

# Novel Mechanisms of Heart Failure: Advancing New Therapies

40th Annual Conference of the North American Section (NAS) of the ISHR

September 13-16, 2021

*The Curtis Hotel*, Denver, Colorado  
Registration opens at 3pm on  
September 12 on the 3rd floor of  
the hotel.

<b>Program Co-Chairs:</b>	Timothy McKinsey, Ph.D. & Carmen (Kika) Sucharov, Ph.D.
<b>Local Organizing Committee:</b>	Kelley Brodsky (Chair), M.B.A., Kunhua Song, Ph.D., Maggie Lam, Ph.D., Kathleen C. Woulfe, Ph.D., Peter Buttrick, M.D., & Leslie Leinwand, Ph.D.
<b>Scientific Program Committee:</b>	ISHR NAS Council & Timothy McKinsey, Ph.D., & Kika Sucharov, Ph.D.

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<b>MCI Council Leadership:</b>	Maria Kontaridis, Ph.D. (Council Liaison/Council Chair)
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<b>ECI Council Leadership:</b>	Kika Sucharov, Ph.D. (Council Liaison/Faculty Advisor)
<b>ECI Program Executive:</b>	Sam Das, Ph.D. (Chair), Ron Vagnozzi, Ph.D. (Chair-Elect), & Erik Blackwood, Ph.D. (Vice-Chair Elect), Jessica Pflieger, Ph.D. (Secretary Elect)
<b>ECI Program Committee:</b>	Rushita Bagchi Ph.D., Anastacia (Tasha) Garcia, Ph.D. & Ron Vagnozzi, Ph.D.

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Thanks also to Drs. Nicole Purcell and Susmita Sahoo for contributing funds for the ECI/MCI social and the ECI/MCI career development workshop, respectively.

# 2ND FLOOR



Second Floor Total **12,258**

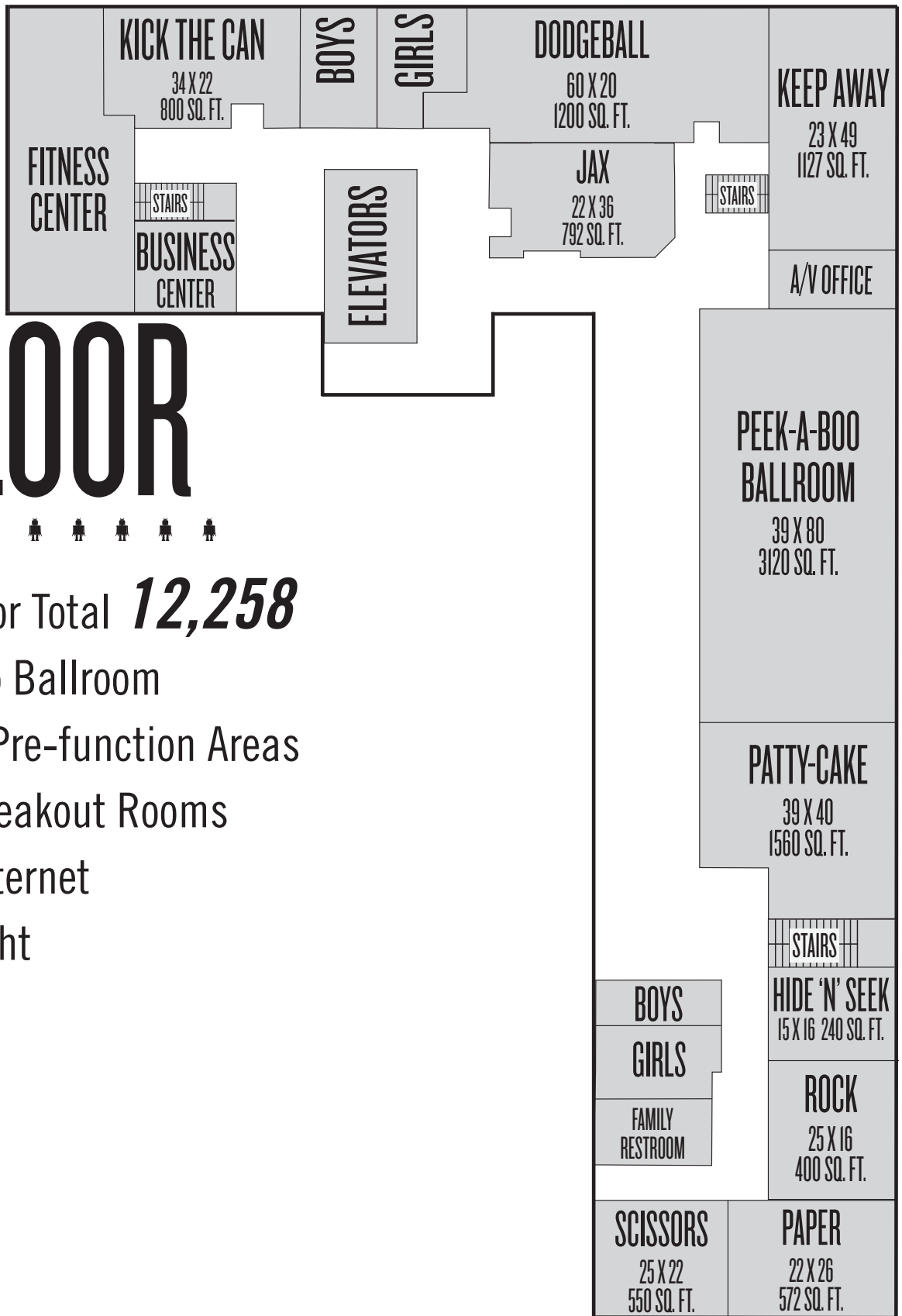
Peek-A-Boo Ballroom

Expansive Pre-function Areas

Multiple Breakout Rooms

Wireless Internet

Natural Light



# 3RD FLOOR



Third Floor Total **15,521**

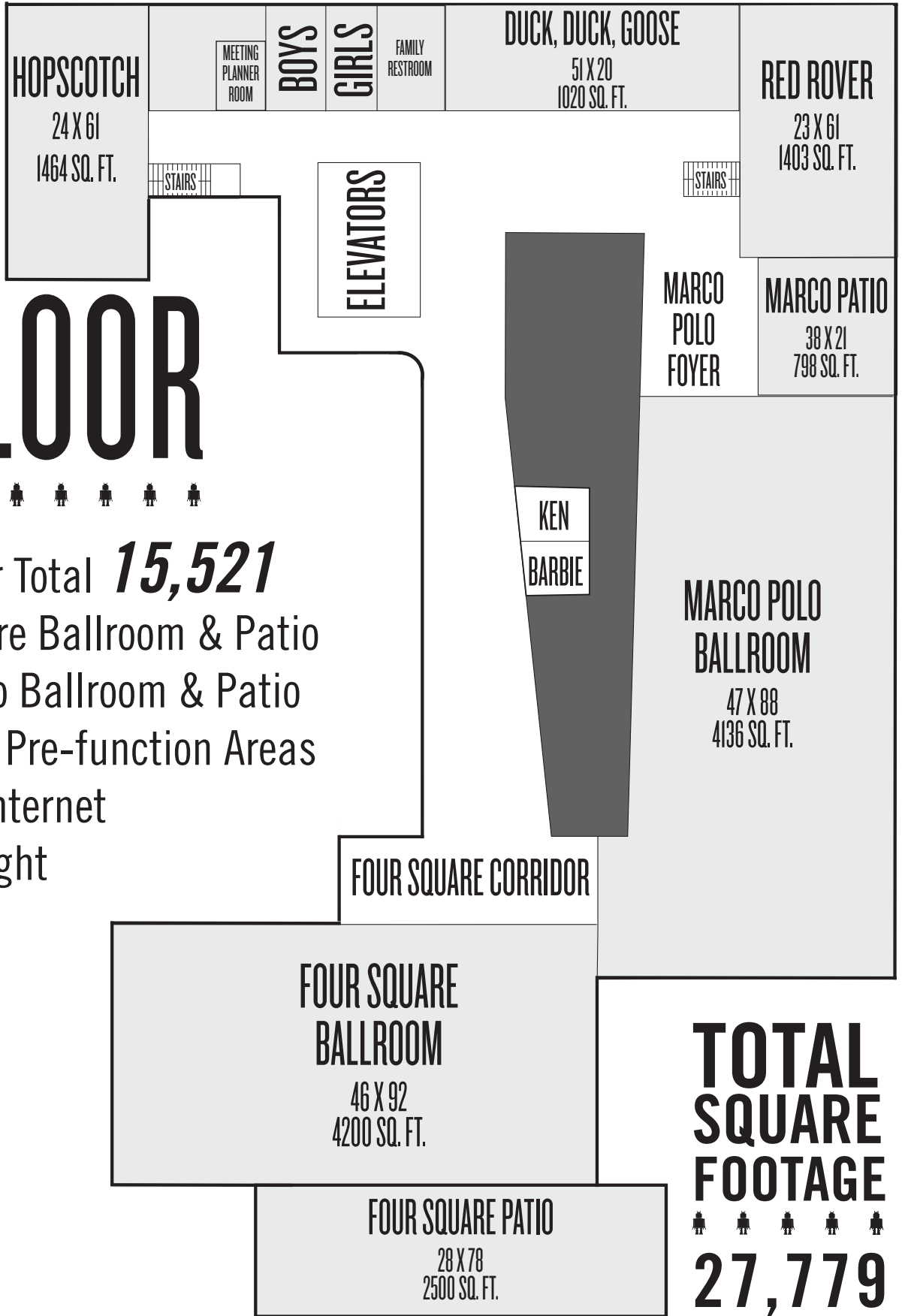
Four Square Ballroom & Patio

Marco Polo Ballroom & Patio

Expansive Pre-function Areas

Wireless Internet

Natural Light



**TOTAL  
SQUARE  
FOOTAGE**  
  
**27,779**

<b>Monday, September 13, 2021</b>		
7:00 AM – 5:00 PM	Registration	Marco Polo Lobby
7:00 AM – 8:00 AM	–Breakfast continental/coffee	Four Square Ballroom
8:00 – 10:00 AM	<p><b>ECI Scientific Symposium</b>  <b><u>Chairs: Sam Das, Ph.D., and Rushita Bagchi, Ph.D.</u></b></p> <p>5-7 minute flash talks, panel of 6 speakers, Q&amp;A after each panel</p> <p><b>Rushita Bagchi, Ph.D.</b>  University of Colorado Anschutz Medical Campus  <i>Elucidation of the regulatory mechanism of adipocyte adrenergic signaling via reversible fatty acylation of a scaffolding protein</i></p> <p><b>Matthew Brody, Ph.D.</b>  University of Michigan  <i>The Golgi S-acyl transferase zDHHC9 modifies Jak1 and promotes pathogenic signaling in the heart</i></p> <p><b>Helen Collins, Ph.D.</b>  University of Louisville  <i>Sex differences in remodeling and fatty acid availability in the infarcted murine heart</i></p> <p><b>Kyle Fulghum, M.S.</b>  University of Louisville  <i>In vivo deep network tracing reveals metabolic changes in murine pressure overload hearts</i></p> <p><b>Joanne Garbincius, Ph.D.</b>  Temple University  <i>Increasing mitochondrial Ca<sup>2+</sup> efflux via overexpression of NCLX attenuates pathological remodeling in experimental cardiac hypertrophy and heart failure</i></p> <p><b>Samuel Hickenlooper, B.S.</b>  University of Utah  <i>The lysine methyltransferase Smyd5 regulates cardiomyocyte transcription and pathophysiology via histone H4 lysine 20 trimethylation</i></p> <p><b>Colton Martens, B.S.</b>  The Ohio State University  <i>BEX1 is a critical determinant of viral myocarditis</i></p> <p><b>Mattia Quattrocelli, Ph.D.</b>  University of Cincinnati  <i>Chrono-pharmacology of heart bioenergetics with glucocorticoid steroids</i></p>	Marco Polo Ballroom

