



**Weill Cornell Medicine**  
Joan and Sanford I. Weill  
Department of Medicine



# Sixth Annual Weill Department of Medicine Research Retreat

**Friday, October 29th, 2021 | 8:45 am–5:00 pm**

**Virtual Retreat** | <https://weillcornell.zoom.us/meeting/register/tJAsf-qsqT4iEtfP62rFFk8hgbt2PcVcXyEb>

**Dial In** | 646-876-9923

**Meeting ID** | 941 8347 5883

**Boxed Lunch** | Belfer Skylight Lounge

## Keynote Speaker

**Drew Weissman, MD, PhD**

Roberts Family Professor in Vaccine Research, University of Pennsylvania School of Medicine

## Organizers

**Anthony Hollenberg, MD**

Professor and Chairman of Medicine

**John P. Leonard, MD**

Professor and Executive Vice Chairman

**Steven M. Lipkin MD, PhD**

Professor and Vice Chairman of Research

## Executive Committee

**Mary E. Choi, MD**

Professor of Medicine

**Marshall J. Glesby, MD**

Professor of Medicine

**Paraskevi Giannakakou, PhD**

Professor of Pharmacology in Medicine

**Lisa Kern, MD**

Associate Professor of Medicine

**Lonny Levin, PhD**

Professor of Pharmacology in Medicine

**Holly G. Prigerson, PhD**

Professor of Sociology in Medicine

**Shahin Rafii, MD**

Professor of Medicine

**Kyu Y. Rhee, MD**

Associate Professor of Medicine

**Joseph M. Scandura, MD**

Associate Professor of Medicine

**Jonathan W. Weinsaft, MD**

Professor of Medicine

## Meeting Description

The Sixth Annual Department of Medicine Research Retreat will provide a distinct forum to bring together a diverse range of established and emerging faculty and trainees and experts in complimentary fields to foster and expand our research efforts. The conference will feature a broad range of faculty with talks reflecting different career stages and research fields.

Participation by young investigators, trainees and residents is strongly encouraged. The central goals of the conference are to:

1) Highlight the various research programs within the Department—specifically to promote interaction between young and senior investigators and exchange of ideas which will shape the future direction of research within the Department

2) Foster the development of the next generation of researchers by encouraging participation of residents and post-doctoral trainees

3) Promote interactions and collaborations amongst our research faculty.

The conference will provide time for formal and informal discussions allowing for widespread participation of conference attendees at various career stages.

The full program and speaker bios are listed in the following pages below.

**weillcornell.org**

# Program

Friday, October 29th, 2021

8:45 am

Introduction

**Dr. Anthony Hollenberg, MD**

**Dr. John P. Leonard, MD**

**Dr. Steven Lipkin, MD, PhD**

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9:00 am

Junior Faculty Presentations

**Kerri Ilene Aronson, MD**

Assistant Professor of Medicine, Division of Pulmonary and Critical Care Medicine

*"Health-related quality of life in Interstitial Lung Disease; Measuring what matters"*

**Robert Battat, MD, CM**

Assistant Professor of Medicine, Division of Gastroenterology and Hepatology

*"Personalizing Care in Post-Operative Crohn's Disease: Understanding Treatment Efficacy, Pharmacokinetics, Disease Monitoring and Metabolomics"*

**Pinkal Desai, MD**

Assistant Professor of Medicine, Division of Hematology and Medical Oncology

*"Defining Clonal Hematopoiesis as a High Risk Premalignant state"*

**Megan Ritter, MD**

Instructor in Medicine, Division of Endocrinology, Diabetes and Metabolism

*"Thyroid hormone signaling and sensitivity: from the bedside to the bench"*

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10:00 am

Senior Faculty Presentations

**Erica Phillips, MD, MS**

Fishman Associate Professor of Cancer Prevention and Associate Professor of Clinical Medicine, Division of General Internal Medicine

*"Leveraging the power of community experts"*

**Brad Jones, PhD**

Associate Professor of Immunology in Medicine, Division of Infectious Diseases

*"SARS-CoV2 mRNA vaccination exposes latent HIV to Nef-specific cytotoxic T lymphocytes"*

