CU Anschutz MSTIP
3rd Annual Retreat Program

February 24, 2021 - 9AM-3PM
## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retreat Schedule</td>
<td>2–3</td>
</tr>
<tr>
<td>Student Oral Presentations</td>
<td>4–5</td>
</tr>
<tr>
<td>Student Lightning Talks</td>
<td>6–7</td>
</tr>
<tr>
<td>Keynote Speaker Bios</td>
<td>8</td>
</tr>
<tr>
<td>Poster Session Abstracts</td>
<td>9–14</td>
</tr>
</tbody>
</table>
# Retreat Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Zoom Link</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:50–9AM</td>
<td>Opening remarks</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td>9AM–9:30AM</td>
<td>State of the program address Cara Wilson, MD</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td>9:30–10:30AM</td>
<td>Student oral abstract presentations</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9:30–9:45 Connor Hughes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9:45–10:00 Sarah Zych</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00–10:15 Jacqueline Turner</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:15–10:30 Michael Nash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30–10:45AM</td>
<td>1 minute student lightning talks</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laurel Darragh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Juan Santiago-Moreno</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brigit High</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Austin Jolly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Taylor Soderborg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meghan Kellett</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kelsey Kines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:45–11AM</td>
<td>Break</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>11:00–11:40AM</td>
<td>Student poster session</td>
<td>Various, please see poster abstracts for links</td>
<td></td>
</tr>
<tr>
<td>11:40–12:10PM</td>
<td>Lunch</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>12:10 – 1:10PM</td>
<td>Keynote address Cheryl Keech, MD, PhD</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td>1:15–2:15PM</td>
<td>Student oral abstract presentations</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1:15–1:30 Brian Lloyd</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1:30–1:45 Lily Nguyen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1:45–2:00 Dylan Calame</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2:00–2:15 Ruth Wang</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:15–2:30PM</td>
<td>Break</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>2:30–3:30PM</td>
<td>Breakout sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Session A:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2:30–3:00 Yoo Jung Kim, Scientific Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3:00–3:30 Taylor Soderborg and Brian Harry, MD PhD, Career Panel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Session B:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2:30–3:00 Eli Cahan, Scientific Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3:00–3:30 Thomas Vogler and Kristi Kuhn, MD, PhD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30–3:45PM</td>
<td>Retreat wrap-up and awards</td>
<td><a href="https://ucdenver.zoom.us/j/92960687414">https://ucdenver.zoom.us/j/92960687414</a></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
<td>Link</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>4:00–6:00PM</td>
<td>Optional Post-Retreat Mixer</td>
<td><a href="https://ucdenver.zoom.us/j/98777570868">https://ucdenver.zoom.us/j/98777570868</a></td>
<td></td>
</tr>
</tbody>
</table>
Student Oral Presentations

Please vote for your favorite student oral presentation! Recognition will be given to the winners at the end of the retreat.

Link for voting: https://forms.gle/S9jJwyTDmBkqhADcA

Investigating the role of Eya3 in the regulation of NF-κB signaling and tumor progression in TNBC
Connor Hughes
Ford Lab, MSTP Class of 2016

Differential modulation of dopamine and GABA co-release in the striatum
Sarah Zych
Ford Lab, MSTP Class of 2015

Lipid rewiring of adaptive immunity through regulation of CD8 T cell metabolism
Jacqueline Turner
Torres Lab, MSTP Class of 2018

Maternal western-style diet drives metabolic programming in hematopoietic stem & progenitor cells and macrophage and confers a pro-fibrotic liver response in non-human primates
Michael Nash
Wesolowski Lab, MSTP Class of 2016
Examining the role of neurexins in the nanoscale organization of synapses
Brian Lloyd
Aoto Lab, MSTP Class of 2017

Epigenetic therapy re-sensitizes ovarian cancer to PARPi treatment and re-activates transposable elements
Lily Nguyen
Bitler Lab, MSTP Class of 2017

Learning and anticipatory control of forelimb reach kinematics by Purkinje cells in the cerebellum
Dylan Calame
Person Lab, MSTP Class of 2015

Microbiota-derived butyrate is an endogenous regulator of hypoxia-inducible factor (HIF)
Ruth Wang
Colgan Lab, MSTP Class of 2014
Student Lightning Talks

Please vote for your favorite student oral presentation! Recognition will be given to the winners at the end of the retreat.

Link for voting: https://forms.gle/S9jJwyTDmBkqhADcA

Systemic immunity mediates tumor regression in murine HPV negative oral squamous cell carcinoma
Laurel Darragh
Karam Lab, MSTP Class of 2017

Interlaminar dynamics of color representation in V1
Juan Santiago-Moreno
Denman Lab, MSTP Class of 2018

Absence of P2X2 Purinergic Receptors in Human Taste Bud Innervation
Brigit High
Finger Lab, MSTP Class of 2016

HDAC9 and Brg1 are implicated in pathological vascular remodeling
Austin Jolly
Weiser-Evans Lab, MSTP Class of 2016

Resource Allocation in the SARS-CoV-2 Pandemic: A Case-Based Approach to Training for Implementation of Crisis Standards of Care
Taylor Soderborg
Denver Health Incident Command Center, MSTP Class of 2012
Nuclear FAK promotes growth and survival in thyroid cancer
Meghan Kellett
Schweppe Lab, MSTP Class of 2016

The role of SEMA7A in breast cancer after pregnancy over the age of 30
Kelsey Kines
Lyons Lab, MSTP Class of 2018
Keynote Speakers

