette Brumback	Jonathana Pollio
Yunfeng Dai	Marc Robinson
Zhigaung Huo	Richard Shuster
John Kairalla	Shu Wang
Xiang Yang Lou	Samuel Wu
Qing Lu	Yichao Yu
Wei Lu	Baiming Zou

\$500 and above

Somnath Datta	Robert Dickinson Jr.
Peihua Qiu	

- ◆ **56% of faculty have given back to our Department**
- ◆ **Ten alumni, friends and family members have contributed over \$50,000 to the Mark C.K. Yang Memorial Fund. Thank you all!**
- ◆ **In addition, the department will establish a new Biostatistics Alumni Scholarship Fund to reward PhD or MS students in the Department of Biostatistics for superior academic performances.**

Thank you so much for your generous gifts!

If you'd like to join this list of generous donors, or if you'd like to make another gift, please [click here to talk with our new Director of Advancement, Tom Goodwin!](#)

We invite you to visit our department website at: <http://biostat.ufl.edu>