

Weill Cornell CVRI | Stanford CVI | Penn CVI | Duke CVRC

Cardiovascular Research Symposium

Tuesday, December 3, 2024

8:30 am – 6:00 pm

Belfer Research Building
3rd floor, BB-302 A, B & C

Wednesday, December 4, 2024

9:00 am – 3:20 pm

Belfer Research Building
3rd floor, BB-302 A, B, C & D
Weill Cornell Medicine



Weill Cornell Medicine

8:30 – 9:00 am

Breakfast and Registration

9:00 – 9:10 am

Introduction and Welcome

Geoffrey Pitt, M.D., Ph.D.

Ida and Theo Rossi Distinguished Professor of Medicine
Director, Cardiovascular Research Institute, Weill Cornell Medicine

Robert A. Harrington, M.D.

Stephen and Suzanne Weiss Dean, Weill Cornell Medicine
Provost for Medical Affairs, Cornell University

9:10 – 10:15 am

Session I: Vascular

Moderator: Thomas Cappola, M.D., ScM

William Smilow Professor, Chief, Cardiovascular Division,
University of Pennsylvania

Speakers:

Scott Damrauer, M.D.

William Maul Measey Associate Professor of Surgery II,
Perelman School of Medicine, University of Pennsylvania
"Aortic aneurysms as complex traits: genetic insights into the future of aortic care"

Laura Winkler, Ph.D.

Assistant Professor of Pharmacology and Cancer Biology, Duke University
"Mechanistic diversity in angiotensin receptor ligands"

Costantino Iadecola, M.D.

Director of the Feil Family Brain and Mind Research Institute
Anne Parrish Titzell Professor of Neurology and
Professor of Neuroscience, Weill Cornell Medicine
*"Neurovascular determinants of cognitive health: from
vascular cognitive impairment to Alzheimer's disease"*

Mark Kahn, M.D.

Edward S. Cooper, M.D./Norman Roosevelt and
Elizabeth Meriwether McLure Professor of Medicine,
Director of Molecular Cardiology, University of Pennsylvania
"Hemodynamic forces and valve endothelial KLF2/4 in myxomatous valve disease"

Panel Discussion

10:15 – 10:35 am

Coffee Break

10:35 – 11:25 am

Session II: Aortopathies

Moderator: Jonathan Weinsaft, M.D.

Chief, Greenberg Division of Cardiology, Weill Cornell Medicine and NewYork-Presbyterian/Weill Cornell Medical Center

A.M. Gotto Professor of Medicine, Atherosclerosis and Lipid Research, Weill Cornell Medical College

Speakers:

Leonard Girardi, M.D.

O. Wayne Isom Professor

Chair, Department of Cardiothoracic Surgery, Weill Cornell Medical College

Cardiothoracic Surgeon-in-Chief, Weill Cornell Medicine and

NewYork-Presbyterian/Weill Cornell Medical Center

"Aortic surgery in the aortopathy population: nuances and outcomes"

Philip S. Tsao, Ph.D.

Professor, Department of Medicine, Division Cardiovascular Medicine, Stanford University

"Genetic and molecular mechanisms of AAA disease"

Nupoor Narula, M.D., M.Sc.

Assistant Professor of Medicine, The Bruce B. Lerman, M.D. Clinical Scholar, Weill Cornell Medicine

"Distinct risks of types A and B dissection in Marfan syndrome"

Panel Discussion

11:25 – 12:15 pm

Session III: Imaging and Outcomes

Moderator: Jiwon Kim, M.D.

Associate Professor of Medicine, Division of Cardiology, Weill Cornell Medicine

Speakers:

Thomas Cappola, M.D., ScM

William Smilow Professor, Chief, Cardiovascular Division, University of Pennsylvania

"Sex-specific genetic modifiers of cardiomyopathy—an unexpected journey"

Jessica Peña, M.D.

Associate Professor of Medicine, Cardiology Division,
Weill Cornell Medicine
*"Thinking outside the heart: breast arterial calcifications
as markers of cardiovascular risk"*

Latha Palaniappan, M.D., M.S.