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11:00 am

AM Poster Session

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12:00 pm

Boxed Lunch | Belfer Skylight Lounge

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1:00 pm

PM Poster Session

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2:00 pm

Abstract Oral Presentations

**Villar Calle, Pablo, MD**

Postdoctoral Fellow, Division of Cardiology

*"Tissue-Based Predictors of Right Ventricular Dysfunction in Patients with Coronary Artery Disease –a 8117 Patient Multicenter Stress Perfusion Study"*

**Goc, Jeremy, PhD**

Research Associate, Division of Gastroenterology and Hepatology

*"Dysregulation of ILC3s unleashes progression and immunotherapy resistance in colon cancer"*

**Gu, Wei, PhD**

Postdoctoral Fellow, Division of Regenerative Medicine

*"The chromatin factor SATB2 maintains colonic stem cell identity and mediates epithelial plasticity between adult colon and small intestine"*

**Kingery, Justin, MD, PhD**

Assistant Professor of Medicine, Center for Global Health

*"Health Status, Persistent Symptoms and Effort Intolerance One Year After Acute COVID-19 Infection"*

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3:00 pm

Break

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3:30 pm

Keynote Lecture

**Drew Weissman, MD, PhD**

Roberts Family Professor in Vaccine Research, University of Pennsylvania School of Medicine

*"Nucleoside-Modified mRNA-LNP Therapeutics"*

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## Our Speakers



**Kerri Aronson, MD** research interest is focused on patient-centered outcomes in interstitial lung disease. She is focused on defining and elevating outcome measures for clinical practice and clinical trials that are the most meaningful to patients. She is currently working on developing a patient reported outcome that measures quality of life in patients with Chronic Hypersensitivity Pneumonitis. In addition, she has worked on a project to better define, understand, and address the challenges associated with antigen identification and avoidance in patients with Chronic Hypersensitivity Pneumonitis. Her work has received recognition from the Weill Cornell Medicine Fund for the Future program, as well as the Pulmonary Fibrosis Foundation. She is also a co-investigator on a national interstitial lung disease registry and clinical trials.



**Robert J. Battat, MD** is an expert in inflammatory bowel disease specializing in Crohn's Disease and Ulcerative Colitis. He is an Assistant Attending Physician at the NewYork-Presbyterian Hospital/Weill Cornell Medicine and the Jill Roberts Center for Inflammatory Bowel Disease. Dr. Battat is a physician-scientist with a major interest in personalized medicine in inflammatory bowel disease and has extensively published scientific articles on this topic. This includes the effect of measuring medication blood levels on patient outcomes (therapeutic drug monitoring), the effects of therapies on inflammation found on colonic biopsies, and post-operative complications of Crohns disease (such as serum tests to diagnose bile acid malabsorption, and vitamin B12 deficiency).

**Pinkal Desai, MD** is an NCI funded early investigator and Assistant Professor of Medicine in Hematology/Oncology at Weill Cornell Medicine (WCM). Dr. Desai is an oncologist by clinical training and focuses on myeloid malignancies. She is also an epidemiologist with a keen interest in cancer prevention with extensive experience large-scale data analysis and is the PI and co PI on several population data studies. Clinically, she is the PI and co-PI of numerous clinical trials at WCM. Her work has been presented at various national conferences, including the annual meetings of the American Society of Hematology and American Society of Clinical Oncology. She has had numerous peer-reviewed publications in the field of oncology and epidemiology and is published in various journals including Nature, Nature Medicine, Blood Advances,



Cancer etc. Her published work in Nature Medicine as first author is considered a seminal paper establishing for the first time, a pre-malignant state in Acute Myeloid Leukemia (AML). She was awarded the Charles, Lillian, and Betty Neuwirth Clinical Scholar in Oncology award in 2019 for her ongoing research in clonal hematopoiesis (CH). She is also the Clinical Director of the Molecular Aging Institute at Englander Institute of Precision Medicine at WCM. Her role is to lead a team of scientists, clinicians, statisticians and bioinformatics to develop and oversee numerous projects in Clonal Hematopoiesis, which is her research focus.