Dr. Cheryl Keech, MD, PhD

Cheryl Keech, M.D., Ph.D, Chief Medical Officer and Executive VP of Clinical Research at ILiAD Biotechnologies. Dr. Keech brings more than 25 years of experience as a clinician, research scientist, and medical director for both Pharma and contract research organizations with extensive experience in infectious disease vaccines. She is a board certified and licensed internal medicine physician, with a PhD in biochemistry and molecular biology. In addition to spending her early career as a practicing internist with a clinical appointment at the Indiana University School of Medicine, Dr. Keech has held senior medical director positions at Eli Lilly and GSK (Biologics) and was the Global Clinical/Regulatory Director for Access and Delivery at the NGO PATH. In her most recent prior position as Executive Medical Director at PPD, she led clinical strategy to support vaccine candidate advancement for multiple manufacturers as well as provided leadership to the vaccine operational hub. Dr. Keech received her medical degree from the Indiana School of Medicine and her PhD from the University of Colorado Health Sciences Center.

Dr. Cara Wilson, MD

Cara Wilson, MD is a Professor of Medicine in the Division of Infectious Diseases at University of Colorado at Denver and holds a secondary appointment in the Department of Immunology and Microbiology. She is the director of the Medical Scientist Training Program at the University of Colorado. She received her medical degree from the University of Virginia School of Medicine and completed her residency training in Internal Medicine at Johns Hopkins Hospital. She subsequently completed Infectious Diseases fellowship training at Massachusetts General Hospital. Her laboratory studies the human immune response to HIV-1 infection and the factors that drive HIV-1 pathogenesis, particularly in intestinal mucosal tissue. Her most recent studies have focused on understanding the complex interactions between virus, gut commensal bacteria, and intestinal immune cells that contribute to mucosal and systemic inflammation during HIV-1 infection. She also extensive experience in designing and implementing HIV clinical trials through her involvement in the national AIDS Clinical Trials Group (ACTG), with an emphasis on studies of HIV-associated immune activation and immune-based vaccines and therapies.
Session A 11:00–11:20

Defining the Genome Regulatory Role of KDM3A/ETS1 in Fusion–Positive Rhabdomyosarcoma

Joseph Hsieh
https://ucdenver.zoom.us/j/4014258484

A neuronal substrate for monogamous reunion in nucleus accumbens

Will Sheeran
https://cuboulder.zoom.us/j/5199377857

Differential Expression of Slamf7 in Pulmonary Macrophages

Emily King
https://ucdenver.zoom.us/j/94340756722

Defining MARCO–virus interactions important for alphavirus clearance from the circulation

Frances Li
https://ucdenver.zoom.us/j/97254860974

Investigating neural circuits for precise target acquisition

Taylor Yamauchi
https://ucdenver.zoom.us/j/94380170952
Adenosine activates metabolism to enhance killing of tolerant and persister bacteria across multiple classes of antibiotics

David Kitzenberg

https://ucdenver.zoom.us/j/9638579348

Tau aggregates are RNA–protein assemblies that mis-localize multiple nuclear speckle components

Evan Lester

https://cuboulder.zoom.us/j/6659223199

ETV6 germline mutations cause HDAC3/NCOR2 mislocalization and upregulation of interferon response genes

Marlie Fisher

https://ucdenver.zoom.us/j/97733282552

Vimentin regulates Nod2 activity during Group B Strep infection

Ricardo Villareal

https://ucdenver.zoom.us/j/9120738149

Injury–mediated stiffening persistently activates muscle stem cells through YAP and TAZ mechanotransduction

Jason Silver

https://cuboulder.zoom.us/j/5237601493
Noncanonical Mechanism of Action of NSAIDs Through NRF2 Activation
Brandon Hililard
https://ucdenver.zoom.us/j/96736168336

Friction Mechanics of Soft-on-Soft Micropillar Friction
Leah Bowen
https://ucdenver.zoom.us/j/8294463010

Session B 11:20–11:40
On Macromolecular Crowding and its Effect on Cell Cycle
Bruce E. Kirkpatrick
https://cuboulder.zoom.us/j/97373119452

Near-Infrared Responsive Liquid Crystal Elastomers
Nathaniel Skillin
https://cuboulder.zoom.us/j/4136701488?pwd=RWIlYXNHRS9mUDdSVUZsM3hJUlI1Zz09

The bacterial metabolite indole alters intestinal dendritic cell function and tolerance
Brenda Seymour
https://ucdenver.zoom.us/j/92527064361
Investigating the local RNA transcriptome surrounding mammalian centrosomes and its function
Hei-Yong Lo
https://ucdenver.zoom.us/j/96482949863

The Role of BCL2 Mediated Calcium Signaling in Leukemia Stem Cell Metabolism and Function
Anagha Inguva
https://ucdenver.zoom.us/j/93503829314

Conditions surrounding movements alters peri-movement neural activity in human SNr
Andy Tekriwal
https://ucdenver.zoom.us/j/6092761076

Exploring RIG-I Activation by Self-RNA
Rachel Ancar
https://ucdenver.zoom.us/j/95228706051

Degrading the C9orf72 Repeat Expansion RNA
Soraya Shehata
https://ucdenver.zoom.us/j/9220916908
Selective functional inhibition of a tumor-derived p53 mutant by cytosolic chaperones identified using split-YFP in yeast

Ashley Denney

https://ucdenver.zoom.us/j/98579835637

Investigating MicroRNA–Mediated Changes in the Immunopeptidome of Metastatic Breast Cancer

Faye Camp

https://ucdenver.zoom.us/j/7220415188?pwd=dzYzMk9Wczl2dHE1K3VpQ2s3aHp3Zz09