Professor of Medicine (Cardiovascular Medicine)
and by courtesy, of Epidemiology and Population Health, Stanford University
"Highlights from the American Heart Association stats update"

Panel Discussion

12:15 – 1:15 pm

Lunch

1:15 – 1:20 pm

Afternoon Introduction

Joseph Wu, M.D., Ph.D.

Director, Stanford Cardiovascular Institute, Simon H. Stertzer, MD,
Professor of Medicine & Radiology, Stanford University

1:20 – 2:25 pm

Session IV: Arrhythmia

Moderator: **Bruce Lerman, M.D.**

Professor of Medicine, Cardiology Division,
Weill Cornell Medicine/ NewYork-Presbyterian

Speakers:

Ching Zhu, M.D., Ph.D.,

Assistant Professor of Medicine. Cardiology, Duke University
"Neural control of arrhythmia susceptibility: patterns and mechanisms"

Jim Cheung, M.D.

Professor of Medicine, Division of Cardiology,
Weill Cornell Medicine
*"Journey from bedside to bench to bedside: modeling
malignant idiopathic ventricular arrhythmias"*

Saman Nazarian, M.D., Ph.D.

Professor of Medicine (Cardiovascular Medicine) at the
Hospital of the University of Pennsylvania
"Lipomatous metaplasia and arrhythmia"

Shuibing Chen, Ph.D.

Kilts Family Professor of Surgery

Weill Cornell Medicine

"Human pluripotent stem cells derived pacemaker cells"

Panel Discussion

2:25 – 3:15 pm

Session V: Congenital/Development

Moderator: **Harsimran Singh, M.D.**

David S. Blumenthal Assistant Professor of Medicine,

Weill Cornell Medicine

Speakers:

Sean Wu, M.D., Ph.D.

Professor of Medicine and, by courtesy, of Pediatrics

(Cardiovascular Medicine), Stanford University

"Deconvoluting the plasma-derived cell free transcriptome"

David Frank M.D., Ph.D.

Assistant Professor of Pediatrics (Cardiology),

University of Pennsylvania

"Embryonic development and the pathological and

regenerative potential of the pulmonary veins"

Michael Harrison, Ph.D.

Assistant Professor of Cell and Developmental Biology,

Cardiovascular Research Institute Faculty Member, Weill Cornell Medicine

"Coronary vasculature formation and its role in shaping the cardiac chambers"

Panel Discussion

3:15 – 3:35 pm

Coffee Break

3:35 – 4:15 pm

Session VI: Lightning Early Career Talks

Moderator: **Bernhard Kuhn, M.D.**

David Wallace-Starr Foundation Professor of Pediatric Clinical Cardiology,

Weill Cornell Medicine

Speakers:

EC talk 1

Senthil Selvaraj, M.D., M.S., M.A.

Assistant Professor of Medicine, Division of Cardiology
Duke University

"Effects Of exogenous ketone therapy on exercise capacity and fuel metabolism in HFpEF: KETO-HFpEF"

EC talk 2

Nazish Sayed M.D., Ph.D.

Assistant Professor, Stanford Cardiovascular Institute,
Assistant Professor, Division of Vascular Surgery,
Department of Surgery, Stanford University

"Endothelial – cardiomyocyte crosstalk in long COVID"

EC talk 3

Mohan Satish, M.D.

Fellow in Cardiovascular Diseases, Weill Cornell Medicine

"Traditional and Nontraditional Risk Factors in Acute Myocardial Infarction in Young Adults"

EC talk 4

Deborah Eaton, Ph.D., M.S.

Postdoctoral Researcher of Medicine,
University of Pennsylvania

"Defining myocardial changes in presumed HFpEF patients"

EC talk 5

Natalia Pakharukova, Ph.D.

Postdoctoral researcher, Lefkowitz Lab
Duke University Medical Center

"Mechanism of beta-arrestin1 mediated Src activation"

EC talk 6

Patricia Nguyen, M.D.

Associate Professor of Medicine (Cardiovascular Medicine,
Stanford University

"Combined delivery of vascular stem/progenitor cells rescues ischemic tissue"

EC talk 7

Jeffrey Abrahams, M.D.