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**Megan Ritter, MD** is an Instructor in Medicine at Weill Cornell and Assistant Attending Physician at New York Presbyterian. She received her MD from Drexel University College of Medicine and completed her Internal Medicine Residency at Beth Israel Deaconess Medical Center (BIDMC) in Boston, MA.

She completed her Endocrine fellowship at BIDMC and joined Weill Cornell to continue her research in the lab of Dr. Anthony Hollenberg. Since joining the lab, she has been studying thyroid hormone action by studying the two corepressors of the thyroid hormone receptor: the nuclear receptor corepressor 1 (NCoR1) and the silencing mediator of retinoic and thyroid hormone receptor (SMRT). She has developed mouse models that will allow the sensitive and specific study of NCoR1 and SMRT which will help us understand thyroid hormone signaling at the molecular level and give us new insights into thyroid disease.



**Erica Phillips, MD, MS** is a graduate of the University of Virginia. She received her medical degree from Columbia University's College of Physicians and Surgeons in 1998 and completed her Internal Medicine Residency at the Hospital of the University of Pennsylvania in 2001. Dr. Phillips received a Masters of Science in

Clinical Epidemiology and Health Services Research in 2003 from Weill Cornell. Thereafter she joined the Division of General Internal Medicine where she conducts research focused on health inequities in racial and ethnic minorities. An integral part of her practice is bridging her clinical practice in weight management, with that of her research efforts in the behavioral management of obesity. Dr. Phillips was one of the founding physicians of the Weight Management Practice at Weill Cornell Internal Medicine Associates. She is a Diplomate of the American Board of Internal Medicine and the American Board of Obesity Medicine.

## Our Speakers (continued)



**R. Brad Jones, PhD** is a Viral Immunologist, and an Associate Professor at Weill Cornell Medicine, in the Division of Infectious Diseases. His current research is focused on understanding how to effectively harness innate and adaptive cellular immune responses to contribute to the elimination of the HIV reservoirs that persist in individuals on long-term therapy, and thus to inform efforts to cure infection. Work in the Jones lab has led the discovery of cell-intrinsic resistance to cytotoxic T-cells, as a contributor to HIV persistence on long-term antiretroviral therapy; with ongoing research focused on uncovering and overcoming underlying mechanisms. Dr. Jones received his PhD in Immunology from the University of Toronto, before beginning a post-doctoral fellowship at the Ragon Institute of MGH, MIT, and Harvard in 2012. He currently serves as Principal Investigator of the NIH-funded Martin Delaney 'REACH' collaboratory.



**Pablo Villar Calle, MD** is a Cardiologist from Spain, specialized in cardiac MRI and cardiac CT. He is a Research Fellow in The Advanced Cardiac Imaging Lab (Division of Cardiology). Dr. Villar Calle's mentors are Dr. Jiwon Kim and Dr. Jonathan Weinsaft



**Jeremy Goc, PhD** is a Research Associate in Dr. Gregory Sonnenberg's laboratory in the Division of Gastroenterology and Hepatology. He is a cancer immunologist with over 8 years experience in tumor and mucosal immunology. Currently, he is investigating the impact of the microbiota-immune homeostasis on cancer progression and responsiveness to immunotherapies.



**Wei Gu, PhD** is a Postdoctoral Research Fellow in the laboratory of Dr. Qiao Zhou at the Weill Cornell Medical College. He received his B.S. and Master degree from Nantong University in China and his Ph.D. in Biochemistry from Tohoku Medical and Pharmaceutical University in Japan. He developed a novel diagnostic tool to detect specific glycoprotein carbohydrate antigens shed by colorectal cancers in first postdoctoral training with Dr. Richard Cummings. He current is focusing on discovering fundamental mechanisms that govern adult intestinal stem cell regionalization and its therapeutic implications.



**Justin Kingery, MD, PhD** is board eligible in internal medicine and is a Global Health Research Fellow in the Weill Cornell Center for Global Health. He has a background in the role and interactions of immune cells in chronic, noncommunicable diseases, specifically congestive heart failure. His current interests include noncommunicable disease research in east Africa and medical resident/student education.

