



BIOSTATISTICS SEMINARS

Streaming online

- ❖ January 27, 2021 **Li-Xuan Qin**
MSK
- ❖ February 17, 2021 **Bhramar Mukherjee**
University of Michigan
- ❖ February 24, 2021 **Arshi Arora et al.**
MSK
- ❖ March 3, 2021 **Thomas Gerds**
Univ. of Copenhagen

COMPUTATIONAL ONCOLOGY SEMINARS

Streaming online

- ❖ February 16, 2021 **Inigo Martincorena**
Wellcome Sanger Inst.
- ❖ March 11, 2021 **Andrea Sottoriva**
Inst. of Cancer Research

EPIDEMIOLOGY SERVICE MEETINGS

Streaming online

- ❖ January 25, 2021 **Elizabeth Kantor**
MSK
- ❖ February 8, 2021 **Margaret Du**
MSK
- ❖ February 22, 2021 **Ann Zauber**
MSK
- ❖ March 8, 2021 **Irene Orlow**
MSK

POPULATION SCIENCES RESEARCH PROGRAM SEMINAR SERIES

Streaming online

- ❖ February 23, 2021 **Deborah Schrag**
Dana-Farber Cancer Inst.

HEALTH OUTCOMES RESEARCH GROUP SEMINARS

Streaming online

- ❖ January 22, 2021 **Kelvin Chan**
University of Toronto
- ❖ February 5, 2021 **Aris Angelis**
London School of Hygiene & Tropical Medicine

EQUALITY, DIVERSITY & INCLUSION WORKSHOP SERIES

Streaming online

- ❖ February 18, 2021 **Dr. Anita Ravi**
Promoting Belonging:
Trauma-Informed Care-
Transforming Principles
into Practice
[Link](#)



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

WESLEY TANSEY JOINS THE DEPARTMENT

Wesley Tansey is a new Assistant Attending in the Computational Oncology Service. Dr. Tansey's research is at the intersection of statistics and computing, with a focus on principled machine learning methods motivated by problems in cancer biology and medicine. He uses a number of tools in his work, including Bayesian statistics, graphical models, and deep learning. His current research is on new methods for combination therapy discovery, cellular imaging analysis, and causal inference from randomized trial and observational data. He is a co-organizer of the Workshop on Computational Biology at the International Conference on Machine Learning and a member of the editorial board of the Journal of Machine Learning Research. Wesley received his PhD in Computer Science from the University of Texas at Austin and completed his postdoctoral training at Columbia University.



Wesley Tansey, PhD

GRANTS

Colin Begg is an MPI of an R01 grant titled "Identification of Lethal Melanomas at the Time of Diagnosis" with Nancy Thomas (University of North Carolina) and Marianne Berwick (University of New Mexico). Other investigators include **Irene Orlow** (subcontract co-PI) and **Audrey Mauguen**.

Margaret Du is an MPI with Peter Kingham on an R01 titled "Determining the risk factor profile and biology of colorectal cancer in Nigeria". **Mithat Gonen** is also a Co-I on the grant.

Helena Furberg received an administrative supplement to her R01 titled "Association between body composition and treatment-related outcomes among metastatic kidney cancer patients treated with immunotherapy".

Talya Salz received a core grant administrative supplement titled "Cannabis use among patients at Memorial Sloan Kettering Cancer Center". Other investigators include **Deborah Korenstein**, Jun Mao, Nirupa Raghunathan, and Fumiko Chino.

Xiang Shu received a K99/R00 award titled "Uncovering Roles of Metabolites in Colorectal Cancer Etiology".

Ann Zauber is an MPI on an R01 grant titled "Optimizing colorectal cancer prevention: A multi-disciplinary population-based investigation of serrated polyps using risk prediction and modeling".

Ann Zauber is the site PI of Dr. Cao's (Washington University in St. Louis) R37 "Obesity, sedentary behaviors, and diet quality for prevention and early detection of early-onset colorectal neoplasia".

Ann Zauber is an MPI (Contact) on a U01 award titled "Comparative Modeling of Effective Policies for Colorectal Cancer Control".