Instructor in Medicine, T32 Fellow at the Long Lab,
Cardiovascular Research Institute, Weill Cornell Medicine

"Models to Explore Role of H3K27me3 Demethylation on Cardiomyocyte Differentiation"

EC talk 8

Wumesh KC, M.D., Ph.D.

Instructor, Division of Cardiovascular Medicine

University of Pennsylvania

"Unraveling immunologic mechanisms in cardiac sarcoidosis through deep immune profiling"

4:15 – 5:05 pm

Session VII: Computational Biology

Moderator: **Ashley Beecy, M.D.**

Assistant Professor of Medicine, Weill Cornell Medical College

Speakers:

Trine Krogh-Madsen, Ph.D.

Associate Professor of Research in Physiology and Biophysics,

Weill Cornell Medicine

"Electrophysiological heterogeneity of single stem cell-derived cardiomyocytes"

Olivier Elemento, Ph.D.

Professor of Computational Genomics in Pathology

and Laboratory Medicine

Director of the Englander Institute for Precision Medicine,

Weill Cornell Medicine

"A whole-genome based platform for enhanced diagnosis and risk stratification"

Sanjiv Narayan, M.D.

Professor of Medicine (Cardiovascular Medicine),

Stanford University

"Bioengineering to bridge cardiovascular physiology to clinical care"

Panel Discussion

5:05 – 6:00 pm

Poster Session

BB-302 D

6:30 pm

Dinner for Symposium Speakers

Local NYC restaurant

9:00 – 9:05 am

Introduction

Daniel Kelly, M.D.

Willard and Rhoda Ware Professor, Perelman School of Medicine,
University of Pennsylvania
Director, Penn and CHOP Cardiovascular Institutes,
University of Pennsylvania

9:05 – 10:15 am

Session VIII: Regenerative Medicine/RNA Biology

Moderator: Shahin Rafii, M.D.

Arthur B. Belfer Professor in Genetic Medicine,
Weill Cornell Medicine

Speakers:

Jingli Cao, Ph.D.

Assistant Professor of Cell and Developmental Biology,
Cardiovascular Research Institute Faculty Member, Weill Cornell Medicine
"Epicardial lineages in heart development and regeneration"

Maria Basil, Ph.D.

Assistant Professor of Medicine (Pulmonary, Allergy and Critical Care),
University of Pennsylvania
"The development and function of the human respiratory airways"

Yicheng Long, Ph.D.

Assistant Professor of Biochemistry,
Cardiovascular Research Institute Faculty Member, Weill Cornell Medicine
"Epigenetic regulation of cardiac development by polycomb complexes"

Conrad Hodgkinson, Ph.D.

Associate Professor of Medicine, Associate Professor of Pathology,
Duke University
"Cardiac regeneration: replacing scar with muscle via reprogramming"

Samie Jaffrey, M.D., Ph.D.

Greenberg-Starr Professor, Pharmacology,
Weill Cornell Medicine
"An engineered splicing system for new drug-controlled gene therapies"

Panel Discussion

10:15 – 10:40 am

Coffee break

10:40 – 11:35 am

Keynote Speaker Introduction

Geoffrey Pitt, M.D., Ph.D.

Ida and Theo Rossi Distinguished Professor of Medicine
Director, Cardiovascular Research Institute
Weill Cornell Medicine

*Keynote Speaker: **Anthony Fauci, M.D.***

Distinguished University Professor
Georgetown University
School of Medicine, Department of Medicine
McCourt School of Public Policy
Former Director of the National Institute of Allergy and
Infectious Diseases (NIAID) and former Chief Medical Advisor
to the President, Weill Cornell Medicine Alumni
"HIV/AIDS: science, policy, and a personal 43-year journey"

11:35 – 12:25 pm

Session IX: Stem Cells/Precision Medicine/Gene Editing

Moderator: **Howard Rockman, M.D.**

Edward S. Orgain Distinguished Professor of Cardiology,
Duke University School of Medicine

Speakers:

Joseph Wu, M.D., Ph.D.

Director, Stanford Cardiovascular Institute, Simon H. Stertzer, MD,
Professor of Medicine & Radiology, Stanford University.
"Stem cells & genomics: from precision medicine to clinical trials in dish"

Kiran Musunuru, M.D., Ph.D., M.P.H. and M.L.

