



ADDITIONAL VENTURES

Single Ventricle Investigator Meeting

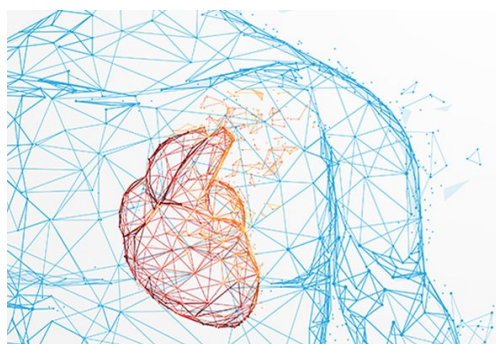
March 9-10, 2021

Day One | Tuesday, March 9, 2021

Time		Session
8:00 AM PT	11:00 AM ET	Welcome to the 2021 Single Ventricle Investigator Meeting <i>with Erin Hoffmann</i>
8:10 AM PT	11:10 AM ET	Day One: Agenda Overview & Meeting Logistics <i>with Kirstie Keller, PhD</i>
8:15 AM PT	11:15 AM ET	Plenary I: State of the Science of Single Ventricle Heart Defects <i>with Deepak Srivastava, MD</i>
8:40 AM PT	11:40 AM ET	Plenary II: State of Clinical Care of Single Ventricle Heart Defects <i>with Jane Newburger, MD</i>
9:05 AM PT	12:05 PM ET	Moderated Conversation: Plenary I & II <i>with Deepak Srivastava, MD, Jane Newburger, MD, and Kaitlin Davis, PhD</i>
9:25 AM PT	12:25 PM ET	Break
9:35 AM PT	12:35 PM ET	Project Singular: A Comprehensive Approach to Understanding Single Ventricle <i>with Diane Pickles</i>
9:50 AM PT	12:50 PM ET	Panel: Data and Analytics Infrastructure in Single Ventricle with an Audience Q&A <i>with Jon Kaltman, MD, Sara Pasquali, MD, Rahul Rathod, MD, and Diane Pickles</i>
10:45 AM PT	1:45 PM ET	Break

Day One | Tuesday, March 9, 2021 | Concurrent Scientific Programming

Time		Session	
11:00 AM PT	2:00 PM ET	Scientific Session I: Single Ventricle Etiology Mechanisms & Models <i>Keynote: Anthony Firulli, PhD</i>	Scientific Session II: Predict, Prevent & Address Clinical Sequelae <i>Keynote: Bradley Marino, MD</i>
12:35 PM PT	3:35 PM ET	Break	
12:50 PM PT	3:50 PM ET	Lightning Round I: Single Ventricle Etiology Mechanisms & Models	Lightning Round II: Predict, Prevent & Address Clinical Sequelae
1:50 PM PT	4:50 PM ET	Day One Closing Remarks	



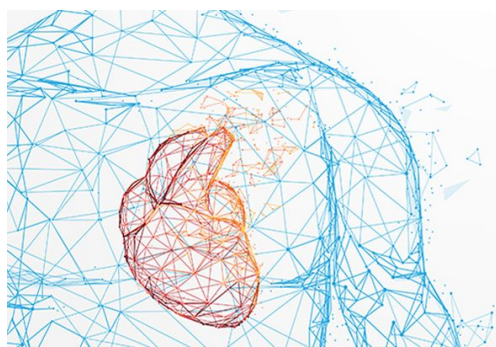
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Day One | Tuesday, March 9, 2021 | Concurrent Scientific Programming: Detailed View

