



## BIOSTATISTICS SEMINARS

All seminars are held from 4PM – 5PM  
485 Lexington Ave, Conference Room B (2137)

- ❖ November 28, 2018 **Sujata Patil**  
MSK
- ❖ December 5, 2018 **Katherine Panageas**  
MSK
- ❖ December 12, 2018 **Marinela Capanu**  
MSK
- ❖ December 19, 2018 **Audrey Mauguen**  
MSK

## EPIDEMIOLOGY SERVICE MEETINGS

485 Lexington Ave, Conference Room B (2137)  
Please see emails for updates

- ❖ December 17, 2018 **Kelly Bolton**  
MSK

## HEALTH OUTCOMES RESEARCH GROUP SEMINARS

All seminars are held from 12PM – 1PM  
485 Lexington Ave, Conference Room B (2137)

- ❖ November 30, 2018 **Lauren P. Wallner, PhD, MPH**  
University of Michigan
- ❖ December 7, 2018 **Angela Green**  
MSK
- ❖ December 14, 2018 **Shari Goldfarb**  
MSK

## POPULATION SCIENCES RESEARCH PROGRAM SEMINAR SERIES

Please see emails for updates.

- ❖ December 10, 2018 **Ruth Etzioni, PhD**  
Member, Public Health Sciences Division Chair, Strategic Advisors Committee, Hutch Data Commonwealth

## OPEN POSITIONS

Please contact the manager for more information about open positions in our department.

- ❖ Assistant Research Biostatistician (Kathy Panageas)
- ❖ Biostatistics Faculty (Colin Begg, contact Samantha Vasquez)
- ❖ Data Analyst (Ling Chen)
- ❖ Data Software Analyst in Computational Oncology (Sohrab Shah)
- ❖ Post-Doctoral Fellowship in Computational Oncology (Ed Reznik)
- ❖ Post-Doctoral Fellowship in Computational Oncology (Sohrab Shah)
- ❖ Post-Doctoral Fellowship in Biostatistics (Li-Xuan Qin)
- ❖ Post-Doctoral Fellowship in Biostatistics (Mithat Gonen)
- ❖ Program Assistant (Cynthia Berry)
- ❖ Regulatory Research Associate (Sharon Bayuga)



DEPARTMENT CHAIR  
Colin Begg, PhD  
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Narre Heon  
Lauren Rogak, MA  
Amethyst Saldia  
Yesenia Werner  
Shireen Lewis, MPA  
Joseph Kanik

## NEW FACULTY - AARON MITCHELL, MD

Aaron received his MD from NYU in 2011. He completed his internal medicine residency at Duke University, and his medical oncology fellowship at UNC-Chapel Hill. He received his MPH in Epidemiology from UNC-Chapel Hill in 2018. He also completed a two-year postdoctoral research fellowship in Health Services Research at UNC. His research focus is understanding the financial aspects of oncology care. This includes how reimbursement for oncology drugs and services influences the quantity and quality of care that providers deliver. It also includes describing the financial relationships between oncology providers and the pharmaceutical industry, and whether this may influence treatment choices. Aaron is a former American Society of Clinical Oncology Young Investigator.



Aaron Mitchell, MD

## PUBLICATIONS

**Deborah Korenstein, Susan Chimonas, Brooke Barrow, Allison Lipitz-Snyderman**, and their colleagues co-authored a paper, "[Development of a Conceptual Map of Negative Consequences for Patients of Overuse of Medical Tests and Treatments](#)", published in JAMA. Health systems have increasingly recognized that there is a clear overuse of medical tests and treatments. To date, there has not been a clear set of best practices to reduce overuse. The authors aimed to aggregate a comprehensive conceptual map outlining the processes where overused tests and treatments result in multiple domains of negative consequences for patients. This evidence-based conceptual map elucidates the processes where this overuse led to clear negative consequences for patients, as well as consequences experienced by patients.