	<p><b>Jake Melby, B.S.</b> University of Wisconsin <i>Integrated functional assessments and top-down proteomics of patient-specific human induced pluripotent stem cell-derived engineered cardiac tissues in hypertrophic cardiomyopathy</i></p> <p><b>Marcello Rubino, Ph.D.</b> University of Colorado Anschutz Medical Campus <i>Phenotypic screening uncovers eicosanoid degradation in fibroblasts as a therapeutic target for cardiac fibrosis</i></p> <p><b>Tyler Stevens, B.S.</b> The Ohio State University <i>Novel desmoplakin variant linked to arrhythmogenic cardiomyopathy displays unique mechanism of pathogenicity</i></p> <p><b>Marta Szulik, Ph.D.</b> University of Utah <i>Overexpression of the histone methyltransferase SMYD1 mitigates ischemic injury by regulating mitochondrial respiration</i></p>	
10:00– 11:00 AM	<p><b>ECI Career Development Workshop:</b> <i>Moving Up the Faculty Food Chain</i></p> <p><b>Chairs: Adrian Arrieta, Ph.D. and Erik Blackwood, Ph.D.</b></p> <p><b>Panelists:</b></p> <p><b>Michael Czubryt, Ph.D.</b> (University of Manitoba) <b>Sarah Franklin, Ph.D.</b> (University of Utah) <b>Jessica Pflieger, Ph.D.</b> (Virginia Tech University) <b>Kathleen C. Woulfe, Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p>	Marco Polo Ballroom AM Coffee in hall
11:00-11:30 AM	<b>MCI Town Hall Meeting-</b>	Marco Polo Ballroom
11:30-12:00 PM	<b>MCI Leadership Achievement award presentation</b> 30 min and 10 min question	Marco Polo Ballroom
12:00 – 1:30 PM	<p>ECI and MCI Joint Box Lunch (<b>Ticket Required</b>) <i>Panel discussion theme: Research after COVID</i></p> <p><b>Moderators:</b></p> <p><b>Catherine Makarewich, Ph.D., and Rushita Bagchi, Ph.D., (ECI) Sarah Franklin, Ph.D., and Nicole Purcell, Ph.D. (MCI)</b></p>	Four Square Ballroom

	<b>Panelists:</b> <b>Ryan Boudreau, Ph.D.</b> (University of Iowa) <b>Jennifer Davis, Ph.D.</b> (University of Washington) <b>Steve Houser, Ph.D.</b> (Temple University) <b>Sarah Schumacher-Bass, Ph.D.</b> (Cleveland Clinic) <b>Katherine Yutzey, Ph.D.</b> (Cincinnati Children's Hospital Medical Center)	
1:30-3:00 PM	MCI Research Scholarship Award Competition (3 finalists) 1. Pilar Alcaide, Ph.D. (Tufts University) 2. Sam Das, Ph.D. (Johns Hopkins University) 3. Marlin Touma, M.D., Ph.D. (UCLA)  Judges to meet if needed	Marco Polo Ballroom PM Coffee in Lobby  Red Rover Room
3:00– 4:00 PM	Young Investigator Competition Award (YICA) (Sponsored by Dr. Roberto Bolli @ the Institute of Molecular Cardiology – University of Louisville)  Part I– Junior Group (3 Finalists) <b>Chair: Roberto Bolli, M.D., D.Sc.</b>  <b>Andrew Gibb, Ph.D.</b> (Temple University) Advisor: John Elrod  <b>Qutuba Karwi, Ph.D.</b> (University of Alberta) Advisor: Gary Lopaschuk  <b>Jacob Longenecker</b> (The Ohio State University) Advisor: Federica Accornero	Marco Polo Ballroom
4:00-4:30 pm	Break	Duck Duck Goose Room
4:30-5:30 pm	Part II– Senior Group (3 Finalists). <b>Miao Cui, Ph.D.</b> (UT Southwestern) Advisor: Eric Olson  <b>Pearl Quijada, Ph.D.</b> (UCLA) <b>Dhanendra Tomar, Ph.D.</b> (Temple University)	Marco Polo Ballroom
5:30-6:00 pm	YICA Committee Meeting	Duck Duck Goose Room
6:00 – 7:00 PM	Welcome Reception & Posters – Session I Appetizers/ wine, beer & cocktails	Four Square Ballroom
7:00 – 9:00 PM	ECl & MCI Joint Social Event Appetizers/ wine, beer & cocktails DJ-entertainment	Four Square Ballroom



## Tuesday, September 14, 2021

8:00 AM – 5:00 PM	Registration	Marco Polo Lobby
6:45 – 8:00 AM	Breakfast Buffet	Four-Square Ballroom
7:00 – 8:00 AM	Women's Breakfast: Kika Sucharov, <i>Creating an Equal Environment in Medicine and Science</i> <i>Breakfast provided at the buffet to bring to session</i>	Red Rover Room
8:00 – 8:45 AM	<p><b><u>Keynote Lecture:</u></b></p> <p><b>Eric N Olson, Ph.D.</b> (UT Southwestern) <i>Entrepreneurialism in the Translational Biological Sciences: Why, How, &amp; However</i></p> <p><b>Moderators:</b></p> <p><b>Tim McKinsey, Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p> <p><b>Michael R. Bristow, M.D., Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p>	Marco Polo Ballroom
9:00 – 10:30 AM	<p><b><u>Symposium 1:</u></b> Proteotoxicity and Proteomic Remodeling in the Healthy and Failing Heart (Sponsored by Cedars Sinai Precision Medicine Laboratory &amp; UCLA Health)</p> <p><b>Moderators:</b></p> <p><b>Federica del Monte, M.D., Ph.D.</b> (Medical University of South Carolina)</p> <p><b>Miao Cui, Ph.D.</b> (UT Southwestern)</p> <p><b>Speakers:</b></p> <p><b>Maggie Lam, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>Post-Transcriptional Regulation of the Cardiac Proteome in Aging and Disease</i></p> <p><b>Ying Ge, Ph.D.</b> (University of Wisconsin-Madison) <i>Top-down Proteomics in Healthy and Failing Hearts for Precision Medicine</i></p> <p><b>Jennifer Van Eyk, Ph.D.</b> (Cedars Sinai Medical Center) <i>Animal Disease Models Classified Based on Pathway Convergence in Human HFpEF</i></p>	Marco Polo Ballroom

	<p><b>XJ Wang, Ph.D.</b> (University of South Dakota) <i>Priming the Proteasome To Protect against Proteotoxicity</i></p>	
9:00 – 10:30 AM	<p><b>Symposium 2:</b> Cardiomyocyte Death and the Latest on Cell Therapy for the Heart (Sponsored by the Institute of Cardiovascular Sciences at St. Boniface General Hospital Research Centre)</p> <p><b>Moderators:</b></p> <p><b>Shirin Doroudgar, Ph.D.</b> (University of Arizona) <b>John Elrod, Ph.D.</b> (Temple University)</p> <p><b>Speakers:</b></p> <p><b>Roberto Bolli, M.D.</b> (University of Louisville) <i>Cell Therapy for Heart Failure</i></p> <p><b>Jason Karch, Ph.D.</b> (Baylor College of Medicine) <i>Regulation of the Mitochondrial Permeability Transition Pore by the Bcl-2 Family</i></p> <p><b>Jeffery Molkentin, Ph.D.</b> (Cincinnati Children’s Hospital) <i>Lethal Cardiac Autophagy Through Thrombospondin-1</i></p>	Four Square Ballroom
10:30 – 11:00 AM	AM Coffee Break	Four Square Lobby
11:00 AM–12:30 PM	<p><b>Symposium 3:</b> Yin &amp; Yang of Autophagy and Mitophagy (Sponsored by Rutgers New Jersey Medical School)</p> <p><b>Moderators:</b></p> <p><b>Kathryn Chatfield, M.D.</b> (University of Colorado Anschutz Medical Campus) <b>Congwu Chi, Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p> <p><b>Speakers:</b></p> <p><b>Antonietta Franco, Ph.D.</b> (Washington University) <i>A Human Mitofusin 2 Mutation Pinpoints Defective Mitophagy as a Cause of Cardiomyopathy</i></p> <p><b>Asa Gustafsson, Ph.D.</b> (University of California, San Diego) <i>Selective Regulation of Mitophagy by Beclin 1</i></p> <p><b>Junichi Sadoshima, M.D., Ph.D.</b> (Rutgers New Jersey Medical School) <i>Arginine Methylation Mediates Autophagy in the Heart During Ischemia</i></p>	Marco Polo Ballroom

	<p><b>Kunhua Song, Ph.D.</b>  (University of Colorado Anschutz Medical Campus)  <i>Autophagic Fusion in Cardiomyopathy</i></p>	
<p>11:00 AM–12:30 PM</p>	<p><b>Symposium 4:</b> Myocyte Mechanics and the Sarcomere  (Sponsored by the Journal of Molecular and Cellular Cardiology)</p> <p><b>Moderators:</b></p> <p><b>Kathleen C. Woulfe, Ph.D.</b> (University of Colorado Anschutz Medical Campus)  <b>John Konhilas, Ph.D.</b> (University of Arizona)</p> <p><b>Speakers:</b></p> <p><b>Samantha Harris, Ph.D.</b>  (University of Arizona)  <i>Stuck in the Middle No More: Functional Effects of the Middle Domains of Cardiac Myosin Binding Protein-C</i></p> <p><b>Michael Regnier, Ph.D.</b>  (University of Washington)  <i>The Effect of the MYH7 G256E Mutation on Myosin Structure and Human Stem Cell Derived Cardiomyocyte Myofibril Mechanics</i></p> <p><b>Sakthivel Sadayappan, Ph.D., M.B.A.</b>  (University of Cincinnati)  <i>Cardiac Myosin Binding Protein-C: the Building Block of the Sarcomere and Contractility</i></p> <p><b>Jil Tardiff, M.D., Ph.D.</b>  (University of Arizona)  <i>Allosteric Modulation of Myofilament Ca<sup>2+</sup> Kinetics in Thin-Filament HCM</i></p>	<p>Four Square Ballroom</p>
<p>12:30 – 2:00 PM</p>	<p>Box Lunch:  <b><u>NAS Workshop I: Diversity, Equity &amp; Inclusion</u></b>  (Organized by Peipei Ping, Ph.D.)</p> <p>Panel includes:</p> <p><b>Dale Abel, M.D., Ph.D.</b>  <b>Maria Kontaridis, Ph.D.</b>  <b>Leslie Leinwand, Ph.D.</b>  <b>Cat Makarewich, Ph.D.</b>  <b>Pearl Quijada, Ph.D.</b></p>	<p>Four Square Ballroom</p>

<p>2:00 – 3:30 PM</p>	<p><b>Symposium 5:</b> Molecular Mechanisms of Heart failure Sponsored by The University of Arizona College of Medicine-Phoenix, TCRC (Sponsored by the Heart Institute – Cincinnati Children’s Hospital)</p> <p><b>Moderators:</b></p> <p><b>Susmita Sahoo, Ph.D.</b> (Mount Sinai) <b>Kory Lavine, M.D., Ph.D.</b> (Washington University)</p> <p><b>Speakers:</b></p> <p><b>Christopher Glembotski, Ph.D.</b> (University of Arizona College of Medicine – Phoenix) <i>Regulated Protein Degradation at the ER as a Signal for Heart Failure</i></p> <p><b>James Martin, M.D., Ph.D.</b> (Baylor College of Medicine) <i>Hippo Signaling in Heart Regeneration</i></p> <p><b>Benjamin Prosser, Ph.D.</b> (University of Pennsylvania) <i>mRNA and Ribosomal Trafficking in Cardiac Remodeling</i></p> <p><b>Kika Sucharov, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>The Role of the Secretome in Pathologic Remodeling</i></p>	<p>Marco Polo Ballroom</p>
<p>2:00 – 3:30 PM</p>	<p><b>Symposium 6:</b> Lipids In Cardiovascular Disease</p> <p><b>Moderators:</b></p> <p><b>Genevieve Sparagna, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <b>Andrew Gibb, Ph.D.</b> (Temple University)</p> <p><b>Speakers:</b></p> <p><b>Kathryn Chatfield, M.D., Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>Mitochondrial Phospholipid Dynamics in Heart Failure: Translating Human Disease to Animal Models</i></p> <p><b>Sam Das, Ph.D.</b> (Johns Hopkins University)</p> <p><b>Timothy O’Connell, Ph.D.</b> (University of Minnesota) <i>"Free Fatty Acid Receptor 4 in the Heart: Endogenous Fatty Acids as Cardioprotective Signaling Molecules</i></p> <p><b>Martin Young, Ph.D.</b> (University of Alabama at Birmingham) <i>Fine Tuning Nutrient Intake Timing for Cardiac Health</i></p>	<p>Four Square Ballroom</p>