Time		Session	
11:00 AM PT	2:00 PM ET	<p>Scientific Session I: Single Ventricle Etiology Mechanisms & Models</p> <p>Keynote: Lending a HAND to understanding CHDs Anthony Firulli, PhD</p> <p>Defining the molecular basis for single ventricle disease Benoit Bruneau, PhD</p> <p>Computational Modelling of Fetal Heart Function during Critical Aortic Stenosis with Evolving Hypoplastic Left Heart Syndrome Choon Hwai Yap, PhD</p> <p>Heart fields auto-regulate second heart field cell fate via Wnt secretion Matthew Miyamoto</p> <p>Single-cell transcriptomic analysis and patient-specific iPSCs reveal abnormalities in coronary arterial endothelial cell in hypoplastic left heart syndrome Zhiyun Yu</p> <p>Moderator: Susan Liao, PhD</p>	<p>Scientific Session II: Predict, Prevent & Address Clinical Sequelae</p> <p>Keynote: A Model for Innovation: How Do We Predict, Prevent, and Treat Clinical Sequelae in the Fontan Population Bradley Marino, MD</p> <p>An Impaired Maternal-Fetal Environment is Associated with an Increased Risk of White Matter Injury in Congenital Heart Disease Daniel Licht, MD</p> <p>Using Liver Magnetic Resonance Imaging to Understand the Health of the Fontan Circulation Adam Lubert, MD</p> <p>Variability in Cerebral Oxygen Metabolism at Deep Hypothermia and following Deep Hypothermic Circulatory Arrest Tiffany S. Ko, MD</p> <p>The NEONATE Score Predicts Freedom from Interstage Mortality or Transplant in an External, Modern Cohort Humera Ahmed, MD</p> <p>Moderator: Francisco Galdos</p>
		12:35 PM PT	3:35 PM ET



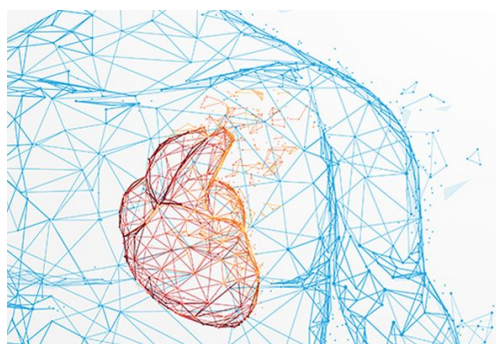
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Day One | Tuesday, March 9, 2021 | Concurrent Scientific Programming: Detailed View

Time		Session	
12:50 PM PT	3:50 PM ET	Lightning Round I: Single Ventricle Etiology Mechanisms & Models	Lightning Round II: Predict, Prevent & Address Clinical Sequelae
		Merits of 3D Fetal Heart Strain Measurements as Opposed to 2D in Fetal Heart Function Evaluation Choon Hwai Yap, PhD	The FUEL FALD Study: An Assessment of the Effect of Udenafil on Liver Stiffness after Fontan Dave Goldberg, MD
		Creating new human artery and vein cells: a platform to model vascular diseases and revascularize tissues Kyle Loh, PhD	Early neurodevelopmental outcomes of children with Single Ventricle Physiology Alexa Escapita
		Building Enhancer-Gene Regulatory Maps of the Noncoding Genome for the Developing Human Heart Stephanie Conley	Non-invasive Optical Assessment of Cerebral Autoregulation in Neonatal ECMO Patients Wesley Baker, PhD
		Reduced T- cell Diversity and Recent Thymic Emigrants in Fontan Patients with Protein Losing Enteropathy Akaansha Varma	Cerebral microhemorrhages in children with congenital heart disease: Prevalence, risk factors, and impact on neurodevelopmental outcomes Kristen Andersen, MD
		Chamber-Specific Regulation of Gene Expression by Notch and Wnt Signaling Pathways Brittany Brumback	A cardiovascular simulator based on patient-specific pressure-volume loops for use in planning biventricular conversion Peter Hammer, PhD
		Role of mitochondrial dysfunction in acute early heart failure in HLHS Xinxu (Cindy) Xu, PhD	Novel noninvasive optical modality for quantification of cerebral oxygen metabolism in children with congenital heart disease Jennifer Lynch, MD, PhD
1:50 PM PT	4:50 PM ET	Using Ets1 KD Frog Embryos to Study the Etiology of Hypoplastic Left Heart Syndrome Jibiao Li, PhD	Association of ongoing cerebral oxygen extraction during deep hypothermic circulatory arrest with post-operative brain injury Marin Jacobowitz, CRNP
		Immunological Impact of Single Ventricle Patients who have Undergone Fontan Procedure Amandeep Sandhu, MD	The role of subcutaneous treprostinil after stage 1 and 2 single ventricle palliation Rachel Sullivan, MD
		Non-invasive Optical Techniques for Measuring Whole-brain Water and Intracranial Pressure in a Swine Model of Right Heart Failure Alistair Lewis	
		Day One Closing Remarks	



