



Vascular Discovery: From Genes to Medicine 2023

Final Program

WEDNESDAY, MAY 10

3:00–7:00 pm	Registration <i>Atrium Foyer, 4th Floor</i>
3:00–6:30 pm	Speaker Resource Room <i>Falmouth, 4th Floor</i>
7:45 am–8:15 pm	Childcare <i>Yarmouth, 4th Floor</i>
6:30–8:00 pm	Poster Session 1 and Reception For a full list poster presentations, please see the Vascular Discovery 2023 Posters on the programming page <i>Gloucester/Back Bay, 3rd Floor</i>

THURSDAY, MAY 11

6:00 am–6:00 pm	Speaker Resource Room <i>Falmouth, 4th Floor</i>
6:45 am–7:45 pm	Childcare <i>Yarmouth, 4th Floor</i>
7:00 am–6:00 pm	Registration <i>Atrium Foyer, 4th Floor</i>
7:00–8:00 am	Continental Breakfast <i>Atrium Foyer, 4th Floor</i>
7:00 am–4:30 pm	Exhibits <i>Atrium Foyer, 4th Floor</i>
7:00–8:00 am	Early Career Training Session 1: Academic Roundtable Discussions <i>Presented by the ATVB Early Career Committee</i> <i>Grand Ballroom Salons A-D, 4th Floor</i>
	Getting Your Training Grant Funded Bishuang Cai, PhD, Ichan School of Medicine at Mount Sinai Jennifer Stancill, PhD, Medical College of Wisconsin

Saying No and Difficult Conversations

Jaume Amengual, PhD, University of Illinois

Milka Koupenova, PhD, University of Massachusetts Medical School

Setting Up Your New Lab and Hiring

Mabruka Alfaidi, MD, PhD, LSU Health Sciences Center

The Importance of Mentoring and Being Mentored

Brian Kim, MD, MPH, Stanford School of Medicine

Casey Romanoski, PhD, University of Arizona

Work-Life Balance

Mireille Ouimet, PhD, University of Ottawa Heart Institute

Gregory Payne, MD, PhD, University of Alabama at Birmingham

Strategies for Project Management

Cynthia St. Hilaire, PhD, University of Pittsburgh

8:00-8:30 am

Conference Opening Welcome

Grand Ballroom Salons E-F, 4th Floor

8:00 American Heart Association Presidential Remarks

Michelle Albert, MD, MPH, FACC, FAHA, University of California, San Francisco

8:15 Welcome Remarks

Katey Rayner, PhD, FHA, Chair, University of Ottawa Heart Institute

8:30-10:00 am

Plenary Session 1: Gene-Environment Interactions in Cardiovascular Disease

Grand Ballroom Salons E-G, 4th Floor

Moderators:

Katey Rayner, PhD, FHA, Chair, University of Ottawa Heart Institute

Philip Tsao, PhD, Stanford University School of Medicine

8:30 A Roadmap for Sustainable Cardiovascular Health in the Anthropocene Era

Sanjay Rajagopalan, MD, FACC, FAHA, Case Western Reserve University

9:00 Gene-Environment Interactions for Coronary Artery Disease

Hooman Allayee, PhD, University of Southern California Keck School of Medicine

9:30 Vascular Complications of Obstructive Sleep Apnea

Sanja Jelic, MD, Columbia University Medical Center

10:00-10:30 am

Break and Exhibits

Atrium Foyer, 4th Floor

10:30 am-12:15 pm **Concurrent Session 1a: Molecular and Cellular Mechanisms of Atherosclerosis**
Grand Ballroom Salon E, 4th Floor

Moderators:

Lars Maegdefessel, MD, PhD, Technical University Munich
Cornelia M. Weyand, MD, PhD, Mayo Clinic

10:30 **Innate and Adaptive Immunity in Vascular Inflammation**

Cornelia M. Weyand, MD, PhD, Mayo Clinic

Oral Abstract Presentations

11:00 **Presentation Number 100**

Multi-omics and Single Nucleus Transcriptomics Reveal Aberrant Adaptive Immune Responses in Human Bicuspid Aortic Valves

Mark C Blaser, Brigham and Women's Hosp, Boston, MA; Daniel Reichart, LMU, Munich; Abhijeet Sonawane, BWH Harvard Med Sch, Boston, MA; Florian Schlotter, Brigham and Women's Hosp, Leipzig; Arda Halu, Brigham and Women's Hosp, Leipzig, Brookline, MA; Livia Silva Araújo Passos, Daniel DeLaughter, Ms., Brighton, MA; Wunan Zhou, Natl Insts of Health, Bethesda, MD; Ron Blankstein, BRIGHAM AND WOMENS HOSPITAL, Boston, MA; MARCELO DI CARLI, BRIGHAM AND WOMEN'S HOSPITAL, BOSTON, MA; Maria D Nunes, UFMG, Belo Horizonte, Brazil; Marie Billaud, Ashraf A Sabe, Brigham and Women's Hosp, Boston, MA; Simon Robson, Beth Israel Deaconess Medical Ctr, Boston, MA; Simon C Body, Boston Univ Sch Med, Boston, MA; Jochen D Muehlschlegel, Brigham and Women's Hosp, Boston, MA; Jonathan G Seidman, Christine E Seidman, HARVARD MEDICAL SCHOOL, Boston, MA; Masanori Aikawa, Brigham and Women's Hosp, Boston, MA; Sasha A Singh, HARVARD BWH, Boston, MA; Elena Aikawa, BRIGHAM WOMANS HOSPITAL, Boston, MA

11:15 **Presentation Number 101**

Crosstalk of Pluripotency and Innate Immunity in Smooth Muscle Cell Phenotypic Transitions

Aatish Mahajan, Junchul Shin, Cleveland Clinic, Cleveland, OH; Svyatoslav Tkachenko, Case Western Reserve Univ, Cleveland, OH; Olga A Cherepanova, Cleveland Clinic, Cleveland, OH

11:30 **Presentation Number 102**

Hyperlipidemia-induced Hematopoiesis is Repressed by MLKL in Endothelial Cells of the Splenic Niche

Adil Rasheed, Taylor Dennison, Sabrina Robichaud, Ottawa Heart Inst, Ottawa, ON, Canada; Hailey Wyatt, Univ of Ottawa Heart Inst, Ottawa, ON, Canada; My-Anh Nguyen, UOttawa Heart Institute, Ottawa, ON, Canada; Michele Geoffrion, UOttawa Heart Institute, Ottawa, ON, Canada, Ottawa, ON, Canada; Yacine Marouf, Antalya Bilim Univ, Antalya, Turkey; Adir Baxi, Univ of Ottawa Heart Inst, Ottawa, ON, Canada; Richard Lee, Ionis Pharmaceuticals, Carlsbad, CA; Hilal Kazan, Ionis Pharmaceuticals, Carlsbad, CA, Antalya, Turkey; Coen van Solingen, Ionis Pharmaceuticals, Carlsbad, CA, Antalya, Turkey, New York, NY;

Mireille I Ouimet, Univ of Ottawa, Ottawa, ON, Canada; Katey J Rayner, Univ Ottawa Heart Institute, Ottawa, ON, Canada

11:45 Presentation Number 103

Epigenetic and Phenotypic Modulation of Adventitial Fibroblasts in Atherosclerosis by Coronary Artery Risk Gene TCF21

Wenduo Gu, Stanford Univ, Stanford, CA; Alex Dalal, Trieu Nguyen, Stanford Univ, Stanford, CA; Li Daniel, Disha Sharma, Stanford Univ, Stanford, CA; Raesanen Markus, João P. Monteiro, Stanford Univ, Stanford, CA; Chad S Weldy, Brian Palmisano, Stanford Univ Hosp, Palo Alto, CA; Michael P Fischbein, Stanford University, Stanford, CA; Thomas Quertermous, Stanford Univ, Stanford, CA; Paul Cheng, Stanford University, Stanford, CA

12:00 Presentation Number 104

Gene Regulation by RNA Granule Formation in Atherosclerosis

Kristin M. Wang, NYU Grossman Sch of Med, New York, NY; Annika De Jong, NYU Langone Health, New York, NY; Yannick Cyr, NYU Langone Health, New York, NY, New York, NY; Alexandra Newman, New York Univ, New York, NY; Coen van Solingen, New York Univ, New York, NY, New York, NY; Kathryn J Moore, New York Univ Medical Ctr, New York, NY