3:30 – 4:00 PM	PM Coffee Break	Four Square Lobby
4:00 – 5:30 PM	<p><b>Symposium 7:</b> <math>\beta</math>-AR Signaling and Cyclic Nucleotides: Good, Bad &amp; Ugly</p> <p><b>Moderators:</b>  <b>Sumanth Prabhu, M.D.</b> (Washington University)  <b>Julie Pires da Silva, Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p> <p><b>Speakers:</b></p> <p><b>Michael Bristow, M.D., Ph.D.</b>  (University of Colorado Anschutz Medical Campus)  <i>The <math>\beta_1</math>-Adrenergic Gene Signaling Network</i></p> <p><b>Jessica Pflieger, PhD</b>  (Virginia Tech University)  <i>Novel Roles for Known Regulators of Cardiac Hypertrophy</i></p> <p><b>Sarah Schumacher-Bass, Ph.D.</b>  (Cleveland Clinic)  <i>Identifying Sex-Dependent Markers of Heart Failure and Atrial Myopathy</i></p> <p><b>Douglas Tilley, Ph.D.</b>  (Temple University)  <i>Impact of Myeloid Cell-Specific <math>\beta_2</math>-AR on the Heart</i></p>	Marco Polo Ballroom
4:00 – 5:30 PM	<p><b>Symposium 8:</b> Small RNAs and RNA Modifications in Cardiomyocyte Biology  (Sponsored by the Journal of Molecular and Cellular Cardiology)</p> <p><b>Moderators:</b></p> <p><b>Sam Das, Ph.D.</b> (Johns Hopkins University)  <b>Ning Liu, Ph.D.</b> (UT Southwestern)</p> <p><b>Speakers:</b></p> <p><b>Federica Accornero, Ph.D.</b>  (The Ohio State University)  <i>RNA Modification at the Center of Muscle Growth</i></p> <p><b>Ryan Boudreau, Ph.D.</b>  (University of Iowa)  <i>MicroRNAs in Cardiovascular Biology: Still Plenty to Learn</i></p> <p><b>Cat Makarewich, Ph.D.</b>  (Cincinnati Children’s Hospital)  <i>Dissecting the Role of a Novel Cardiac-Enriched Mitochondrial Microprotein</i></p>	Four Square Ballroom

	<b>Susmita Sahoo, Ph.D.</b> (Mount Sinai) <i>Epitranscriptomic Regulations of the Heart: From Mechanisms to Therapeutics</i>	
5:30 – 7:00 PM	Posters & Reception – Session II Appetizers/wine and beer	Four Square Ballroom & Marco Polo Ballroom
7:00 PM	Presidents Dinner	Stoic & Genuine

## Wednesday, September 15, 2021

7:00 AM – 5:00 PM	Registration	Marco Polo Lobby
7:00 – 8:00 AM	Breakfast Buffet	Four Square Ballroom
8:00 – 8:45 AM	<p><b><u>NAS Innovator Award:</u></b></p> <p><b>Joseph A. Hill, MD, PhD</b> (UT Southwestern) <i>HFpEF: Malady, Model, and Meta-inflammatory Mechanisms</i></p> <p>Introduction by Jianyi “Jay” Zhang, M.D., Ph.D., University of Alabama at Birmingham</p>	Marco Polo Ballroom
9:00 – 10:30 AM	<p><b><u>Symposium 9:</u></b> Calcium and Arrhythmias</p> <p><b>Moderators:</b></p> <p><b>Chi Keung Lam, Ph.D.</b> (University of Delaware) <b>Philip Bidwell, Ph.D.</b> (University of Minnesota)</p> <p><b>Speakers:</b></p> <p><b>Mark Anderson, M.D., Ph.D.</b> (Johns Hopkins University) <i>Ca<sup>2+</sup>, ROS, CaMKII and Arrhythmias</i></p> <p><b>Donald Bers, Ph.D.</b> (University of California, Davis) <i>CaMKII-dependent Arrhythmogenesis in Diabetic Hyperglycemia</i></p> <p><b>Litsa Kranias, Ph.D.</b> (University of Cincinnati) <i>The SR Ca-Transport Link in Cardiac Arrhythmia</i></p> <p><b>Cathy Proenza, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>New Insights into the Role of the Funny Current in Pacemaker Cells</i></p>	Marco Polo Ballroom
9:00 – 10:30 AM	<p><b><u>Symposium 10:</u></b> HFpEF (Sponsored by the Cardiovascular Research Center - Temple University Lewis Katz School of Medicine)</p> <p><b>Moderators:</b></p> <p><b>Taben Hale, Ph.D.</b> (University of Arizona College of Medicine – Phoenix) <b>Wei Guo, Ph.D.</b> (University of Wisconsin - Madison)</p> <p><b>Speakers:</b></p> <p><b>Henk Granzier, Ph.D.</b> (University of Arizona) <i>Titin-Based Mechanisms for Altering Diastolic Stiffness in HFpEF</i></p>	Four Square Ballroom

	<p><b>Eduardo Marban, M.D., Ph.D.</b> (Cedars-Sinai) <i>Cells, EVs and Defined Factors for the Treatment of HFpEF</i></p> <p><b>Steve Houser, Ph.D.</b> (Temple University) <i>Can We Find New Therapies for HFpEF</i></p> <p><b>Tim McKinsey, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>HDAC11 Mediates Pathological Fat-to-Heart Crosstalk</i></p>	
10:30 – 11:00 AM	AM Coffee Break	Four Square Lobby
11:00 AM–12:30 PM	<p><b>Symposium 11:</b> Sex Differences &amp; Aging in Cardiac Disease (Sponsored by the BioFrontiers Institute - University of Colorado Boulder)</p> <p><b>Moderators:</b></p> <p><b>Yajing Wang, M.D., Ph.D.</b> (Thomas Jefferson University) <b>Ron Vagnozzi, Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p> <p><b>Speakers:</b></p> <p><b>Federica del Monte, M.D., Ph.D.</b> (Medical University of South Carolina) <i>The Heart of Alzheimer's: A Mindful View of HFpEF</i></p> <p><b>John Konhilas, Ph.D.</b> (University of Arizona) <i>Does the Gut Play a Role in Menopausal Susceptibility to Heart Disease?</i></p> <p><b>Anthony Rosenzweig, M.D.</b> (Harvard University) <i>Age Related Heart Failure - Not Just for the Young</i></p> <p><b>Kathleen C. Woulfe, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>Elucidating Sex and Age Differences in Cardiac Function</i></p>	Marco Polo Ballroom
11:00 AM–12:30 PM	<p><b>Symposium 12:</b> Mitochondria and Cardiac Energetics (Sponsored by Children's Hospital Cincinnati)</p> <p><b>Moderators:</b></p> <p><b>Junco Warren, Ph.D.</b> (Virginia Tech University) <b>Onur Kanisicak, Ph.D.</b> (University of Cincinnati)</p> <p><b>Speakers:</b></p> <p><b>Douglas Lewandowski, Ph.D.</b> (The Ohio State University) <i>Fueling and Over-fueling the Failing Heart</i></p>	Four Square Ballroom



	<p><b>John Elrod, Ph.D.</b> (Temple University) <i>New Discoveries in Calcium Control of Mitochondrial Biology</i></p> <p><b>Brian Stauffer, M.D.</b> (University of Colorado Anschutz Medical Campus) <i>Mitochondrial Function in the Failing Human Heart</i></p> <p><b>Rong Tian, M.D., Ph.D.</b> (University of Washington) <i>Mitochondria and Inflammation</i></p>	
12:30 – 1:30 PM	Box Lunch JMCC Workshop: Meet the Editor	Four Square Ballroom
1:30 – 2:30 PM	<p><b>ISHR@NAS: New Horizons</b> (Sponsored by UCLA Health)</p> <p><b>Moderators:</b></p> <p><b>Maria Kontaridis, Ph.D.</b> (MMRI) <b>Konstantinos Drosatos, Ph.D.</b> (Temple University)</p> <p><b>Speakers:</b></p> <p><b>Anastacia (Tasha) Garcia, PhD</b> (University of Colorado Anschutz Medical Campus) <i>TBA</i></p> <p><b>Konstantinos Drosatos, Ph.D.</b> (Temple University) <i>TBA</i></p> <p><b>Chen Gao, Ph.D.</b> (UCLA) <i>TBA</i></p> <p><b>Rajasekaran Namakkal-Soorappan, Ph.D.</b> (University of Alabama at Birmingham) <i>TBA</i></p> <p><b>Nicole Purcell, Ph.D.</b> (Huntington Medical Research Institutes) <i>TBA</i></p> <p><b>Edward Lau, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>TBA</i></p>	Marco Polo Ballroom
2:30-3:15 PM	<p><b>Sarah Franklin, Ph.D.</b> (University of Utah): Outstanding Investigator Award Lecture Introduction by Hossein Ardehali, M.D., Ph.D. (Northwestern University)</p>	Marco Polo Ballroom
3:15 – 4:45 PM	Posters – Session III Appetizers/ coffee & sodas	Full Square Ballroom

4:45 – 6:00 PM	Free Time for Attendees (self-grouping activities)	
6:00 – 7:00 pm	Cocktails and appetizers	The McNichols Center Second floor
7:00 – 8:30 PM	Banquet Dinner, -plated salad & bread -plated buffet	The McNichols Center, Third floor
8:30-10:30 PM	Dancing Dessert, coffee, dinks	Second floor
	Award Ceremonies, & Introduction to ISHR NAS 2022 @Winnipeg, Canada. MCI Recognize Tish Murphy MCI Scholarship award winners YICA Junior award winner YICA Senior award winner Litsa Kranias Award winner Michael R. Bristow Travel Award winners	

## Thursday, September 16, 2021

8:00 AM – 12:00 PM	Registration	Registration Desk
7:00 – 8:00 AM	Breakfast Buffet	Four Square Ballroom
8:00 – 9:00 AM	<b>Leslie Leinwand, Ph.D.</b> (University of Colorado Boulder): Lifetime Achievement Award Introduction by Kika Sucharov, Ph.D.	Marco Polo Ballroom
9:00 – 10:30 AM	<b>Symposium 13:</b> Epigenetics and Transcriptional Control in Cardiac Disease (Sponsored by the UCLA Health & David Geffen School of Medicine)  <b>Moderators:</b>  <b>Emma Robinson, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <b>Manuel Rosa-Garrido, Ph.D.</b> (UCLA)  <b>Speakers:</b>  <b>Maha Abdellatif, Ph.D.</b> (Rutgers New Jersey Medical School) <i>Modulating the Histone Code by Diet</i>  <b>Glynnis Garry, M.D.</b> (UT Southwestern) <i>Epigenetic Factors as Drivers of Cardiac Reprogramming</i>  <b>Eric Small, Ph.D.</b> (University of Rochester) <i>Transcriptional Control of Fibroblast Accumulation and Cardiac Fibrosis</i>  <b>Thomas Vondriska, Ph.D.</b> (UCLA) <i>Remodeling Chromatin Structure in Heart Failure</i>	Marco Polo Ballroom
9:00 – 10:30 AM	<b>Symposium 14:</b> Cardiometabolic Disease (Sponsored by UCLA Health)  <b>Moderators:</b>  <b>Anastacia (Tasha) Garcia, Ph.D.</b> (CU-Anschutz Medical Campus) <b>Rushita Bagchi, Ph.D.</b> (CU-Anschutz Medical Campus)  <b>Speakers:</b>  <b>Dale Abel, M.D., Ph.D.</b> (University of Iowa) <i>Glucose Metabolism and Heart Failure</i>  <b>Hossein Ardehali, M.D., Ph.D.</b> (Northwestern University) <i>Role of ZFP36L2 in Cardiac Growth During Pregnancy</i>	Four Square Ballroom

