MEMORIAL SLOAN KETTERING CANCER CENTER
DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

B.E.A.C.H.

DEPARTMENTAL NEWSLETTER
December 2025 | VOLUME 17, ISSUE 3

BIOSTATISTICS SEMINARS

❖December 17, 2025	**Farimah Shamsi MSKCC**
❖January 14, 2026	**Edgar Dobriban UPENN**
❖January 21, 2026	**Yuqi Gu Columbia**
❖January 28, 2026	**Chen Hu Johns Hopkins**
❖February 4, 2026	**Fan Li Yale**
❖February 11, 2026	**Frank Shih MSKCC**
❖February 18, 2026	**Andriy Derkach MSKCC**
❖February 25, 2026	**Alisa Stephens UPENN**

HALVORSEN CENTER FOR COMPUTATIONAL ONCOLOGY SEMINAR SERIES

❖January 20, 2026	**Michael A. Skinnider Princeton**
❖February 17, 2026	**TBD**
❖March 17, 2026	**TBD**

EPIDEMIOLOGY SERVICE MEETINGS

❖January 26, 2026	**Peter Kanetsky Moffitt**
❖February 2, 2026	**Noah Peeri MSKCC**
❖February 23, 2026	**Zsofia Stadler MSKCC**
❖March 9, 2026	**Irene Orlow MSKCC**

POPULATION SCIENCES RESEARCH PROGRAM SEMINAR SERIES

❖January 20, 2026	**Craig Pollack Johns Hopkins**
❖February 17, 2026	**Robert Smith ACS**
❖March 17, 2026	**Vish Viswanath Harvard**

HEALTH OUTCOMES RESEARCH GROUP SEMINARS

❖December 18, 2025	**Thomas Atkinson & Yuelin Li MSKCC**
❖January 15, 2026	**TBD**
❖February 19, 2026	**TBD**

SHIREEN LEWIS LEAVES MSK

After 21 years of service, **Shireen Lewis**, Director of Epidemiology & Biostatistics, will be leaving MSK. Shireen's departure marks the end of an era for many of us who have benefited from her leadership, professionalism, and support.

Shireen joined MSK in 2004 and has been an integral part of the institution ever since. Starting as a Session Assistant and Care Coordinator at 53rd Street, her drive and versatility led her to take on project roles within the Department of Surgery and Strategic Planning before becoming an Administrative Manager within Epi Bio in 2009. Ten years later, Shireen was promoted to Financial Manager and then Director for Epi Bio. In 2022, she took on a new challenge as Director for the Department of Neurosurgery, overseeing clinical, research, and operational teams.

While we are saddened to see her go, we celebrate Shireen's remarkable 21 years of service and wish her all the best in her next chapter. We will miss you Shireen! **Cynthia Berry** has assumed the role of lead administrator for the department.

MALCOLM PIKE RETIRES AFTER 16 YEARS AT MSK

Malcolm Pike has retired from the Department of Epidemiology and Biostatistics after 16 years of impactful work at Memorial Sloan Kettering. On September 18, colleagues gathered at the Josie Robertson Surgery Center to celebrate his retirement. The heartfelt event featured warm and thoughtful remarks from friends and collaborators, honoring Malcolm's remarkable contributions and lasting legacy.

Throughout his time at MSK, Malcolm led and collaborated on numerous multidisciplinary studies focused on the causes and prevention of ovarian and breast cancers. He served as principal investigator of the MOCOG study, a major international collaboration examining the molecular, immunological and epidemiological factors that influence survival in advanced-stage ovarian cancer. His research also investigated how combined oral contraceptives (COCs) reduce the risk of ovarian and endometrial cancers, including how differences in COC formulations and the use of intra-uterine contraceptives and anti-progestins may affect this protective effect.