Ann Zauber and Monika Laszkowska received an MSK Interdisciplinary Population Science Research Award titled "The Cost-Effectiveness of Screening and Surveillance of Precursor Gastric Lesions in Individuals with a Family History of Gastric Cancer".

Jonine Bernstein, along with co-PIs Krishna Juluru and Janice Sung, received an Interdisciplinary Population Science Research Award from the Population Sciences Research Program for their project titled "Background Parenchymal Enhancement in Contrast-Enhanced Digital Mammography: A Pilot Study of a Promising Imaging Biomarker of Breast Cancer Risk". Other investigators include **Chaya Moskowitz** and Maxine Jochelson.

Sean Devlin is the subcontract PI of Christopher Park's (NYU) R01 "Translational Control of Leukemia Stem Cells".

Kathy Panageas, Jun Mao, and Bobby Daly received a MSK Interdisciplinary Population Science Research Award titled "Connected Care: Remote monitoring after hospital discharge".

Nikolaus Schultz received an award from the Cholangiocarcinoma Foundation for his project titled "The cBioPortal for Cancer Genomics for Cholangiocarcinoma Research".

Tim Ahles and James Root were awarded a National Cancer Institute Supplement titled "Genetic susceptibility to cancer related cognitive dysfunction in women undergoing treatment for breast cancer" **Irene Orlow** will lead the investigation of genetic markers. **Keimya Sadeghi** will contribute with samples handling, genotyping, and by testing cotinine levels to assess extent of tobacco smoke exposure in these participants.

STAFF PROMOTIONS

Isidora Autuori promoted to Research Assistant
Gunes Gundem promoted to Senior Research Scientist
Jennifer Hsu promoted to Research Data Analyst
Max Levine promoted Computational Biologist, Sr I
Juan Arango Ossa promoted to Bioinformatics Engineer III
Kayleigh Rutherford promoted to Computational Biologist II
Niki Schultz promoted to Member
Ed Reznik promoted to Assistant Member
Sara Tabatabai promoted to Research Data Analyst
Niti Trivedi promoted to Research Data Analyst
Yangyu (Joe) Zhou promoted to Bioinformatics Engineer II

STAFF FAREWELLS

As a Clinical Research Coordinator, **Colin Kimberlin** supported the research needs of Andrew Vickers and Sigrid Carlsson. He played vital roles in managing Andrew's PCORI projects and assisting with Sigrid's qualitative research projects. Recently Colin accepted a Clinical Research Specialist position in the Department of Medicine and has recently transitioned to the GU Prostate Service. We thank Colin for all his hard work and wish him the best in his new role!

Molly Samson has left MSK to be a fulltime post-bac student to pursue her dream of being a physician. She first joined EpiBio in 2016 as a Research Study Assistant to support the research efforts of Helena Furberg-Barnes and Sara Olson, including recruitment for the DETER Study and MSK Pancreatic Tumor Registry, respectively. In 2018 she was awarded a Fulbright Scholarship to pursue a research fellowship in Ife, Nigeria under Peter Kingham (Surgery) and in collaboration with Margaret Du and MSK's Global Cancer Disparity Initiatives Program. In 2019, she returned to EpiBio to manage the MSK Pancreatic Tumor Registry with Margaret Du and Amethyst Saldia. We are grateful for Molly's contributions and friendship, and wish her all the best in her future endeavors!

@MSKBIOSTATS

We're excited to announce that the Biostatistics Service now has an active Twitter account! Please follow us at [@MSKBiostats](https://twitter.com/MSKBiostats), where we will share updates on what the service is up to including publications, R packages, job postings, and faculty and staff spotlights!

If you would like to submit content (such as a recent publication, grant awarded, etc.), as well as other social activities outside work with colleagues), please reach out to the Social Media Committee at zzPDL_BST_SocialMedia@mskcc.org. Members include **Jessica Lavery** (committee chair), **Arshi Arora**, **Jasme Lee**, **Chaya Moskowitz**, and **Samantha Vasquez**. We look forward to receiving your content!