Professor of Medicine (Cardiovascular Medicine),
Director, Cardiovascular Institute's Genetic and Epigenetic
Origins of Disease Program, University of Pennsylvania
"Precision gene editing therapies"

Walter Koch, Ph.D.

Professor in Surgery, Duke University
"Small molecule targeted inhibition of GRK2 for heart failure"

Panel Discussion

12:25 – 1:25 pm

Lunch

1:25 – 1:30 pm

Afternoon Introduction

Howard Rockman, M.D.

Director, Cardiovascular Research Center
Edward D. Orgain Distinguished Professor of Cardiology,
Duke University School of Medicine

1:30 – 2:20 pm

Session X: Pulmonary Hypertension

Moderator: **Evelyn Horn, M.D.**

Professor of Clinical Medicine, Cardiology Division
Weill Cornell Medicine

Speakers:

Sudarshan Rajagopal, M.D., Ph.D.

Associate Professor of Medicine,
Biochemistry and Cell Biology,
Duke University

"Understanding pathobiology to drive drug discovery in CTEPH"

Mark Reisman, M.D.

Professor of Medicine, Cardiology Division,
Weill Cornell Medicine

"The Emergence of transcatheter treatments for Tricuspid Regurgitation"

Edda Spiekerkoetter, M.D.

Associate Professor of Medicine
(Pulmonary and Critical Care Medicine), Stanford University
*"3D imaging reveals complex microvascular remodeling
in the right ventricle in pulmonary hypertension"*

Panel Discussion

2:20 – 3:15 pm

Session XI: Cardio-Metabolism

Moderator: **James Lo, M.D., Ph.D.**

Associate Professor of Medicine, Cardiology Division,
Cardiovascular Research Institute Faculty Member,
Weill Cornell Medicine

Speakers:

Christopher Newgard, Ph.D.

W. David and Sarah W. Stedman Distinguished Professor
of Nutrition in the School of Medicine, Duke University
*"Sexual dimorphism in branched-chain amino acid
metabolism and cardiometabolic disease risk"*

Daniel Kelly, M.D.

Willard and Rhoda Ware Professor,
Perelman School of Medicine,
University of Pennsylvania;
Director, Penn Cardiovascular Institute
"Targeting fuel metabolism in the failing heart"

Paul Cohen, M.D., Ph.D.,

Albert Resnick, M.D. Associate Professor,
Head, Weslie R. and William H. Janeway
Laboratory of Molecular Metabolism
The Rockefeller University/ Weill Cornell Medicine
"The role of brown fat in cardiovascular health"

Panel Discussion

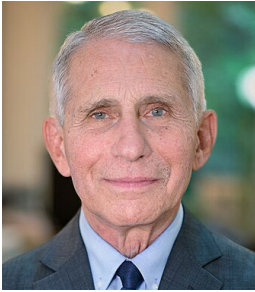
3:15 – 3:20 pm

Closing Remarks

Todd Evans, Ph.D.

Peter I Pressman, MD, Professor in Surgery, Vice Chair for Research,
Chief Division of Research, Weill Cornell Medicine

Keynote Speaker



Anthony Fauci, M.D.

Distinguished University Professor, Georgetown University, School of Medicine and McCourt School of Public Policy
Former Director, National Institute of Allergy and Infectious Diseases (NIAID) and former Chief Medical Advisor to President Biden

Organizing Committee



Geoffrey Pitt

Ida and Theo Rossi
Distinguished Professor of Medicine
Director, Cardiovascular Research Institute
Weill Cornell Medicine



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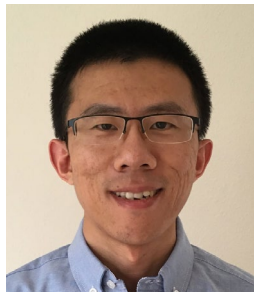
Symposium Speakers



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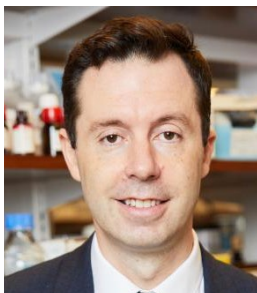
Jim Cheung, M.D.
Professor of Medicine
Weill Cornell Medicine