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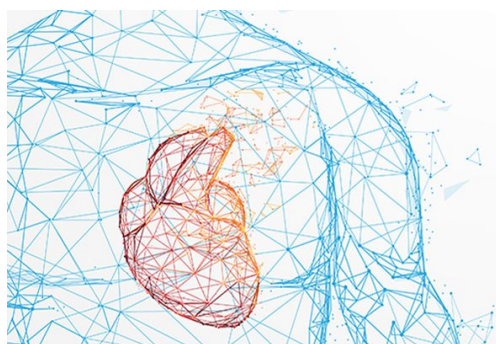
March 9-10, 2021

Day Two | Wednesday, March 10, 2021

Time		Session
8:00 AM PT	11:00 AM ET	Day Two: Agenda Overview & Meeting Logistics <i>with Kirstie Keller, PhD</i>
8:05 AM PT	11:05 AM ET	Plenary III: State of the Patient in Single Ventricle Defects <i>with Meghan Didier</i>
8:35 AM PT	11:35 AM ET	Plenary IV: State of the Patient Journey: Redesign in Single Ventricle Defects <i>with Carlos Mery, MD</i>
9:05 AM PT	12:05 PM ET	Moderated Conversation: Plenary III & IV <i>with Meghan Didier, Carlos Mery, MD, and Scott Leezer</i>
9:15 AM PT	12:15 PM ET	Break
9:30 AM PT	12:30 PM ET	Cures Collaborative: A Team Approach to Solving Single Ventricle <i>with Christopher Breuer, MD</i>
9:40 AM PT	12:40 PM ET	Break
9:45 AM PT	12:45 PM ET	Panel: Registry Building in the Single Ventricle Community with an Audience Q&A <i>with Angela Lorts, MD, Gail Pearson, MD, ScD, Jack Rychik, MD, and Jeff Anderson, MD</i>
10:55 AM PT	1:55 PM ET	Break

Day Two | Wednesday, March 10, 2021 | Concurrent Scientific Programming

Time		Session	
11:00 AM PT	2:00 PM ET	Scientific Session III: Biology of Single Ventricle Outcomes <i>Keynote: Sushma Reddy, MD</i>	Scientific Session IV: Development of Functional Cures for Single Ventricle <i>Keynote: Adam Feinberg, PhD</i>
12:35 PM PT	3:35 PM ET	Break	
12:50 PM PT	3:50 PM ET	Lightning Round III: Biology of Single Ventricle Outcomes	Lightning Round IV: Development of Functional Cures for Single Ventricle
1:50 PM PT	4:50 PM ET	Day Two Closing Remarks <i>with Erin Hoffmann</i>	