**Keynote Speaker: Drew Weissman, MD, PhD** is a professor of Medicine at the Perelman School of Medicine, University of Pennsylvania. He received his graduate degrees from Boston University School of Medicine. Dr. Weissman, in collaboration with Dr. Katalin Karikó, discovered the ability of modified nucleosides in RNA to suppress activation of innate immune sensors and increase the translation of mRNA containing certain modified nucleosides. The nucleoside-modified mRNA-lipid nanoparticle vaccine platform Dr. Weissman's lab created is used in the first 2 approved COVID-19 vaccines by Pfizer/BioNTech and Moderna. They continue to develop other vaccines that induce potent antibody and T cell responses with mRNA-based vaccines. Dr. Weissman's lab also develops methods to replace genetically deficient proteins, edit the genome, and specifically target cells and organs with mRNA-LNPs, including lung, heart, brain, CD4+ cells, all T cells, and bone marrow stem cells.



# Abstracts

**Box Link:** <https://wcm.box.com/s/kmh4c1anlo4mlo67mz4l6b11s3fcs4pm>

## AM Poster Session

### Basic

#	Name	Title
1	Beguelin, Wendy	Cooperation between frequently mutated chromatin epigenetic modifiers EZH2, KMT2D and CREBBP in lymphomagenesis
2	Bhardwaj, Priya	Obesity is associated with DNA damage in the breast epithelium of BRCA1 and BRCA2 mutation carriers: A role for estrogens & strategies for prevention
3	Copertino, Dennis	The LRA 3-hydroxy-1,2,3-benzotriazin-4(3H)-one (HODHBt) synergizes with IL-15 to enhance cytotoxic capacities of HIV-specific CTL
4	Costa-e-Sousa, Ricardo	The Hypothalamic-Pituitary-Thyroid Axis Regulation Relies on Distinct Subpopulations of Hypophysiotropic TRH neurons.
5	Crater, Jacqueline	Tissues as tools in HIV-1 Cure Research
6	Gomez Salinero, Jesus Maria	Regulation of Endothelial Cell Homeostatic functionality and organotypic adaptability
7	Haczeyni, Fahrettin	Targeted Trafficking of Acetyl-CoA toward Energy Expenditure Prevents Obesity
8	Kris, Rochelle	Development of a Bioinformatics Pipeline for PacBio Sequencing Error Correction for HIV Quasispecies Interpretation
9	Li, Xin	The gut commensal mycobiota modulates intestinal and systemic inflammation and impacts immune-mediated diseases
10	Marston, Jez	SARS-CoV-2 infection mediates differential expression of human endogenous retroviruses and long interspersed nuclear elements
11	Mendoza, Arturo	Thyroid hormone action in liver fibrosis
12	Pires, Silvia	Role for TL1A in innate intestinal inflammation and colitis associated cancer
13	Price, David	The maladaptive vascular response in COVID-19 acute respiratory distress syndrome and recovery
14	Reiterer, Moritz	Hyperglycemia in Acute COVID-19 is Characterized by Insulin Resistance and Adipose Tissue Infectivity by SARS-CoV-2
15	Rubio-Navarro, Alfonso	Single cell RNA-Seq reveals a reduction of a metabolically active subset of beta cells in diabetic mice
16	Simontobova, Liana	Actin Filament Assembly in the Nucleus in Response to Nutritional Stress
17	Singh, Bhavya	Locus specific quantification of human endogenous retroviruses in single-cell data with scTelescope

