

# Agenda

## Pre-Meeting Event: Wednesday, August 16, 2023

7:30 PM

### Networking Session

*Meetup in Historic Philadelphia (100 S. Independence Mall W)*

*\*Optional Event, registration is not required.*

## Day 1: Thursday, August 17, 2023

TIME	TITLE	LOCATION
8:00 AM	<b>Registration</b> <i>Breakfast provided</i>	Levine Hall Lobby
9:00 AM	<b>Welcome Session</b> <i>Planning Committee Co-Chairs: Lindsey Fernandez, Maxine Umeh Garcia, Sandhya Prabhakaran</i>  <b>Shannon Hughes, Ph.D.</b> Deputy Director, Division of Cancer Biology, National Cancer Institute, NIH  <i>Patient Advocate: Yvonne Florence, M.Div.</i> Member, National Coalition for Cancer Survivorship, Cancer Policy, and Advocacy Team	Wu & Chen Auditorium, Levine Hall
9:30 AM	<i>Keynote: Eran Segal, Ph.D.</i> Professor, Weizmann Institute of Science  <i>Moderators: Mouhita Humayun, Wisam Fares</i>	<i>(Virtual Presentation)</i> Wu & Chen Auditorium, Levine Hall
10:30 AM	<b>Mental Health Break</b>	
10:45 AM	<b>Concurrent Session I: Podium Talks – Sequencing</b> <i>Moderator: Hongrong (Demi) Zhang</i> <ul style="list-style-type: none"><li>• <b>Andrea (Didi) Gardner:</b> <i>Therapeutic exploitation of interactions and asymmetric vulnerabilities in isogenic and coexisting TNBC cancer cell subpopulations</i></li><li>• <b>Ece Eksi:</b> <i>Multiplex imaging of localized prostate tumors identifies grade-specific spatial interactions and disease subtypes.</i></li><li>• <b>Estefania Labanca:</b> <i>Integrative molecular characterization of MD Anderson Prostate Cancer Patient-Derived Xenograft (MDA PCa PDX)</i></li></ul>	Wu & Chen Auditorium, Levine Hall

	<ul style="list-style-type: none"> <li>• <b>Kathleen Houlahan:</b> <i>Germline-mediated immunoediting sculpts breast cancer subtypes and metastatic proclivity</i></li> <li>• <b>Yuhan Qiu:</b> <i>Adipocyte-origin exosomes induce EMT and metastasis in models of TNBC</i></li> </ul>	
10:45 AM	<p><b>Concurrent Session I: Podium Talks - Computational Modeling (Cancer Heterogeneity)</b>  Moderator: <b>Kacey Ronadlson-Bouchard</b></p> <ul style="list-style-type: none"> <li>• <b>Gianna Busch:</b> <i>Heterogeneity in sensitivity to second-line inhibitors of therapy-resistant melanoma</i></li> <li>• <b>Cong Ma:</b> <i>Inferring spatial tumor evolution and allele-specific copy number aberrations in spatially resolved transcriptomics data</i></li> <li>• <b>Hugo Miniere:</b> <i>Towards a data assimilation framework for predicting the spatiotemporal response of high-grade gliomas to chemoradiation</i></li> <li>• <b>Robert Vander Velde:</b> <i>Cell-cell communication in priming and reprogramming for resistance</i></li> <li>• <b>Scot Leighow:</b> <i>Programmed evolution: Using asexual gene drives to sculpt tumor populations and combat genetic diversity</i></li> </ul>	Berger Auditorium, Skirkanich Hall
12:15 AM	<b>Mental Health Break</b>	
12:30 PM	<p><b>Concurrent Session II: Spotlight Talks - 3D Culture</b>  Moderator: <b>Rosela Golloshi</b></p> <ul style="list-style-type: none"> <li>• <b>Howard Baek:</b> <i>Supporting Cancer Researchers Through Education: The ITN (Poster #8)</i></li> <li>• <b>Didi Zha:</b> <i>Modeling the malignant transformation of fallopian tube epithelium driven by extracellular vesicles cargos using a microfluidic tissue-on-chip system (Poster #9)</i></li> <li>• <b>Glenn Simmons:</b> <i>HMGB1 localization and its effect on the immune response in the lung tumor microenvironment (Poster #10)</i></li> <li>• <b>Mary Kate Macaedia:</b> <i>Modeling Small Cell Lung Cancer Brain Metastatic Invasion in a Cerebral Organoid System (Poster #13)</i></li> <li>• <b>Mouhita Humayun:</b> <i>Investigating the role of Rho GTPases on the ability of tumor cells to extravasate during metastasis using a human microphysiological model (Poster #14)</i></li> <li>• <b>Nate Richbourg:</b> <i>Physical Environmental Influences on Breast Cancer Dormancy (Poster #16)</i></li> <li>• <b>Nicolas Anselmino:</b> <i>Impact of Wnt canonical Activating Mutations on Androgen Deprivation</i></li> </ul>	Wu & Chen Auditorium, Levine Hall

