

# ***IMMUNO- CARDIOLOGY 2025***

**SEPTEMBER 18-19, 2025**

**THE JACKSON LABORATORY  
MDI BIOLOGICAL LABORATORY**

**BAR HARBOR, MAINE**

# SEPTEMBER 18

## THURSDAY



**7:30 am - 8:30 am | Registration & Breakfast**

**8:30 am - 8:40 am | Welcome to The Jackson Laboratory**

**Nadia Rosenthal, PhD, FMedSci, FAAHMS | Scientific Director | The Jackson Laboratory**  
**Robert Gropler, MD & Florian Leuschner, MD | Lead Coordinators | Leducq IMMUNO-FIB HF**

**8:40 am - 10:15 am | SESSION 1: IMMUNE ASPECTS OF CARDIAC BIOLOGY & REPAIR I**  
**Moderator | Florian Leuschner**

**8:40 | Pilar Martin, PhD | Spanish Nat'l Centre for Cardiovascular Research (CNIC) | ES**  
*Immune regulation of T cell as a therapeutic approach in cardiovascular disease*

**9:05 | Sarah Dick, PhD | Queens University | CA**  
*Macrophage diversity in cardiac homeostasis and repair*

**9:30 | Ed Thorp, PhD | Northwestern University | US**  
*Myeloid cells in the amplification and resolution of cardiac inflammation*

**9:55 | ESI talk | Junedh Amrute, BS | WashU Medicine | US**  
*Targeting RUNX1 in macrophages facilitates cardiac recovery*

**10:15 am - 10:30 am | Break**

**10:30 am - 12:05 pm | SESSION 2: IMMUNE ASPECTS OF CARDIAC BIOLOGY & REPAIR II**  
**Moderator | Susanne Sattler**

**10:30 | Claudia Monaco, MD, PhD, FESC | University of Oxford | UK**  
*Decoding macrophages in atherosclerosis*

**10:55 | Ebba Brakenhielm, PhD | Normandy University / INSERM | FR**  
*Lymphatic control of cardiac inflammation?*

**11:20 | Luigi Adamo, MD, PhD | Johns Hopkins University | US**  
*B cell-dependent MHC-II mediated antigen presentation along the cardio-splenic axis of ischemic heart failure*

**11:45 | ESI talk | Susanna Cooper, PhD | University of Oxford | UK**  
*VEGFC-stimulated lymphangiogenesis clears pro-fibrotic macrophage population to improve cardiac outcome following myocardial infarction*

**12:05 pm - 1:10 pm | Lunch**

**1:10 pm - 2:45 pm | SESSION 3: IMMUNE ASPECTS OF CARDIAC BIOLOGY & REPAIR III**  
**Moderator | Scott Friedman**

**1:10 | Kevin King, MD, PhD | University of California San Diego | US**  
*Living on the edge: Life at the infarct border zone*

**1:35 | Kory Lavine, MD, PhD | WashU Medicine | US**  
*Targeting macrophage-fibroblast crosstalk to recover the failing heart*

**2:00 | Rafael Kramann, MD, PhD | RWTH Aachen University | DE**  
*Using single cell and spatial omics to dissect mechanisms of heart and kidney fibrosis*

**2:25 | ESI talk | Rami Vanguri, PhD | NYU Grossman School of Medicine | US**  
*Spatial transcriptomic signatures of cardiac sarcoidosis in myocardial tissue*

# THE JACKSON LABORATORY | 600 MAIN STREET

# SEPTEMBER 18

## THURSDAY

2:45 pm - 2:55 pm | Group photo

2:55 pm - 3:10 pm | Break & poster set-up in the cafeteria seating area

3:10 pm - 3:50 pm | Session 4: EARLY-STAGE INVESTIGATOR (ESI) TALKS I

Moderator | Nadia Rosenthal

3:10 | Noor Momin, PhD | University of Pennsylvania | US

*Engineering immunocytokines to prevent heart failure*

3:30 | José Gabriel Barcia Durán, PhD | NYU Grossman School of Medicine | US

*Mechanisms of atherosclerosis regression*

3:50 pm - 4:50 pm | KEYNOTE LECTURE I | Host: Teddy Williamson

**Katherine Yutzey, PhD**

**Professor, Cincinnati Children's Medical Center**

*"Immune Cells in Heart Valve Development and Disease"*



4:50 pm - 6:30 pm | POSTER SESSION I (#1-19) & Reception

6:35 pm | Shuttles (dinner on your own)