Paul Cohen, M.D., Ph.D.
Albert Resnick, M.D. Associate
Professor
Head, Weslie R. and William
H. Janeway Laboratory of
Molecular Metabolism
The Rockefeller University



Scott Damrauer, M.D.
William Maul Measey Associate
Professor of Surgery II,
Perelman School of Medicine
University of Pennsylvania



Olivier Elemento, Ph.D
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Genomics in Pathology and
Laboratory Medicine
Director of the Englander
Institute for Precision Medicine
Weill Cornell Medicine



David Frank M.D., Ph.D.
Assistant Professor of Pediatrics
(Cardiology)
University of Pennsylvania



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O. Wayne Isom Professor
Chair, Department of
Cardiothoracic Surgery
Cardiothoracic Surgeon-in-Chief
Weill Cornell Medicine



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Stephen and Suzanne Weiss Dean
Provost for Medical Affairs
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Director and Chair, Feil Family
Brain and Mind Research
Institute
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Samie Jaffrey, M.D., Ph.D.

Greenberg-Starr Professor,
Pharmacology
Weill Cornell Medicine



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Roosevelt and Elizabeth
Meriwether McLure Professor
of Medicine
Director of Molecular
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Pediatric Clinical Cardiology
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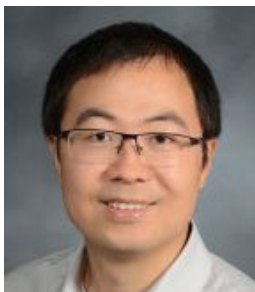
Bruce Lerman, M.D.

Professor of Medicine
in Pediatrics, Division of
Cardiology
Weill Cornell Medicine

Symposium Speakers



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Associate Professor of Medicine,
Cardiology Division
CVRI Faculty Member
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Yicheng Long, Ph.D.
Assistant Professor of
Biochemistry
CVRI Faculty Member
Weill Cornell Medicine



**Kiran Musunuru, M.D., Ph.D.,
MPH, ML**
Professor of Medicine
(Cardiovascular Medicine)
Director, Cardiovascular
Institute's Genetic and Epigenetic
Origins of Disease Program
University of Pennsylvania



Sanjiv Narayan, M.D.
Professor of Medicine
(Cardiovascular Medicine)
Stanford University



Nupoor Narula, M.D., MSc
Assistant Professor of Medicine
The Bruce B. Lerman, M.D.
Clinical Scholar
Weill Cornell Medicine



Saman Nazarian, M.D., Ph.D.
Professor of Medicine
(Cardiovascular Medicine)
University of Pennsylvania



Christopher Newgard, Ph.D.
W. David and Sarah W. Stedman
Distinguished Professor of
Nutrition in the School of
Medicine
Duke University



**Latha Palaniappan, M.D.,
M.S.**
Professor of Medicine
(Cardiovascular Medicine) and
by courtesy, of Epidemiology
and Population Health
Stanford University



Jessica Peña, M.D.
Associate Professor of Medicine
Weill Cornell Medicine



**Sudarshan Rajagopal, M.D.,
Ph.D.**
Associate Professor of Medicine,
Biochemistry and Cell Biology
Duke University



Mark Reisman, M.D.
Professor of Medicine
Weill Cornell Medicine



Shahin Rafii, M.D.
Arthur B. Belfer Professor in
Genetic Medicine, Weill Cornell
Medicine

Symposium Speakers



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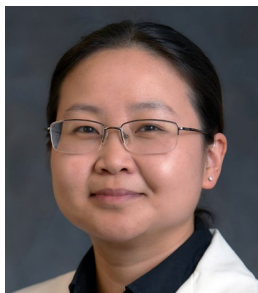
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Assistant Professor of
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Sean Wu, M.D., Ph.D.
Professor of Medicine and,
by courtesy, of Pediatrics
(Cardiovascular Medicine),
Stanford University



Ching Zhu, M.D., Ph.D.
Associate Professor of
Cardiology, Duke University