PUBLICATIONS

Ethan Basch, Lauren Rogak, and colleagues published a paper, "[Composite grading algorithm for the National Cancer Institute's Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events \(PRO-CTCAE\)](#)" in Clinical Trials. Basch, Rogak and colleagues developed, validated and translated the PRO-CTCAE in order to elicit symptomatic adverse events from patients. In order to align the PRO-CTCAE with other standardized tools for adverse event assessment including the Common Terminology Criteria for Adverse Events, they created an algorithm for mapping individual items for any given adverse event to a single composite numerical grade was developed and tested. A rigorous 5 step process was used which included 20 clinical investigators subjectively map score combinations to single grades; presenting those with <75% agreement at a National Clinical Trials Network cooperative group meeting; refinement of algorithm via graphical and tabular approaches to assure directional consistency; assessment of validity, reliability, and sensitivity; and measurement of accuracy within two Phase III clinical trials. A composite grading algorithm has been developed and yields single numerical grades for adverse events assessed via the Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events and can be useful in analyses and reporting.

Ethan Basch, Lauren Rogak, and colleagues published a paper, "[Clinical utility and user perceptions of a digital system for electronic patient-reported symptom monitoring during routine cancer care: Findings from the PRO-TECT trial](#)" in the Journal of Clinical Oncology Clinical Cancer Informatics. PRO-TECT is a multicenter trial evaluating implementation of electronic patient-reported outcomes (ePROs) among adults with advanced and metastatic cancers receiving treatment at US community oncology practices. Questions derived from the Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events (PRO-CTCAE) are administered weekly by web or automated telephone system, with alerts to nurses for severe or worsening symptoms. To elicit user feedback, surveys were administered to participating patients and clinicians. Findings support clinical utility, value, and positive patient perceptions of implementing digital systems for monitoring PROs, including the PRO-CTCAE, in routine cancer care.

Benjamin Greenbaum, with collaborators from the Icahn School of Medicine at Mount Sinai Hospital and University of Chicago, published "[Shared Immunogenic Poly-Epitope Frameshift Mutations in Microsatellite Unstable Tumors](#)" in Cell. The study by first authors Vladimir Roudko & Cansu Cimen Bozkus focuses on Microsatellite instability-high (MSI-H) tumors, which are characterized by high tumor mutation burden and responsiveness to checkpoint blockade. Authors identified tumor-specific frameshifts encoding multiple epitopes that originated from indel mutations shared among patients with MSI-H endometrial, colorectal, and stomach cancers. Epitopes derived from these shared frameshifts have high population occurrence rates, wide presence in many tumor subclones, and are predicted to bind to the most frequent MHC alleles in MSI-H patient cohorts. Neoantigens arising from these mutations are distinctly unlike self and viral antigens, signifying novel groups of potentially highly immunogenic tumor antigens. Investigators confirmed the immunogenicity of frameshift peptides in T cell stimulation experiments using blood mononuclear cells isolated from both healthy donors and MSI-H cancer patients. The study uncovers the widespread occurrence and strong immunogenicity of tumor-specific antigens derived from shared frameshift mutations in MSI-H cancer and Lynch syndrome patients, suitable for the design of common "off-the-shelf" cancer vaccines.

Elli Papaemmanuil's group, led by Kelly Bolton, published a paper in Nature Genetics, "[Cancer therapy shapes the fitness landscape of clonal hematopoiesis.](#)" They followed a large cohort (25K) of solid tumor patients retrospectively including longitudinal samples from 525 individuals. They show how different oncologic therapies and other environmental stressors promote the expansion of hematopoietic stem/progenitor cells bearing specific mutations. The group then went on to show that mutational features of clonal hematopoiesis put solid tumor patients at the highest risk for the development of therapy-related myeloid disease and how this might be clinically meaningful.

FAREWELL TO SUJATA PATIL

We bid farewell to **Sujata Patil**, who has been at MSK for nearly 15 years since March of 2006. She has served as the primary faculty statistician for Colorectal Surgery, collaborated with the Genitourinary and Breast services, served as faculty lecturer for the Department of Surgery Clinical Research Methods Lecture Series and for the K30 Clinical Trial Symposium, coordinated a biostatistics course at the Sloan Kettering Institute with Jaya Satagopan, and served on the MSK Research Council. Sujata will be starting a new position in January 2021 as Section Head of Cancer Biostatistics at Cleveland Clinic. Sujata grew up in Ohio, so this leap is not completely foreign, but she has become a New Yorker over the last 15 years. She will miss New York City, her friends, and colleagues very much, and plans to visit often. Congratulations and best wishes in Ohio, Sujata!