# SEPTEMBER 19

## FRIDAY

7:45 am - 8:30 am | Registration & Breakfast

8:30 am - 8:40 am | Welcome to MDIBL

Hermann Haller, MD | President | MDI Biological Laboratory

**MDI** Biological Laboratory  
CELEBRATING 125 YEARS

8:40 am - 9:40 am | KEYNOTE LECTURE II | Host: Michael "Tyler" Harmon

**Ben Hindson, PhD**

**Chief Scientific Officer, 10X Genomics**

*"The Next Generation of Single Cell and Spatial Genomics Technology"*



9:40 am - 10:40 am | SESSION 5: EARLY-STAGE INVESTIGATOR TALKS II

Moderator | Laura Wienecke

9:40 | Charles Cohen, PhD | Johns Hopkins University | US

*Tissue transcriptomics of endomyocardial biopsies reveals widespread molecular perturbations independent of leukocyte-rich foci in human myocarditis*

10:00 | Florian Sicklinger, MD | University Hospital Heidelberg | DE

*Tricuspid regurgitation accelerates left ventricular failure via monocyte-derived IL-6*

10:20 | Matt DeBerge, PhD | University of Texas Health Science Center at Houston | US

*Microglial metabolic reprogramming drives cognitive decline in heart failure with preserved ejection fraction*

**MDI BIOLOGICAL LABORATORY | 159 OLD BAR HARBOR RD**

# SEPTEMBER 19

## FRIDAY

10:40 am - 10:55 am | Break

10:55 am - 12:30 pm | **SESSION 6: TRANSLATION ACROSS ORGAN SYSTEMS I**

Moderator | Robert Gropler

**10:55 | Tomasz Guzik, MD, PhD | University of Edinburgh | UK**

*Immune and inflammatory mechanisms linking hypertension and atherosclerosis - from mechanisms to therapeutic targets*

