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<tr>
<td>9/14/20</td>
<td>Electron Kebebew</td>
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<td>9/21/20</td>
<td>G2 Presentations: Maria Filsinger Interrante</td>
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<td>11/30/20</td>
<td>Steve Goodman #2</td>
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<td>Ellen Yeh</td>
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<td>G2 Presentations: Alvaro Amorin; David Wang</td>
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<td>2/8/21</td>
<td>Mental Health Check-in</td>
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<td>2/22/21</td>
<td>M1 Check-in</td>
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<td>3/1/21</td>
<td>Paul George</td>
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<td>3/8/21</td>
<td>Catherine Blish</td>
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<td>3/29/21</td>
<td>MSTP Town Hall</td>
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<td>4/5/21</td>
<td>Laura Dassama</td>
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<td>4/19/21</td>
<td>Christopher Barnes</td>
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<td>4/26/21</td>
<td>PJ Utz</td>
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<td>5/10/21</td>
<td>Matthew Porteus</td>
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<td>5/17/21</td>
<td>Katrin Svensson</td>
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<td>5/24/21</td>
<td>Special Invited Speaker: Vivien Cheung</td>
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Due to the COVID-19 pandemic, PhySH will be virtual for the 2020-2021 academic year (via Zoom).

**Autumn 2020 PhySH Schedule**

**Electron Kebebew**  
September 14, 2020  
*What to Investigate and Why?*  
Dr. Kebebew is the Harry A. Oberhelman, Jr and Mark L. Welton Professor of Surgery and is Chief of the Division of General Surgery & Lab Director at Stanford. Dr. Kebebew’s translational and clinical investigations have three main scientific goals: 1) to develop effective therapies for fatal, rare and neglected endocrine cancers, 2) to identify new methods, strategies and technologies for improving the diagnosis and treatment of endocrine neoplasms and the prognostication of endocrine cancers, and 3) to develop methods for precision treatment of endocrine tumors.

**G2 Presentation: Maria Filsinger Interrante**  
September 21, 2020  
*Targeting the Prehairpin Intermediate of HIV-1 Fusion Towards Development of a Prophylactic Vaccine*  
Lab of Peter Kim, PhD  
Program in Biophysics

**Taia Wang**  
October 5, 2020  
*Reflections and Q&A on My Physician-Scientist Training Path and Transition to a Faculty Position*  
Dr. Wang’s research is aimed at defining mechanisms in human immunity and disease. The Wang laboratory uses in vivo and in vitro systems to study how antibodies can modulate viral infections or anti-viral vaccine responses through signaling interactions with Fc gamma receptors (FcγRs). The overarching goal of projects in the Wang lab is to elucidate FcγR pathways that can be harnessed towards the development of enhanced vaccines and therapeutics.

**G2 Presentations: Ved Topkar; Kathryn Wu**  
October 12, 2020

- **Ved Topkar**  
  *Structural Characterization of mRNA Transport in Oligodendrocytes*  
  Lab of Rhiju Das, PhD  
  Program in Biophysics

- **Kathryn Wu**  
  *How Schwann Cells Sort and Myelinate Axons*  
  Lab of Brad Zuchero, PhD  
  Program in Neurosciences
Steve Goodman #1
October 19, 2020
Research Reproducibility - Definitions and Practice of “Rigor and Reproducibility” in Proposals and in Lab and Clinical Research
Dr. Goodman's research concerns the proper measurement, conceptualization and synthesis of research evidence, with particular emphasis on Bayesian approaches to quantitation, and qualitative approaches arising from the philosophy of science. He is also interested in developing methods to use shared data to confirm and extend published science, as well as to explore new hypotheses. He also has worked on the connections between ethics and scientific methods, particularly in the domain of interventional research, and policy making.

G2 Presentations: Angela Zhang; Shivam Verma
October 26, 2020

Angela Zhang
Developing Label Free Methods to Characterize Induced Pluripotent Stem Cell Derived Cardiomyocytes
Labs of Joseph Wu, MD, PhD, and Russ Altman, MD, PhD
Program in Biomedical Informatics

Shivam Verma
Templated Production of Single-Stranded DNA in Mammalian Cells
Lab of Carolyn Bertozzi, PhD
Department of Chemical and Systems Biology

Tom Rando
November 2, 2020
The Journey of a Physician Scientist: Random Walks and Infinite Sample Space
Dr. Rando's research focuses on tissue-specific stem cells in aging and disease, and on pathogenetic mechanisms and gene therapy for muscular dystrophies. His research on aging has demonstrated that it is possible to identify biochemical stimuli that can induce stem cells in old tissues to repair injuries as effectively as in young tissues, and this work has broad implications for the fields of regenerative medicine and stem cell transplantation.

G2 Presentations: Aaron Wilk; Tim Chai
November 9, 2020

Aaron Wilk
Seq-ing Answers to COVID-19: Lessons From Multimodal Immune Profiling
Lab of Catherine Blish, MD, PhD
Program in Immunology

Tim Chai
How T Cells Communicate With Cancer Cells
Lab of Irving Weissman, MD
Program in Cancer Biology
**MSTP Diversity Working Group (DWG)**

November 16, 2020

DWG's Structure and Goals for the Upcoming Year

The mission of the MSTP Diversity Working Group (DWG) is to promote and support diversity of all kinds, at all phases of the physician scientist training process, by fostering and advocating for the equal treatment of all prospective and current MSTP students in recruitment, admission, retention and career placement of MSTP students.