	<p><b>Steve Jones, Ph.D.</b> (University of Louisville) <i>Metabolic Regulation of the Cardiac Extracellular Matrix</i></p> <p><b>Dan Kelly, M.D.</b> (University of Pennsylvania) <i>Targeting Transcriptional Co-regulators in the Failing Heart</i></p>	
10:30 – 11:00 AM	AM Coffee Break	Four Square Lobby
11:00 AM–12:30 PM	<p><b><u>Symposium 15:</u></b> Inflammation and Cardiac Dysfunction</p> <p><b>Moderators:</b></p> <p><b>Hind Lal, Ph.D.</b> (University of Alabama at Birmingham) <b>Douglas Tilley, Ph.D.</b> (Temple University)</p> <p><b>Speakers:</b></p> <p><b>Pilar Alcaide, Ph.D.</b> (Tufts University) <i>Fibroblasts and T cells in Cardiac Inflammation and Fibrosis: a Two Way Communication</i></p> <p><b>Konstantinos Drosatos, Ph.D.</b> (Temple University) <i>Resolving Cardiovascular Complications in Sepsis by Targeting JNK Signaling</i></p> <p><b>Kory Lavine, M.D., Ph.D.</b> (Washington University) <i>Resident Cardiac Macrophages Mediate Adaptive Remodeling of the Heart</i></p> <p><b>Ronald Vagnozzi, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>Mechanisms of Therapeutic Inflammation Revealed from Cardiac Cell Therapy</i></p>	Marco Polo Ballroom
11:00 AM–12:30 PM	<p><b><u>Symposium 16:</u></b> Cardiac Ischemia &amp; Therapeutics (Sponsored by UCLA Health)</p> <p><b>Moderators:</b></p> <p><b>Xin-Liang Ma, M.D.</b> (Thomas Jefferson University) <b>Walter Knight, Ph.D.</b> (University of Colorado Anschutz Medical Campus)</p> <p><b>Speakers:</b></p> <p><b>Reza Ardehali, M.D., Ph.D.</b> (UCLA) <i>Generation of Chamber-Specific Cardiomyocytes from Human Pluripotent Stem Cells</i></p>	Four Square Ballroom

	<p><b>Sumanth Prabhu, M.D.</b> (Washington University) <i>The Macrophage Circadian Clock as a Therapeutic Target in Ischemic Heart Failure</i></p> <p><b>Lori Walker, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <i>Safety of Cannabis Use in Post-MI Patients. Is There a Therapeutic Potential?</i></p> <p><b>Jianyi “Jay” Zhang, M.D., Ph.D.</b> (University of Alabama at Birmingham) <i>Remuscularization of Injured Ventricle in Neonatal Large Mammal</i></p>	
12:30 – 2:00 PM	ISHR-NAS Council Meeting & Council Affairs (TBA)	Duck Duck Goose Room
2:00 – 3:30 PM	<p><b><u>Symposium 17:</u></b> Fibrosis and Cellular Crosstalk in Heart Disease (Sponsored by The University of Wisconsin Cardiovascular Research Center)</p> <p><b>Moderators:</b></p> <p><b>Josh Travers, Ph.D.</b> (University of Colorado Anschutz Medical Campus) <b>Pearl Quijada, Ph.D.</b> (UCLA)</p> <p><b>Speakers:</b></p> <p><b>Michael Czubryt, Ph.D.</b> (Hospital St-Boniface) <i>Targeting Cardiac Fibroblast to Myofibroblast Conversion in Heart Failure</i></p> <p><b>Jennifer Davis, Ph.D.</b> (University of Washington) <i>Regulators of Cardiac Fibroblast Fate &amp; Fibrosis</i></p> <p><b>Maria Kontaridis, Ph.D.</b> (Masonic Medical Research Institute) <i>Role of TRPM4 in Cardiac Disease and Arrhythmogenesis</i></p> <p><b>Michelle Tallquist, Ph.D.</b> (University of Hawaii at Manoa) <i>Cardiovascular Tolerance of Fibroblast Loss</i></p>	Marco Polo Ballroom
2:00 – 3:30 PM	<p><b><u>Symposium 18:</u></b> Preclinical Models of Heart Failure (Sponsored by the Translational Cardiovascular Research Center at the University of Arizona College of Medicine – Phoenix)</p>	Four Square Ballroom

	<p><b>Moderators:</b></p> <p><b>Nicole Purcell, Ph.D.</b> (Huntington Medical Research Institutes)  <b>Edward Lau, Ph.D.</b> (University of Colorado Anschutz Medical Center)</p> <p><b>Speakers:</b></p> <p><b>Timothy Kamp, M.D., Ph.D.</b>  (University of Wisconsin-Madison)  <i>Transcendocardial Delivery of Human Pluripotent Stem Cell-derived Cardiac Progenitor Cells in Swine Post-MI Model</i></p> <p><b>Charles Hong, M.D., Ph.D.</b>  (University of Maryland)  <i>Induced Pluripotent Stem Cell-Based Model for Infantile Dilated Cardiomyopathy Reveals Potential Therapeutic Strategy</i></p> <p><b>Mark Sussman, Ph.D.</b>  (San Diego State University)  <i>VAPing into Pulmonary Failure</i></p>	
3:30 – 4:00 PM	PM Coffee Break	Four Square Lobby
4:00 – 5:30 PM	<p><b>Symposium 19:</b> Cardiac Development and Disease (Sponsored by Children’s Hospital Colorado)</p> <p><b>Moderators:</b></p> <p><b>Stephanie Nakano, M.D.</b> (University of Colorado Anschutz Medical Campus)</p> <p><b>Marlin Touma, M.D., Ph.D.</b> (UCLA)</p> <p><b>Speakers:</b></p> <p><b>Rajan Jain, M.D.</b>  (University of Pennsylvania)  <i>Loops and TADs – Defining an Architectural Role for BRD4 in Congenital Disease</i></p> <p><b>Shelley Miyamoto, MD</b>  (University of Colorado Anschutz Medical Campus)  <i>Mitochondrial Function in Single Ventricle Congenital Heart Disease</i></p> <p><b>Christian Mosimann, Ph.D.</b>  (University of Colorado Anschutz Medical Campus)  <i>Visualizing Early Lineage Decisions in Heart Development In Vivo</i></p> <p><b>Katherine Yutzey, Ph.D.</b>  (Cincinnati Children’s Hospital)  <i>Cardiac Fibroblast Lineages in Postnatal Heart Maturation</i></p>	Marco Polo Ballroom

4:00 – 5:30 PM	<p><b><u>Symposium 20:</u></b> Metabolism and Cardiac Dysfunction (Sponsored by the Journal of Molecular and Cellular Cardiology)</p> <p><b>Moderators:</b></p> <p><b>Timothy O’Connell, Ph.D.</b> (University of Minnesota) <b>Jessica Pflieger, Ph.D.</b> (Virginia Tech University)</p> <p><b>Speakers:</b></p> <p><b>Zoltan Arany, M.D., Ph.D.</b> (University of Pennsylvania) <i>Branched Chain Amino Acids and Heart Failure</i></p> <p><b>Bradford Hill, Ph.D.</b> (University of Louisville) <i>Metabolic Channeling in the Heart</i></p> <p><b>Suresh Verma, Ph.D.</b> (University of Alabama at Birmingham) <i>Role of ALKBH5 on Endothelial Cell Function Following Myocardial Ischemia</i></p> <p><b>Yibin Wang, Ph.D.</b> (UCLA) <i>Cardiomyocyte Maturation: A Driver Beyond Transcription</i></p>	Four Square Ballroom
5:30 - 6:00 PM	Reception: Wine, beer and appetizers	Four Square Ballroom
6:00-6:45 PM	<p><b>Christopher Glembotski, Ph.D.</b> (University of Arizona College of Medicine – Phoenix): Eric N. Olson Mentorship Award (ENOMA)</p> <p>Introduction by Shirin Doroudgar, Ph.D., (University of Arizona College of Medicine – Phoenix), Erik Blackwood, Ph.D., (University of Arizona College of Medicine – Phoenix), Ph.D., and Adrian Arrieta, Ph.D. (UCLA)</p>	Marco Polo Ballroom
6:45-7:30 PM	<p><b>Wally Koch, Ph.D.</b> (Temple University): Research Achievement Award Lecture</p> <p>Introduction by Yibin Wang (UCLA)</p>	Marco Polo Ballroom
7:30-7:45 PM	<b><u>Closing remarks</u></b>	

**ECI Scientific Symposium Co-chairs**

Drs. Sam Das, Ph.D., and Rushita Bagchi, Ph.D.

**ECI Career Panel Co-chairs**

Drs. Adrian Arietta, Ph.D., and Erik Blackwood, Ph.D.

**ECI & MCI Joint Luncheon Organizers**

Drs. Catherine Makarewich, Ph.D., and Rushita Bagchi, Ph.D., (ECI) Drs. Sarah Franklin, Ph.D., and Nicole Purcell, Ph.D. (MCI)

**ECI & MCI Joint Social Organizers**

Drs. Sam Das, Ph.D., and Ron Vagnozzi, Ph.D., (ECI) Drs. Maggie Lam, Ph.D., and Raj Namakkal-Soorappan, Ph.D. (MCI)

**ECI Scientific Symposium- Abstract judging panel**

Kika Sucharov, Ph.D. (ECI Council Chair)

Adrian Arrieta, Ph.D.

Erik Blackwood, Ph.D.

Marina Felisbino, Ph.D.

Natasha Fillmore, Ph.D.

Anastacia Garcia, Ph.D.

Manuel Rosa Garrido, Ph.D.

Alessandra Ghigo, Ph.D.

Kim Ho

Catherine Makarewich, Ph.D.

Ron Vagnozzi, Ph.D.

Kate Weeks, Ph.D.

**Poster Sessions**

***Posters are located in the Marco Polo ballroom***

**Poster Session 1 and Opening Reception**

Monday, September 13<sup>th</sup> 6:00-7:30 PM

Posters P1-40 to P1-75

**Poster Session 2**

Tuesday, September 14<sup>th</sup> 5:30-7:00 PM

Posters P2-76 to P2-113

**Poster Session 3**

Wednesday, September 15<sup>th</sup> 3:15-4:45 PM

Posters P3-114 to P3-141

*Presenting author underlined*

**P1-40****Chrono-pharmacology of heart bioenergetics with glucocorticoid steroids**

Michelle Wintzinger<sup>1</sup>, Richard Rathbun<sup>1</sup>, Mattia Quattrocelli<sup>1,2</sup>

<sup>1</sup>Division of Molecular Cardiovascular Biology, Heart Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, USA. <sup>2</sup>Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, US

**P1-41****NAD Redox Imbalance Exacerbates Metabolic Cardiomyopathy**



Chi Fung Lee

*Oklahoma Medical Research Foundation, Oklahoma City, USA*

**P1-42**

**Mg deficiency induces mitochondrial electron transport chain dysfunction and diastolic dysfunction**

Man Liu<sup>1</sup>, Hong Liu<sup>1</sup>, Richard Clements<sup>2</sup>, Feng Feng<sup>1</sup>, Jin O-Uchi<sup>1</sup>, Samuel Dudley<sup>1</sup>

*<sup>1</sup>University of Minnesota, Minneapolis, USA. <sup>2</sup>University of Rhode Island, Providence, USA*

**P1-43**

**SARM1 Deficiency Protects Hearts Against Metabolic Cardiomyopathy**

Christine Light, Chi Fung Lee

*Oklahoma Medical Research Foundation, Oklahoma City, USA*

**P1-44**

**Integrated Genomics Analysis Identifies Recessive Ciliopathy Mutations in Primary Endocardial Fibroelastosis: a Rare Neonatal Cardiomyopathy**

Zubin Mehta, Nancy Halnon, Juan Carlos Alejos, Glen S Van Arsdell, Stanley F Nelson, Marlin Touma

*David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, USA*

**P1-45**

**Decoding the Cardiac Regulatory Long Noncoding RNAs In Male and Female Mice Using Integrative Multiomics Analysis**

Marlin Touma<sup>1</sup>, Yang Cao<sup>2</sup>, Calvin Pan<sup>2</sup>, Aldons J Lusic<sup>1</sup>

*<sup>1</sup>David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, USA. <sup>2</sup>University of California, Los Angeles, Los Angeles, USA*

**P1-47**

**Integrated Analysis of miRNA-mRNA Interaction in Pediatric Dilated Cardiomyopathy**

Frehiwet Hailu<sup>1</sup>, Anis Karimpour-Fard<sup>2</sup>, Lee Toni<sup>1</sup>, Michael Bristow<sup>1</sup>, Shelley Miyamoto<sup>3</sup>, Brian Stauffer<sup>1,4</sup>, Carmen Sucharov<sup>1</sup>

*<sup>1</sup>Department of Medicine/Division of Cardiology, University of Colorado School of Medicine, Aurora, Co, USA. <sup>2</sup>Department of Pharmacology, University of Colorado, Aurora, Co, USA. <sup>3</sup>Department of Pediatrics, University of Colorado School of Medicine, Children's Hospital Colorado, Aurora, Co, USA. <sup>4</sup>Division of Cardiology, Denver Health and Hospital Authority, Denver, Co, USA*

**P1-48**

**Crosstalk between cardiomyocytes and macrophages in the regulation of cardiac inflammation**

Gyeong-Jin Kang, Hong Liu, Eunji Kim, Samuel Dudley

*University of Minnesota, Minneapolis, USA*

**P1-49**

**Manipulation of periostin expression in activated cardiac fibroblasts after injury alters myocardial remodeling**

Shannon Jones<sup>1</sup>, Malina Ivey<sup>1</sup>, Perwez Alam<sup>1</sup>, Jeffery Molkenin<sup>2</sup>, Onur Kanisicak<sup>1</sup>

*<sup>1</sup>University of Cincinnati, Cincinnati, USA. <sup>2</sup>Cincinnati Children's Hospital Medical Center, Cincinnati, USA*

**P1-50**

**Identification of a novel role for Transforming Growth Factor Beta 1 as a mediator of heart-adipose tissue communication in the regulation of systemic metabolism.**

Jacob Longenecker<sup>1</sup>, Jennifer Petrosino<sup>1</sup>, Colton Martens<sup>1</sup>, Scott Hinger<sup>1</sup>, Charlotte Royer<sup>1</sup>, Lisa Dorn<sup>1</sup>, Joan Serrano<sup>2</sup>, George Kyriazis<sup>2</sup>, Kedryn Baskin<sup>1</sup>, Federica Accornero<sup>1</sup>

<sup>1</sup>Department of Physiology and Cell Biology, Dorothy M. Davis Heart and Lung Research Institute, The Ohio State University, Columbus, OH, USA. <sup>2</sup>Department of Biological Chemistry and Pharmacology, Dorothy M. Davis Heart and Lung Research Institute, The Ohio State University, Columbus, OH, USA

#### **P1-51**

##### **The Ca<sup>2+</sup> sensor MICU1 regulates mitochondrial cristae structure and function**

Dhanendra Tomar, Manfred Thomas, Joanne Garbincius, Devin Kolmetzky, Oniel Salik, Pooja Jadia, John Elrod

Center for Translational Medicine, Department of Cardiovascular Sciences, Lewis Katz School of Medicine at Temple University, Philadelphia, USA

#### **P1-52**

##### **Discovery of a mitochondrial disaggregase, CLPB, that is required for MICU1 protein turnover and mitochondrial calcium overload in ischemia-reperfusion injury**

Dhanendra Tomar, Ryan McGregor, Pooja Jadia, Alycia Hildebrand, John Elrod

Center for Translational Medicine, Department of Cardiovascular Sciences, Lewis Katz School of Medicine at Temple University, Philadelphia, USA

#### **P1-53**

##### **Free fatty acid receptor 4 is necessary for left ventricular functional recovery after ischemia reperfusion**

Michael Zhang, Sergey Karachenets, Chastity Healy, Timothy O'Connell

University of Minnesota, Minneapolis, USA

#### **P1-54**

##### **High throughput enzymatic ATPase assay to screen for SERCA modulators**

Philip Bidwell<sup>1</sup>, Samantha Yuen<sup>2</sup>, Ji Li<sup>2</sup>, Robyn Rebeck<sup>2</sup>, Razvan Cornea<sup>2</sup>, David Thomas<sup>2</sup>

<sup>1</sup>Department of Medicine, Cardiovascular Division, University of Minnesota, Minneapolis, USA. <sup>2</sup>Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, Minneapolis, USA

#### **P1-55**

##### **Selectively expressing SARS-CoV-2 Spike protein S1 subunit in cardiomyocytes causes cardiac injury in mice.**

Steven Negron<sup>1</sup>, Chase Kessinger<sup>1</sup>, Bing Xu<sup>1</sup>, William Pu<sup>2</sup>, Zhiqiang Lin<sup>1</sup>

<sup>1</sup>Masonic Medical Research Institute, Utica, USA. <sup>2</sup>Boston Children's Hospital, Boston, USA

#### **P1-56**

##### **BEX1 is a critical determinant of viral myocarditis**

Colton Martens, Lisa Dorn, Adam Kenny, Shyam Bansal, Jacob Yount, Federica Accornero

The Ohio State University, Columbus, USA

#### **P1-57**

##### **Enhanced glutaminolysis is necessary for the epigenetic changes underlying myofibroblast formation and in vivo targeting reverses fibrosis and cardiac dysfunction in heart failure**

Andrew Gibb<sup>1</sup>, Anh Huynh<sup>1</sup>, Emma Murray<sup>1</sup>, Alyssa Lombardi<sup>1</sup>, Pawel Lorkiewicz<sup>2</sup>, Devin Kolmetzky<sup>1</sup>, Michael Lazaropoulos<sup>1</sup>, Zolt Arany<sup>3</sup>, Dan Kelly<sup>3</sup>, Kenneth Margulies<sup>3</sup>, Bradford Hill<sup>2</sup>, John Elrod<sup>1</sup>

<sup>1</sup>Temple University, Philadelphia, USA. <sup>2</sup>University of Louisville, Louisville, USA. <sup>3</sup>University of Pennsylvania, Philadelphia, USA

#### **P1-58**

**Systems biology to define the molecular signatures of HFpEF in a cardiac-centric large animal model**  
Andrew Gibb, Emma Murray, Deborah Eaton, Anh Huynh, Dhanendra Tomar, Joanne Garbincius, Devin Kolmetsky, Remus Berretta, Markus Wallner, Steve Houser, John Elrod  
*Temple University, Philadelphia, USA*

**P1-59**

**RBM20 mutation is a high genetic risk factor for premature death through RNA-protein condensates in mice**

Chunyan Wang<sup>1</sup>, Yanghai Zhang<sup>1</sup>, Mei Methawasin<sup>2</sup>, Camila Urbano Braz<sup>1</sup>, Jeffrey Gao-Hu<sup>1</sup>, Betty Yang<sup>1</sup>, Joshua Strom<sup>2</sup>, Timothy Hacker<sup>3</sup>, Hasan Khatib<sup>1</sup>, Henk Granzier<sup>2</sup>, Wei Guo<sup>1</sup>  
<sup>1</sup>*Department of Animal and Dairy Sciences, University of Wisconsin-Madison, Madison, USA.* <sup>2</sup>*Department of Molecular and Cellular Medicine, University of Arizona, Tucson, USA.* <sup>3</sup>*Division of Cardiovascular Medicine, Department of Medicine, University of Wisconsin School of Medicine and Public Health, Madison, USA*

**P1-60**

**Acetyl-CoA Synthesis is Essential for Myofibroblast Differentiation and Persistence**

Michael Lazaropoulos<sup>1</sup>, Allison Reiter<sup>1</sup>, Andrew Gibb<sup>1</sup>, Anh Huynh<sup>1</sup>, Kathryn Wellen<sup>2</sup>, John Elrod<sup>1</sup>  
<sup>1</sup>*Center for Translational Medicine, Temple University, Philadelphia, USA.* <sup>2</sup>*University of Pennsylvania, Philadelphia, USA*

**P1-61**

**Ffar4 is required to attenuate pathologic remodeling in heart failure with preserved ejection fraction (HFpEF) secondary to metabolic syndrome (MetS)**

Naixin Zhang, Katherine Murphy, Jackie Stevens, Michael Zhang, Dylan Gyberg, Dewayne Townsend, Timothy O'Connell  
*University of Minnesota, Minneapolis, USA*

**P1-62**

**Cardiac fibroblast deactivation: the Holy Grail or another obstacle to overcome?**

Malina Ivey, Shannon Jones, Perwez Alam, Onur Kanisicak  
*University of Cincinnati, Cincinnati, USA*

**P1-63**

**Phenotypic Screening Uncovers Eicosanoid Degradation in Fibroblasts as a Therapeutic Target for Cardiac Fibrosis**

Marcello Rubino, Blake Enyart, Alaina Headrick, Keith Koch, Timothy Mckinsey  
*University of Colorado Anschutz Medical Campus, Aurora, USA*

**P1-66**

**Characterizing Hypertrophic Cardiomyopathy due to MYBPC3 Deficiency in hiPSC-CMs and hiPSC-Derived Three-Dimensional Cardiac Tissues**

Walter Knight<sup>1</sup>, Yingqiong Cao<sup>1</sup>, Congwu Chi<sup>1</sup>, Yuanbiao Zhao<sup>1</sup>, Shane Williams<sup>1</sup>, Kathleen Woulfe<sup>1</sup>, Hongyan Xu<sup>2</sup>, Keith Koch<sup>1</sup>, Kunhua Song<sup>1</sup>  
<sup>1</sup>*The University of Colorado Anschutz Medical Campus, Aurora, USA.* <sup>2</sup>*Augusta University, Augusta, USA*

**P1-67**

**Branched-Chain Amino Acid Accumulation Aggravates Adverse Remodeling in the Failing Heart**

Qutuba Karwi<sup>1</sup>, Liyan Zhang<sup>1</sup>, Cory Wagg<sup>1</sup>, Keshav Gopal<sup>2</sup>, Kim Ho<sup>1</sup>, Jody Lefvasseur<sup>1</sup>, John Ussher<sup>2</sup>, Jason Dyck<sup>1</sup>, Gary Lopaschuk<sup>1</sup>  
<sup>1</sup>*Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Alberta, Canada.* <sup>2</sup>*Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, Alberta, Canada*

**P1-68**

**HDAC11 Regulates Gene Expression and Lipid Droplet-associated protein Myristoylation in Adipocytes**

Emma Robinson, Rushita Bagchi, Timothy McKinsey

*Anschutz Medical Campus University of Colorado, Aurora, USA*

**P1-69**

**Mechanistic interplay between cardioprotection and heart regeneration mediated by the ER-bound transcription factor Nrf1**

Miao Cui, Ning Liu, Rhonda Bassel-Duby, Eric Olson

*University of Texas Southwestern Medical Center, Dallas, USA*

**P1-70**

**A Proteomics Perspective of Cardiac Development and Regeneration in Swine Hearts**

Timothy Aballo<sup>1</sup>, Elizabeth Bayne<sup>1</sup>, Wuqiang Zhu<sup>2</sup>, Meng Zhao<sup>3</sup>, Ahmed Mahmoud<sup>1</sup>, Jianyi Zhang<sup>3</sup>, Ying Ge<sup>1</sup>