**Lauren Rogak** and **Narre Heon** co-authored a manuscript with **Ethan Basch** and colleagues entitled "[Feasibility of Implementing the Patient-Reported Outcomes Version of the Common Terminology Criteria for Adverse Events in a Multicenter Trial: NCCTG N1048](#)" in the Journal of Clinical Oncology. Patients with locally advanced rectal cancer were asked to self-report symptomatic adverse events through 30 PRO-CTCAE items. Reporting occurred weekly from home during preoperative therapy and every 6 months after surgery, via either the Web or an automated phone system. It was found that home-based reporting of PRO-CTCAE in a multicenter trial is feasible, with high patient compliance and low site administrative requirements.

**Angela Green, Sujata Patil, Deborah Korenstein**, and their MSK colleagues, Emeline Aviki, Konstantina Matsoukas, and Victoria Blinder co-authored a paper, "[Racial disparities in chemotherapy administration for early-stage breast cancer: a systematic review and meta-analysis](#)", published in Breast Cancer Research and Treatment. A systematic review and meta-analysis was conducted to measure the extent to which race is associated with delayed initiation or receipt of inadequate chemotherapy among women with early-stage breast cancer. Results suggest that black breast cancer patients experience clinically relevant delays in the initiation of adjuvant chemotherapy more often than white patients, which may in part explain the increased mortality observed among black patients.

## CYCLE FOR SURVIVAL

On Saturday, March 9th, members of our Department will be participating in our **4th Annual Cycle for Survival** ride at Equinox East 44th Street. **We still have a few spots left on our team!**

This event is fun, inspiring, and for an incredible cause. **100% of the money raised goes directly to MSK to fund research on rare cancers.** You'll spend the morning with your colleagues dancing, singing, cycling, snacking on the free snacks, drinking the free SmartWater, and wearing all the free swag!



## STAFF ACHIEVEMENTS

**Debra Goldman** won best contributing paper in Reporting and Data Visualization at the Western Users of SAS Software (WUSS) 2018 Conference for the paper “Connecting the Dots: Using ODS RTF ANCHORS, ODS RTF BOOKMARKS, and Table of Contents to Guide Readers Through Your SAS® RTF Reports”.

At 2018 JSM in Vancouver, **Alexia Iasonos** received the 2017 JSM Biopharmaceutical Section Contributed Paper Award, second place winner, for her presentation of the paper “Measuring Differential Treatment Benefit Across Marker Specific Subgroups: The Choice of Outcome Scale” ([PMID: 28254404](https://pubmed.ncbi.nlm.nih.gov/28254404/)). The paper was co-authored with Jaya Satagopan. More details about this work and the larger research program are available at:

<https://www.mskcc.org/departments/epidemiology-biostatistics/biostatistics/statistical-methods-evaluating-predictive-cancer-biomarkers>



## STAFF PROMOTIONS

- ❖ **Cynthia Berry**: Financial Manager
- ❖ **Shireen Lewis**: Financial Manager
- ❖ **Diane Li**: Research Data Analyst
- ❖ **Maha Mamoor**: Research Data Analyst
- ❖ **Jennifer Ohn**: Research Data Analyst
- ❖ **Irene Orlow**: Attending
- ❖ **Stacey Petruzella**: Research Project Manager
- ❖ **Hiep Truong**: Advanced Software Developer
- ❖ **Ryan Weber**: Senior Data Analyst

## NEW STAFF

### Isidora Autuori, Research Technician

Isidora Autuori joined the Molecular Epidemiology Laboratory led by Irene Orlow in September 2018. She received a Bachelor’s degree in Biotechnology for Health, and a Master’s in Genetics Science and Technologies in Italy. As a Senior Research Technician, she will be involved in studies designed to identify the risks of developing cutaneous melanoma in individuals with a high-risk nevus phenotype.