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**Steve Goodman #2**

November 30, 2020

*Design, Data Analysis and Data Management*

Dr. Goodman's research concerns the proper measurement, conceptualization and synthesis of research evidence, with particular emphasis on Bayesian approaches to quantitation, and qualitative approaches arising from the philosophy of science. He is also interested in developing methods to use shared data to confirm and extend published science, as well as to explore new hypotheses. He also has worked on the connections between ethics and scientific methods, particularly in the domain of interventional research, and policy making.

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**Winter 2021 PhySH Schedule**

G2 Presentations: Vipul Vachharajani; Andrea Garofalo

January 11, 2021

- **Vipul Vachharajani**  
  *Single-Molecule Force Spectroscopy of Epithelial Cell Adhesion Molecules*  
  Lab of Alex Dunn, PhD  
  Program in Biophysics

- **Andrea Garofalo**  
  *Deep Sequencing of Cell-Free DNA for Noninvasive Detection of Immunosuppression-Related Lymphoid Malignancies*  
  Lab of Ash Alizadeh, MD, PhD  
  Program in Cancer Biology

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**Elen Yeh**

January 25, 2021

*A Path Less Traveled*

Dr. Yeh's research focuses on the apicoplast, a prokaryotically-derived plastid organelle unique to Plasmodium (and other pathogenic Apicomplexa parasites) and a key anti-malarial drug target. Her laboratory's goal is to elucidate apicoplast biology, function, and role in pathogenesis with the ultimate goal of realizing the potential of the apicoplast as a therapeutic target.
G2 Presentation: Alvaro Amorin; David Wang  
February 1, 2021

**Alvaro Amorin**  
*Dual Stem Cell Therapy for Krabbe Disease*  
Lab of Natalia Gomez Ospina, MD, PhD  
Program in Stem Cell Biology & Regenerative Medicine

**David Wang**  
*The Role of Neuronal Activity in Building Brain Circuits*  
Lab of Liqun Luo, PhD  
Department of Biology

**Paul George**  
March 1, 2021  
*Emerging As a Physician Scientist: A Non-Linear Path to a Stimulating Career*  
Dr. George's lab focuses on improving stroke diagnostics as well as engineering new methods to enhance stroke recovery. Their primary focus is applying novel bioengineering techniques to understand the mechanisms of neural recovery (primarily in stroke) and discovering methods to improve patient recovery. They use rodent models of stroke combined with biomaterial techniques, stem cell transplants, and microfabrication to achieve these aims and evaluate our methods with behavior testing and various imaging techniques. Their goal is to translate these findings into clinical trials to help stroke patients.

**Catherine Blish**  
March 8, 2021  
*Grant Writing: F30*  
The goal of Dr. Blish’s research is to develop new methods to prevent and control infectious diseases through better understanding of human immunology. The lab has several major areas of ongoing investigation: understanding the diversity and biology of human natural killer (NK) cells; defining the role of NK cells in viral immunity; and immune signatures of human pregnancy.

**Spring 2020 PhySH Schedule**  
**Laura Dassama**  
April 5, 2021  
*Progress Toward the Creation of Universally Effective Fetal Hemoglobin Inducers for Sickle Cell Disease*  
Dr. Dassama is a bioinorganic chemist and structural biologist who uses tools of chemistry and physics to provide molecular insights into complex biological processes. Her research interests include mitigating bacterial multidrug resistance and developing therapies for sickle cell disease.
Christopher Barnes  
April 19, 2021  
*Structural Biology in the Age of COVID-19*  
Dr. Barnes’ work is focused on resolving fundamental questions about the mechanism by which the general transcription factors regulate RNA Polymerase II (Pol II) activity. Due to the size and complexity of such systems, he utilized unique techniques to reconstitute and achieve high-resolution structural information. He purified, assembled, and crystallized Pol II complexes for data collection at synchrotron and X-ray free electron laser sources, while also developing transmission electron microscopy methods.

PJ Utz  
April 26, 2021  
*Autoantibodies and Autoimmunity in COVID-19*  
Dr. Utz’s research focuses on the immune system of patients with immunodeficiency disorders, infections, and autoimmune diseases and mixed connective tissue disease. His lab develops bench-to-bedside technologies, including diagnostics and therapeutics, for human immune diseases. His lab is also active in vaccine biology, both for inducing protective immunity to pathogens and for turning off immune responses in autoimmune diseases.

Matt Porteus  
May 10, 2021  
*From Bench to Phase I: Responsible Translational Research*  
Dr. Porteous’ research focuses on developing genome editing by homologous recombination as curative therapy for children with genetic diseases but also has interests in the clonal dynamics of heterogeneous populations and the use of genome editing to better understand diseases that affect children including infant leukemias and genetic diseases that affect the muscle.

Katrin Svansson  
May 17, 2021  
*Exploring the Secretome For New Metabolic Hormones*  
Dr. Svensson’s research is dedicated to the discovery of new fundamental pathways of energy regulation. Her lab is using a combination of multi-omics, gene editing and physiology approaches to better understand how to target complex diseases such as aging, metabolic diseases, and cancer.

Vivien Cheung  
May 24, 2021  
*From RNA Biology to Rare Disease: Journey of a Physician-Scientist*  
Dr. Vivian G. Cheung is the Frederick G.L. Huetwell Professor the Department of Pediatrics at the University of Michigan. Dr. Cheung is an RNA biologist and child neurologist. Dr. Cheung’s laboratory has a long-standing interest in gene regulation. Her group showed that expression levels of human genes can be studied as quantitative traits. This enabled the mapping of gene regulators without a priori knowledge of the underlying mechanisms, and facilitated the identification of regulatory variants that affect disease susceptibility. This project on the genetics of human gene expression led to her current studies of the regulatory role of RNA sequences and structures. This includes determining how dysregulation of a nucleic-acid structure, R-loop, affects motor neurons in a juvenile-onset amyotrophic lateral sclerosis.