*<sup>1</sup>University of Wisconsin-Madison, Madison, USA. <sup>2</sup>Mayo Clinic, Phoenix, USA. <sup>3</sup>University of Alabama at Birmingham, Birmingham, USA*

**P1-71**

**Loss of Igf2r reduces reperfusion injury during heart transplantation**

Jialiang Liang, Zhichao Wu, Yigang Wang

*Department of Pathology and Laboratory Medicine, University of Cincinnati, Cincinnati, USA*

**P1-72**

**Interrogation of the NCLX interactome for novel regulators of mitochondrial calcium efflux**

Joanne Garbincius, Oniel Salik, Adam Mangold, Angelina Makhoul, Emma Murray, Michael Lazaropolous, Dhanendra Tomar, Pooja Jadiya, John Elrod

*Temple University, Philadelphia, USA*

**P1-73**

**Increasing mitochondrial Ca<sup>2+</sup> efflux via overexpression of NCLX attenuates pathological remodeling in experimental cardiac hypertrophy and heart failure**

Joanne Garbincius, Timothy Luongo, Pooja Jadiya, Alycia Hildebrand, Devin Kolmetzky, Adam Mangold, Rajika Roy, John Elrod

*Temple University, Philadelphia, USA*

**P1-75**

**MCU-dependent mCa<sup>2+</sup> uptake during chronic adrenergic stress promotes mPTP-independent cardiomyocyte death and impairs cardiac contractility**

Joanne Garbincius, Timothy Luongo, Jonathan Lambert, Adam Mangold, Emma Murray, Alycia Hildebrand, Pooja Jadiya, John Elrod

*Temple University, Philadelphia, USA*

**P2-76**

**Adenylosuccinate Synthase is a Novel Methylation Target of Smyd1**

Magnus Creed, Marta Szulik, Ryan Bia, Kathryn Davis, Chris Tracy, Aman Makaju, Sarah Franklin

*University of Utah, Salt Lake City, UT, USA*

**P2-79**

**Loss of Myeloid Cell-Specific beta2-Adrenergic Receptor Promote Cardiac Function by Regulating**

## **Leukocyte Immune Responses during Myocardial Infarction**

Tapas Nayak, Anamika Bajpai, Rhonda Carter, Douglas Tilley

*Center for Translational Medicine, Lewis Katz School of Medicine at Temple University, Philadelphia, USA*

### **P2-80**

#### **Efficacy of sport preparticipation evaluation as primary prevention of adverse cardiovascular events**

Gianlorenzo Daniele<sup>1,2</sup>, Federica del Monte<sup>1,3</sup>

*<sup>1</sup>Department of Cardiology, Christie Heart and Brain Program, Medical University of South Carolina, Charleston, USA. <sup>2</sup>Medical, Health and Antidoping Committee, World Association of Kickboxing Organization, WAKO, Switzerland. <sup>3</sup>Department of Department of Experimental, Diagnostic and Specialty Medicine (DIMES), School of Medicine University of Bologna Alma Mater, Bologna, Italy*

### **P2-81**

#### **Top-down Proteomics of Sarcomeric Regulatory Membrane Protein Phospholamban Enabled by Photocleavable Surfactant**

Kalina Reese, Jake Melby, Kyle Brown, Austin Carr, Song Jin, Ying Ge

*University of Wisconsin-Madison, Madison, USA*

### **P2-82**

#### **Integrated Functional Assessments and Top-down Proteomics of Patient-Specific Human Induced Pluripotent Stem Cell-derived Engineered Cardiac Tissues in Hypertrophic Cardiomyopathy**

Jake Melby, Kalina Reese, Willem de Lange, Jianhua Zhang, David Roberts, Stanford Mitchell, Trisha Tucholski, Gina Kim, Andreas Kyrvasilis, Sean McIlwain, Timothy Kamp, Carter Ralphe, Ying Ge  
*University of Wisconsin-Madison, Madison, USA*

### **P2-83**

#### **HuR mediates myofibroblast activation through post-transcriptional control of Wisp1 expression**

Lisa Green, Myc McGuinness, Sarah Anthony, Samuel Slone, Onur Kanisicak, Michael Tranter  
*University of Cincinnati, Cincinnati, USA*

### **P2-84**

#### **Molecular and histopathological effects of the novel SMYD1 variant identified in a patient with dilated cardiomyopathy and biventricular heart failure.**

Marta Szulik<sup>1</sup>, Kathryn Davis<sup>1</sup>, Miguel Reyes-Mugica<sup>2</sup>, Daniel Marker<sup>2</sup>, Lina Ghaloul-Gonzalez<sup>2</sup>, Sarah Franklin<sup>1</sup>

*<sup>1</sup>University of Utah, Salt Lake City, USA. <sup>2</sup>University of Pittsburgh, Pittsburgh, USA*

### **P2-85**

#### **Overexpression of the histone methyltransferase SMYD1 mitigates ischemic injury by regulating mitochondrial respiration.**

Marta Szulik, Kathryn Davis, Steven Valdez, Maureen Walsh, Ryan Bia, Emilee Horiuchi, Sean O'Very, Anil Laxman, Mickey Miller, Li Wang, June Garcia-Llano, Christopher Tracy, Stavros Drakos, Katsu Funai, Dipayan Chaudhuri, Sihem Boudina, Sarah Franklin

*University of Utah, Salt Lake City, USA*

### **P2-86**

#### **Examining cardiac phenotypes of EF hand containing domain 1 protein (EFHD1) knockout mice**

David Eberhardt

*University of Utah, Utah, USA*

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## **Impaired WNT signaling contributes to congenital heart defects in Down syndrome**

Congwu Chi, Yingqiong Cao, Angela Rachubinski, Roubina Tatavosian, Joaquin Espinosa, Kunhua Song  
*University of Colorado Anschutz Medical Campus, Aurora, USA*

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### **Elucidating the Function of RPL3L, a Muscle-specific Ribosomal Protein**

Kelly Grimes, Vikram Prasad, Jeffery Molkenin  
*Cincinnati Children's Hospital, Cincinnati, USA*

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### **Circulating Gut Microbial Peptides Exacerbate Cardiac Dysfunction in IL10 KO mice Following Transaortic Constriction.**

Sumanta Goswami<sup>1</sup>, Prabhat Ranjan<sup>1</sup>, Ram Prasad<sup>2</sup>, Suresh Verma<sup>1</sup>  
<sup>1</sup>*Division of Cardiovascular Diseases, The University of Alabama Birmingham, Birmingham, USA.* <sup>2</sup>*Department of Ophthalmology and Visual Science, The University of Alabama Birmingham, Birmingham, USA*

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### **RNA-binding protein with multiple splicing (Rbpms) plays an essential role in cardiomyocyte binucleation and noncompaction cardiomyopathy**

Peiheng Gan, Zhaoning Wang, Maria Gabriela Morales France, Rhonda Bassel-Duby, Eric Olson, Ning Liu  
*UTSW, Dallas, USA*

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### **Role for Btg1 and Btg2 in postnatal cardiomyocyte cell cycle arrest and maturation**

Nivedhitha Velayutham<sup>1,2</sup>, Frank van Leeuwen<sup>3</sup>, Blanca Scheijen<sup>4</sup>, Katherine Yutzey<sup>1</sup>  
<sup>1</sup>*The Heart Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA.* <sup>2</sup>*Molecular and Developmental Biology Graduate Program, University of Cincinnati, Cincinnati, OH, USA.* <sup>3</sup>*Princess Máxima Center for Pediatric Oncology, Utrecht, Netherlands.* <sup>4</sup>*Radboud University Medical Center, Nijmegen, Netherlands*

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### **Proteomic Features of Extracellular Vesicles in Normal and Senescent Human AC16 Cardiomyocytes**

Lauren Li, Nikhitha Kastury, Edward Lau  
*University of Colorado, Aurora, USA*

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### **Defining the role of zDHHC3 and zDHHC7 in cardiac stress signaling**

Tanya Baldwin<sup>1</sup>, Matthew Brody<sup>2</sup>, Jeffery Molkenin<sup>1</sup>  
<sup>1</sup>*Cincinnati Children's Hospital Medical Center, Cincinnati, USA.* <sup>2</sup>*University of Michigan, Ann Arbor, USA*

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### **Cardiomyocyte contractility and myofilament calcium sensitivity are increased by HDAC inhibition**

Deborah M. Eaton<sup>1</sup>, Thomas G. Martin<sup>2</sup>, Michael Kasa<sup>3</sup>, Natasa Djalinac<sup>3</sup>, Jaslyn P. Johnson<sup>1</sup>, Ewald Kolesnik<sup>3</sup>, Senka Ljubojevic-Holzer<sup>3</sup>, Dirk von Lewinski<sup>3</sup>, Maria Poettler<sup>3</sup>, Heinrich Maechler<sup>3</sup>, Andreas Zirlík<sup>3</sup>, Timothy A. McKinsey<sup>4</sup>, Jonathan A. Kirk<sup>2</sup>, Steven R. Houser<sup>1</sup>, Peter P. Rainer<sup>3</sup>, Markus Wallner<sup>1,3,5</sup>  
<sup>1</sup>*Temple University School of Medicine, Philadelphia, USA.* <sup>2</sup>*Loyola University Chicago Stritch School of Medicine, Chicago, USA.* <sup>3</sup>*Medical University of Graz, Graz, Austria.* <sup>4</sup>*University of Colorado Anschutz Medical Campus, Aurora, USA.* <sup>5</sup>*CBmed GmbH, Graz, Austria*

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### **Defining Sex-Based Differences in Response to Pressure Overload in a Large Animal Model**

Deborah M. Eaton<sup>1</sup>, Remus M. Berretta<sup>1</sup>, Jacqueline E. Lynch<sup>1</sup>, Joshua G. Travers<sup>2</sup>, Kathleen C. Woulfe<sup>2</sup>, Ryan D. Pfeiffer<sup>3</sup>, Michelle L. Hulke<sup>3</sup>, Alexander R.H. Hobby<sup>2</sup>, Giana Schena<sup>1</sup>, Jaslyn P. Johnson<sup>1</sup>, Markus Wallner<sup>1,4,5</sup>, Nathan R. Tucker<sup>3</sup>, Timothy A. McKinsey<sup>2</sup>, Marla R. Wolfson<sup>1</sup>, Steven R. Houser<sup>1</sup>

<sup>1</sup>Temple University School of Medicine, Philadelphia, USA. <sup>2</sup>University of Colorado Anschutz Medical Campus, Aurora, USA. <sup>3</sup>Masonic Medical Research Institute, Utica, USA. <sup>4</sup>Medical University of Graz, Graz, Austria. <sup>5</sup>CBmed GmbH, Graz, Austria

## P2-96

### **Bmi1 mediates chromatin remodeling and redox homeostasis for cardiac repair after myocardial injury**

Lindsay Kraus, Marcus Wagner, Tabito Kino, Sadia Mohsin

Lewis Katz School of Medicine at Temple University, Philadelphia, USA

## P2-97

### **Polyphenolic Compounds Can Restore Ischemia Induced Epigenetic Modifications**

Puneet Randhawa, Avni Mukker, Raj Patel, Aishwarya Rajakumar, Manish Gupta

Burnett School of Biomedical Sciences, Coll of Med, University of Central Florida, Orlando, USA

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### **Tandem mass tagging based proteome signatures for reductive stress cardiomyopathy**

Sini Sunny<sup>1</sup>, Cynthia L. David<sup>2</sup>, Krishna Parsawar<sup>2</sup>, Rajasekaran Namakkal S<sup>1</sup>

<sup>1</sup>University of Alabama, Birmingham, USA. <sup>2</sup>University of Arizona, Tucson, USA

