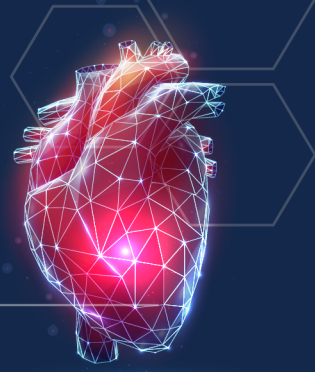


Prioritizing Discovery and Advancements in Arrhythmia Therapies

Virtual Workshop



JUNE 11 - JUNE 13, 2024

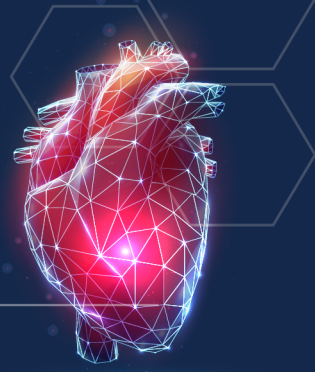
AGENDA

DAY 1

12:00 – 12:05 PM	Introduction and NIH/NHLBI Support for Arrhythmia Therapies Dr. Ravi Balijepalli, Program Director, HFA, DCVS, NHLBI, NIH
12:05 – 12:15 PM	Welcome from NHLBI Leadership Dr. Gina S. Wei, Associate Director, DCVS, NHLBI, NIH
12:15 – 12:30 PM	State of Science - Arrhythmia Research Challenges and Opportunities Dr. Elizabeth McNally, Northwestern University, Chicago, IL Dr. Kalyanam Shivkumar, University of California, Los Angeles, CA
Session 1: Fundamental Concepts & Conduction Systems Drs. Kalyanam Shivkumar, UCLA and Ravi Balijepalli, NHLBI	
12:30– 12:40 PM	Inflammation, Electrical Propagation, and Conduction Defects in Arrhythmias - The Burning Questions Dr. Przemyslaw Radwański, Ohio State University, Columbus, OH
12:40 – 12:50 PM	Inflammation and Arrhythmogenic Cardiomyopathy Dr. Jeffrey Saffitz, Harvard Medical School, Boston, MA
12:50 – 1:00 PM	Genetic Drivers of Cardiac Conduction System Development and Disease Dr. Glenn Fishman, NYU Langone Health, New York, NY
1:00 – 1:10 PM	Advances in Prevention and Treatment of Sudden Cardiac Death in Pediatric Patients Dr. Greg Webster, Northwestern University, Chicago, IL
1:10 – 1:20 PM	Recent Advances in Cardiac Conduction Mechanisms and Potential for Novel Paths to Pharmacology Dr. Robert Gourdie, