Biostatistics | Epidemiology | Administration | Computational Oncology | Health Outcomes

BIOSTATISTICS SEMINARS
Streaming online

❖ September 2, 2020 — Wesley Tansey, MSK

❖ September 16 2020 — **Alexia Iasonos**, MSK

❖ September 30 2020 — **Lehana Thabane**, McMaster University

❖ October 14, 2020 — **Cecile Proust-Lima**, INSERM

❖ October 21, 2020 — **Kiros Berhane**, Columbia University

❖ October 28, 2020 — **Zhigang Zhang**, MSK

❖ November 4, 2020 — **Hajime Uno**, Dana Farber

COMPUTATIONAL ONCOLOGY SEMINARS
Streaming online

❖ September 22, 2020 — **Raphael Gottardo**, Fred Hutchinson

❖ October 20, 2020 — **Byron Wallace**, Northeastern

❖ November 10, 2020 — **Elaine Mardis**, AACR President

EPIDEMIOLOGY SERVICE MEETINGS
Streaming online

❖ September 14, 2020 — **Sigrid Carlsson**, MSK

❖ September 28, 2020 — **Irene Orlow**, MSK

❖ October 26, 2020 — **Jeanine Genkinger**, Columbia University

❖ November 9, 2020 — **Xiang Shu**, MSK

POPULATION SCIENCES RESEARCH PROGRAM SEMINAR SERIES
Streaming online

❖ September 22, 2020 — **Michael Diefenbach**, Hofstra

❖ October 20, 2020 — **Stacy Loeb**, NYU School of Medicine

❖ November 17, 2020 — **Holly Prigerson**, Weill Cornell Medicine

## HEALTH OUTCOMES RESEARCH GROUP SEMINARS
Streaming online

❖ September 25, 2020 — **Jean Mitchell**, Georgetown

❖ October 9, 2020 — **Talya Salz**, MSK

❖ October 23, 2020 — **Angela Green**, MSK

❖ November 6, 2020 — **Ryan Nipp**, Mass General Hospital

XIANG SHU JOINS THE EPIDEMIOLOGY SERVICE

Xiang Shu recently joined the Department of Epidemiology and Biostatistics as an Assistant Attending Epidemiologist. His primary research interests include identifying novel genetic and molecular markers for cancer risk and clinical outcomes, with the goal of better understanding tumorigenesis and providing novel tools for risk assessment. He actively participates in multiple international consortia including the Breast Cancer Association Consortium, the Asia Breast Cancer Consortium, the Genetics and Epidemiology of Colorectal Cancer Consortium, and the Asia Colorectal Cancer Consortium. His recent work integrating genetic information with omics data provides new insights into cancer etiology and biology. Xiang is also an investigator in three large prospective cohorts: the Shanghai Women's Health Study, the Shanghai Men's Health Study, and the Southern Community Cohort Study. He

Xiang Shu, PhD

is taking the lead in several metabolomics/proteomics projects in these cohorts to search for novel risk biomarkers for colorectal, pancreatic, gallbladder, gastric, and ovarian cancer. By examining the potential mediating effects of metabolites and proteins, new knowledge is gained on how modifiable factors such as diet and exercise affect cancer risk. Xiang received his PhD in epidemiology from University of Texas Health Science Center at Houston and completed his postdoctoral training at the Division of Epidemiology, Vanderbilt University Medical Center.
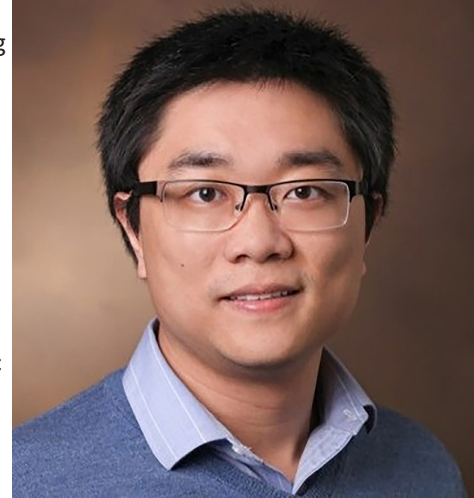
CULTURE COMMITTEE