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### **Inactivation of Maladaptive Myeloid Lipid Metabolism Prevents Cardiac Diastolic Dysfunction by Suppressing Extramedullary Splenic Hematopoiesis**

Mallory Filipp<sup>1</sup>, Zhi-Dong Ge, MD PhD<sup>1,2</sup>, Gabriele Schiattarella, MD PhD<sup>3,4</sup>, Joseph A Hill, MD PhD<sup>3</sup>, Sanjiv Shah, MD<sup>5</sup>, Edward Thorp, PhD<sup>1,2</sup>

<sup>1</sup>Department of Pathology, Northwestern University, Chicago, USA. <sup>2</sup>Department of Pediatrics, Northwestern University, Chicago, USA. <sup>3</sup>Department of Cardiology, University of Texas - Southwestern Medical Center, Dallas, USA. <sup>4</sup>Max Delbrück Center for Molecular Medicine, Berlin, Germany. <sup>5</sup>Department of Cardiology, Northwestern University, Chicago, USA

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### **Assessing Rac1 in cardiac fibroblast behavior and response to injury**

Stephanie Bowers, Qinghang Meng, Tanya Baldwin, Jeffery Molkenin

Cincinnati Children's Hospital, Cincinnati, USA

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### **The landscape of accessible chromatin in quiescent cardiac fibroblasts and cardiac fibroblasts activated after myocardial infarction**

Chaoyang Li<sup>1</sup>, Jiangwen Sun<sup>2</sup>, Qianglin Liu<sup>1</sup>, Sanjeeva Dodlapati<sup>2</sup>, Hao Ming<sup>1</sup>, Leshan Wang<sup>1</sup>, Yuxia Li<sup>1</sup>, Rui Li<sup>3</sup>, Zongliang Jiang<sup>3</sup>, Joseph Francis<sup>4</sup>, Xing Fu<sup>1</sup>

<sup>1</sup>School of Animal Sciences, AgCenter, Louisiana State University, Baton Rouge, USA. <sup>2</sup>Department of Computer Science, Old Dominion University, Norfolk, USA. <sup>3</sup>Department of Molecular, Cell and Cancer

*Biology, University of Massachusetts Medical School, Worcester, USA. <sup>4</sup>Department of Comparative Biomedical Sciences, School of Veterinary Medicine, Louisiana State University, Baton Rouge, USA*

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#### **Delineating the Mechanism and Function of ADGRF5 in Cardiomyocytes**

Jeanette Einspahr, Viren Patwa, Rajika Roy, Douglas Tilley  
*Temple University, Philadelphia, USA*

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#### **Age-Dependent Changes in Cardiac Cardiolipin Molecular Species Influence Mitochondrial Oxidative Capacity**

Raleigh Jonscher<sup>1,2</sup>, Elisabeth Phillips<sup>1</sup>, Sydney Shuff<sup>2</sup>, Cortney Wilson<sup>1</sup>, Kathleen Wolfe<sup>1</sup>, Brian Stauffer<sup>1,3</sup>, Kathryn Chatfield<sup>2</sup>, Genevieve Sparagna<sup>1</sup>

*<sup>1</sup>University of Colorado-Department of Medicine, Aurora, USA. <sup>2</sup>University of Colorado-Department of Pediatrics, Aurora, USA. <sup>3</sup>Denver Health Medical Center-Division of Cardiology, Denver, USA*

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#### **Truncated Titin Protein Expression in Human DCM Hearts**

Quentin McAfee<sup>1</sup>, Christina Yingxian Chen<sup>2</sup>, Yifan Yang<sup>1</sup>, Matthew Caporizzo<sup>2</sup>, Michael Morley<sup>1</sup>, Apoorva Babu<sup>1</sup>, Sunhye Jeong<sup>1</sup>, Jeffrey Brandimarto<sup>1</sup>, Kenneth Bedi<sup>1</sup>, Emily Flam<sup>1</sup>, Joseph Cesare<sup>1</sup>, Thomas Cappola<sup>1</sup>, Kenneth Margulies<sup>1</sup>, Benjamin Prosser<sup>2</sup>, Zolt Arany<sup>1</sup>

*<sup>1</sup>Cardiovascular Institute, Department of Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA. <sup>2</sup>Department of Physiology, Pennsylvania Muscle Institute, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA*

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#### **Mitochondrial magnesium links hepatic insulin resistance and atherosclerotic cardiovascular disease**

Prema Velusamy<sup>1</sup>, Natarajaseenivasan Kalimuthusamy<sup>2</sup>, Shanmughapriya Santhanam<sup>1</sup>  
*<sup>1</sup>Pennsylvania State University, Hershey, USA. <sup>2</sup>Temple University, Philadelphia, USA*

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#### **LIN28a extends postnatal cardiac regenerative window by increasing persistence of mononucleated diploid cardiomyocytes**

Vagner Rigaud, Robert Hoy, Justin Kurian, Clare Zarka, Michael Behanan, Mohsin Khan  
*Temple University, Philadelphia, USA*

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#### **HDAC Inhibition Reverses Preexisting Diastolic Dysfunction and Blocks Covert Extracellular Matrix Remodeling**

Joshua Travers<sup>1</sup>, Sara Wennersten<sup>1</sup>, Brisa Peña<sup>1</sup>, Rushita Bagchi<sup>1</sup>, Harrison Smith<sup>2</sup>, Rachel Hirsch<sup>2</sup>, Lauren Vanderlinden<sup>3</sup>, Ying-Hsi Lin<sup>1</sup>, Evgenia Dobrinskikh<sup>1</sup>, Kimberly Demos-Davies<sup>1</sup>, Maria Cavašin<sup>1</sup>, Luisa Mestroni<sup>1</sup>, Christian Steinkühler<sup>4</sup>, Charles Lin<sup>5</sup>, Steven Houser<sup>6</sup>, Kathleen Woulfe<sup>1</sup>, Maggie Lam<sup>1</sup>, Timothy McKinsey<sup>1</sup>

*<sup>1</sup>University of Colorado Anschutz Medical Campus, Aurora, USA. <sup>2</sup>Baylor College of Medicine, Houston, USA. <sup>3</sup>Colorado School of Public Health, Aurora, USA. <sup>4</sup>Italfarmaco SpA (C.S.), Cinisello Balsamo, Italy. <sup>5</sup>Kronos Bio, Cambridge, USA. <sup>6</sup>Temple University, Philadelphia, USA*

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#### **PDZD8 tethers the sarcoplasmic reticulum to mitochondria in cardiomyocytes**



**P2-110**

**Late-life Rapamycin Treatment Promotes Myofibril Relaxation and Calcium Reuptake to Improve Diastolic Function in Old Mice**

Akash Chakraborty<sup>1</sup>, Kristi Kooiker<sup>2</sup>, Yuanhua Cheng<sup>2</sup>, Chi Fung Lee<sup>1</sup>, Henk L Granzier<sup>3</sup>, Mike Regnier<sup>2</sup>, Peter Rabinovitch<sup>2</sup>, Farid Moussavi-Harami<sup>2</sup>, Ying Ann Chiao<sup>1</sup>

<sup>1</sup>Oklahoma Medical Research Foundation, Oklahoma City, USA. <sup>2</sup>University of Washington, Seattle, USA. <sup>3</sup>University of Arizona, Tucson, USA

**P2-111**

**Disruption of  $\beta$ -arrestin-2 signaling resulted in impaired systolic and diastolic function during aging.**

Paola Rosas<sup>1</sup>, Chad Warren<sup>1</sup>, Koreena Rafael-Clyke<sup>2</sup>, Beata Wolska<sup>1</sup>, R. John Solaro<sup>1</sup>

<sup>1</sup>University of Illinois at Chicago, Chicago, USA. <sup>2</sup>University of Illinois at Chicago, Chicago, USA

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**Elucidation of the regulatory mechanism of adipocyte adrenergic signaling via reversible fatty acylation of a scaffolding protein**

Rushita Bagchi<sup>1,2</sup>, Emma Robinson<sup>1,2</sup>, Tianjing Hu<sup>1,2</sup>, Ji Cao<sup>3</sup>, Jun Young Hong<sup>4</sup>, Charles Tharp<sup>1,2</sup>, Hanan Qasim<sup>5</sup>, Kathleen Gavin<sup>6</sup>, Julie Pires da Silva<sup>1</sup>, Jennifer Major<sup>1,2</sup>, Bradley McConnell<sup>5</sup>, Edward Seto<sup>7</sup>, Hening Lin<sup>4</sup>, Timothy McKinsey<sup>1,2</sup>

<sup>1</sup>Department of Medicine, Division of Cardiology, University of Colorado Anschutz Medical Campus, Aurora, USA. <sup>2</sup>Consortium for Fibrosis Research & Translation, University of Colorado Anschutz Medical Campus, Aurora, USA. <sup>3</sup>Zhejiang Province Key Laboratory of Anti-Cancer Drug Research, College of Pharmaceutical Sciences, Zhejiang University, Hangzhou, China. <sup>4</sup>Howard Hughes Medical Institute, Department of Chemistry and Chemical Biology, Cornell University, Ithaca, USA. <sup>5</sup>Department of Pharmacological and Pharmaceutical Sciences, University of Houston College of Pharmacy, Houston, USA. <sup>6</sup>Department of Medicine, Division of Geriatric Medicine, University of Colorado Anschutz Medical Campus, Aurora, USA. <sup>7</sup>Department of Biochemistry & Molecular Medicine, The George Washington University School of Medicine & Health Sciences, Washington D.C., USA

**P2-113**

**Cardiac Hypertrophy and Diastolic Dysfunction Are T Cell-Dependent in a Preclinical Model of Heart Failure with Preserved Ejection Fraction (HFpEF)**

Sasha Smolgovsky<sup>1</sup>, Francisco Carrillo-Salinas<sup>1</sup>, Marina Anastasiou<sup>1,2</sup>, Kuljeet Kaur<sup>1</sup>, Abraham Bayer<sup>1</sup>, Mark Aronovitz<sup>1</sup>, Robert Blanton<sup>3</sup>, Pilar Alcaide<sup>1</sup>

<sup>1</sup>Tufts University, Boston, USA. <sup>2</sup>University of Crete, Crete, Greece. <sup>3</sup>Tufts Medical Center, Boston, USA

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**Novel Desmoplakin Variant Linked to Arrhythmogenic Cardiomyopathy Displays Unique Mechanism of Pathogenicity**

Tyler Stevens<sup>1</sup>, Heather Manring<sup>1</sup>, Ronald Ng<sup>2</sup>, Michael Wallace<sup>1</sup>, Steve Antwi-Boasiako<sup>1</sup>, Lindsay Young<sup>1</sup>, Sara Koenig<sup>1</sup>, stuart campbell<sup>2</sup>, Mona El Refaey<sup>1</sup>, Maegen Ackermann<sup>3</sup>, Peter Mohler<sup>1</sup>

<sup>1</sup>The Ohio State University, Columbus, USA. <sup>2</sup>Yale, New Haven, USA. <sup>3</sup>Mansfield University, Mansfield, USA

**P3-115**

**Increased CPT1a isoform expression is a critical and protective adaptive response to pathological stress**

**in hypertrophied hearts.**

Andrew Carley, Santosh Maurya, Yang Wang, Matthew Fasano, E. Douglas Lewandowski  
*The Ohio State University College of Medicine, Columbus, USA*

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**The Golgi S-acyl transferase zDHHC9 Modifies Jak1 and Promotes Pathogenic Signaling in the Heart**

Kobina Essandoh, Arasakumar Subramani, Matthew Brody  
*University of Michigan, Ann Arbor, USA*

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**Polarized Macrophages Have Limited Impact on the Production and Degradation of Extracellular Matrix Component Hyaluronan**

Caitlin Howard, Timothy Audam, Yi Wei Zheng, Marjan Nasr, Zhen Gu, Sujith Dassanayaka, Marcin Wysoczynski, Steven Jones  
*University of Louisville, Louisville, USA*