10:30 am-12:15 pm Concurrent Session 1b: Inflammation & Immunity in the Vessel Wall
Grand Ballroom Salon F, 4th Floor

Moderators:

Esther Lutgens, MD, PhD, Mayo Clinic
Holger Winkels, PhD, University of Cologne

10:30 Recent Insights into Immune Mechanisms of Atherosclerosis by Single Cell Technologies
Holger Winkels, PhD, University of Cologne

Oral Abstract Presentations

11:00 Presentation Number 105

Lipid Regulation of Senescent Effector CD8 T Cells in Type 2 Diabetes

Natalia Eberhardt, NYU Grossman Sch of Med, New York, NY; Ravneet Kaur, Michael Gildea, NYU Langone Health, New York, NY; Dayasagar Das, NYU Medical Sch, New York, NY; Letizia Amadori, NYU Grossman Sch of Med, New York, NY; Dawn Fernandez, NYU Grossman Sch Of Med, New York, NY, New York, NY; Roza Shamailova, NYU Grossman Sch Of Med, New York, NY, New York, NY, Brooklyn, NY; Sathy Sajja, NYU Langone Health, Avenel, NJ; Manila Jindal, NYU Langone Medical Ctr, Franklin Square, NY; Caron Rockman, Thomas Maldonado, NYU Langone Health, New York, NY; Edward Fisher, Ira J Goldberg, NEW YORK UNIVERSITY, New York, NY; Jeffrey Berger, Chiara Giannarelli, NYU Langone Health, New York, NY

11:15 Presentation Number 106

Single Cell High Dimensional Analysis of Human Peripheral Blood Mononuclear Cells Reveals Unique Intermediate Monocyte Subsets Associated with Sex Differences in Coronary Heart Disease

Ravi K Komaravolu, Nandini Chatterjee, Ahmad Alimadadi, Immunology Ctr Of Georgia, Augusta, GA; Coleen A McNamara, Carter Immunology Ctr, Div of Cardiology, and Ctr for Public Health Genomics,, University of Virginia, Charlottesville, VA 22908,, VA; Angela M Taylor, Div of Cardiology, and Ctr for Public Health Genomics,, University of Virginia, Charlottesville, VA 22908,, VA; Ani Manichaikul, Div of Cardiology, and Ctr for Public Health Genomics,, University of Virginia, Charlottesville, VA 22908,, VA, Charlottesville, VA; Yuri I Miller, Dept of Med,, University of California, San Diego, La Jolla, CA, CA; Klaus Ley, Immunology Ctr Of Georgia,, Augusta University, GA; Catherine C Hedrick, Immunology Ctr Of Georgia, Augusta, GA

11:30 Presentation Number 107

CaMK4 is a Novel Regulator of Myeloid Phenotype and Function in Atherosclerosis

Azuah L Gonzalez, Cristina Youwakim, Matthew Mayes Dungan, Kristin Fuller, Vanderbilt Univ, Nashville, TN; Danielle L Michell, VANDERBILT UNIVERSITY MEDICAL CTR, Nashville, TN; Ashley Cavnar, Jamshed Rahman, Vanderbilt Univ, Nashville, TN; Kasey C Vickers, VANDERBILT UNIV MEDICAL CENTER, Nashville, TN; Jonathan D Brown, Amanda C Doran, VUMC, Nashville, TN

11:45 Presentation Number 108

IL-1 β Inhibition Promotes Fibrous Cap Thickening and Accumulation of Fibroblast Like Cells in Atheromas in Clonal Hematopoiesis

Trevor P Fidler, Columbia Univ, New York, NY; Eunyoung Kim, Columbia Univ Medical Ctr, Fort Lee, NJ; Brian Hardaway, Chenyi Xue, Columbia Univ, New York, NY; Sandra Abramowicz, Tong Xiao, Columbia Univ Medical Ctr, New York, NY; Lars Maegdefessel, Technical Univ Munich, Munich; Nan Wang, Columbia Univ Medical Ctr, New York, NY; Alan Tall, Columbia Univ, New York, NY

12:00 Presentation Number 109

A Spatial Transcriptomic Approach to Understanding Coronary Atherosclerotic Plaque Stability

Maria Gabriela Gabriela G Gastanadui, Silvio Litovsky, Camilla Margaroli, Robert Richter, Dezhi Wang, Dongqi Xing, James Wells, Amit Gaggar, Vivek Nanda, Rakesh P Patel, Gregory A Payne, Univ of Alabama at Birmingham, Birmingham, AL

10:30 am-12:15 pm **Concurrent Session 1c: Translational Science in Vascular Disease: New Insights into Abdominal Aortic Aneurysms**
Organized in cooperation with the Council on Peripheral Vascular Disease
Grand Ballroom Salon G, 4th Floor

Moderators:

Derek Klarin, MD, Stanford University

Jean M. Ruddy, MD, Medical University of South Carolina

10:30 **Modern Epidemiology of AAA, with a Focus on Women**
Rebecka Hultgren, MD, PhD, Professor, Karolinska Institute

10:45 **AAA Genetics and Integration of Human Genetics and Mouse Data**
Philip Tsao, PhD, Stanford University School of Medicine

11:00 **Insights into the Pathogenesis of Abdominal Aortic Aneurysms: Human Tissues and Animal Models**
Frank M. Davis, MD, University of Michigan

Oral Abstract Presentations

11:15 **Presentation Number 111**

Allogeneic Mesenchymal Stromal Cells Significantly Increase Type 1 Regulatory T-cells, Decrease Effector Th17 Cells, And Decrease Aneurysm Volume In A Dose Dependent Fashion In Patients With Small Abdominal Aortic Aneurysms - Results Of The Phase I Aneurysm Repression With Mesenchymal Stromal Cells (the Arrest Trial)

Humraaz Samra, Indiana Univ, Indianapolis, IN; Michael Ingram, Indianapolis, IN; Katherin Leckie, INDIANA UNIVERSITY, Indianapolis, IN; Leni Moldovan, Kristen Wanczyk, IUPUI AND VAMC, Indianapolis, IN; Lava Timsina, Mithun Sinha, Imran Khan Mohammed, Indiana Univ, Indianapolis, IN; Ravi Mylvaganam, MGH, Boston, MA; Anush Motaganahalli, Paul Territo, Indiana Univ, Indianapolis, IN; Ashley GUTWEIN, Raghunandan Motaganahalli, Indiana Univ, Indianapolis, IN; Michael P Murphy, Indiana Univ, Indianapolis, IN

11:30 **Presentation Number 112**

Pcsk6 Ablation in Vascular Smooth Muscle Cells Promotes Abdominal Aortic Aneurysm Development and Rupture

Hong Jin, Karolinska Inst, Stockholm, Sweden; Moritz Lindquist Liljeqvist, Karolinska Institutet, Stockholm, Sweden; Zhiyuan Wu, Technical Univ of Munich, Munich, Germany; Linda Micali, Bianca E Suur, Karolinska Inst, Stockholm, Sweden; Mariette Lengquist, Karolinska Institutet, Stockholm, Sweden; Xiang Zhang, Malin Kronqvist, Karolinska Inst, Stockholm, Sweden; Jessica Pauli, Molecular Vascular Med, Munich; Ulf Hedin, Karolinska Institutet, Stockholm, Sweden; Joy Roy, Karolinska University Hospital Inst, Stockholm, Sweden; Ljubica Matic, Karolinska Inst, Solna, Stockholm, Sweden

11:45 Presentation Number 113

Transcriptomic Profile of Macrophage-mediated Energy Metabolism in Sporadic Aortic Aneurysms and Acute Dissections

Samantha Xu, Yanming Li, Baylor Coll of Med, Houston, TX; Chen Zhang, Baylor college of medicine, Houston, TX; Hernan Vasquez, Baylor college of medicine, Houston, TX, Houston, TX; Kimberly Rebello, Joseph S Coselli, Baylor Coll of Med, Houston, TX; Dianna M Milewicz, Univ of Texas Health Science, Houston, TX; Alan Daugherty, University of Kentucky, Lexington, KY; Scott A Lemaire, Ying H Shen, Baylor College of Medicine, Houston, TX

12:00 Presentation Number 110

The Histone Methyltransferase Setdb2 Modulates Macrophage TIMP-MMP Activity During Abdominal Aortic Aneurysm Development

Frank Davis, William Melvin, Kevin Mangum, Amrita Joshi, Rachael Wasikowski, Xianying Xing, Liam Tsoi, Johann Gudjonsson, Katherine A Gallagher, The Univ of Michigan, Ann Arbor, MI

12:15-2:00 pm

Mentor of Women Award Luncheon (ticket required)

Lunch will be provided.