	<p><i>Therapy Treatment Response in Prostate Cancer (Poster #17)</i></p> <ul style="list-style-type: none"> <li>• <b>Talia Sanazzaro:</b> <i>Mimicking the viscoelastic nature of brain tissue using a hyaluronic acid-based interpenetrating polymer network (Poster #22)</i></li> <li>• <b>Taylor Marohl:</b> <i>Assessing the effects of a novel mutation in proprotein convertase PCSK5 on the MCF10DCIS model of breast ductal carcinoma in situ (Poster #23)</i></li> <li>• <b>Younghye Song:</b> <i>Pancreatic Tumor-Derived Extracellular Vesicles Stimulate Schwann Cell Activation and Perineural Invasion via IL-8 Signaling (Poster #25)</i></li> </ul>	
12:30 PM	<p><b>Concurrent Session II: Spotlight Talks - Computational Modeling (Cancer Heterogeneity)</b>  Moderator: <b>Olivia Krebs</b></p> <ul style="list-style-type: none"> <li>• <b>April Williams:</b> <i>Are Dietary Patterns and other Environmental Risks Associated with Colorectal Cancer among US Veterans? (Poster #7)</i></li> <li>• <b>Jiyeon Park:</b> <i>Overcoming CCI+ET resistance in ER+ breast cancer by restoring immune surveillance and tumor control (Poster #11)</i></li> <li>• <b>Li Yang:</b> <i>The surfeit of phosphatidylethanolamine flux in obesity escalates cancer and Alzheimer's disease (Poster #12)</i></li> <li>• <b>Natasha Gurevich:</b> <i>Musicatk: a toolkit for mutational signature discovery and prediction (Poster #15)</i></li> <li>• <b>Palash Sashital:</b> <i>ConDoR: Tumor phylogeny inference with a copy-number constrained mutation loss model (Poster #18)</i></li> <li>• <b>Raymond Van Cleve:</b> <i>Long COVID and Social Determinants of Health (Poster #19)</i></li> <li>• <b>Robin Baidya:</b> <i>Developing an EHR-based model for early detection of colorectal cancer in the VA Healthcare System (Poster #20)</i></li> <li>• <b>Rui Yang:</b> <i>SETD2-loss mediated H3K36me3 causes disruptions in Topologically Associated Domains (TADs) to promote oncogenic expression in Clear Cell Renal Cell Carcinoma (Poster #21)</i></li> <li>• <b>Xinling Li:</b> <i>Mathematical Modeling of AND-gated Synthetic Biomarkers for Early Detection of Liver Metastasis (Poster #25)</i></li> </ul>	Berger Auditorium, Skirkanich Hall
1:30 PM	<p><b>Lunch &amp; Lunchtime Discussions:</b></p> <p><b>Advocacy in Basic Cancer Research</b>  Moderators: <b>Yvonne Florence, Dr. Eric Johnson Chavarria</b></p>	Levine Hall Lobby/Quaine Courtyard