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**Transient Angiotensin Converting Enzyme Inhibition Produces Sex-Specific Anti-Fibrotic Effects in Hypertensive Rats**

Alexandra Garvin, Dana Floyd, Amal Altaf, Matthew Siegel, Wendy Nunez, Poulami Soni, Taben Hale  
*University of Arizona College of Medicine, Phoenix, USA*

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**p38/IRE1 $\alpha$ /Xbp1 signaling regulates chamber-specific postnatal heart growth**

Tomohiro Yokota, Yibin Wang  
*UCLA, Los Angeles, USA*

**P3-120**

**Microenvironmental transthyretin deposition alters cardiomyocyte structure and function.**

Kyle Dittloff, Emanuele Spanghero, Christopher Solis, Brenda Russell  
*University of Illinois at Chicago, Chicago, USA*

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**Miat-NCL Mediated Translatome Reprogramming In pathological Hypertrophy and Heart Failure**

Yifan(Frank) Wang<sup>1,2</sup>, He(Iris) Wang<sup>1,2</sup>, Zhihua Wang<sup>1,3</sup>, Christoph Rau<sup>1,4</sup>, Shuxun Ren<sup>1</sup>, Yibin Wang<sup>1</sup>  
<sup>1</sup>Department of Anesthesiology, David Geffen School of Medicine, UCLA, Los Angeles, USA. <sup>2</sup>Molecular, Cellular & Integrative Physiology Program, UCLA, Los Angeles, USA. <sup>3</sup>Renmin Hospital, Wuhan University School of Medicine, Wuhan, China. <sup>4</sup>Department of Genetics, University of North Carolina at Chapel Hill, Chapel Hill, USA

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**Inhibition of the Epigenome Reader Protein BRD4 Attenuates Cardiac Damage After Ischemia-Reperfusion and Modulates Cardiac Macrophage Phenotype**

Alexander Hobby<sup>1</sup>, Marina Felisbino<sup>1</sup>, Katherine Schuetze<sup>2</sup>, Maria Cavasin<sup>1</sup>, Rachel McMahan<sup>1</sup>, Ilaria Ferrari<sup>1</sup>, Ronald Vagnozzi<sup>1</sup>, Timothy McKinsey<sup>1</sup>  
<sup>1</sup>University of Colorado Anschutz Medical Campus, Aurora, USA. <sup>2</sup>University of Colorado Denver, Denver, USA

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**In vivo Deep Network Tracing Reveals Metabolic Changes in Murine Pressure Overload Hearts**

Kyle Fulghum<sup>1</sup>, Sujith Dassanayaka<sup>1</sup>, Helen Collins<sup>1</sup>, Pawel Lorkiewicz<sup>1</sup>, Teresa Cassel<sup>2</sup>, Bradford Hill<sup>1</sup>, Steven Jones<sup>1</sup>

<sup>1</sup>University of Louisville, Louisville, USA. <sup>2</sup>University of Kentucky, Lexington, USA

### **P3-124**

#### **Development of an *in vitro* model to study directed growth of isolated adult cardiomyocytes**

Keita Uchida, Emily Scarborough, Benjamin Prosser

*Department of Physiology, University of Pennsylvania, Philadelphia, USA*

### **P3-125**

#### **Microtubules enable cardiac growth via localization of mRNA**

Emily Scarborough<sup>1</sup>, Keita Uchida<sup>1</sup>, Izhak Kehat<sup>2,3</sup>, Benjamin Prosser<sup>1</sup>

<sup>1</sup>University of Pennsylvania, Philadelphia, USA. <sup>2</sup>Technion-Israel Institute of Technology, Haifa, Israel. <sup>3</sup>Rambam Medical Center, Haifa, Israel

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#### **Inhibition of the anti-apoptotic Bcl-2 family through BH3 mimetics reduces mitochondrial Ca<sup>2+</sup> capacity and sensitizes mitochondrial permeability transition pore opening**

Pooja Patel, Arielys Mendoza, Jason Karch

*Baylor College of Medicine, Houston, USA*

### **P3-127**

#### **ROS induces mitochondrial dysfunction through Ca<sup>2+</sup>-dependent MPTP sensitization and lipid peroxidation.**

Arielys Mendoza, Pooja Patel, Jason Karch

*Baylor College of Medicine, Houston, USA*

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#### **Fibroblasts Rely on Has2 to Produce High Molecular Weight Hyaluronan**

Danielle Little, Timothy Audam, Caitlin Howard, Yi Wei Zheng, Kenneth Brittan, Sujith Dassanayaka, Steven Jones

*University of Louisville, Louisville, USA*

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#### **Whole-cell mechanical loading and unloading triggers more post-translational modifications in $\alpha$ -actinin than myosin activators and inhibitors**

Christopher Solís, Elisabeth DiNello, Chad Warren, R. John Solaro, Brenda Russell

*University of Illinois at Chicago, Chicago, USA*

### **P3-130**

#### **The Lysine Methyltransferase Smyd5 Regulates Cardiomyocyte Transcription and Pathophysiology via Histone H4 Lysine 20 Trimethylation**

Samuel Hickenlooper<sup>1</sup>, Ryan Bia<sup>1</sup>, Mickey Miller<sup>1</sup>, Emilee Horiuchi<sup>1</sup>, Li Wang<sup>1</sup>, Steven Valdez<sup>1</sup>, Marta Szulik<sup>1</sup>, Caiyi Li<sup>2</sup>, Stephen Smale<sup>2</sup>, Sarah Franklin<sup>1</sup>

<sup>1</sup>University of Utah, Salt Lake City, USA. <sup>2</sup>UCLA, Los Angeles, USA

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#### **Sigmar1 localizes and regulates mitochondrial respiration in cardiac myocytes**

Chowdhury S. Abdullah<sup>1</sup>, Richa Aishwarya<sup>2</sup>, Shafiu Alam<sup>1</sup>, Mahboob Morshed<sup>1</sup>, Naznin Sultana Remex<sup>2</sup>, Sadia Nitu<sup>1</sup>, A. Wayne Orr<sup>1</sup>, Brandon Hartman<sup>1</sup>, Judy King<sup>1</sup>, Md. Shenuarin Bhuiyan<sup>1</sup>

<sup>1</sup>Department of Pathology and Translational Pathobiology, LSU Health Science Center-Shreveport,

Shreveport, USA. <sup>2</sup>Department of Molecular and Cellular Physiology, LSU Health Science Center-Shreveport, Shreveport, USA

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**Shortening the thick filament by partial deletion of titin's C-zone alters cardiac function by reducing the operating sarcomere length range.**

Mei Methawasin, Gerrie Farman, Shawtaroh Granzier-Nakajima, Joshua Strom, Balazs Kiss, John Smith, Henk Granzier

*The University of Arizona, Tucson, USA*

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**Sex Differences in Remodeling and Fatty Acid Availability in the Infarcted Murine Heart**

Helen Collins, Sujith Dassanayaka, Kenneth brittian, Steven Jones, Bradford Hill

*University of Louisville, Louisville, USA*

### **P3-136**

**The histone reader PHF7 cooperates with the SWI/SNF complex at cardiac super enhancers to promote direct reprogramming**

Glynnis Garry, Svetlana Bezprozvannaya, Huanyu Zhou, Hisayuki Hashimoto, Kenian Chen, Ning Liu, Rhonda Bassel-Duby, Eric Olson

*UT Southwestern Medical Center, Dallas, USA*

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**Human-Induced Pluripotent Stem Cell-Derived Exosomal Protein Induce Cardiac Regeneration**

Ajit Magadum, Vandana Mallareddy, Rajika Roy, Maria Cimini, Darukeshwara Joladarshi, Charan Gurralla, Zhongjian Cheng, Raj Kishore

*Center For Translational Medicine, Lewis Katz School of Medicine, Temple University, Philadelphia, USA*

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**Novel Regulation of Cardiac Bioenergetics by Mitochondrial GRK2**

Kimberly Ferrero<sup>1</sup>, Jessica Pflieger<sup>2</sup>, J. Kurt Chuprun<sup>1</sup>, Erhe Gao<sup>1</sup>, Walter Koch<sup>1</sup>

*<sup>1</sup>Lewis Katz School of Medicine at Temple University, Philadelphia, USA. <sup>2</sup>Fralin Biomedical Research Institute at Virginia Tech, Roanoke, USA*

### **P3-139**

**GRK2-Induced Adiponectin Receptor 1 Serine205 Phosphorylation: A Novel Mechanism of Cardiac Adiponectin Resistance and A Potential Target against Post-Ischemic Pathological Remodeling**

Di Zhu<sup>1</sup>, Demin Liu<sup>1</sup>, Lu Gan<sup>1</sup>, Wayne Lau<sup>1</sup>, Dina Xie<sup>1</sup>, Zhen Zhang<sup>1</sup>, Zhijun Meng<sup>1</sup>, Peng Yao<sup>1</sup>, Jumpei Tsukuda<sup>1</sup>, Theodore Christopher<sup>1</sup>, Bernard Lopez<sup>1</sup>, Jianli Zhao<sup>1</sup>, Erhe Gao<sup>2</sup>, Walter Koch<sup>2</sup>, Xinliang Ma<sup>1</sup>, Yajing Wang<sup>1</sup>

*<sup>1</sup>Thomas Jefferson University, Philadelphia, USA. <sup>2</sup>Temple University, Philadelphia, USA*

### **P3-140**

**Serum from pediatric dilated cardiomyopathy patients promotes dysregulation of cardioliipin biosynthesis and mitochondrial dysfunction in primary cardiomyocytes**

Julie Pires Da Silva<sup>1</sup>, Anastacia Garcia<sup>2</sup>, Carissa Miyano<sup>1</sup>, Genevieve Sparagna<sup>1</sup>, Raleigh Jonscher<sup>1</sup>, Hanan Elajaili<sup>3</sup>, Carmen Sucharov<sup>1</sup>

*<sup>1</sup>Department of Medicine/Division of Cardiology, University of Colorado Anschutz Medical Campus, Aurora, Colorado. <sup>2</sup>Department of Pediatrics, University of Colorado Anschutz Medical Campus, Children's Hospital*

Colorado, Aurora, Colorado. <sup>3</sup>Department of Pediatrics, University of Colorado Anschutz Medical Campus, Cardiovascular Pulmonary Research Labs and Pediatric Critical Care Medicine, University of Colorado University of Colorado Anschutz Medical Campus

**P3-141**

**Serum Circulating Proteins from Pediatric Dilated Cardiomyopathy Patients Cause Pathologic Remodeling and Cardiomyocyte Stiffness**

Danielle Jeffrey<sup>1</sup>, Julie Pires Da Silva<sup>1</sup>, Anastacia Garcia<sup>2</sup>, Xuan Jiang<sup>1</sup>, Anis Karimpour-Fard<sup>3</sup>, Lee Toni<sup>1</sup>, Thomas Lanzicher<sup>1,4</sup>, Brisa Peña<sup>1,5</sup>, Carissa Miyano<sup>1</sup>, Karin Nunley<sup>1</sup>, Armin Korst<sup>1</sup>, Orfeo Sbaizero<sup>1,4</sup>, Matthew R.G. Taylor<sup>1</sup>, Shelley Miyamoto<sup>2</sup>, Brian Stauffer<sup>1,6</sup>, Carmen Sucharov<sup>1</sup>

<sup>1</sup>Department of Medicine, Division of Cardiology University of Colorado Anschutz Medical Campus. <sup>2</sup>Department of Pediatrics, Division of Cardiology, University of Colorado Anschutz Medical Campus, Children's Hospital Colorado. <sup>3</sup>Center for Computational Pharmacology, University of Colorado Anschutz Medical Campus.

<sup>4</sup>Department of Engineering and Architecture, University of Trieste, Trieste, Italy. <sup>5</sup>Bioengineering Department, University of Colorado Denver Anschutz Medical Campus. <sup>6</sup>Department of Medicine, Division of Cardiology, Denver Health Medical Center, Denver, CO

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