In collaboration with Noah Kauff and Kay Park, Malcolm explored the pathology of the fallopian tube and cortical inclusion cysts, two sites now believed to be the origin of the most common and lethal of ovarian cancers. He also worked closely with **Jonine Bernstein** and colleagues in MSK's Department of Radiology to assess whether breast MRI and contrast-enhanced mammography could utilize background parenchymal enhancement (BPE) as a predictive marker for breast cancer risk, either independently or in combination with mammographic density.

We extend our deepest gratitude to Malcolm for his years of service, scientific insight, and generous mentorship. Malcolm is now an Emeritus Member of the Department of Epidemiology and Biostatistics at MSK. We wish him all the best in this next chapter and hope he is enjoying a well-earned retirement, perhaps while making his way through his extensive opera collection.

AACR AWARDS

AACR Project GENIE recognized the Biostatistics Team (**Kathy Panageas, Jessica Lavery, Sammi Brown, Yufei Deng**) with the Excellence in Data Integrity and Analysis award, honoring their rigorous methodology, analytic leadership, and commitment to high-quality, reproducible science. This award reflects the team's critical role in ensuring the reliability and impact of GENIE's global clinico-genomic data resource. **Nikolaus Schultz , Julia Rudolph,** and **Mike Berger** were awarded the Excellence in Scholarly Output Award.

EPIDEMIOLOGICAL HISTORY

On display in **Jonine Bernstein's** office is an important piece of public health history. In 1854, John Snow, referred to as the "Founder of Epidemiology", famously traced the cholera epidemic in London's Soho to a contaminated public water supply pump on Broad Street in 1854. As a result of his visionary work, the wooden water pipes (actually hollowed out trees) that had carried the drinking water throughout London since the Middle Ages, were replaced with iron pipes. A piece of the original wooden pipes was preserved and presented in 1967 to the epidemiologic honor society, the American Epidemiological Society, as a historic symbol of its scientific and public health purpose. Last year, Jonine was elected Secretary-Treasurer of AES, and she and **Emilie Childs** (as AES administrator) are now entrusted as keepers of the "dingus", proudly on display in office 317 at 633 3rd Ave. Please feel free to stop by and take a look at this living part of epidemiological history!

GRANT SUCCESS

Sohrab Shah and **Ruslan Soldatov** received a Kravis Center award titled: "Ecosystem remodeling during neoplastic transformation in gastric and fallopian tube precursor lesions."

Ed Reznik received an aiTDF award titled: "Deep Learning Enables Pan-Cancer Predictive Modeling of Immune-Related Adverse Events."

Wesley Tansey received an aiTDF award titled: "AdaptEx: An active learning platform for personalized combination therapy discovery in rare and treatment resistant cancers."

Wesley Tansey received the TCDO High-Impact Exploratory Project titled: "Spatial Characterization of the Tumor-Immune Microenvironment in Genomically Complex Sarcomas of Children and Young Adults."

Francisco Sanchez-Vega received a Prostate SPORE CEP titled: "Multimodal AI-Driven Models of Metastatic Risk in Localized Prostate Cancer."

Areej Alsaafin of the **Shah Lab** received a Kaleidoscope of Hope Fellowship titled: "Leveraging AI to Predict Therapeutic Outcomes Associated with TP53 Hotspot Mutations in Ovarian Cancer."

Beatrice Zhang of the **Greenbaum Lab** received the Dorris J. Hutchison Predoctoral Fellowship.

Joshua Lau of the **Greenbaum Lab** received the Croucher Foundation Fellowship.

Francisco-Sanchez Vega received the PSRP award titled: "AI and Digital Pathology Advancements for Expanding Immuno-Oncology in Nigerian Colorectal Cancer Care."

Jake Lee received a K08 titled: "Genome instability associated with oncogene amplification and its therapeutic strategy."

Louis Faure of the **Soldatov Lab** received the the Marie-Josée Kravis Fellowship in Quantitative Biology titled: "Charting trajectories of multi-cellular processes driving pre-neoplastic evolution in colitis-associated colorectal cancer."

Benjamin Greenbaum received the Center for Experimental Therapeutics award titled: "mRNA Neoantigen Vaccines for Pancreatic Cancer."