Grand Ballroom Salons A-D, 4th Floor

Presentation of the 2023 Outstanding Mentorship of Women Award

Hong Wang, MD, PhD, EMBA, FAHA, Temple University Lewis Katz School of Medicine

Recognition of the 2023 finalists for the Emerging Scientist Award for Women

Finalists will present their abstracts during Poster Session 2

Meenakshi Banerjee, PhD, presentation # 395

Caitlin Bell, MD, presentation # 396

Irina Portier, PhD, presentation # 397

Sheila Sharma, BS, ScM, presentation # 398

Mikala Zelows, BS, presentation # 399

Featured Roundtable Discussion

The Role of Women in Shaping the Grant Review Process

Panelists:

Jue Chen, MB, PhD, Program director, Atherothrombosis and Coronary Artery Disease Branch, Division of Cardiovascular Sciences, NHLBI

Zorina Galis, PhD, Chief, Vascular Biology and Hypertension Division of Cardiovascular Sciences, NHLBI

Iris Jaffe, MD, PhD, Elisa Kent Mendelsohn Professor of Molecular Cardiology, Tufts University School of Medicine

Natalia Komissarova, PhD, Scientific Review Officer of the AVI Study Section, Center for Scientific Review, NIH

Lawrence Pinkus, PhD, Former Scientific Review Officer, Integrative Vascular Biology and Hematology IRG, Center for Scientific Review, NIH

Gisette Reyes-Soffer, MD, FAHA, Assistant Professor, Columbia University Medical Center

- 12:45–2:00 pm **Single Cell and Single Nucleus RNA Sequencing: A Practical Guide to Design and Analysis**
Omics Bootcamp 1: Wet Lab Practical Considerations
Ticket required. Lunch on your own.
Organized in cooperation with the Council on Genomics and Precision Medicine.
Grand Ballroom Salons H–K, 4th Floor
- In this Bootcamp, participants will learn about best practices in tissue handling, single cell and nuclei isolation methods, and sequencing platforms for your single cell and single nuclear RNA-seq experiment.
- Moderators:**
Matt Nayor MD, MPH, Boston University Medical Center
Lisa Wilsbacher, MD, PHD, FAHA, Feinberg School of Medicine
- Bootcamp Facilitator/Discussion Leader:** Amelia Hall, PhD, Broad Institute of MIT and Harvard
- 12:15–2:15 pm Or lunch on your own
- 2:15–3:45 pm **Plenary Session 2: Highlights from the ATVB Journal**
Grand Ballroom Salons E–G, 4th Floor
- Moderators:**
Elena Aikawa, MD, PhD, FAHA, Brigham and Women’s Hospital
Daniel Tyrrell, PhD, The University of Alabama at Birmingham
- 2:15 **ATVB Journal Report**
Ann Marie Schmidt, MD, NYU School of Medicine
- Presentations by the 2023 ATVB Journal Early Career Investigator Award Recipients**
- 2:30 ***Daniel Steinberg Early Career Investigator Award in Atherosclerosis/Lipoproteins***
Plaque Evaluation by Ultrasound and Transcriptomics Reveals BCLAF1 as a Regulator of Smooth Muscle Cell Lipid Transdifferentiation in Atherosclerosis
Ljubica Matic, PhD, Karolinska Institute
- 2:45 ***Karl Link Early Career Investigator Award in Thrombosis***
Identification of a Distinct Platelet Phenotype in the Elderly: ADP Hypersensitivity co-exists with Thrombin Resistance
Sonali R. Gnanenthiran, MBBS, PhD, The George Institute for Global Health
- 3:00 ***Werner Risau Early Career Investigator Award in Vascular Biology***
Expression of CD70 Modulates Nitric Oxide and Redox Status in Endothelial Cells
Arvind K. Pandey, MD, Brigham and Women’s Hospital
- 3:15 **Medical Engineering and Science – Advancing Therapeutic Opportunities for Vascular Diseases**
Elazer R. Edelman, MD, PhD, Massachusetts Institute of Technology
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3:45-4:15 pm **Break and Exhibits**
Atrium Foyer, 4th Floor

4:15-6:00 pm **Concurrent Session 2a: Apolipoproteins, Lipoproteins and Lipid Metabolism**
Grand Ballroom Salon E, 4th Floor

Moderators:

Edward Fisher, MD, MPH, PhD, NYU Langone Health
Gisette Reyes-Soffer, MD, FAHA, Columbia University Medical Center

4:15 **FITM2: A New Factor for the Lipidation of VLDL and the Atherogenicity of apoB-lipoproteins**
Edward Fisher, MD, MPH, PhD, NYU Langone Health

Oral Abstract Presentations

4:45 **Presentation Number 114**
Glycosylation of PCSK9 Impairs Its Interaction with LDLR But Assures its Stability

Silvia Cecilia Pacheco-Velazquez, OHSU, Portland, OR; Joshua Hay, Oregon Health and Science University, Portland, OR; Sara Rosario, OHSU, Portland, OR; Paul A Mueller, Oregon Health and Science University, Portland, OR; Nathalie Pamir, OHSU, Portland, OR

5:00 **Presentation Number 115**
Angptl3 Deficiency Impairs Triglyceride-rich Lipoprotein Production and Produces Adaptive Changes in Hepatic Lipid Metabolism

Kendall Helene Burks, Washington Univ in St. Louis, Saint Louis, MO; Yan Xie, Michael Gildea, Thomas Neufeld, St. Louis, MO; Arturo Alisio, Edward Fisher, Washington Univ Sch of Med, Saint Louis, MO; Nicholas Davidson, St. Louis, MO; Nathan O Stitzel, Washington University, Saint Louis, MO

5:15 **Presentation Number 116**
Variation In Lipoprotein (α) Level Reduction with Potent Lipid Lowering: An Analysis of The Cholesterol Reduction and Residual Risk in Diabetes Study

Adedoyin Akinlonu, New York Univ Grossman Sch of Med, New York, NY; Michael Boffa, The Univ of Western Ontario, London, ON, Canada; Chen Lyu, New York Univ Langone Health, New York, NY; Hua Zhong, NYU Langone Health, NYC, NY; Manila Jindal, NYU Langone Medical Ctr, Franklin Square, NY; Cindy Bredefeld, NYU Langone Hosp-Long Island, Mineola, NY; Jonathan D Newman, Edward Fisher, New York University Medical Center, New York, NY; Marlys L Koschinsky, Western Univ, London, ON, Canada; Ira J Goldberg, Jeffrey Berger, New York University, New York, NY

5:30 **Presentation Number 117**
Structure Function Analysis of Guinea Pig and Human Apolipoprotein E to Obtain Insight into Their Role in Cardiovascular Disease

George Celis, Jasmine Nguyen, Vasanthi Narayanaswami, Cal State University Long Beach, Long Beach, CA

- 5:45 **Presentation Number 118**
Positive Adipose Liver Crosstalk Protects Adipose MTP Knockout Mice from Hepatic Steatosis on an Obesogenic Diet
Sujith Rajan, NYU Long Island Sch of Med, Mineola, NY; Michael Verano, NYU Sch of Med, New York, NY; Jose O Aleman, NYU Langone Medical Ctr, New York, NY; M Mahmood Hussain, NYU Winthrop, Mineola, NY

4:15-6:00 pm

Concurrent Session 2b: Thrombosis: Signaling, Mechanisms & Function
Grand Ballroom Salon F, 4th Floor

Moderators:

Milka Koupenova, PhD, FAHA, University of Massachusetts Medical School
A. Valance Washington, PhD, Oakland University

- 4:15 **Novel Insights into Platelet Functionalization of Fibrinogen**
A. Valance Washington, PhD, Oakland University