### Juan Pablo Cayun, Graduate Research Assistant

Juan Pablo Cayun is a PhD student of University of Chile, Chile. He works in colon cancer biomarkers through DNA-FFPE analysis. Juan Pablo is a pharmacist with background in pharmacovigilance (industry), pharmacokinetics (TDM and bioequivalence) and pharmacogenetics. He is currently working with Jaya Satagopan in predictive cancer biomarkers. He will be at MSK for 4 months.



### Saptarshi Chakraborty, Postdoctoral Research Fellow

Saptarshi has joined the department as a Postdoctoral Research Fellow working with Colin Begg and Ronglai Shen on a number of projects relating to cancer genomic data analysis. He graduated in August 2018 with a doctorate in Statistics from the University of Florida, where his work focused largely on various theoretical and computational aspects of Bayesian data modeling and Markov chain Monte Carlo.



### Vincent Khong, Application Analyst

Vince joined the Computing Resource Group as an Application Analyst and works under Kai-Hsiung Lin. Prior to his current role, he received his Bachelor of Science in Computer Science and worked as a Software Engineer at ESPN. Vince hopes to utilize his education and prior experience to contribute to the Clinical Research Database and its related applications.



### Emily Stein, Clinical Research Coordinator

Emily joins us having previously worked as a Neuroscience Junior Research Scientist at New York University, where she received her Bachelor of Arts in Biochemistry. In her new role as Clinical Research Coordinator, Emily will be supporting the research needs of Helena Furburg-Barnes and other investigators in the Epidemiology Service.



### Gordon Watt, Postdoctoral Research Fellow

Gordie has joined the Department as a Postdoctoral Research Fellow working with Jonine Bernstein on several projects related to breast cancer epidemiology, including the WECARE and IMAGINE studies. He graduated in August with a PhD in Epidemiology from the University of Texas Health Science Center at Houston, where his work examined approaches to prevent liver cancer in low-income communities with limited access to healthcare.



## GRANTS

**Li-Xuan Qin** was awarded a Sarcoma SPORE competitive renewal for Biostatistics & Bioinformatics Core for the SPORE in Soft Tissue Sarcoma. The goal of the SPORE in Soft Tissue Sarcoma is to reduce the morbidity and mortality from soft tissue sarcoma by developing therapies targeted to specific molecular, genetic, epigenetic, and signaling pathway alterations or specific sarcoma type and subtype. It is structured around four research projects, four cores, and career enhancement and developmental research programs, with the shared objectives of defining molecular mechanisms of sarcomagenesis and resistance to targeted therapy, clinically validating new therapeutic targets, and discovering new biomarkers that predict outcome and response to targeted therapy. The Biostatistics & Bioinformatics Core will support the SPORE investigators in the computational and statistical aspects of their research efforts, including the design and analysis of laboratory experiments, molecular profiling studies, and clinical trials.

**Li-Xuan** was also awarded an R21 for “Statistical Evaluation and Selection of Normalization Methods for microRNA Sequencing Data in Cancer Biomarker Studies”. A critical step for analyzing RNA sequencing data is to normalize the sequencing depth so that measurements from different samples are comparable. Various normalization methods, including both simple re-scaling-based methods and regression-based methods, have been developed for RNA sequencing data to remove unwanted variations in sequencing depth due to experimental handling. The assumptions of these depth normalization methods may not hold for low-complexity RNA molecules such as microRNAs (a prevalent class of small RNAs that are closely related to carcinogenesis) that tend to be expressed in a tissue-specific manner with only a small number of molecules expressed dominantly. This R21 study will assess the properties of depth normalization methods using a unique pair of microRNA datasets for the same set of tumor samples, where one dataset was collected using uniform handling and balanced sequencing library assignment while the second dataset was collected using neither, as well as simulated data. Additionally, investigators develop a novel statistical approach for guiding the choice of a normalization method using the paired datasets and test this approach in additional datasets.