Sujata Patil, PhD

NEW STAFF

Emily Ali, Research Technician (Orlow Lab)

Emily joined the Molecular Epidemiology Laboratory in September as a Research Technician. She contributes to current studies of risk for cancer, cancer related conditions, and disease progression. She graduated from Rutgers University in May 2020 with a Bachelor of Arts degree in Genetics and a minor in Evolutionary Anthropology. Her undergraduate research consisted of the investigation of genetic correlates to linguistic features in world languages and the characterization of shifts in the urban gut microbiome. In the Orlow Lab she handles biospecimens, biospecimen and biomarker related data, and will be performing immunoassays and genotyping. Emily will also contribute to a study of mediators of effectiveness of acupuncture administered for chronic pain and comorbid conditions, and a study of risk factors associated to cognitive decline, among others. She is looking forward to using genetic applications to help advance cancer research through the field of epidemiology.



Julianna Reitz, Project Portfolio Manager

Julianna joins the Epidemiology & Biostatistics Department as a Project Portfolio Manager for the Computational Oncology Service. Julianna holds her Master of Public Administration from the Robert F. Wagner Graduate School of Public Service at New York University. Prior to joining MSK, Julianna worked as a Grants Administrator at New York University's College of Dentistry in the department of Epidemiology & Health Promotion where she managed her department's pre and post award sponsored research activities.



Mike Li, Data Engineer (Greenbaum Lab)

Mike Li joined the Computational Oncology group as a Data Engineer working in Benjamin Greenbaum's lab on Cancer Immuno-Oncology. He previously worked as data/system engineer at Roche Sequencing to build Nanopore NGS platform. He graduated from the University at Buffalo with a Bachelor of Science in Mechanical and Aerospace Engineering. He later served in the U.S. Army before starting his career in the biotech/healthcare industry. Mike's goal is to help advance cancer immunotherapy with the help of next generation sequencing technologies.



Gryte Satas, Postdoctoral Research Scholar (Shah Lab)

Gryte has joined the Computational Oncology group as a postdoctoral research scholar. She is working with Sohrab Shah on projects related to tumor evolution. She received a PhD in Computer Science in 2020 from Brown University where she developed algorithms for reconstructing tumor phylogenies and quantifying tumor heterogeneity.



Shen Yin, Principal Biostatistician

Shen joined the Epidemiology & Biostatistics department as a Principal Biostatistician in October. He collaborates with colleagues in the Plastic and Reconstructive Surgical Service, the Benign Hematology service and the Department of Radiation Oncology. Shen received his PhD from Southern Methodist University in a joint biostatistics program with the University of Texas Southwestern Medical Center. His research interests focus on statistical modeling of high-throughput sequencing data and spatially resolved transcriptomics data. In addition, Shen has been collaborating with researchers from the Thoracic Surgery and the department of Psychiatry in the University of Texas Southwestern Medical Center.



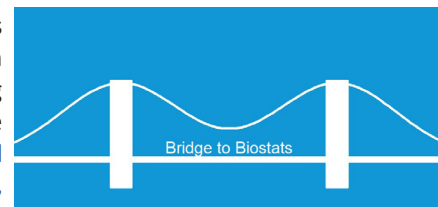
Armaan Kohli, Student Research Assistant

Armaan has joined the Computational Oncology group as a Student Research Assistant working with the MSK-MIND team on projects related to machine learning. Previously, he worked as a research fellow at the NIH National Institute of Biomedical Imaging and Bioengineering. He graduated from The Cooper Union in 2020 with a BEng in Electrical Engineering and is currently participating in a new student affiliation program between Memorial Sloan Kettering and The Cooper Union as part of his master's degree.