Oral Abstract Presentations

- 4:45 **Presentation Number 119**
Aging-related Activation of Platelet Mtor Promotes Platelet Hyperreactivity and Thrombosis
Irina Portier, Bhanu Kanth Manne, Yasuhiro Kosaka, Univ of Utah, Salt Lake City, UT; Frederik Denorme, Univ of Utah, Salt Lake Cty, UT; Ozgun Babur, Univ of Massachusetts Boston, Boston, MA; Phillip A. Wilmarth, Joseph E Aslan, Oregon Health and Science Univ, Portland, OR; Matthew T Rondina, Univ of Utah, Salt Lake City, UT; Robert Campbell, Univ of Utah, Salt Lake City, UT
- 5:00 **Presentation Number 120**
Eosinophils And Eosinophil Extracellular Traps (eets) In Arterial Thrombosis in Lnk(sh2b3) Deficiency
Huijuan Dou, Ranran Wang, Columbia University Medical Ctr, New York, NY; Mojdeh Tavallaie, Alan Tall, Columbia Univ Medical Ctr, New York, NY; Nan Wang, Columbia University Medical Ctr, New York, NY
- 5:15 **Presentation Number 121**
TMEM16E and TMEM16F Are Required for the Formation of Prothrombotic Extracellular Vesicles from Endothelial Cells
Papa Freduah A Anderson, Beth Israel Deaconess Medical Ctr, Boston, MA; Alec A Schmaier, BIDMC, Boston, MA
- 5:30 **Presentation Number 122**
The Eicosanoid Analogue Cs585 Represents a First-in-class In Prevention of Platelet Activation and Thrombosis Through Direct Activation of the Prostacyclin Receptor
Adriana Yamaguchi, Univ of Michigan, Ann Arbor, MI; Sylviane Lambert, University of Michigan, Ann Arbor, MI; Livia Stanger, Pooja Yalavarthi, Andrew Rickenberg, Andrew White, Univ of Michigan, Ann Arbor, MI; Bjorn
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Dahlof, Cereno Scientific, Gothenburg, Sweden; Michael A Holinstat, University of Michigan Medical, Ann Arbor, MI

5:45 Presentation Number 123
Protein Kinase C Theta (PKC θ) Signaling Associated with The Generation of Procoagulant Platelets Revealed By Phosphoproteomics And Systems Analysis

Yiheng Zheng, Oregon Health & Science Univ, Portland, OR; Stephanie Reitsma, UNC at Chapel Hill, Chapel Hill, NC; Ozgun Babur, Univ of Massachusetts, Boston, MA; Alexander Melrose, Oregon Health & Science Univ, Portland, OR; Jiaqing Pang, Oregon Health & Science University, Portland, OR; Stefanie Hodapp, Univ of California, San Diego, La Jolla, CA; Alexandra Newton, Univ of California, San Diego, San Diego, CA; Phillip Wilmarth, Ashok Reddy, OHSU, Portland, OR; Owen J McCarty, Oregon Health & Science Univ, Portland, OR; Joseph E Aslan, Oregon Health & Science Univ, Portland, OR

4:15-6:00 pm

Concurrent Session 2c: Hot Off the Bench Oral Abstract Presentations
Grand Ballroom Salon G, 4th Floor

Moderators:

Hong Chen, PhD, FAHA, Harvard Medical School
Jason Fish, PhD, University of Toronto

Oral Abstract Presentations

4:15 Presentation Number 161
Ablation of Intracellular Lipolytic Inhibitor G0S2 Promotes Vascular Lipolysis and Alleviates Diet-induced Atherosclerosis

Yongbin Chen, Scott M. Johnson, Stephanie D. Burr, Davide Povero, Cailin E. McMahon, Jun Liu, Mayo Clinic, Rochester, MN

4:30 Presentation Number 162
Multiancestry GWAS and Functional Genomics Analysis of HNF1A Locus to Define Novel Pathogenic Mechanism for Ischemic Stroke

Harsh Hiwase, Yunshan Yue, Eric K Hoffman, Pittsburgh Heart, Lung, Blood, and Vascular Med Inst, Pittsburgh, PA; Haodi Wu, University of Pittsburgh, Pittsburgh, PA; Robert J Barndt, Pittsburgh Heart, Lung, Blood, and Vascular Med Inst, Pittsburgh, PA; Stephen Y Chan, University of Pittsburgh, Pittsburgh, PA; Hyacinth I. Hyacinth, Univ of Cincinnati, Cincinnati, OH; Wei Sun, UPMC, Pittsburgh, PA

4:45 Presentation Number 163
Thrombocytopenia Independently Leads to Monocyte Immune Dysfunction

Chen Li, Sara Ture, Preeti Maurya, Univ of Rochester, Rochester, NY; Alison Livada, Rochester, NY; Craig Morrell, University of Rochester, Rochester, NY

- 5:00 **Presentation Number 164**
From Telomere Shortening to Atherosclerosis-associated Endothelial Senescence
Gang Li, Univ of Pittsburgh, Pittsburgh, PA
- 5:15 **Presentation Number 165**
Large Extracellular Vesicles-derived MicroRNA-150-5p Is Upregulated in Patients with Aortic Valve Stenosis and Regulates Valvular Endothelial Cell Function
Neda Mohammadi, Staffan Hildebrand, Inst of Pharmacology and Toxicology, Univ Hosp Bonn, Bonn, Germany; Philip Goody, Denise Nehl, Felix Jansen, M. Rabiul Hosen, Dept of Internal Med-II, Heart Ctr Bonn, Univ Hosp Bonn, Bonn, Germany; Alexander Pfeifer, Inst of Pharmacology and Toxicology, Univ Hosp Bonn, Bonn, Germany
- 5:30 **Presentation Number 166**
Memory Cd8 T Cells Contribute to Atherosclerosis in Aged Mice
Daniel J Tyrrell, Univ of Alabama at Birmingham, Birmingham, AL; Daniel R Goldstein, Univ of Michigan Med, Ann Arbor, MI
- 5:45 **Presentation Number 167**
Immunomodulatory Properties of HDL are Associated with Lipidomic and Proteomic Composition and are Modifiable by Diet
Fangyi Zhai, Lindsey Huang, Chelsea Garcia, Rachael Woodruff, Hyungryun Jang, Olivia Corvino, Hayoung Woo, Christopher N. Blesso, Univ of Connecticut, Storrs, CT; Ji-Young Lee, UCONN, Storrs Mansfield, CT; Christa Palancia Esposito, Fairfield Univ, Fairfield, CT; Ruijie Zhang, Catherine J Andersen, Univ of Connecticut, Storrs, CT

6:00–7:30 pm

Poster Session 2 and Reception

Sponsored by the *ATVB* Journal

For a full list poster presentations, please see the Vascular Discovery 2023 Posters on the [programming page](#)

Gloucester/Back Bay, 3rd Floor

FRIDAY, MAY 12

- 6:00 am–6:00 pm **Speaker Resource Room**
Falmouth, 4th Floor
- 6:45 am–10:15 pm **Childcare**
Yarmouth, 4th Floor
- 7:00 am–8:00 pm **Registration**
Atrium Foyer, 4th Floor
- 7:00–8:00 am **Continental Breakfast**
Atrium Foyer, 4th Floor
- 7:00 am–4:30 pm **Exhibits**
Atrium Foyer, 4th Floor
- 7:00–8:00 am **Early Career Training Session 2: Industry Round Table Discussions**
Presented by the ATVB Early Career Committee
Grand Ballroom Salons A-D, 4th Floor
- Alexandra Chadwick, PhD, Verve Pharmaceuticals
Xixi Sun, JD, PhD, Cooley LLP
Rachel Roth-Flach, PhD, Pfizer
Victoria Llado, PhD, Laminar Pharma
Gerry Waters, PhD, Novartis
- 8:00–9:30 am **Plenary Session 3: Vascular Disease in the Post-Genomic Era**
Grand Ballroom Salons E-G, 4th Floor
- Moderators:**
Kathleen Martin, PhD, Yale University
Kiran Musunuru, MD, PhD, University of Pennsylvania
- 8:00 **Multi-Omics in Cardiometabolic Diseases**
Robert E. Gerszten, MD, FACC, FAHA, Beth Israel Deaconess Medical Center,
Harvard Medical School, Broad Institute
- 8:30 **Identifying Effects of Common Genetic Variation in Human Endothelial Cells**
Casey Romanoski, PhD, University of Arizona
- 9:00 **Therapeutic Gene Editing**
David R. Liu, PhD, Broad Institute, Harvard University
- 9:30–10:00 am **Break and Exhibits**
Atrium Foyer, 4th Floor
-