## Abstracts (continued)

### Clinical

#	Name	Title
1	Castillo, Matthew	Innovative and Interdisciplinary Strategies to Prevent Bathroom-Related Falls and Fall- Related Injuries
2	Clare, Shannon	Epidural Steroid Injections Acutely Suppress Bone Formation in Postmenopausal Women
3	Ellsworth, Grant	Predominance of Non-HPV 16/18 in a Randomized Clinical Trial of Adjunctive Quadrivalent HPV Vaccine in the Treatment of Cervical High Grade Squamous Intraepithelial Lesions in Women with HIV
4	Frye, Jesse	Sex-Related Differences in Atrial Substrate in Patients Undergoing Pulmonary Vein Isolation
5	Getz, Ted	PSMA imaging and patient outcomes in men with metastatic castrate resistant prostate cancer treated with dose intense or high potency PSMA-targeted radionuclide therapy
6	Heilbronner, Alison	Peripheral Cortical Bone Density Predicts Vertebral Bone Mineral Properties in Spine Fusion Surgery Patients
7	Jurgens, Eric	Serologic response to mRNA COVID-19 vaccination in lymphoma patients
8	Kanduri, Jaya	Non-ischemic Fibrosis on Cardiac Magnetic Resonance Impacts Left Ventricular Remodeling and Prognosis Among Patients with Functional Mitral Regurgitation
9	Lim, Han Eun	NFkB transcription factor binding motif counts in HIV-1 promoters differ significantly across viral subtypes and among infected-individuals

### Outcomes

#	Name	Title
1	Barenbaum, Sarah	Medical Weight Management Protects Against Weight Gain During The COVID-19 Pandemic
2	Chalem, Andrea	Sex-related differences in clinical presentation, comorbidities, and viral load in patients hospitalized with Coronavirus Disease 2019 in New York City
3	Chhetry, Minar	Associations between Ischemic changes on Electrocardiogram and In-hospital Mortality in COVID-19 Patients
4	Dominguez-Páez, Yuliana	Peer Coach Training for Cardiovascular Risk Prevention in Patients with Rheumatoid Arthritis: Intervention Development
5	Fahoum, Khalid	Developing a Mortality Risk Tool Based on the Social Determinants of Health
6	Gonzalez, Christopher	Cultural and Neighborhood Characteristics Associated with Activity-Specific Parenting Practices in Hispanic Youth: A Secondary Analysis of the Hispanic Community Health Study/SOL Youth Ancillary Study
7	Liu, Esther	Prescribing Patterns of Fall Risk-Increasing Drugs (FRIDs) in Older Adults Hospitalized for Heart Failure
8	Luan, Danny	Evaluation of Eligibility Criteria in First-Line Clinical Trials for Follicular Lymphoma: A MER/LEO Database Analysis
9	Roberts, Nicholas	Prevalence and Patterns of Heart Failure in Haiti: the Haiti Cardiovascular Disease Cohort
10	Shah, Sachin	The Impact of Multiple Social Determinants of Health on the Recurrence of Myocardial Infarction and Stroke
11	Thomson, Kelly	Identifying Areas for Improving Communication and Providing Support for Families
12	Yin, Andrew	Comparing Automated Extraction to Manual Abstraction for COVID-Specific Research Data Abstraction: A Case Study

## PM Poster Session

### Basic

#	Name	Title
1	Brown, Christopher	A novel lipid is associated with transmission advantage in circulating strains of Mycobacterium tuberculosis
2	Corley, Michael	Accelerated epigenetic aging of disease-critical monocytes associates with poor glycemic control in a type 2 diabetes multiethnic population
3	De Oliveira, Lorraine Soares	Human induced pluripotent stem cell-derived hepatocytes as a unique model to study thyroid hormone action and signaling
4	Grigg, John	Antigen presenting group 3 innate lymphoid cells orchestrate neuroinflammation
5	Hanif, Sarah	GPR52 is a Novel Regulator of Breast Cancer Multicellular Aggregation
6	Huang, Xiaofeng	Reversing diabetes with human gastric insulin-secreting cell clusters
7	Lee, Guinevere	Completed genome-intact unspliced HIV transcripts are rare in ex vivo CD4+ cells
8	Liu, Shuchen	A novel mechanism for the stimulation of breast cancer cell proliferation by human breast adipose tissue-derived extracellular vesicles: effects on mitochondrial number and respiration
9	Maldarelli, Grace	Endogenous and circulating antibody recognition of intestinal microbiota in Crohn's disease
10	Marullo, Rossella	The metabolic adaptation evoked by arginine enhances the effect of radiation in brain metastases
11	Petratis, V.	Efficacy of Cefiderocol in Experimental Stenotrophomonas maltophilia Pneumonia
12	Podolsky, Michael	Genome-wide screens identify novel regulators of cell-mediated collagen degradation
13	Qiao, Jixuan	Hepatic Y-box Binding Protein 1 (Ybx1) exacerbates hyperglycemia and hyperlipidemia
14	Racanelli, Alexandra	Reversal of lung emphysema by endothelial directed attenuation of LRG-1 signaling
15	Stoll, Lisa	Dissecting the molecular mechanisms of obesity-induced atrial fibrillation
16	Undeutsch, Julian	Derivation of thyroid follicular cells from human induced pluripotent stem cells
17	Zagaliotis, Panagiotis	Antimicrobial Efficacy and Kinetics of Bacteriophages in a Murine Model of Disseminated Carbapenemase-Producing Klebsiella pneumoniae (KPC) Infection