INTRODUCING: THE BRIDGE TO BIOSTATS COMMITTEE

The Bridge to Biostats Committee's mission is to create awareness of and interest in the field of Biostatistics among underserved high school students in NYC and students from groups historically underrepresented in the field; the committee aims to provide further opportunities to students along the pathway to becoming professional Biostatisticians, including enrichment classes, summer programs, and mentorship. The committee members include: **Sammi Brown, Esther Drill** (committee chair), **Jessica Flynn, Kimberly Hubbard, Richard Koppenaar, Jessica Lavery** (committee secretary), **Shireen Lewis, Stephanie Lobaugh, Kathy Panageas, Sujata Patil, Venkat Seshan, and Kay See Tan**.



To highlight a few of our activities so far: In August, **Jessica Lavery & Sujata Patil** participated in a middle school career day in partnership with the Bridge to Enter Advanced Mathematics (BEAM) program. **Sujata Patil** and **Kay See Tan** hosted a virtual expo booth in September for the 2020 StatFest, a conference aimed at encouraging undergraduate students from groups that are underrepresented in the field of statistics to consider pursuing careers and further education in statistics. In November, **Jessica Flynn** and **Stephanie Lobaugh** co-led a Biostats Day for BEAM's high school students, which included a lesson using The New York Times' "What's Going on in This Graph" activity, as well as "Meet the Biostatistician" presentations by **Mike Curry** and **Kay See**.

Looking ahead, **Sammi Brown** and **Jessica Lavery** will co-lead a second Biostats Day in December for 8th grade and high school BEAM students, and **Esther Drill** will be the lead teacher for a BEAM biostatistics enrichment course in the spring semester. We are scheduling future Biostats Days in 2021 for Baruch College's STEP (Science & Technology Entry Program) Academy and other NYC educational partners. The committee is also working on coordinating a high school internship program through MSK's SEP (Summer Exposure Program) which provides exposure and support to under-represented minority and under-resourced high school students interested in pursuing careers in the health professions.

If you are interested in joining or being a featured Biostatistician for a Biostats Day, please reach out to committee chair **Esther Drill** or committee secretary **Jessica Lavery**. Follow us on Twitter [@Bridge2Biostats](https://twitter.com/Bridge2Biostats)

STAFF ACHIEVEMENTS

Andrew Vickers gave a presentation on “Pro-tips for a successful academic career” to Hackensack Meridian School of Medicine.

RAYMOND FIGUEROA

A common thread that runs through many MSK employees is a commitment to service – whether it is serving patients, the scientific community at large, or others. Raymond Figueroa is no exception. Raymond, who joined the department in April as a facilities coordinator, has served as a structural engineer in the Air National Guard since 2013.



Prior to joining the Air National Guard, Raymond was enlisted in the US Navy from 2009 to 2013, during which he served four tours of active duty. In the Navy, he provided training and supervision to shipboard crews in the use of all types of ordnance equipment, from large caliber guns and missile systems to small arms. After transitioning to the Air National Guard, Raymond’s primary responsibilities shifted towards construction and engineering, giving him extensive experience with preparing and interpreting working drawings and schematics, among other things.

2009, when Raymond first enlisted, was also the year that he first joined MSK in the Department of Medicine, meaning that during the entirety of his career at MSK, he has balanced his responsibilities at work and home with his service to his country; certainly no small task. What’s clear is that Raymond is committed to the ideal of serving others – a quality that serves him well in both endeavors.

On behalf of the department, we would like to thank Raymond for his dedicated service to MSK as well as our country.



Dan Sjoberg and Jeffrey Cheng welcomed Theodore Ren Cheng-Sjoberg on October 11, 2020! They are all doing great and can’t wait to introduce Theodore to the department.



On 10/10/2020 Kay See Tan married her partner Elias Iliasse.



Ken Seier and Danielle got married in October on his family’s farm.



Andrea Knezevic had her baby girl on Friday, October 9th, weighing 8 pounds and 1 ounce. Andrea and Mila are both doing well.

TALES

From Molecular Epi Lab

WHERE ARE THEY NOW?

By Irene Orlow

2020 marks a special milestone as I've been part of the Molecular Epidemiology Laboratory for 20 years.