10:00-11:45 am

Concurrent Session 3a: Therapeutic Targets in Atherosclerosis
Grand Ballroom Salon E, 4th Floor

Moderators:

Mete Civelek, PhD, University of Virginia

Yun Fang, PhD, University of Chicago

10:00 Precision Nanomedicine and Endothelial Mechanotransduction in Vascular Diseases and Therapeutics

Yun Fang, PhD, University of Chicago

Oral Abstract Presentations

10:30 Presentation Number 124

Synthetic High-density Lipoprotein Attenuates Abdominal Aortic Aneurysm Formation Via Restoring Vascular Smooth Muscle Cell Mitochondrial Function

Yaozhong Liu, Univ of Michigan, Ann Arbor, MI; Kristen W Hong, Pharmaceutical Sciences, Univ of Michigan, Ann Arbor, MI; Ying Zhao, Univ of Michigan, Ann Arbor, MI; Minzhi Yu, Pharmaceutical Sciences, Univ of Michigan, Ann Arbor, MI; Y. Eugene Chen, Univ of Michigan, Ann Arbor, MI; Anna Schwendeman, Pharmaceutical Sciences, Univ of Michigan, Ann Arbor, MI; Yanhong Guo, University of Michigan, Ann Arbor, MI

10:45 Presentation Number 125

Sex-dependent Effects of Sortilin Antisense Oligonucleotide on Vascular Calcification

Adrien Lupieri, Brigham and Women's Hosp, Boston, MA; Dakota Becker-Greene, Thanh-Dat Le, Marina M Roschel, Brigham and Women's Hosp, Boston, MA; Prabhash Jha, Brigham and Women's Hospital, Boston, MA; Abhijeet Sonawane, BWH Harvard Med Sch, Boston, MA; Sotirios Tsimikas, Univ California San Diego, La Jolla, CA; Shiori Kuraoka, Brigham and Women's Hosp, Boston, MA; Sasha A Singh, Harvard BWH, Boston, MA; Masanori Aikawa, Brigham and Women's Hosp, Boston, MA; Elena Aikawa, Brigham and Women's Hospital, Boston, MA

11:00 Presentation Number 126

Effect of Icospaent Ethyl on In Vivo Atheroma Progression and Inflammatory Protease Activity

Mohamad B. Kassab, Massachusetts General Hosp, Boston, MA; Du-Ri Song, Arlington, MA; Samuel C R Sherratt, Univ of New Hampshire, Durham, NH; Andrew Thrapp, Univ of New Hampshire, Durham, NH, Jamaica Plain, MA; Aatira Vijay, Guillaume Goudot, Massachusetts General Hosp, Boston, MA; Graham Spicer, Cambridge; Yoichiro Kawamura, Massachusetts General Hosp, Arlinton; Julian Bhowmik, BWH, Boston, MA; Mazen Albaghdadi, BWH, Boston, MA, Naples, CA; Adam Mauskapf, BWH, Boston, MA, Naples, CA, Stoughton, MA; Peter Libby, BRIGHAM AND WOMENS HOSPITAL, Boston, MA; Deepak L. Bhatt, Icahn Sch of Med at Mount Sinai Health System, New York City, NY; R. Preston Mason, Brigham and Womens Hosp, Beverly, MA; Guillermo J Tearney, Massachusetts Geneneral Hosp, Boston, MA; Farouc A Jaffer, MASSACHUSETTS GENERAL HOSPITAL, Boston, MA

11:15 **Presentation Number 127**
A Targeted Nanofiber Loaded with Liver X Receptor Agonist Reduces Atherosclerotic Plaque and Prevents Hepatotoxicity

Vina Y Chhaya, Sophia Maragos, Univ of Virginia, Charlottesville, VA; Ruomeng Qiu, Simon A. Egnor, Northwestern Univ, Evanston, IL; Mark R. Karver, Samuel I. Stupp, Northwestern Univ, Chicago, IL; Nick D Tsihlis, Melina R Kibbe, Univ of Virginia, Charlottesville, VA

11:30 **Presentation Number 128**
Safety and Efficacy of Pro-erythrocytic Nanoparticles To Treat Atherosclerosis in a Porcine Model

Sharika Bamezai, Stanford Univ Sch of Med, Palo Alto, CA; Tom Alsaigh, UC San Diego Sch of Med, San Diego, CA; Mozghan Lofti, Stanford Univ Sch of Med, Palo Alto, CA; Yapei Zhang, Michigan State Univ, East Lansing, MI; Gayatri S Kumar, Fudi Wang, Stanford Univ Sch of Med, Palo Alto, CA; Jianqin Ye, Stanford, Vascular Surgery, Stanford, CA; Lingfeng Luo, Stanford Univ, Redwood City, CA; Lars Maegdefessel, Technical Univ Munich, Munich; Yoko Kojima, Stanford Univ, Stanford, CA; Manisha Kumari, Michigan State Univ, East Lansing, MI; Caitlin Bell, STANFORD, Stanford, CA; Shaunak Adkar, STANFORD, Stanford, CA, Palo Alto, CA; Bryan R Smith, Michigan State Univ, East Lansing, MI; Nick J Leeper, STANFORD UNIVERSITY, Palo Alto, CA

10:00-11:45 am

Concurrent Session 3b: Blood Coagulation in Health & Disease
Grand Ballroom Salon F, 4th Floor

Moderators:

Katerina Akassoglou, PhD, University of California, San Francisco
Hanrui Zhang, MB, PhD, Columbia University Medical Center

10:00 **Fibrinogen in Neurological Diseases: Mechanisms, Imaging, Therapeutics**
Katerina Akassoglou, PhD, University of California, San Francisco

Oral Abstract Presentations

10:30 **Presentation Number 129**
Bleeding Diathesis in Ehlers-danlos Syndrome Patients Is Caused by Impaired Platelet Inside-out Signaling and Integrin α IIb β 3 Activation

Mariia Kumskova, Gagan D. Flora, Manasa Nayak, Madankumar Ghatge, Univ of Iowa, Iowa City, IA; Rakeshkumar Patel, Univ of Iowa, IOWA city, IA; Aditi Jain, Janice Staber, Steven R Lentz, Anil K Chauhan, Univ of Iowa, Iowa City, IA

10:45 **Presentation Number 130**
The Integrin β ₃ Subunit Directly Inhibits the Galph α ₁₃ -p115RhoGEF Interaction to Regulate G Protein Signaling and Platelet Exocytosis

Yaping Zhang, Univ of Illinois at Chicago, Chicago, IL

- 11:00 **Presentation Number 131**
Identification of a Molecule to Modulate a Platelet Olfactory Receptor and Limit Thrombosis
Anu Aggarwal, Cleveland Clinic Fndn, Cleveland, OH; Nancy Wang, Josyula V Prasad, Cleveland Clinic, Cleveland, OH; Courtney Jennings, Matthew Godwin, Cleveland Clinic Fndn, Cleveland, OH; Rohan Bhandari, Washington Univ in St. Louis, St. Louis, MO; Mariya Ali, Cleveland Clinic Fndn, Cleveland, OH; Shaun Stauffer, Scott J Cameron, Cleveland Clinic, Cleveland, OH
- 11:15 **Presentation Number 132**
Mechanism by Which Coagulation Factor XI Regulates Endothelial Cell Permeability and Barrier Function *In Vitro* and *In Vivo*
Cristina Puy, Oregon Health & Science University, Portland, OR; Christina U Lorentz, Aronora Inc, Portland, OR; Erik Tucker, Aronora, Portland, OR; Florea Lupu, Oklahoma Medical Research FND, Oklahoma City, OK; David Gailani, Vanderbilt Univ Medical Center, Nashville, TN; Owen J McCarty, Oregon Health & Science University, Portland, OR
- 11:30 **Presentation Number 133**
Engineering Plasminogen Activator Inhibitor-1 Variants with Novel Protease Inhibitor Activity
Laura M Haynes, Matthew L Holding, Univ of Michigan, Ann Arbor, MI; Elise Trost, Michigan State Univ, East Lansing, MI; Hannah DiGiovanni, David Siemieniak, David Ginsburg, Univ of Michigan, Ann Arbor, MI

10:00-11:45 am

Concurrent Session 3c: Translational Science in Vascular Disease: Updates from the AHA Strategically Focused Vascular Disease Research Network
Organized in cooperation with the Council on Peripheral Vascular Disease
Grand Ballroom Salon G, 4th Floor