Ann Zauber received an NCI Administrative Supplement to her U01 grant "Comparative Modeling of Effective Policies for Colorectal Cancer Control."

Ann Zauber received a grant from Kaiser Permanente for her project "Evidenced-based Practice Center VII 75Q80125Q00004 Systematic Evidence Reviews to Support the USPSTF-2025 Topic Buy Group A."

Elizabeth Kantor and Victoria Blinder were awarded a PSRP Developmental Funds Award for their project entitled "Use of digital health technologies to manage chemotherapy-induced nausea/vomiting in breast cancer patients: a pilot study."

Talya Salz and Thomas Atkinson received an award from PCORI for their project "Leveraging the Patient Voice with Large Language Models to Improve Pain Assessment."

Together with Jessica Scott, **Helena Furberg** and **Chaya Moskowitz** were awarded an NIH Notice of Special Interest grant entitled, "Reuse of Existing Archives to Advance Clinical Translation (REACT)" which will characterize cancer-related imaging features from existing CT scans from the Imaging Data Commons repository.

Elizabeth Kantor and Tuomas Tammela received a 2026 PSRP Developmental Funds Award for their project titled "Bridging pre-clinical discoveries on hemostasis-driven cancer plasticity with epidemiology".

Margaret Du, Vineet Rolston and Richard Do received a 2026 PSRP Developmental Funds Award for their project titled "Pilot Study of a Dedicated Magnetic Resonance (MR) Scan of the Pancreas: Optimal Screening for Individuals at High-Risk for Pancreas Cancer."

VALUES IN ACTION RECOGNITION PROGRAM

Since it's implementation in 2023, MSK's Values in Action Recognition Program has helped higlight employees who have gone above and beyond in demonstrating MSK's core values. Recipients are awarded by their fellow colleagues and acts as a great way to say your thanks and show appreciation. In addition to the recipient and their manager being notified, the recognition will also be posted on OneMSK. Types of badges include: Respect, Inclusion, Integrity, Innovation, Stewardship and One MSK.

This year our department's recipients included **Emilie Childs**, **Katherine Cheung**, **Brittany Small**, **Joey Kanik**, **Aimee Calder**, **Joseph Christoff** and **Bradley Cohen**.

For more information on the program, or to send a badge to a colleague who you wish to show appreciation for, click here.

PUBLICATIONS

In a recent article in Cell Genomics, Repeats mimic pathogen-associated patterns across a vast evolutionary landscape, **Benjamin Greenbaum** and colleagues elucidate the ancient role of repetitive DNA in our genomes. Interestingly, their work suggests that the immune system's recognition of repeats has been co-opted as a cell-intrinsic feedback mechanism for transcriptional dysregulation. Notably, this mimicry appears again and again across eukaryotes, highlighting a deep and unexpected dialogue between repetitive elements in our genomes and immunity.

In their recent Nature publication, Ongoing genome doubling shapes evolvability and immunity in human cancers, **Andrew McPherson, Sohrab Shah,** and colleagues provide new insight into a process cancer cells use to diversify their genome and gain fitness in the face of therapeutic pressure. They show that whole genome doubling is not a one-time event in the life of a tumor but a continuing process that keeps reshaping tumors. This constant doubling fuels heterogeneity and alters the way immune cells interact with cancer, but it also creates new avenues for therapeutic strategies that anticipate this ongoing change.

Marc Williams, Sohrab Shah, and colleagues published a paper in Nature titled, Tracking clonal evolution during treatment in ovarian cancer using cell-free DNA, in which they explore how drug resistance emerges in ovarian cancer by following structural variants in cell free DNA. They reveal that drug-resistant clones are already present at diagnosis, expand during therapy and contain distinctive genomic alterations that have potential therapeutic relevance. This approach points to a powerful way to monitor cancer evolution and potentially pre-empt the emergence of drug resistance.