The Epidemiology & Biostatistics Culture Committee was formed following the Department's Town Hall to Fight Racism. Chaired by Narre Heon, the EpiBio Culture Committee is composed of members representative of Epidemiology, Biostatistics, Health Outcomes, and Computational Oncology. The group will meet regularly to discuss departmental diversity and inclusion needs. Per the committee's mission statement: "The purpose of the Epidemiology & Biostatistics Culture Committee is to promote the values of diversity and inclusion. A diverse and inclusive culture is essential to attaining innovation, creativity, and openness that will improve research in oncology care and outcomes at MSK for patients and create a supportive environment for employees. We will accomplish our mission through strategizing and implementing transformative initiatives in outreach, education, and recruitment. We seek to collaborate with other programs at MSK to provide a comprehensive, institution-wide approach to diversity and inclusivity, access, and equality." If you have any questions or comments regarding the committee or its initiatives, please feel free to contact Narre Heon.

PUBLICATIONS

A large international study led by **Elli Papaemmanuil** has first assessed the impact of having one versus two dysfunctional copies of TP53 on blood cancer outcomes. The study, which was conducted under the aegis of the International Working Group for the Prognosis of MDS whose goal is to develop new international guidelines for the treatment of myelodysplastic syndrome (MDS), analyzed genetic and clinical data from 4,444 patients with MDS. Elsa Bernard, first author of the study published August 3 in Nature Medicine, performed detailed characterization of genomic alterations in MDS to include point mutations, chromosomal deletion, or copy-neutral loss of heterozygosity and found that 1 in 3 TP53-mutated patients had only one altered copy (mono-allelic) whereas 2 in 3 patients had both copies mutated (bi-allelic). The researchers reported that the allelic state of TP53 (mono- versus bi-allelic) were associated with dramatically distinct genomic profiles and clinical presentation. While bi-allelic TP53 mutations identified patients with very high risk disease, mono-allelic patients did not differ from wild-type patients with regards to response to therapy, overall survival, and progression to acute myeloid leukemia. The findings are of immediate clinical relevance to MDS patients, for better risk assessment and treatment decisions. Going forward, all MDS patients should have their TP53 allelic state assessed at diagnosis.

Related links:
Study published August 3 in Nature Medicine
A Behind the Paper commentary

STAFF ACHIEVEMENTS

Jonine Bernstein has been selected to deliver the 2nd John B. Little plenary lecture at the Radiation Research Society's annual meeting October 2020.

Irene Orlow was invited to join the Biospecimen Committee, which will function under the auspices of the MSK Integrated Diagnostics Initiative.

STAFF KUDOS

Special thanks from the department to **Gordon Watt** and **Akriti Mishra** for volunteering and being redeployed to assist in the hospital's fight against COVID-19. They are both back working at their regular positions in the department.

STAFF PROMOTIONS

Samantha Brown promoted to Assistant Research Biostatistician

Cynthia Berry promoted to Associate Director

Nicholas Ceglia promoted to Computational Biologist, Sr II

Katherine Cheung promoted to Editor/Grant Writer

Diljot Singh Grewal promoted to Bioinformatics Engineer IV

Farheen Madonia promoted to Senior Financial Analyst

Emily Stein promoted to Research Project Associate

Karissa Whiting promoted to Research Biostatistician

STAFF FAREWELLS

The Computational Oncology Service bids farewell to **Barry Taylor** on July 20th. Barry has transitioned to Vice President at Loxo Oncology at Lilly. Barry started at MSK in 2009 as a David H. Koch Fellow in Dr. Neal Rosen's lab. In 2012, Barry left for an opportunity at University of California, San Francisco before returning to MSK in July 2014. Barry was an Associate Member for the Department of Epidemiology and Biostatistics, an Associate Member for the Human Oncology and Pathogenesis Program (HOPP), and an Associate Director for the Marie-Josée & Henry R. Kravis Center for Molecular Oncology.