	<b>ITCR Training Network</b> <i>Moderator: Howard Baek</i>	
2:45 PM	<b>Networking Session: Scientific Speed Dating</b> <i>Moderator: Kacey Ronaldson-Bouchard</i>	Towne Building Active Learning Classrooms
3:15 PM	<b>Mental Health Break</b>	
3:30 PM	<b>Concurrent Session III: Podium Talks - Computational Modeling (Immunology)</b> <i>Moderator: Didi Zha</i> <ul style="list-style-type: none"> <li>• <b>Digvijay Kumar Yarlagaadda:</b> <i>Nephron progenitor-like cancer cells contribute to treatment resistance in metastatic renal cell carcinoma</i></li> <li>• <b>Sumin Jo:</b> <i>Uncovering context-independent intrinsic N6-methyladenosine (m6A) epitranscriptome and its role in cancer</i></li> <li>• <b>Xiao Huang:</b> <i>Control and enhance CAR-T cells with precisely functionalized biomaterials</i></li> <li>• <b>Yi Zhang:</b> <i>MetaTiME integrates single-cell gene expression to characterize the meta-components of the tumor immune microenvironment</i></li> <li>• <b>Yixuan Wang:</b> <i>Mathematical Model Predicts Tumor Control Patterns Induced by Fast and Slow CTL Killing Mechanisms</i></li> </ul>	Wu & Chen Auditorium, Levine Hall
3:30 PM	<b>Concurrent Session III: Podium Talks - 3D Culture</b> <i>Moderator: Nathan Richbourg</i> <ul style="list-style-type: none"> <li>• <b>Ashleigh Crawford:</b> <i>Precision-engineered organoids of the human fallopian tube</i></li> <li>• <b>Furkan Kurtoglu:</b> <i>Spatiotemporal Modeling of Colorectal Cancer Organoids</i></li> <li>• <b>Hongrong Zhang:</b> <i>Stroma and cell engineering strategies to enhance cytotoxic T lymphocyte migration in pancreatic ductal adenocarcinoma</i></li> <li>• <b>Mohita Tagore:</b> <i>GABAergic signaling driven regulation of the melanoma microenvironment</i></li> <li>• <b>Najwa Labban:</b> <i>Cell-state Heterogeneity and Variable Treatment Response in Zero-Passage Organoids of Luminal Breast Cancer</i></li> </ul>	Berger Auditorium, Skirkanich Hall
5:00 PM	<b>Mental Health Break</b>	
5:15 PM	<b>Poster Session</b> <i>(Posters #1-26)</i>	Skirkanich Hall, Basement Lobby
6:30 PM	<b>Networking/Mental Health Break</b>	
7:00 PM	<b>Dinner with Networking Social Bingo</b> <i>Moderator(s): Nathan Richbourg, Olivia Krebs</i>	The Study at University City 20 South 33rd Street

## Day 2: Friday, August 18, 2023

TIME	TITLE	LOCATION
8:00 AM	<b>Registration</b> <i>Breakfast provided</i>	Levine Hall Lobby
8:45 AM	<b>Morning Announcements</b> Planning Committee Co-Chairs	Wu & Chen Auditorium, Levine Hall
9:00 AM	<b>Concurrent Session IV: Podium Talks - Computational Modeling (Treatment)</b> <i>Moderator: Olivia Krebs</i> <ul style="list-style-type: none"> <li>• <b>Dylan Schaff:</b> <i>Clonal differences underlie differential responses to initial, sequential and prolonged drug treatment</i></li> <li>• <b>Amy Pomeroy:</b> <i>A model of combination therapy explains and predicts lymphoma clinical trial results</i></li> <li>• <b>Hui-Yu Chuang:</b> <i>A blood-based toolkit for neoantigen and cognate TCR discovery for cancer immunotherapy</i></li> <li>• <b>Toshiro Hara:</b> <i>Deciphering phenotypic and functional heterogeneity in glioblastoma ecosystem</i></li> <li>• <b>Wenbin Mei:</b> <i>Abcg5 deficiency promotes murine melanoma metastasis</i></li> </ul>	Wu & Chen Auditorium, Levine Hall
9:00 AM	<b>Concurrent Session IV: Podium Talks - Sequencing (Treatment)</b> <i>Moderator: Kathleen Houlahan</i> <ul style="list-style-type: none"> <li>• <b>Kenry:</b> <i>Leveraging Nanoparticles to Modulate Collective Epithelial Cell Migration for Cancer Therapy</i></li> <li>• <b>Lindsey Fernandez:</b> <i>Clinical combination therapy optimization through personalized mechanistic models</i></li> <li>• <b>Sravya Prabhala:</b> <i>Evaluating Nanoscale Chromatin Alterations for Risk Stratification of Colorectal Cancer using Machine Learning</i></li> <li>• <b>Sukrit Singh:</b> <i>Biophysical parsing of cancer drug resistance using exascale supercomputing</i></li> <li>• <b>Xiaoyu Zhao:</b> <i>Cancer mutations converge on a constellation of molecular assemblies to predict resistance to replication stress</i></li> </ul>	Berger Auditorium, Skirkanich Hall
10:30 AM	<b>Mental Health Break</b>	
10:45 AM	<b>Concurrent Session V: Spotlight Talks - Computational Modeling (Tumor Microenvironment)</b> <i>Moderator: Didi Zha</i>	Wu & Chen Auditorium, Levine Hall