Moderators:

Leili Behrooz, MD, MPH, Boston University School of Medicine
Scott J. Cameron, MD, Cleveland Clinic

- 10:00 **Understanding the Pathobiology and Predictors of Critical Limb Ischemia to Improve Outcomes in Peripheral Artery Disease and Diabetes**
Mark A. Creager, MD, FAHA, Dartmouth Hitchcock Medical Center
- 10:10 **Interactions of LRP1 and Angiotensinogen in Aortopathies**
Alan Daugherty PhD, DSc, FAHA, University of Kentucky
- 10:20 **The Impact of Microvascular Disease in PAD**
Joshua A. Beckman, MD, FAHA, UT Southwestern Medical Center
- 10:30 **Skeletal Muscle Damage in Peripheral Artery Disease**
Mary McGrae McDermott, MD, FAHA, Feinberg School of Medicine, Northwestern University
- 10:40 **Panel Discussion**
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Rapid Fire Oral Abstract Presentations

- 10:55 **Presentation Number 134**
A Single-cell Atlas of Human Skeletal Muscle Tissue in Chronic Limb-threatening Ischemia
Derek T Peters, Yueyuan Xu, James Otto, Qunsheng Dai, Kaileen Fei, Christopher D Kontos, Kevin Southerland, Yarui Diao, Duke Univ, Durham, NC
- 11:03 **Presentation Number 135**
The Aim2 Inflammasome Deters Myogenic Potential of Muscle Satellite Cells Affected by Peripheral Artery Disease (pad) and is a Therapeutic Target to Attenuate Myopathy
Bowen Xie, Edwyn Assaf, Ricardo Ferrari, Rohan Kulkarni, Ryan McEnaney, Ulka Sachdev, UPMC, Pittsburgh, PA
- 11:11 **Presentation Number 136**
Chronic Kidney Disease Aggravates Ischemic Leg Myopathy in Patients with Peripheral Artery Disease
Kyoungrae Kim, Trace Thome, Univ of Florida, Gainesville, FL; Zachary Salyers, Univ of Florida, Gainesville, FL; Qingping Yang, Lauren Stone, Nicholas Vugman, Univ of Florida, Gainesville, FL; Erik Anderson, Brian Fazzino, Emilie Schmidt, Kerri O'Malley, Scott A Berceci, Salvatore T Scali, Terence E Ryan, Univ of Florida, Gainesville, FL
- 11:19 **Presentation Number 137**
Identification of Human Gut Microbial Markers in Patients with Peripheral Artery Disease Using Different Sample Preservation Methods
Sarbjeet Niraula, Spencer L. Stirewalt, Jonathan Jung, Jae W. Jang, Erik Wu, Ayman Elmasri, Northwestern Univ, Chicago, IL; James Du, Liqun Xiong, Stefan Green, Rush Univ, Chicago, IL; Patrick Seed, Northwestern Univ, Chicago, IL; Karen Ho, Northwestern Univ, Chicago, IL
- 11:27 **Presentation Number 138**
Delivery of Allogeneic Mitochondria Accelerates Revascularization in a Murine Model of Peripheral Arterial Disease and Reverses Metabolic Signatures of Endothelial Senescence
Colwyn Headley, Stanford.edu, Palo Alto, CA; Caroline Hu, PAVIR, Palo Alto, CA; Gladys Chiang, Veterans Affairs Palo Alto Health Care System, Palo Alto, CA; Beu Oropeza, Stanford Univ, Mountain View, CA; Philip S Tsao, VAPAHCS - Stanford Univ, Palo Alto, CA; Ngan F Huang, Stanford University, Stanford, CA
- 11:35 **Presentation Number 139**
Semi-automated Classification of Peripheral Artery Disease Lesion Composition from Multi-Contrast Magnetic Resonance Histology at 9.4 Tesla with A 2 Dimensional Convolutional Neural Network Variational AutoEncoder Algorithm
Judit Csore, DeBakey Heart and Vascular Ctr, Houston Methodist Hosp, Houston, TX; Christof Karmonik, Translational Imaging Ctr, Houston Methodist Res Inst, Houston, TX; Alan B. Lumsden, Trisha L. Roy, DeBakey Heart and Vascular Ctr, Houston Methodist Hosp, Houston, TX
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- 12:15-1:30 pm **Single Cell and Single Nucleus RNA Sequencing: A Practical Guide to Design and Analysis**
Omics Bootcamp 2: Practical Coding Considerations
Organized in cooperation with the Council on Genomics and Precision Medicine.
Ticket required, lunch on your own
Grand Ballroom Salons H-K, 4th Floor
- During this Bootcamp, participants will walk through a public code notebook with Dr. Hall to learn how to process and analyze your single cell and single nuclear RNA-seq data.
- Moderators:**
Matthew Nayor MD, MPH, Boston University Medical Center
Lisa Wilsbacher, MD, PHD, FAHA, Feinberg School of Medicine
- Bootcamp Facilitator/Discussion Leader:** Amelia Hall, PhD
- 11:45-1:45 pm **PVD Annual Business Meeting and Networking Luncheon (ticket required)**
Lunch will be provided.
Grand Ballroom Salons C-D, 4th Floor
- Networking & Introductions**
Peter Henke, MD, FAHA
- Vascular Health Advisory Committee Overview & Updates**
Josh Beckman, MD, MS, FAHA
- Peripheral Artery Disease Collaborative Overview & Updates**
Amy Pollak, MD, MS, FAHA
- 11:45 pm-12:45 pm **Career Development Session: Building Inclusive Mentoring Relationships**
Sponsored by the ATVB Diversity Committee
Lunch will be on your own
Simmons, 3rd Floor
- Panelists/Facilitators:**
- Jaume Amengual, PhD, University of Illinois
 - Ngan F. Huang, PhD, FAHA, Stanford University
 - Sashi Kant, PhD, Harvard Medical School, Brigham and Women's Hospital
 - Adil Rasheed, PhD, Ottawa Heart Institute
 - Francine K. Welty, MD, PhD, Harvard Medical School
- Inclusive mentoring/panel discussion on the following topics:
- Best practices to mentor diverse mentees*
 - Different research habits*
 - Different mentoring styles/habits*
 - How to develop an Inclusive lab culture*
 - Inclusive communication methods*
 - A list of research grants available*
-

11:45 am – 1:45 pm Or lunch on your own

1:45–3:45 pm Plenary Session 4: Early Career Investigator Award Competition
Grand Ballroom Salons E-G, 4th Floor

Kenneth M. Brinkhous Early Career Investigator Prize in Thrombosis Competition

Moderators:

Milka Koupenova, PhD, FAHA, University of Massachusetts Medical School

Kellie Machlus, PhD, Harvard Medical School

Finalists

1:45 Presentation Number 140

A Common, Racially Diverse Protease Activated Receptor 4 Functional Variant Impacts Ischemic Stroke Outcomes: Evidence for a Pharmacogenetic Effect

Frederik Denorme, Univ of Utah, Salt Lake Cty, UT; Nicole Davis Armstrong, Univ of Alabama at Birmingham, Birmingham, AL; Michelle Stoller, Irina Portier, Univ of Utah, Salt Lake City, UT; Emilia Tugolukova, Salt Lake City, UT; Rikki M Tanner, UNIVERSITY ALABAMA AT BIRMINGHAM, Birmingham, AL; Seema Bhatlekar, Program in Molecular Med, Salt Lake Cty, UT; Mark Cody, Program in Molecular Med, Salt Lake Cty, UT, Draper, UT; John Rustad, Program in Molecular Med, Salt Lake Cty, UT, Draper, UT, Salt Lake City, UT; Marvin T Nieman, Case Western Reserve University, Cleveland, OH; Steven E McKenzie, Thomas Jefferson Univ, Philadelphia, PA; Christian Yost, Thomas Jefferson Univ, Philadelphia, PA, Salt Lake City, UT; Leslie Lange, Univ of Colorado, Aurora, CO; Mary Cushman, University Vermont, Colchester, VT; Marguerite M Irvin, University of Alabama Birmingham, Birmingham, AL; Paul F Bray, University of Utah, Salt Lake City, UT; Robert Campbell, University of Utah, Salt Lake City, UT