Best of luck, Barry!

GRANTS

Margaret Du and Michele L. Cote, at Wayne State University, were awarded a National Cancer Institute grant titled "Approaches to Curtail Endometrial Cancer Incidence and Mortality."

Benjamin Greenbaum was among six other MSK investigators awarded a grant from the Pershing Square Foundation for their COVID-19 research projects.

Ed Reznik received a new award from Brown Performance Group for "Multimodal Metabolic Analysis of Tumors and Therapeutic Response."

A National Cancer Institute grant was awarded to Simon Powell tilted "MSK SPORE in Genomic Instability in Breast Cancer" and **Sohrab Shah** and **Ronglai Shen** are Co-Core Leads for the Biostatistics/Bioinformatics Core.

Sohrab Shah was awarded a grant from the Department of Defense titled "Dissecting the Impact of Mutational Processes on Therapeutic Response in Ovarian Cancer." **Sohrab** is also the subcontract PI for a grant from National Institute of Heath and National Human Genome Research Institute titled "Center for Integrated Cellular Analysis."

GTSUMMARY R PACKAGE

Many of our co-workers have contributed to the gtsummary R package, a collection of functions that assist us in making our work reproducible and beautiful. The following have contributed by writing functions, adding new features to existing functions, or performing code reviews: **Daniel Sjoberg**, **Karissa Whiting**, **Margie Hannum**, **Michael Curry**, **Esther Drill**, **Jessica Flynn**, **Stephanie Lobaugh**, **Jessica Lavery**, **Jasme Lee**, **Emily Vertosick**, **Amy Tin**, and **Sammi Brown**. **Axel Martin** and **Audrey Mauguen** have translated the package into French! RStudio has highlighted the package in a post on their blog: https://education.rstudio.com/blog/2020/07/gtsummary/ and the package website can be found here: http://www.danieldsjoberg.com/gtsummary/

QSURE

In spite of the difficulties posed by the coronavirus, nine students participated in an 8-week virtual program led by QSURE co-directors **Kay See Tan** and **Margaret Du**. Students completed their individual research projects remotely and presented their findings at the QSURE Symposium. Thank you to the entire department for supporting a virtual program, and a special thank you to the mentors for dedicating their time to support our students despite the challenging circumstances.

ETHAN BASCH'S NEW POSITION AT UNC

Although **Ethan Basch, MD, MSc,** left MSK in 2012 to join University of North Carolina-Chapel Hill's Department of Medicine as Richard M. Goldberg Distinguished Professor in Medical Oncology as well as the Director of the Cancer Outcomes Research Group, he still remains a part of our community by maintaining research projects, staff, and colleagues in EpiBio. Most recently, Ethan was named the Chief of Oncology of the Division of Medicine and the Physician-in-Chief of NC Cancer Center. Ethan continues to be a leader within patient-reported outcomes, committed to changing care processes to improve the patient experience and building infrastructure to support clinical and research staff alongside patients. Congratulations, Ethan; we look forward to continued collaborations!

WELCOME BABY MAIA!

Our very own **Katherine Cheung** gave birth this July. Maia Rosalee Cheung was born July 14 at 8:06PM weighing 6lb 1oz. Both Katherine and Maia are healthy and doing well. Congratulations!

NEW STAFF

Andy Aukerman, MSK MIND Bioinformatics Engineer

Andy Aukerman joined the Computational Oncology service as a Data Engineer. He graduated with a B.S. in Physics and B.A. in History and Philosophy of Science from the University of Pittsburgh. During his time as an undergraduate, Andy carried out detector operations and physics research with the ATLAS Experiment at the Large Hadron Collider. Before joining MSK, Andy worked as a Data Analyst with Columbia University Department of Pathology, where he worked on various imaging and deep-learning projects in pathology and radiology. Andy found a great passion in this new and exciting field and is looking forward to all that may be accomplished at the intersection of data, science, and medicine!