	<ul style="list-style-type: none"> <li>• <b>Delaram Nematollahi:</b> <i>Using carbon nanotubes for photothermal treatment of cancer (Poster #35)</i></li> <li>• <b>Frances Keer:</b> <i>Stitch-seq: A Facile and High-Throughput Perturbation Sequencing Method (Poster #36)</i></li> <li>• <b>Rebecca Bekker:</b> <i>Black Holes in TIME: the Effect of GRID Radiation on the Tumor-Immune Micro-environment (Poster #41)</i></li> <li>• <b>Shahira Abousamra:</b> <i>Cell Context Understanding in Digital Pathology Using Mathematical Modeling and Deep Learning (Poster #42)</i></li> <li>• <b>Shuchen Zhang:</b> <i>Mechanical checkpoint regulates monocyte differentiation in fibrotic niches (Poster #43)</i></li> <li>• <b>Tae Yoon Park:</b> <i>Delineating the epigenetic landscape of T cell exhaustion (Poster #45)</i></li> <li>• <b>Thomas Dombrowski:</b> <i>Tumor-immune ecosystem dynamics exploration via a high-resolution agent-based model (Poster #50)</i></li> <li>• <b>Uthsav Chitra:</b> <i>Modeling spatial expression gradients with interpretable deep learning (Poster #46)</i></li> <li>• <b>Wisam Fares:</b> <i>TGF<math>\beta</math> Ligand Processing and Signaling are Rewired by TGFBR3 Coreceptor (Poster #47)</i></li> <li>• <b>Yue Wang:</b> <i>Order of mutation in cancer progression: nonadditivity and non-commutativity of mutations in myeloproliferative neoplasm (Poster #48)</i></li> </ul>	
10:45 AM	<p><b>Concurrent Session V: Spotlight Talks – Imaging</b>  Moderator: <b>Mouhita Humayun</b></p> <ul style="list-style-type: none"> <li>• <b>Apurva Singh:</b> <i>Exploring the biological significance of a robust radiomic biomarker of tumor heterogeneity in advanced non-small cell lung cancer patients treated with first-line immunotherapy (Poster #32)</i></li> <li>• <b>Carlos Herrera-Montavez:</b> <i>MEK1/2-Targeting PROTACs Promote the Collateral Degradation of CRAF in KRAS Mutant Cells (Poster #33)</i></li> <li>• <b>Clarice Aiello:</b> <i>“Quantum Biology”: how nature harnesses quantum processes to function optimally, and how might we control such quantum processes to cancer therapeutic advantage (Poster #34)</i></li> <li>• <b>Ghmk Hassan:</b> <i>Tension modifies exosome morphology and promotes tumor metastasis (Poster #37)</i></li> </ul>	Berger Auditorium, Skirkanich Hall