## Abstracts (continued)

### Clinical

#	Name	Title
1	Bendall, Matthew	Specific human endogenous retroviruses predict metastatic potential in uveal melanoma.
2	Ghosh, Nilasha	Autoantibody microarray signal intensities may predict the occurrence of immune-related adverse events from immune checkpoint inhibition
3	Johnston, Carrie	Hepatic Steatosis is Associated with Insulin Resistance and Frailty in Older Adults with HIV
4	Kandola, Manjinder	Rare Genetic Variants and Arrhythmias in Patients with Nonischemic and Ischemic Cardiomyopathy: An Exome-Wide Population-Based Analysis
5	Lieber, Sarah	Association of Telomere Length with Phenotypic Frailty in Systemic Lupus Erythematosus
6	Pham, Khanh	Effects of Helminths on Cardiometabolic Diseases and Risk Factors: A Systematic Review
7	Steitieh, Diala	RACIAL DISPARITIES IN ACCESS TO HIGH VOLUME TRANSCATHETER MITRAL VALVE REPAIR CENTERS
8	Sun, Michael	Long-term follow-up and prognostic factor analysis in men with metastatic castration-resistant prostate cancer (mCRPC) who receive prostate-specific membrane antigen (PSMA)-targeted lutetium-177 (177Lu)
9	Whalen, William	Multi-omics Signature of COVID-19 ARDS and Bacterial Sepsis ARDS
10	Yan, Lily	High Lead Levels associated with Elevated Blood Pressure in Haiti: a Warning Sign
11	Zhang, William	Hyperferritinemia in COVID-19 ARDS: Friend or Foe?

### Outcomes

#	Name	Title
1	Aronson, Kerri	Validity and Reliability of an Instrument to Measure Health-Related Quality of Life in Hypersensitivity Pneumonitis
2	Brown, Mackenzie	Peer-delivered Cardiovascular Risk Prevention Program for Patients with Rheumatoid Arthritis: Preliminary Results
3	Chan, Kevin	Impact of Invasive Procedure Capability of Hospitals and Pulmonary Embolism Outcomes
4	Chebrolu, Puja	Dietary Diversity Score and Hypertension Risk in an Urban Slum in Pune, India
5	Ghosh, Arnab	Association between City-wide Lockdown and COVID-19 Hospitalization Rates in Multigenerational Households in New York City
6	Kim, Joon	Weight Loss Outcomes with Telemedicine during COVID-19
7	Kogan, Edward	Trends in Early Stroke and Mortality in Endocardial versus Epicardial Left Atrial Appendage Closure in Atrial Fibrillation: Nationwide Readmissions Database 2016-2018
8	Metz, Miranda	Hypertension continuum of care: blood pressure screening, diagnosis, treatment, and control in a population-based cohort in Haiti
9	Rothman, Julia	COVID-19 Related Barriers and Annual Preventative Mammogram Screenings Among Vulnerable Women in New York City
10	Sterling, Madeline	Heart Failure Training Course for Home Health Aides in New York City: A Mixed-Methods Pilot Study
11	Ude, Mercy	Drug User Health Hubs in New York State (NYS): Results of a qualitative study describing services offered in a novel co-located harm reduction and treatment model
12	Zhang, David	Assessing Primary Care Physicians' Perception of a Best Practice Advisory about Prescribing Mineralocorticoid Receptor Antagonist in Patients with Heart Failure