Anika Begum, Project Coordinator for MSK MIND

Anika joined MSK in May 2020 as a Project Coordinator for the new MSK MIND and SPECTRUM initiatives. Although she was raised in New York City and attended LaGuardia Arts High School for a love of painting, she has spent the last 9 years in Boston, pursuing a Bachelors in Neuroscience from Boston University and an MPH from Tufts. Prior to joining MSK, Anika was working on an FDA-funded medical product surveillance initiative called Sentinel at Harvard Pilgrim's Department of Population Medicine.

Yuval Elhanati, Senior Research Scientist

Yuval joined the Computational Oncology group as a Senior Research Scientist after working previously at The Human Oncology and Pathogenesis Program. A theoretical physicist in training, his research is dedicated to the quantitative study of the adaptive immune system, specifically in the context of cancer and immunotherapy. Yuval is designing and learning statistical models describing T and B cells populations, finding the characteristics of reacting immune systems, in turn producing algorithms that direct diagnostic and treatment. He previously worked as a postdoc in Princeton University and in the Ecole Normale Superieure in Paris.

Zoe Guan, Research Fellow

Zoe Guan joined the Epidemiology and Biostatistics department as a Postdoctoral Research Fellow working with Colin Begg and Ronglai Shen. Her current research focuses on associations between germline variants and tumor site of origin. She graduated in May with a PhD in Biostatistics from Harvard University, where she used machine learning methods to develop family history-based cancer risk prediction models.
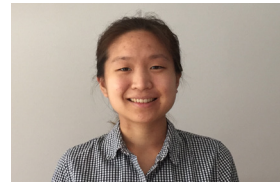
Druv Patel, MSK MIND Bioinformatics Software Engineer I

Druv joins the Computational Oncology Service as a Bioinformatics Software Engineer I for the MSK MIND project. Druv was a summer intern in Sohrab Shah's Lab as part of the MSK and Tri-Institutional Computational Biology Summer Program (CBSP), working on using deep learning algorithms to predict complex genetic features in whole slide histology images. Druv graduated from the University of Texas at Austin with a B.S. in Computer Science, and is looking forward to building integrative data systems and applying artificial intelligence to further cancer research.

Doori Rose, MSK MIND Bioinformatics Engineer

Doori joined the MSK MIND engineering team as a Bioinformatics Engineer in February. She is currently working on her Master's in Computer Science with a specialization in machine learning. Last year, she worked on a cBioPortal project as a Google Summer of Code student. Previously, she worked as a software engineer for a financial institution.

Wesley Tansey, Assistant Attending, Computational Oncology Service

Wesley Tansey is a new Assistant Attending in the Computational Oncology Service whose research focuses on developing new statistical machine learning methods. His work uses Bayesian modeling and deep learning to address problems in cancer biology ranging from single cell analysis to dose-response modeling and combination therapy discovery. Wesley has a PhD in Computer Science from the University of Texas at Austin and has trained at Columbia University at the Data Science Institute and Columbia University Medical Center. He has authored many publications in high-ranking statistics journals and machine learning conferences. In addition, he is a co-chair of the annual Workshop on Computational Biology at the International Conference on Machine Learning and is a member of the editorial board of the Journal of Machine Learning Research.

Rami Vanguri, MSK MIND Scholar, Sr. Computational Biologist

Rami Vanguri joined the Computational Oncology group as a Sr. Computational Biologist in May 2020. He is interested in developing quantitative characterizations and integrations of multi-modal data to discover novel biomarkers and stratify patients. He was a postdoctoral research scientist at Columbia University and received his PhD in Experimental Particle Physics from the University of Pennsylvania in 2015.