	<ul style="list-style-type: none"> <li>• <b>Jason Zhang:</b> <i>Computationally designed sensors for endogenous Ras activity reveal signaling effectors within oncogenic granules (Poster #38)</i></li> <li>• <b>Lee Roth:</b> <i>Oncogenic protein condensates suppress growth factor perception and modulate drug response (Poster #39)</i></li> <li>• <b>Nina Steele:</b> <i>Therapeutic modulation of Robo4 in pancreatic cancer (Poster #40)</i></li> <li>• <b>Stephanie Harchenko:</b> <i>Using CRISPR Prime Editing to rescue mutations in different cancer types (Poster #44)</i></li> <li>• <b>Yun Chen:</b> <i>Force Generation is Hijacked by Cancer Cells to Promote Tumor Progression via ECM Remodeling, Immunosuppression, and Beyond (Poster #49)</i></li> </ul>	
11:45 AM	<b>Mental Health Break</b>	
12:00 PM	<b>Special Session: Just Starting Out Panel</b> <b>Drs. Caroline Bartman, Joel Babador, Linda Kachuri, Kacey Ronaldson</b> <i>Moderators: Kathleen Houlahan, Demi Zhang</i>	Wu & Chen Auditorium, Levine Hall
1:00 PM	<b>Lunch &amp; Lunchtime Discussions:</b>  <b>NCI Small Business Innovation Research</b> <i>Presenter: Saroj Regmi</i>  <b>Career Advancement and Transitions: Listening Session</b> <i>Presenters: Drs. LaKaija Johnson, Julie Bletz</i> <b>Opportunities with the National Postdoc Association</b> <i>Presenter: Dr. Andrea Joseph</i>	Levine Hall Lobby/Quaine Courtyard
2:15 PM	<b>Concurrent Session VI: Podium Talks – Imaging</b> <i>Moderator: Rosela Golloschi</i> <ul style="list-style-type: none"> <li>• <b>Amit Verma:</b> <i>Influence of tumor microenvironment on trastuzumab-HER-2 binding using macroscopic fluorescence lifetime FRET in vivo imaging</i></li> <li>• <b>Anindya Sen:</b> <i>Long-Term Effects of Exposure to Elevated Extracellular Fluid Viscosity on Cell Motility and Metastasis</i></li> <li>• <b>Jeffrey Roskes:</b> <i>Quantifying statistical and systematic uncertainties in predicting clinical outcomes using multiplex immunofluorescence</i></li> <li>• <b>Woong Young So:</b> <i>Optical manipulation reveals macrophage mediated mesoscale brain mechanical homeostasis in vivo</i></li> <li>• <b>Yiling Liu:</b> <i>Biomimetic Polymeric Hydrogels at Physiological Stiffness Reprogram Melanoma Cells</i></li> </ul>	Wu & Chen Auditorium, Levine Hall
2:15 PM	<b>Concurrent Session VI: Podium Talks - Computational Modeling (Mechanobiology &amp; Epidemiology)</b>	Berger Auditorium, Skirkanich Hall

	<p><b>Moderator: Alisya Anlas</b></p> <ul style="list-style-type: none"> <li>• <b>Hanieh Mazloom Farsibaf:</b> <i>Cellular harmonics for the morphology-invariant analysis of molecular organization at the cell surface</i></li> <li>• <b>Joseph Larsen:</b> <i>Defining Multimorbidity and Its Impact in Older United States Veterans Newly Treated for Non-Small Cell Lung Cancer</i></li> <li>• <b>Reshma Kalyan Sundaram:</b> <i>Bridging Signaling and Transcription to Uncover Mechanotransduction Function of c-Myc Oncogene</i></li> <li>• <b>Yash Chhabra:</b> <i>Sexual dimorphism in the aged melanoma tumor microenvironment regulates invasion and therapeutic response</i></li> <li>• <b>Zheng Yin:</b> <i>Integrating transcriptomic profiles and in silico metabolic flux modeling to understand prostate cancer in obese patients</i></li> </ul>	
3:45 PM	<b>Mental Health Break</b>	
4:00 PM	<b>Poster Session</b> <i>(Posters #27-50)</i>	Skirkanich Hall, Basement Lobby
5:15 PM	<b>Closing Session/Award Ceremony</b> <i>Planning Committee Co-Chairs: Lindsey Fernandez, Maxine Umeh Garcia, Sandhya Prabhakaran</i>	Wu & Chen Auditorium, Levine Hall
	<i>National Cancer Institute</i>	
5:45 PM	<b>Conference Adjourns</b>	