To celebrate the journey and progress made, learn about everyone's post-Lab paths, and to plan a reunion, earlier this year I reached out to those who had 'passed by the lab' as volunteers, high school and college interns, medical student fellows, and part- or full-time research technicians. Forty-six 'alumni' (22 technicians, 13 Hunter College interns from the New York Bioscience & Biotechnology Technician Program, 5 NCI summer medical student fellows, 5 volunteers, and 1 pre-doctoral fellow) were successfully contacted.



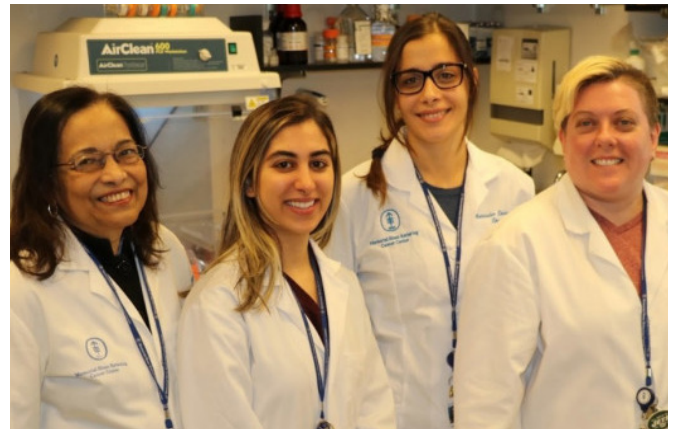
2000 - Molecular Epi Lab

Since their departure from the Molecular Epidemiology Lab, former members have graduated from high school, college, and completed graduate degrees (such as MBA, PhD, DDS, MD, DSc, MD-PhD). Alumni who graduated from college last spring plan to go back and obtain graduate degrees, including some who plan to become doctors and/or physician-scientists. Not surprisingly, oncology continues to be a big theme for most.

Three former lab members remained at MSK: Ajay, Sarah, Vikram. Allison ('01) is a pediatrics attending at the Children's Hospital of Philadelphia, specializing in chimeric antigen receptor T-cell therapy for relapsed/refractory leukemia and building her own clinical research program. Gemma ('04)

returned to Spain and is a professor at the Universidad Autónoma de Madrid; she helped set up the 'Innovation in Medicine' theme. Javier ('07) returned to his native Argentina where he is a full professor at the University of Buenos Aires and an independent investigator in the National Scientific and Technical Research Council (CONICET). Cassie ('14) ended up – unexpectedly – working in a research lab in Melbourne, Australia.

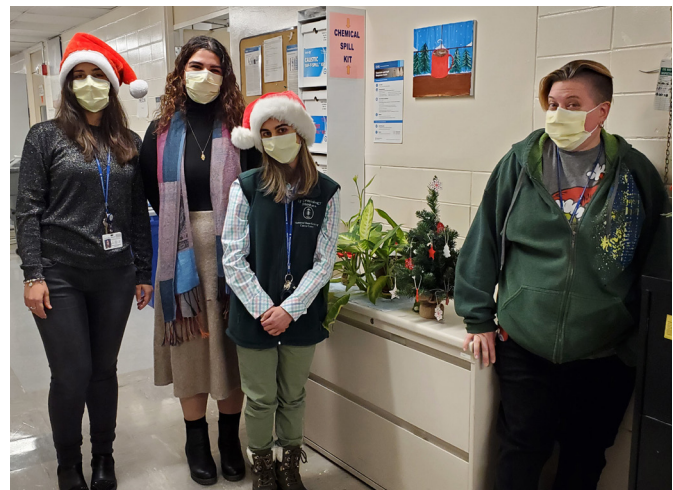
I am delighted to learn about my former colleagues' plans and the academic and professional achievements they have received. Finally, a big hooray to the newly-weds and to those who became parents.



2018 - The Lab Team (from left to right): Pampa, Keimya, Isi, and Jess



2020 - The Lab Team at an outing (from left to right): Isi, Emily, Keimya, Jess, and Irene



2020 - The Lab Team (from left to right): Isi, Emily, Keimya, Jess