2:00 Presentation Number 141

Lung Thrombosis Upregulates Endothelial Pla2g2d to Inhibit Inflammatory Lung Injury

Colin E Evans, Northwestern Univ, Chicago, IL; Narsa Machireddy, Northwestern Feinberg Sch of Med, Aurora, IL; Xianming Zhang, Youyang Zhao, Northwestern Univ, Chicago, IL

2:15 Presentation Number 142

Actin Bundling Protein L-plastin Regulates Platelet Production, Spreading and Thrombosis

Li Amily Guo, Bloodworks Res Inst, Univ of Washington, Seattle, WA; Shancy Jacob, Bhanu Kanth Manne, Seema Bhatlekar, Program in Molecular Med, Univ of Utah, Salt Lake City, UT

2:30 Presentation Number 143

Differential Suppression of Arterial Versus Venous Thrombosis but Preserved Hemostasis in Mice Expressing Fibrinogen that Cannot Support Fibrin Formation

Woosuk Steve Hur, Tomohiro Kawano, Univ of North Carolina, Chapel Hill, NC; Jean Marie N Mwiza, UNC Chapel Hill, Chapel Hill, NC; David Paul,

Robert Lee, Emily Clark, Univ of North Carolina, Chapel Hill, NC; Emma Bouck, Chapel Hill, NC; Nigel Mackman, Univ of Chapel Hill, Chapel Hill, NC; Alisa S Wolberg, UNIV OF NORTH CAROLINA, Chapel Hill, NC; Wolfgang Bergmeier, UNIV NORTH CAROLINA, Chapel Hill, NC; Matthew J. Flick, Univ of North Carolina, Chapel Hill, NC

Irvine H. Page Junior Faculty Research Award Competition

Moderators:

Marlys Koschinsky, PhD, Robarts Research Institute
Nick J. Leeper, MD, Stanford University

Finalists

- 2:45 **Presentation Number 144**
Enhancement of High Density Lipoprotein-associated Elastase Inhibitor Activity Prevents Atherosclerosis Progression
Maura Mobilia, Callie Whitus, Lexington, KY; Alexander Karakashian, Lance Johnson, Univ of Kentucky, Lexington, KY; Gregory A Graf, University of Kentucky, Lexington, KY; Scott M Gordon, Univ of Kentucky, Lexington, KY
- 3:00 **Presentation Number 145**
CRISPRi-Perturb-seq In Endothelial Cells Links Atherosclerosis Risk Loci to Novel *Klf2/4* Regulatory Genes
Rajat M Gupta, Brigham and Women's Hosp, Boston, MA; Gavin R Schnitzler, Broad Inst, Cambridge, MA; Helen Kang, Broad Inst, Cambridge, MA, Redwood City, CA; Ramcharan Singh Angom, Mayo Clinic, Jacksonville, FL; Shi Fang, Vivian Lee-Kim, Brigham and Women's Hosp, Boston, MA; Tony Zheng, Stanford Univ, Palo Alto, CA; Rosa Ma, Stanford Univ, Palo Alto, CA, Stanford, CA; Aurelie Barry, Brigham and Women's Hosp, Boston, MA; Ronghao Zhou, Stanford Univ, Palo Alto, CA; Debabrata Mukhopadhyay, Mayo Clinic, Jacksonville, FL; Jesse Engreitz, Mayo Clinic, Jacksonville, FL, Stanford, CA
- 3:15 **Presentation Number 146**
Foamy Macrophages Rely on Trem2 For Survival During Atherosclerosis
Michael Patterson, Minneapolis, MN; Maria M Firulyova, ITMO Univ, Saint Petersburg, Russian Federation; Yingzheng Xu, Alisha Zhu, Patricia Schrank, Christine Ronayne, Ainsley E Kennedy, Hannah Hillman, Tyler Bold, Univ of Minnesota, Minneapolis, MN; Konstantin Zaitsev, ITMO Univ, Saint Petersburg, Russian Federation; Jesse W Williams, Univ of Minnesota, Minneapolis, MN
- 3:30 **Presentation Number 147**
Spatially Resolved Metabolites in Stable and Unstable Human Atherosclerotic Plaques Identified by Mass Spectrometry Imaging
Erin Seeley, UT Austin, Austin, TX; Zhipeng Liu, Sanofi, Cambridge, MA; Shuai Yuan, Pittsburgh Univ, Pittsburgh, PA; Chad Stroope, Elizabeth Cockerham, Nabil Rashdan, Luisa Delgadillo, Alexandra Finney, Dhananjay kumar, Sandeep Das, LSUHSC SHREVEPORT, Shreveport, LA; Babak Razani, Pittsburgh Univ, Pittsburgh, PA; Wanqing Liu, Wayne State
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Univ, Detroit, MI; Oren Rom, Louisiana State Univ Health Shreveport, Shreveport, LA; Christopher B Pattillo, LSUHSC - SHREVEPORT, Shreveport, LA; Arif Yurdagul Jr., LSUHSC SHREVEPORT, Shreveport, LA

3:45-4:15 pm

Break and Exhibits
Atrium Foyer, 4th Floor

4:15-6:00 pm

Concurrent Session 4a: Metabolic Disorders in Atherosclerosis
Grand Ballroom Salon E, 4th Floor

Moderators:

Babak Razani, MD, PhD, University of Pittsburgh and UPMC
Ze Zheng, MD, PhD, Medical College of Wisconsin

4:15 **The Intertwining Duality of Fibrinolysis and Lipid Metabolism**
Ze Zheng, MD, PhD, Medical College of Wisconsin

Oral Abstract Presentations

4:45 **Presentation Number 148**
Lipoprotein Lipase Deficiency Reprograms Bone Marrow Cellular Metabolic Activity and Inflammatory Responses

Shuchen Hu, Columbia Univ, New York, NY; Michael Kraakman, CCRI, Vienna, Austria; Branden Wang, Chuchun Liz Chang, Columbia Univ, New York, NY

5:00 **Presentation Number 149**
Manipulating Bile Acid Production Using Genome Editing to Modulate Cardio-metabolic Disease

Kelsey E Jarrett, Elizabeth J Tarling, Thomas A Vallim, UCLA, Los Angeles, CA

5:15 **Presentation Number 150**
Targeting The Lipogenic Enzyme ATP Citrate Lyase as a Potential Therapy Against Coronary Artery Disease

Yann Grobs, IUCPQ Univ Laval, Québec, QC, Canada; Sarah-Eve S Lemay, CRIUCPQ, Quebec, QC, Canada; Charlotte Romanet, IUCPQ, Quebec, QC, Canada; Alice Bourgeois, CRIUCPQ, Quebec, QC, Canada; MABROUKA SALEM, IUCPQ, Quebec, QC, Canada; Sandra Martineau, CRIUCPQ, Quebec, QC, Canada; Sandra Breuils-Bonnet, IUCPQ Univ Laval, Québec, QC, Canada; Pierre Voisine, IUCPQ, Quebec, QC, Canada; Francois Potus, IUCPQ, Quebec, QC, Canada, Quebec, QC, Canada; Steeve Provencher, Laval Univ, Quebec, QC, Canada; Olivier Boucherat, IUCPQ RESEARCH CENTRE, Quebec, QC, Canada; Sebastien Bonnet, Quebec Heart and Lung institute, Quebec, QC, Canada

- 5:30 **Presentation Number 151**
Evaluation on the Therapeutic Potential of Targeting the Amino Acid-mtorc1 Pathway in Atherosclerosis
Xiangyu Zhang, Washington University, Saint Louis, MO; Se-Jin Jeong, Washington Univ, Saint Louis, St Louis, MO; Yu-Sheng Yeh, Washington Univ in St. Louis, Saint Louis, MO; Astrid Rodriguez-Velez, Washington Univ in St. Louis, St. Louis, MO; Babak Razani, Washington Univ Sch Med, Saint Louis, MO
- 5:45 **Presentation Number 152**
Metabolism and Therapeutic Potential of Lipidated Amino Acids in Nonalcoholic Steatohepatitis and Atherosclerosis
Sumit Kumar Anand, Sandeep Das, LSU Health Shreveport, Shreveport, LA; Alexandra C Finney, LSU Health Shreveport, Shreveport, LA; Sumati Rohilla, M. Peyton McKinney, Oren Rom, LSU Health Shreveport, Shreveport, LA

