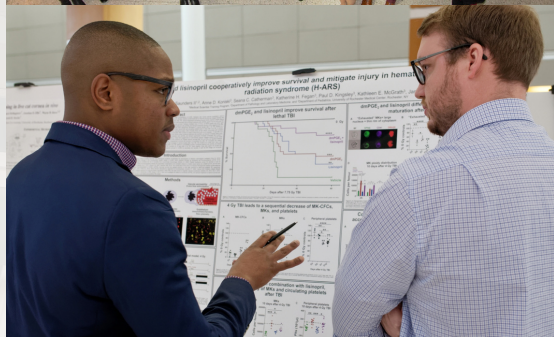


10th Annual

# Medical Scientist Research Symposium

Proudly sponsored by the Medical Scientist Training Program (MSTP)\* and the  
***Dr. Thomas A. and Joyce E. Pearson Endowed Lectureship Fund***



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FRIDAY, APRIL 8, 2022

11:00AM-4:00PM

\*Keynote Address at 11:00am\*

Class of '62 Auditorium  
Flaum Atrium

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SCHOOL OF  
**MEDICINE &  
DENTISTRY**  
UNIVERSITY OF ROCHESTER

REMOTE ACCESS:

<https://urmc.zoom.us/j/97345195806pwd=RlovUTgxTHAxYm9qeJZqQWh0ZGdjQT09>

# SCHEDULE OF EVENTS

**11:00 AM** (Class of '62 Auditorium)

## KEYNOTE ADDRESS WITH Q&A

**Ya-Chi Ho, MD, PhD**

*Mechanisms of HIV persistence and therapeutic implications: a single-cell multi-omics approach*

**12:15 PM**

## LUNCH BREAK

MSTP JEDI working lunch in Class of '62



**1:00 PM** (Class of '62)

## HIV PANEL

**Kevin Aiken**, Health Educator/Test Counselor Action for a Better Community/Action Front Center

**Richard Fowler, CPW**, Consumer Relations Coordinator, Trillium Health

**Orezont Ragans**, Volunteer, Voices of Community Activists & Leaders (VOCAL-NY)

**2:00 PM** (Flaum Atrium, no remote option)

## STUDENT POSTER SESSION & COFFEE



**3:00 PM** (Class of '62)

## STUDENT ORAL TALKS

**Alison Livada**, G2, Cell Biology of Disease

*The Origin and Function of Lung Megakaryocytes*

**John Bennett**, G3, Chemistry

*Synthesis and Anticancer Activity of a New Class of Natural Product-like Compounds Generated via Cytochrome P450-Catalyzed C-H Functionalization*



**Ramya Sampath**, Year-Out Fellow

*Older Adults' Priorities in End-Stage Renal Disease Decision-Making*

**Frances "Fara" Zakusilo**, G4, Neuroscience

*Sugar and the brain: the role of hyaluronan in Alzheimer's Disease*



Dr. Thomas A. and Joyce E. Pearson Endowed Keynote Speaker:

# Ya-Chi Ho, MD, PhD

Associate Professor of Microbiology and Immunology

Investigator, REACH Martin Delaney Collaboratory

Member, Center for the Structural Biology of Cellular Host  
Elements in Egress, Trafficking, and Assembly of HIV (CHEETAH)

Baylor Center for Molecular Medicine

Yale University



## ***Mechanisms of HIV persistence and therapeutic implications: a single-cell multi-omics approach***

Dr. Ho's research program focuses on understanding HIV-1 persistence and HIV-1-induced immune dysfunction using single-genome and single-cell approaches on clinical samples. Dr. Ho received her MD in 2002 (Phi Tau Phi) and completed her internal medicine residency and infectious disease fellowship training in Taiwan in 2007. She received her PhD at Johns Hopkins University School of Medicine (Phi Beta Kappa, HHMI International Student Research Fellowship, and Johns Hopkins Young Investigator Award) in 2013, mentored by Dr. Robert F. Siliciano. During her PhD, she developed the first HIV-1 full-length single-genome sequencing method that became the standard measurement of the size of the HIV-1 latent reservoir (Cell 2013). As a postdoc, she profiled HIV-1 DNA and RNA landscape and identified the impact of cytotoxic T lymphocytes (CTLs) and defective HIV-1 proviruses on HIV-1 persistence (Cell Host Microbe 2017). After she started her lab at Yale University in September 2017, she developed HIV-1 SortSeq and identified HIV-1-driven aberrant cancer gene expression at the integration site as a mechanism of HIV-1 persistence (Science Translational Medicine 2020). She used a drug screen to identify drugs that can suppress HIV-1-induced cancer gene expression (JCI 2020). She is currently working on HIV-1-induced immune dysfunction and clonal expansion dynamics of HIV-1-infected cells using single-cell multi-omic methods on clinical samples (bioRxiv 2021). In addition to Yale Top Scholar, Andy Kaplan Prize, and Gilead HIV Scholar, she obtained research funding with an R21 one year after PhD graduation and an R01 within one year after she started her lab at Yale University. She now leads the NIDA M-SCORCH U01 Collaboratory with Dr. Nenad Sestan at Yale University, working on single-cell profiling of HIV-1 persistence in the brain. She served on the AIDS Clinical Trial Group (ACTG) HIV Cure TSG for 5 years. She is a member of the NIH CHEETAH HIV Structural Biology Collaboratory, BEAT-HIV Martin Delaney Collaboratory, and REACH Martin Delaney Collaboratory. Dr. Ho enjoys collaborations with virologists, immunologists, computer scientists, physicians, and most importantly, trainees from diverse backgrounds. When she has free time, she enjoys her second childhood with her two daughters and the family. Her personal interests include traveling and enjoying classical music concerts, particularly violin concertos.