**11:20 | Katalin Susztak, MD, PhD | University of Pennsylvania | US**

*Human kidney tissue fibrosis at cellular resolution*

**11:45 | Hermann Haller, MD | MDI Biological Laboratory | US**

*Senescent endothelial cells and aging of the microvasculature*

**12:10 | ESI talk | Bernhard Dumoulin, MD | University of Pennsylvania | US**

*Spatial human kidney map highlights B cell driven kidney disease subgroup*

12:30 pm - 1:45 pm | Lunch, sponsor displays & poster set-up

1:45 pm - 3:20 pm | **SESSION 7: TRANSLATION ACROSS ORGAN SYSTEMS II**

Moderator | Kory Lavine

**1:45 | Naftali Kaminski, MD | Yale University | US**

*A novel cellular framework for Human Pulmonary Fibrosis*

**2:10 | Neil Henderson, MD, PhD | University of Edinburgh | UK**

*Multimodal decoding of liver regeneration and repair*

**2:35 | Scott Friedman, MD | Icahn School of Medicine at Mount Sinai | US**

*Exploiting stellate cell plasticity in liver fibrosis*

**3:00 | ESI talk | Blake Jardin, MA | University of Pennsylvania | US**

*Proof-of-concept treatment of kidney injury with FAP-CAR-T Cells*

3:20 pm - 3:30 pm | Break

3:30 pm - 4:30 pm | **KEYNOTE LECTURE III** | Host: Haewon Shin

**Filip Swirski, PhD**

**Professor, Icahn School of Medicine at Mount Sinai**

*"Role of Innate Immunity and Inflammation in  
Cardiovascular Disease"*



4:30 pm - 6:00 pm | **POSTER SESSION II (#20-40) & Reception**

6:00 pm - 8:00 pm | Lobster bake

8:05 pm | Shuttles

**MDI BIOLOGICAL LABORATORY | 159 OLD BAR HARBOR RD**

- 01 JOHN BACHMAN** ELUCIDATING NOVEL BIOMARKERS AND MECHANISMS OF IMMUNE CHECKPOINT INHIBITOR-ASSOCIATED MYOCARDITIS AND MYOSITIS
- 02 MARKUS CICKA** ELUCIDATING THE MYD88 SIGNALING PATHWAY IN MONOCYTES AND MACROPHAGES AFTER CARDIAC INJURY
- 03 EDA IREM CIM** MOLECULAR IMAGING OF FIBROBLAST ACTIVATION PROTEIN TO GUIDE IMMUNOTHERAPY IN PRESSURE OVERLOAD HEART FAILURE
- 04 ALESSANDRA CIULLO** SYNTHETIC SMALL RNA DRUG TY2 REPROGRAMS MACROPHAGES TO SECRETE CARDIOPROTECTIVE EVS
- 05 OBY EBENEKE** SPLENIC FOLLICULAR B CELLS PROMOTE ADVERSE CARDIAC REMODELING AFTER MYOCARDIAL INFARCTION VIA MHC II-DEPENDENT ANTIGEN PRESENTATION
- 06 WILLIAM GAO** INTEGRATED SINGLE-CELL AND SPATIAL MULTIOMIC ANALYSIS REVEALS WIDESPREAD REACTIVATION OF DEVELOPMENTAL PROGRAMS IN DISEASED HUMAN HEARTS
- 07 MICHAEL HARMON** GM-CSF AND STAT5 SIGNALING AXIS AS REGULATOR OF TREM2+ MACROPHAGE FATE SPECIFICATION IN THE HEART
- 08 NIKLAS HARTMANN** TARGETING LTBP2 MITIGATES CROSS-ORGAN FIBROSIS VIA ANTIBODY-BASED IMMUNOTHERAPIES
- 09 SIKANDER HAYAT** FROM AN INTEGRATIVE MULTI-MODAL HEART ATLAS TO TARGET IDEAS FOR CARDIOMYOCYTE RESTORATION
- 10 RUIJUN HE** DNA-DAMAGING CHEMOTHERAPY RESHAPES CARDIAC RESIDENT MACROPHAGE COMPOSITION AND FUNCTION
- 11 GYU SEONG HEO** DEVELOPMENT OF NOX2-TARGETED PET TRACER FOR IMAGING INFLAMMATION-FIBROSIS AXIS IN ADVERSE LV REMODELING
- 12 MEGAN HOLT** INVESTIGATING THE ROLE OF FOCAL ADHESION KINASE IN CARDIAC RESIDENT MACROPHAGE RESPONSE TO INJURY
- 13 RAJESH KUMAR KASAM** GAIN OF FUNCTION APPROACH TO SELECTIVELY AUGMENT MACROPHAGE SUBTYPES IN THE HEART SOLIDIFIES UNIQUE FUNCTIONAL DIFFERENCES
- 14 DANIEL KASPROVIC** HUR INHIBITION AS A THERAPEUTIC MODALITY FOR CARDIAC PATHOLOGY VIA MODULATION OF MACROPHAGE POLARIZATION
- 15 LAUREN ELIZABETH LEE** CHRONIC KIDNEY DISEASE-INDUCED HEART DYSFUNCTION IN MICE SHOW IMMUNE AND METABOLIC DYSFUNCTION
- 16 SHEN LI** HUMAN GENETICS IDENTIFY TBX2 AS A KEY REGULATOR OF VASCULAR CALCIFICATION IN KIDNEY DISEASE BY ORCHESTRATING MINERAL METABOLISM AND INFLAMMATION
- 17 XIAO LI** MECHANICAL UNLOADING REVERSES IMMUNOSENESCENCE IN SINGLE VENTRICLE HEART FAILURE
- 18 DANIEL MINASSIAN** CXCR3 PROMOTES DEVELOPMENT OF HEART FAILURE FOLLOWING SEVERE PNEUMOCOCCAL DISEASE
- 19 BRIANNA MOON** MOLECULAR IMAGING OF INFLAMMATION AND FIBROGENESIS AFTER MYOCARDIAL INFARCTION