Subhiksha Nandakumar and colleagues published a paper in Acta Neuropathologica titled Prospective characterization of germline variants in patients with gliomas and glioneuronal tumors. In this study, the authors determined the prevalence of tumor predisposition syndromes in a prospectively collected cohort of 2,187 patients with gliomas, investigated the contribution of the germline alterations by assessing for biallelic inactivation, and associated biallelic inactivation with somatic genomic changes.

Alexia Iasonos collaborated with FDA AACR and several clinical investigators at other centers and published an article in Clinical Cancer Research titled, FDA-AACR Strategies for Optimizing Dosages for Oncology Drug Products: Early Phase Trials Using Innovative Trial Designs and Biomarkers, describing FDA-AACR strategies for optimizing dose selection and designs for oncology drug products. The paper summarizes the discussion that occurred at the FDA AACR public workshop on this topic in Washington DC in February 2024 where Dr Iasonos was a speaker.

Talya Salz and collaborators published the paper, Impact of an Electronic Patient-Reported Outcome-Informed Clinical Decision Support Tool on Clinical Discussions With Head and Neck Cancer Survivors: Findings From the HN-STAR Randomized Controlled Trial (WF-1805CD)in JCO Oncology Practice. The paper discusses how they developed Head and Neck Survivorship Tool: Assessments and Recommendation (HN-STAR), a clinical decision support tool using electronic patient-reported outcomes (ePROs) to improve follow-up of HNC survivors.

A recent article in BMJ titled, Provider billing margin and cancer treatment selection: population based cohort study, was the product of a study by **Aaron Mitchell, Akriti Mishra Meza, Grace Gallagher, Patrick Augello, Hannah Fuchs, Nirjhar Chakraborty, Mithat Gonen** and other collaborators. They asked whether oncologists tend to use treatments that are more clinically beneficial, more profitable, or both. Surprisingly they found that clinical benefit mattered a lot and profitability did not.

Jessica Lavery, Yuan Chen, Kathy Panageas and Yuanjia Wang published the paper, Unveiling non–small cell lung cancer treatment effect heterogeneity: a comparative analysis of statistical methods, in Journal of the National Cancer Institute. For patients with advanced non–small cell lung cancer lacking targetable genomic alterations, the impact of clinicogenomic characteristics on the effectiveness of combining chemotherapy with immunotherapy is unclear. As such, the study evaluated 4 statistical methods for detecting heterogeneous treatment effects related to clinical factors, including programmed death-ligand 1 expression, tumor mutation burden, and stage at diagnosis.

Emily Vertosick, Andrew Vickers and collaborators published the paper, Prostate-specific antigen levels at age 60 years and lifetime risk of lethal prostate cancer in Journal of the National Cancer Institute. The study follows 1162 men to death to view the natural history of the relationship between prostate-specific antigen (PSA) and prostate cancer specific mortality.

The paper, Missing data in EHRs and patient-reported outcomes remain a major barrier to reliable healthcare analytics, and conventional imputation methods often fail to capture complex relationships or handle diverse missingness mechanisms, is to be published in Statistics in Medicine by **Yasin Khadem Charvadeh, Kenneth Seier, Katherine S. Panageas, Danielle Vaithilingam, Mithat Gönen,** and **Yuan Chen.** In it, they introduce the clustering-informed shared-structure variational autoencoder (CISS-VAE), a deep-learning framework that models non-linear associations, accommodates mechanisms including MNAR, and uses iterative learning to improve accuracy while preventing overfitting. Simulations and application to early-stage breast cancer EHR data at MSK show that CISS-VAE substantially improves imputation performance and strengthens downstream health analyses. CISS-VAE package is available at https://github.com/CISS-VAE/CISS-VAE-python.

ANNUAL GEM MEETING

From September 25th to 27th, 2025, the Annual Genes, Environment, and Melanoma (GEM) meeting was held at the Chauncey Hotel and Conference Center in Princeton, NJ. Organized by **Irene Orlow**, head of the Molecular Epidemiology Lab, the event brought together department members and other GEM members/collaborators from around the world, who joined both in person or remotely from Canada, Italy, Australia, and Germany.