# Student Poster Session

2:00PM-2:45PM

Flaum Atrium

- 1 **Catherine Beamish**, G2, Toxicology  
*Comparative analysis of developmental toxicity*
- 2 **Ankit Dahal**, G2, Immunology, Microbiology, and Virology  
*Myeloid Derived Suppressor Cells (MDSCs) Differentiation and Function*
- 3 **Carol Deaton**, G4, Cell Biology of Disease  
*Presenilin 1 Modulates Vacuolar Function and Tau Degradation*
- 4 **Thomas Delgado**, G1, Neuroscience  
*Transglutaminase 2 Modulates the Response of Astrocytes to Injury and Their Ability to Support Neurons*
- 5 **Alan Finkelstein**, G3, Biomedical Engineering  
*Diffusion Weighted MR Fingerprinting: Robust Parametric Mapping Using Transfer Learning*
- 6 **Kiersten Flodman**, M3  
*An Institutional Experience Using Patient-first Engagement to Improve Outcomes After Colorectal Resections*
- 7 **Gavin Piester**, G1, Cell Biology of Disease  
*Sigma-1 receptor as a modulator of pathogenic astrocyte activities in Parkinson's Disease*
- 8 **Jonathan Gigas**, G4, Biology  
*Longevity-associated regulation of mammalian SIRT6, a critical factor of mammalian aging*
- 9 **Emily Isenstein**, G2, Brain & Cognitive Science  
*Somatosensory Duration Mismatch Negativity in Young Adults with and without Autism Spectrum Disorder*
- 10 **Tricia Jacobson**, M3  
*Sigmoid Volvulus: A Contemporary Multi-Institutional Outcomes Report and Assessing Literature-Based Strategies for Identification*
- 11 **Mark Kenney**, G3, Cell Biology of Disease  
*Spatial and Single-Cell Transcriptomics Identify IgG2b+ Class-Switching and Plasma Cell Accumulation within Marco+ Sinuses of Joint-Draining Popliteal Lymph Nodes to be Associated with Severity of Inflammatory-Erosive Arthritis in TNF-Tg Mice*
- 12 **Michael Meadow**, G1, Biology  
*Leveraging targeted proteomics to elucidate conserved mechanisms of SIRT6 regulation and develop novel therapeutics for age-related disease*
- 13 **Briaunna Minor**, G4, Immunology, Microbiology, and Virology  
*Estradiol Effects on Polymorphonuclear Cell Production and Actions Contribute to Estrogen-mediated Lymphangioleiomyomatosis (LAM)*
- Rohith Palli, PhD**, M4, Biophysics, Structural & Computational Biology  
**Matthew Tanner**, PhD, M4, Genetics, Development & Stem Cells  
*Evaluating IM and PSTP residency programs*
- 14 **Emily Przysinda**, G3, Neuroscience  
*Neural differences in the theory of mind network during socially awkward events in schizophrenia*
- 15 **David Richardson**, G5, Cell Biology of Disease  
*Walking-Dependent Changes to Proactive and Reactive Control Processes of Younger Adults Differ From Older Adults During Ambulatory Cued-Task Switching*
- 16 **Eli Rogers**, M3  
*Whole exome sequencing in a cohort of familial premature ovarian insufficiency cases reveals a broad array of pathogenic or likely pathogenic variants in 50% of families*
- 17 **Noah Salama**, G3, Immunology, Microbiology, and Virology  
*RIGF-1 in the Bone Marrow Microenvironment Regulates Mesenchymal Stromal Cell Efferocytosis*
- 18 **Jerry Saunders, PhD**, M3, Cell Biology of Disease  
*Long-acting PGE2 and lisinopril mitigate H-ARS*
- 19 **Colleen Schneider, PhD**, M5, Brain & Cognitive Science  
*FLUORESCENCE: A pilot randomized clinical trial of fluoxetine for vision recovery after acute ischemic stroke*
- 20 **Keshov Sharma**, G5, Neuroscience  
*Decoding of Identity and Expression from Neural Responses to Naturalistic Expression in the Macaque Ventrolateral Prefrontal Cortex*
- 21 **Matthew Sipple**, G2, Pharmacology & Physiology  
*Elimination of myotonia from myotonic dystrophy*
- 22 **Mike Sportiello**, G3, Immunology, Microbiology, and Virology  
*Tissue resident memory CD8 T cells utilize lipid-centric programming in formation and retention*
- 23 **Samuel Weisenthal**, G5, Biostatistics  
*Relative Sparsity*
- 24 **Frances Zakusilo**, G4, Neuroscience  
*Cut the sugar, save a cell: lessons from naked mole rats on oxidative stress*
- 25 **Victor Zhang**, G1, Biomedical Engineering  
*3D reconstruction to investigate the pore and fibril networks of collagen hydrogels with varying type I:III collagen ratios*
- 26 **Mana Anand**, G1, Epidemiology  
*A Descriptive Analysis of Factors Associated with Perceived Instrumental Support Among Older Adults Being Treated for Advanced Cancer*
- 27