**POSTER PRESENTATIONS  
SESSION I (JAX)**

- 20 JAUME OTAEGUI** PET IMAGING OF ANTIPD1 ACCELERATED ATHEROSCLEROSIS IN CARDIO-ONCOLOGY MOUSE MODELS
- 21 MACEE OWEN** TYPE 1 CLASSICAL DENDRITIC CELLS GOVERN LONG-TERM CARDIAC ALLOGRAFT ACCEPTANCE
- 22 IYANUOLUWANI OWOLABI** DISRUPTION OF FGF23-FGFR-KLOTHO INTERACTIONS DEFINE SICKLE CELL DISEASE CARDIO-RENAL SYNDROME
- 23 KEVIN PAAVOLA** PHAGOCYTOSIS OF APOPTOTIC HUMAN VASCULAR CELLS IS REGULATED BY CD47
- 24 YUN-LING PAI** RUNX1 TRANSCRIPTIONALLY DRIVES FIBROBLAST ACTIVATION FOLLOWING MYOCARDIAL ISCHEMIC-REPERFUSION INJURY
- 25 ALEKHYA PARVATHANENI** IL-1 SIGNALING TO CCR2+ MONOCYTES REGULATES MONOCYTE FATE SPECIFICATION AND CONTRIBUTES TO ADVERSE CARDIAC REMODELING
- 26 ANDIA REDPATH** INVESTIGATING THE ROLE OF THE MESOTHELIUM IN AUTOIMMUNE MYOCARDITIS
- 27 ARUNACHALAM SEKAR** ZBP1 AS A DRIVER OF DOXORUBICIN-INDUCED CARDIOTOXICITY AND A THERAPEUTIC TARGET FOR CARDIAC PROTECTION
- 28 HANJOO SHIM** GHOST MYOCYTES AS MODULATORS OF POST-INJURY CARDIAC REPAIR AND FUNCTION
- 29 HAEWON SHIN** NANOWELL-BASED APPROACHES IN CAPTURING TRANSCRIPTIONAL CHANGES IN CHRONIC HEART FAILURE
- 30 TATSUYA SHIRAKI** LONGITUDINAL TRANSCRIPTOMIC ANALYSIS REVEALS PERSISTENT ALLOGRAFT REJECTION PATHWAYS DRIVE RESTRICTIVE LEFT VENTRICULAR FILLING PATTERN AFTER HEART TRANSPLANTATION
- 31 URVI NIKHIL SHROFF** INVESTIGATING CAUSAL LINKS AND GENE DRIVERS THAT GOVERN ORGAN DYSFUNCTION IN CARDIOVASCULAR AND CHRONIC KIDNEY DISEASE
- 32 AMALIA SINTOU** SPATIAL DISTRIBUTION AND DYSREGULATED CROSSTALK BETWEEN SENESCENT CELL TYPES IN THE AGED MAMMALIAN HEART
- 33 LAURINE SPREHE ISRA TAMIM** CENTRAL STRESS CIRCUITS MEDIATE EARLY CARDIAC DAMAGE AFTER ISCHEMIC STROKE
- 34 MEGAN VIERHOUT** BUILDING A HUMAN-CENTRIC MACROPHAGE MODEL TO ADVANCE DRUG DISCOVERY IN CROSS-ORGAN FIBROSIS
- 35 LAURA WIENECKE** BISPECIFIC ANTI-LTBP2 ANTIBODIES TO TREAT FIBROSIS AFTER CARDIAC INJURY
- 36 TEDDY WILLIAMSON** USING CHIMERIC ANTIGEN RECEPTOR (CAR) REGULATORY T CELLS TO TREAT ACUTE CARDIAC INJURY
- 37 LANCE YEH** LINEAGE TRACING AND SINGLE-CELL PROFILING OF IFN-ACTIVATED MONOCYTES IN AN MX1-REPAIRED MOUSE MODEL OF CARDIAC INJURY
- 38 MATT COX** AFRICAN TURQUOISE KILLIFISH (NOTHOBRANCHIUS FURZERI): A NOVEL MODEL TO INVESTIGATE VASCULAR AGING
- 39 HERMANN HALLER** CHARACTERIZING HEPARANASE 2 USING STRUCTURE-FUNCTION STUDIES AND REVERSE GENETICS IN ZEBRAFISH
- 40 CORY JOHNSON** GLUCOCORTICOID AND MINERALOCORTICOID RECEPTORS JOINTLY PROMOTE VASCULAR DEVELOPMENT IN KIDNEY ORGANIDS

**POSTER PRESENTATIONS  
SESSION II (MDIBL)**



# THANK YOU TO OUR SUPPORTERS

## GOLD LEVEL



## SILVER LEVEL



## NETWORK



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