This year's meeting marked the 25th anniversary of the GEM project and covered a variety of melanoma-related topics, including survival, risk, and prevention. Some of the talks included Irene's updates on germline data from the GEM study and **Audrey Mauguen's** presentation on identifying lethal melanomas through long-term survival analysis.

The program included two outstanding guest speakers. Michael Postow, Chief of the Melanoma Service at Memorial Sloan Kettering Cancer Center, gave an engaging talk about clinical challenges in melanoma care, sharing insights from his combined experience in research and patient treatment. Eva Hernando from NYU Grossman School of Medicine's Department of Pathology presented on early factors that influence melanoma spread, offering exciting new findings from her work. The first day concluded with a special dinner celebrating the 25-year milestone of GEM and honoring **Colin Begg** for his many years of invaluable contributions to the study and his outstanding leadership.

The following morning, participants enjoyed a networking field trip to "Grounds for Sculpture", a stunning 42-acre sculpture park in New Jersey featuring over 300 contemporary works, founded by Seward Johnson, the grandson of the co-founder of Johnson & Johnson. The meeting wrapped up on Saturday with a lively discussion about future research directions and potential collaborations, setting the stage for continued progress in melanoma research.

JSM 2025

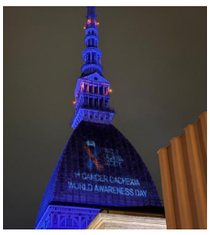
The department had quite the presence at the 2025 Joint Statistical Meetings.

- **Begüm Bektaş** presented "SPEED 3: Statistical Methods for High Dimensional and Complex Data , Part 1" as well as a poster.
- **Alexia Iasonos** volunteered at the JSM community table.
- **Yasin Khadem Charvadeh** presented "Clustering-Informed Shared-Structure Variational Autoencoder for Missing Data Imputation."
- **Vincent Pisztora** presented "Spatial Characterization of the Tumor Microenvironment using Self Supervised Learning."
- **Li-Xuan Qin** presented the talk "Evidence-based Practice for Epi-Transcriptomic Data Harmonization."
- **Farimah Shamsi** presented "Recent Topics in Missing Data and Model Selection."
- **Ronglai Shen** presented the talk "Spatial Immunophenotyping from Whole-Slide Multiplexed Tissue Imaging using Convolutional Neural Networks."
- **Xinjun Wang** chaired the session "Statistical Innovations for Assessing Linear and Non-Linear Associations in Genetic and Genomic Data."

SHAH LAB RETREAT

The **Shah Lab** held a retreat on September 25th at Rockefeller University. Objectives included to facilitate connection between lab members, encourage new discussions, increase engagement, improve project organization and develop skills for organizing data science projects and develop ideas for future research directions.

CANCER CACHEXIA CONFERENCE

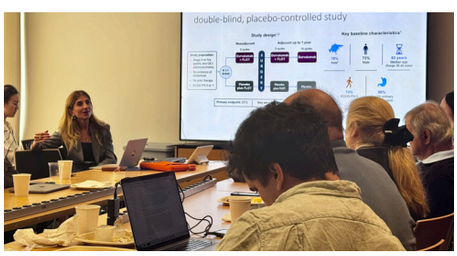


Helena Furberg recently attended the 8th annual Cancer Cachexia Conference in Torino, Italy where she presented research entitled "Tumor Molecular Signatures and Body Composition at the time of diagnosis of Clear Cell Renal Cell Carcinoma" from her R01-funded RESOLVE Study. She was joined by a colleague from MSK Medicine, James Flory, who presented research from their collaborative study which investigates, "Can Choice of Antidiabetic Drug Ameliorate Weight Loss in Hyperglycemic PDAC Patients?" and is funded by an NCI R21. Notably, the first-ever World Cancer Cachexia Awareness Day (Sept 26th) was celebrated while they were at the conference and the organizers illuminated the Mole Antonelliana, a major landmark in Turin, to honor the occasion.

RESPONSIBLE CONDUCT OF RESEARCH PANEL

Megan Mills presented to students at the Responsible Conduct of Research Panel Session this Fall at MSK. She spoke about her work with **Helena Furberg** on the BMI Paradox in kidney cancer, as well as their research into different ways that CT derived body composition features can influence clinical outcomes. This talk focused on the importance and process of de-identifying radiologic images for scientific research. Other presenters from both MSK and The Rockefeller University discussed data management, the use of AI, and the practical impact of data to change lives through scientific discoveries.

CANCER CONVERGENCE EDUCATION NETWORK GATHERING

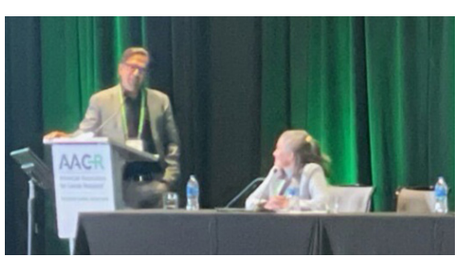


This year **Benjamin Greenbaum** organized the Cancer Convergence Education Network (CCEN) Gathering. The CCEN is a National Science Foundation sponsored model program that supports the enhanced education, interdisciplinary collaboration, and career development of a group of trainee and early career physicists, mathematicians, computer scientists, biologists, and clinicians affiliated with a distinct set of integrated, multidisciplinary, novel research projects in cancer, called 'Convergence Research Teams', funded by Stand Up to Cancer, NSF, and several other foundations and entities over the past decade.

LI-FRAUMENI SYNDROME ASSOCIATION YOUTH WORKSHOP

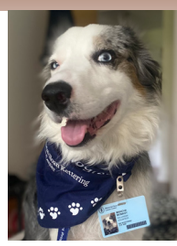
On August 15-17th, two members of the **Greenbaum Lab** (**Camryn Neches** and **David Hoyos**) attended the Li-Fraumeni Syndrome Association (LFSA) Youth Workshop in Boston, MA. Here, they gave a presentation titled "Science is Fun!" to an audience of youth and families. In their presentation, they shared their paths to science, as well as the excitement and gratitude they feel every day to be able to discover something new. Li-Fraumeni syndrome (LFS) is an inherited predisposition to a wide range of certain cancers caused by pathogenic TP53 germline variants. To learn more, please visit: https://www.lfsassociation.org/lfsa-youth-workshop-2025/

CONFERENCE ON ADVANCES IN OVARIAN CANCER RESEARCH



Sohrab Shah was Keynote Speaker at the AACR Special Conference on Advances in Ovarian Cancer Research in Denver Colorado, September 19-21. His talk, " Frontiers of tumor evolution in ovarian cancer" discussed new insights into the nature of tumor evolution in high grade serous ovarian cancer (HGSOC).

CARING CANINES

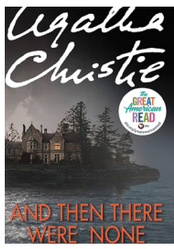


Mancha Monroy proudly accepts her new role as a Caring Canine at MSK. Many thanks to her human, **Maria Monroy Iglesias**, for facilitating the process! Since 2007, the Caring Canines Program at MSK has brought joy to patients, caregivers, and staff alike. Spending time with these trained comfort canines can provide emotional support, helping to lessen anxiety and distress. Congratulations to both Mancha and Maria!

WELLNESS CHAMPIONS

MSK's Wellness Champions are a group of individuals across the institution who serve as ambassadors between their communities and the WorkLife & Wellbeing department. The 633 Wellness Champions include our very own **Jeffin Naduparambil** and and **Kat Marcinkowski** (honorary member of EpiBio on the MATCHES team). For a collection of wellbeing resources for you and your family, click here.

BOOK CLUB



The next session of the departmental Book Club will be discussing *And Then There Were None*, by Agatha Christie, on February 3rd at 4PM. Contact **Elizabeth Kantor** if you would like an invite!