4:15-6:00 pm

Concurrent Session 4b: Vascular Cells, Inflammation and Thrombosis
Grand Ballroom Salon F, 4th Floor

Moderators:

Marit Westerterp, PhD, University of Groningen, Gronien, Netherlands
Anirban Sen Gupta, PhD, Case Western Reserve University

- 4:15 **Platelet-inspired Nanomedicine Targeted to Thrombosis and Thromboinflammation**
Anirban Sen Gupta, PhD, Case Western Reserve University

Oral Abstract Presentations

- 4:45 **Presentation Number 153**
Involvement of Peptidylarginine Deiminase 4 In Eosinophil Extracellular Trap Formation and Contribution to Citrullinated Histone Signal in Thrombi
Kimberly Martinod, Severien Meyers, KU Leuven, Leuven, Belgium; Marilena Crescente, Manchester Metropolitan Univ, Manchester; Stijn Van Bruggen, Mathias Stroobants, KU Leuven, Leuven, Belgium; Patrick M Siegel, Freiburg Heart Ctr, Freiburg, Germany; Katharina Glatz, Thilo Witsch, Basel Univ Hosp, Basel, Switzerland
- 5:00 **Presentation Number 154**
Crossroads of Immunity and Coagulation: Protease Activity of Complement Component C1s Inhibits Protein C Activation in Covid-19
Alicia S Eustes, Kathy H Nguyen, Univ of Iowa, Iowa City, IA; azaj ahmed, Univ of Iowa, Iowa, IA; Steven R Lentz, UNIVERSITY OF IOWA, Iowa City, IA; Sanjana Dayal, University Iowa Health Care, Iowa City, IA
- 5:15 **Presentation Number 155**
Platelet-derived Transforming Growth Factor- β 1 Ameliorates AAA in a Murine Model
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Anthony Spuzillo, Univ of Cincinnati, Cincinnati, OH; Bailey Stone, Cincinnati, OH; Tyler W Benson, Seth Brunner, Caris Wadding-Lee, Univ of Cincinnati, Cincinnati, OH; Phillip P Owens III, University of Cincinnati, Cincinnati, OH

- 5:30 Presentation Number 156
Role of Platelets in Maintaining Hemostasis and Coagulation Activation in Viral-induced Acute Respiratory Distress Syndrome (ARDS) in Mice
Swati Sharma, Willie A Williams, Aymen Zaid Elzawam, Blood Res Ctr, Chapel Hill, NC; Silvio Antoniak, UNIVERSITY OF NORTH CAROLINA, Chapel Hill, NC
- 5:45 Presentation Number 157
Inkiln is a Novel Long Noncoding RNA Promoting Vascular Smooth Muscle Inflammation Via Scaffolding Mkl1 and Usp10
Wei Zhang, Augusta Univ, Augusta, GA; Nestor Ishimwe, Augusta, GA; Jessica Pauli, Molecular Vascular Med, Munich; Clint L Miller, Univ of Virginia, Charlottesville, VA; Neal L Weintraub, AUGUSTA UNIVERSITY, Augusta, GA; Lars Maegdefessel, Technical Univ Munich, Munich; Joseph M Miano, Medical Coll of Georgia, Augusta, GA; Andrew H Baker, UNIVERSITY OF EDINBURGH, Edinburgh; Xiaochun Long, Augusta Univ, Augusta, GA

4:15-6:00 pm

Concurrent Session 4c: Genomics and Multi-Omics in Vascular Disease
Organized in cooperation with the Council on Genomics and Precision Medicine
Grand Ballroom Salon G, 4th Floor

Moderators:

Clint Miller, PhD, University of Virginia
Ying Wang, PhD, University of British Columbia

- 4:15 Applications of Mendelian Randomization and Polygenic Risk Scores in Abdominal Aortic Aneurysm
Michael Levin, MD, University of Pennsylvania
- 4:30 Functional Genomics Screens to Identify Causal Pathways for Vascular Disease
Rajat M. Gupta, MD, Brigham and Women's Hospital
- 4:45 Positional Transcriptomics Defines Regionally Restricted Sex-Specific Differences of the Vessel Wall
Milagros Romay, PhD, Northwestern University
- 5:00 Genetic Approaches to Evaluate APOL1 as a Therapeutic Target for Sepsis
QiPing Feng, PhD, Vanderbilt University Medical Center
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Oral Abstract Presentations

- 5:15 **Presentation Number 158**
The Histone Demethylase JMJD3 Regulates Smooth Muscle Differentiation and is Associated with Blood Pressure
Kevin Mangum, Amrita Joshi, Sonya Wolf, Emily Barrett, Jadie Moon, Bethany Moore, Univ of Michigan, Ann Arbor, MI; Andrea T Obi, University of Michigan, Ann Arbor, MI; Frank Davis, The Univ of Michigan, Ann Arbor, MI; Katherine A Gallagher, University of Michigan, Ann Arbor, MI
- 5:30 **Presentation Number 159**
Palmitic Acid Alters Enhancers and Super Enhancers Near Inflammatory and Efferocytosis-associated Genes In Human Monocytes
Vinay Singh Tanwar, Marpadga A Reddy, Suchismita Dey, Vajir Malek, Linda Lanting, Dept of Diabetes Complications and Metabolism, Arthur Riggs Diabetes & Metabolism Res Inst, Beckman Res Inst of City of Hope, Duarte, CA; Rama Natarajan, Beckman Res Instit of City of Hope, Duarte, CA
- 5:45 **Presentation Number 160**
Atherosclerosis Regression at The Single-Cell Level
José Gabriel Barcia Durán, Morgane Gourvest, Coen van Solingen, NYU Grossman Sch of Med, New York, NY; Edward Fisher, NYU Langone Medical Ctr, New York, NY; Kathryn J Moore, NYU Grossman Sch of Med, New York, NY

6:00–7:30 pm **Poster Session 3 and Reception**
For a full list poster presentations, please see the Vascular Discovery 2023 Posters on the [programming page](#)
Gloucester/Back Bay, 3rd Floor

7:30–10:00 pm **Joint Council Dinner (ticket required)**
Grand Ballroom Salons E-G, 4th Floor

SATURDAY, MAY 13

6:45–10:45 am **Childcare**
Yarmouth, 4th Floor

6:00–10:30 am **Speaker Resource Room**
Falmouth, 4th Floor

7:00–10:30 am **Registration**
Atrium Foyer, 4th Floor

- 7:00–8:00 am** **Inside the AHA’s Research Enterprise: Grant Funding and Other Opportunities**
Glenn H. Dillon, PhD, American Heart Association
Grand Ballroom Salons E-G, 4th Floor
- The American Heart Association is the largest non-governmental, non-profit funder of cardiovascular and cerebrovascular research in the US. Those attending this session will learn about grant funding opportunities at AHA, including programs cross the career stage; application expectations and timelines; the peer review process; recent program highlights. Attendees will also learn of service and career development opportunities at AHA.*
- 8:00–9:00 am** **Continental Breakfast**
Atrium Foyer, 4th Floor
- 8:00–9:00 am** **Meet the Professor Breakfast**
Join us for breakfast and roundtable discussions with experts on various topics. Hosted by faculty, this interactive session will provide opportunities to discuss, share and learn. No ticket required to attend.
Grand Ballroom Salons A-D, 4th Floor
- 9:00 am –10:30 am** **Plenary Session 5: Invited Lecture Series**
Grand Ballroom Salons E-G, 4th Floor
- Moderators:**
Katey Rayner, PhD, FHA, University of Ottawa Heart Institute
Philip Tsao, PhD, Stanford University School of Medicine
- Jeffrey M. Hoeg Arteriosclerosis, Thrombosis and Vascular Biology Award for Basic Science and Clinical Research Lecture**
- 9:00** **Systems Approach to Target Discovery for Macrophage Activation and Vascular Disease**
Masanori Aikawa, MD, PhD, Harvard Medical School, Brigham and Women’s Hospital
- Keynote Lecture**
- 9:30** **Regulation of Endothelial Cell Specification in Development and Disease**
Karen K. Hirschi, PhD, University of Virginia
- Distinguished Lecture**
- 10:00** **Advances in Omega-3 Fatty Acid Research**
Deepak L. Bhatt, MD, MPH, FACC, FAHA, FESC, MSCAI, Ichan School of Medicine at Mount Sinai
- 10:30 am** **Closing Remarks/Conference Adjourns**
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