# Computational Oncology Corner

## NEW STAFF

### **Kevin Boehm, Graduate Research Student**

Kevin is a fourth-year MD-PhD candidate in the Weill Cornell/Rockefeller/Sloan Kettering Tri-Institutional MD-PhD Program pursuing his PhD under the mentorship of Sohrab Shah. His research interests include image analysis, machine learning, and integration of multi-modal data toward deeper understanding of cancer and improved clinical outcomes. He completed his undergraduate work in biomedical engineering at Yale University and is originally from just outside Washington, D.C.



### **Nicholas Ceglai, Bioinformatics Software Engineer**

Nicholas has joined the Computational Oncology group as a Bioinformatics Software Engineer working with Sohrab Shah on projects related to single cell RNA-Seq. He graduated from the University of Irvine, California in 2018 with a PhD in Computer Science.



### **Tyler Funnel, Graduate Research Assistant**

Tyler is a Tri-Institutional Computational Biology and Medicine PhD student in Sohrab Shah's group working on cancer genomics. He graduated from UBC with a MSc in Bioinformatics, after completing a BSc in Computer Science at the University of Northern British Columbia.



### **JianJiong Gao, Assistant Attending Computational Oncologist**

JianJiong Gao was trained as a computer scientist and bioinformatics engineer. His passion lies at the intersection of cancer research, bioinformatics, and software engineering. Since joining MSK in 2011, he has been co-leading several projects which include cBioPortal (a leading analysis and visualization web resource of cancer genomics), OncoKB (a precision oncology knowledge base), and Genome Nexus (a comprehensive resource for annotating and interpreting cancer variants). He has also contributed to a number of collaborative cancer genomics projects which include TCGA, AACR Project GENIE, and MSK-IMPACT. By building computational and translation data infrastructure, his goal is to deliver complex genotypic and phenotypic data as well as providing the capacity of analyzing them directly to the hands of researchers and clinicians which will enable scientific discoveries and clinical applications.



### **Diljot Grewal, Bioinformatics Software Engineer**

Diljot joined the Computational Oncology group at MSK as a Software Engineer in August 2018. He works on building infrastructure to scale out the analysis of petabytes of data on cloud computing platforms and local clusters. Prior to joining MSK, he worked at the BC Cancer Research Center in Vancouver, Canada as a Software Developer, where he developed production workflows for analyzing Next Generation Sequencing data. He holds a Master's Degree in Computing Science from the Simon Fraser University in Vancouver, and is excited to help researchers navigate and analyze large datasets.



### **Samantha Leung, Bioinformatics Software Engineer**

Samantha joins the Computational Oncology group as a Bioinformatics Software Engineer working with Sohrab Shah on data visualization projects. She previously worked as a software developer in the BC Cancer Research Centre in Vancouver, Canada. She graduated from the University of British Columbia in 2014 with a BSc in Biology and Computer Science.



### **Arfath Pasha, Bioinformatics Software Engineer**

Arfath has joined the Computational Oncology group as a Bioinformatics Software Engineer working primarily with Sohrab Shah on building the software infrastructure for the Computational Oncology service. He has broad experience in building production systems in industry, academia, and government. Prior to joining MSK, he was at Brookhaven National Labs.



### **Spencer Vattr-Watts, Bioinformatics Software Engineer**

Spencer joined the Computational Oncology group as a Bioinformatics Software Engineer, working with Sohrab Shah on projects related to data visualization and database organization. He graduated in October 2018 from the University of Victoria in Canada with a BSc in Computer Science and is excited to explore the opportunities that Memorial Sloan Kettering and New York have to offer.



### **Allen Zhang, Graduate Research Assistant**

Allen has joined the Computational Oncology group as an MD/PhD student working with Sohrab Shah. His research focuses on clonal evolution and the role of the immune microenvironment in cancer, and Bayesian models for analyzing single-cell transcriptomics data. Prior to entering the MD/PhD program, he studied Combined Honors in Computer Science and Biology at the University of British Columbia.