SWIMMING STRONG FOR IMPORTANT CAUSES

This summer, **Elizabeth Kantor** completed two open-water swims! She first tackled the Maggie Fischer Memorial Cross Bay Swim, a 5.5-mile trek across the Great South Bay. Despite joking that she might need to be "swept out by the Coast Guard" the night before, she powered to finish second in her age group! Her husband, Colin, kayaked alongside her to navigate and fight back sharks/seaweed during the swim. This event raised funds for the Hospice Care Network Children's and Family Bereavement Program.
Next, Elizabeth dove into the 2025 Long Island Sound Open Water Swim, part of the department's **Swimmin' Sweet Book Fair** fundraising efforts supporting Swim Across America (SAA) and cancer research, including work here at MSK. This year's Long Island Sound events raised $2,211,711, and you can still donate to Elizabeth's effort or join as an SAA My Way virtual participant to fundraise all year.

NEW CHAIR FOR ASA BIOMETRICS SECTION

Alexia Iasonos was elected chair for American Statistical Association, Biometrics section, starting January 2026.

BREAK THROUGH CANCER AWARD

Sohrab Shah received the BTC David M. Livingston Collaboration Award at the BTC Summit in Baltimore.

NEW ADDITIONS

Three of our colleagues have recently welcomed new additions to their families!

Lily Boe welcomed Rory Andrew Gorman, on Thursday, September 11, 2025.

Anne Hahn welcomed Clara Anne Hahn, on October 27, 2025! Clara was born at 8:35 AM, weighing in at a plucky 6lbs 0oz and 18 inches.

Teng Fei welcomed his first child, Luna Fei, on December 8th, 2025!

STAFF FAREWELLS

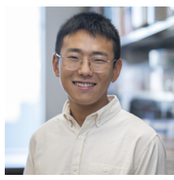
Since the last newsletter we saw a few departures in the department. These include Sammi Brown, Ayyuce Begum Bektas, Junting Zheng, I-Hsin Lin, Sankeerth Jinna and Michelle Dongel. Wishing you all the best!

NEW STAFF

Stephanie Kim, Postdoctoral Research Associate

Steph has joined the Department of Epidemiology and Biostatistics as a postdoctoral research associate with Dr. Jonine Bernstein. Her research will focus on molecular epidemiology and radiogenomics research in breast cancer, glioma, and head and neck cancer with interdisciplinary guidance and collaborations with Dr. Ronglai Shen and Dr. Matthew Buas. Previously, she was an environmental and molecular epidemiologist at federal government agencies such as at Environmental Protection Agency (EPA) and Department of Housing and Urban Development (HUD). Steph is excited and grateful for the opportunity to receive mentoring and be part of the team here!

Zhiru Liu, Postdoctoral Research Scholar

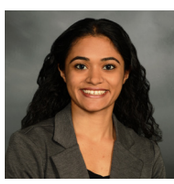


Zhiru has joined the Department of Epidemiology and Biostatistics as a postdoctoral research scholar, working with Benjamin Greenbaum and Vinod Balachandran. His research centers on developing computational approaches to investigate the role of human retrotransposons in cancer and to support the design of personalized cancer vaccines. He earned his PhD in Applied Physics at Stanford University with Benjamin Good, where he studied the evolutionary dynamics of the human gut microbiome. Outside the lab, Zhiru is an aspiring triathlete with the goal of completing a full Ironman one day.

Maria Ruiz Ortega, Research Scholar

María has joined the Department of Epidemiology and Biostatistics as a postdoctoral research scholar associated with Marta Łuksza. Her research focuses on understanding the dynamics of cancer and pathogen evolution and their interactions with the immune system with the ultimate goal of improving the design of new vaccines. She received her PhD in Physics from the École Normale Supérieure in Paris.