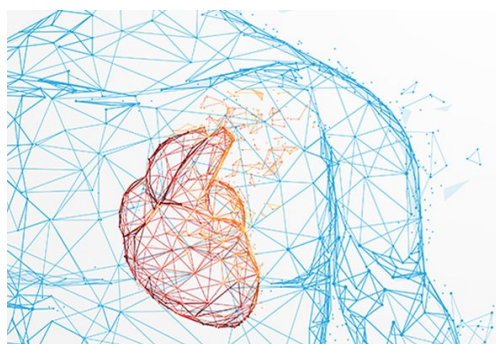
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11:00 AM PT	2:00 PM ET	<p>Scientific Session III: Biology of Single Ventricle Outcomes</p> <p>Keynote: 4HNE Impairs Myocardial Bioenergetics in Congenital Heart Disease-induced Right Ventricular Failure Sushma Reddy, MD</p> <p>Strategies for characterizing and engineering changes to the gut microbiota in individuals with Fontan physiology Kerwyn Casey Huang, PhD</p> <p>Biomarkers in Stable Fontan Patients Anita Saraf, MD, PhD</p> <p>Metabolic Profiles Identify Circulating Biomarkers Associated with Heart Failure in Young Single Ventricle Patients R. Mark Payne, MD and Tom O'Connell, PhD</p> <p>The Fontan Circulation as a Rheologic Disease Jon Detterich, MD</p> <p>Moderator: Dan Quiat, MD, PhD</p>	<p>Scientific Session IV: Development of Functional Cures for Single Ventricle</p> <p>Keynote: Advanced Biofabrication To Rebuild the Human Heart Adam Feinberg, PhD</p> <p>Role of Internal Resistance in Blood Pumps for Long-term Fontan Support: A study using the Single Ventricle Circulation Simulation App Richard Figliola, PhD</p> <p>Experimental Measurements Within the Penn State Failing Fontan Centrifugal Blood Pump Under Continuous Flow Keefe Manning, PhD</p> <p>The use of Tissue Engineered Vascular Grafts in Fontan Surrogate models: Assessing the Role of Changing Hemodynamic Conditions Stephanie Lindsey, PhD</p> <p>Preliminary Investigation of an Injection-Jet Self-Powered Fontan Circulation Ray Prather, PhD</p> <p>Moderator: Jacqueline Bliley</p>
		12:35 PM PT	3:35 PM ET



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12:50 PM PT	3:50 PM ET	Lightning Round III: Biology of Single Ventricle Outcomes	Lightning Round IV: Development of Functional Cures for Single Ventricle
		Tamoxifen and Sex Confound Cardiovascular Tissue Engineering Kevin Blum	3D engineering of a tubular cardiac assist to support directed venous return after staged surgical palliation Maria Köhne, MD
		Mitochondrial Dysfunction in Peripheral Blood Mononuclear Cells is Associated with Heart Failure in Patients with Single Ventricle Congenital Heart Disease Philip Zegelbone, MD	Programmed Morphogenesis of a 3D Bioprinted Human Heart Tube Jacqueline Bliley
		Altered Cardiomyocyte Mechanics in Hypoplastic Left Heart Syndrome with Right Ventricular Systolic Failure Stephanie Nakano, MD	Engineering In Vitro Vascularized Tissues Using FRESH 3D Bioprinted Collagen Scaffolds Andrew Hudson
		Development of a protocol to risk stratify individuals with single ventricle congenital heart disease using deep phenotyping and genome sequencing Kim McBride, MD	Patient-specific simulations to assess the effect of stenosis in tissue-engineered vascular grafts on Fontan performance Erica Schwarz
		Biomarkers of neurodevelopmental impairment for single ventricle CHD subjects Jiuan-Huey Ivy Lin, MD, PhD	Utilizing 3D modeling and virtual surgical planning with flow simulation to plan Fontan revision David Hoganson, MD
		Shunt Audio Characteristics in Single Ventricle Infants as a Noninvasive Measure of Pulmonary Bloodflow Camille Johnson, MS	Towards the 3D Bioprinting of a Human-Scale Cardiac Biopump Jessica Herrmann
		Fetal MRI Predicts 2-Year Neurodevelopment in Congenital Heart Disease Caitlin Rollins, MD	Device for Mechanically Induced Ventricular Growth in Single Ventricle Patients with Amy Kyungwon Han, PhD
		Role of the placenta-brain connection in fetuses with Congenital Heart Disease Vidya Rajagopalan, PhD	Optimal mechanical circulatory support of the failing superior cavopulmonary connection Ryan Davies, MD
1:50 PM PT	4:50 PM ET	Day Two Closing Remarks	