Melissa Pathil, Graduate Student



Melissa joins the Computational Oncology department as a physiology, biophysics, and systems biology student, co-mentored by Ben Greenbaum and John Chodera. Her research focuses on developing methods to estimate protein-ligand and protein-protein binding affinities using cofolding models and molecular dynamics. Outside of lab, Melissa enjoys reading fantasy, crocheting gifts for friends, and strolling through grocery stores.

Shayan Saniei, Graduate Student

Shayan is a PhD student in the tri-institutional computational biology program and joined Dr. Marta Luksza's lab in early 2025. Prior to his PhD he was an associate researcher at Wagenblast lab at Mount Sinai studying childhood leukemias. For his graduate studies under the guidance of Dr. Luksza he is employing machine learning and deep learning frameworks to study and predict cancer evolution and its interaction with the immune system. During his free times he enjoys running and exploring new bakeries all over NYC!

Max Schmidt, Postdoctoral Research Scholar

Max has joined the department as a postdoctoral research scholar with Nikolaus Schultz. His research focuses on leveraging real-world clinicogenomic data to understand how host and tumor factors influence treatment response, resistance, and disease trajectories in cancer. Previously, he was a clinician scientist at the Charité Comprehensive Cancer Center in Berlin, where he combined clinical work in the hematology/ oncology service with preclinical and translational projects in molecular pathology and precision oncology. He received his MD/PhD in Medicine from Charité – Universitätsmedizin Berlin.

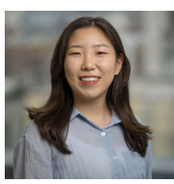
Matteo Serra, Research Scholar

Originally from Italy, Matteo joins the Department of Epidemiology and Biostatistics as a postdoctoral research fellow, where his work will focus on applying spatial transcriptomics to study the tumor microenvironment of melanoma. He earned his PhD at the Institut Jules Bordet and Université libre de Bruxelles, where he explored the complexity of the tumor microenvironment in invasive lobular carcinoma using spatial transcriptomics. Outside the lab, Matteo enjoys traveling and discovering new cuisines, and while he may already miss the Belgian beer and fries from his PhD years, he's excited to explore the culinary discoveries that await him in New York City.

Cristina Sotomayor-Vivas, Graduate student

Cristina joins the Department of Epidemiology and Biostatistics as a graduate student, co-advised by Drs. Sohrab Shah and Tuomas Tammela. Her research focuses on using multi-omics techniques to understand tumor evolution in ovarian and lung cancer. She received a bachelors in Genomic Sciences from the National Autonomous University of Mexico and previously worked as a computational technician at Stanford University.

Eunseo Sung, Graduate Student



Eunseo has joined the Department of Epidemiology and Biostatistics as a PhD student working with Dr. Ruslan Soldatov and Dr. Sohrab Shah. Her research focuses on developing computational methods for analyzing single-cell and spatial genomics data to study tumor evolution and heterogeneity. She earned her Master of Science in Computational Biology from Weill Cornell Medicine, and in her spare time, enjoys playing music with the WCM Orchestra.

Elana Sverdlik, Graduate student

Elana joins the Department of Epidemiology and Biostatistics as a Cancer Engineering doctoral student in the Louis V. Gerstner Jr. Graduate School of Biomedical Sciences. Working in Dr. Wesley Tansey's laboratory, her research focuses on building machine learning methods for spatial analysis of the tumor microenvironment. Previously, she studied Electrical and Computer Engineering, concentrating in Robotics and Cyberphysical Systems at Princeton University (Class of 2024). She is excited to apply her engineering background to advance cancer biology research and contribute to MSK's mission to "end cancer for life".

Marcus Thomas, Postdoctoral Research Associate

Marcus has joined the Department of Epidemiology and Biostatistics as a postdoctoral research associate with Marta Luksza. His research applies causal modeling and artificial intelligence approaches to investigate T-cell antigen immunogenicity. Previously, he was a postdoctoral fellow at Mount Sinai. He received his PhD in Computational Biology from the School of Computer Science at Carnegie Mellon University.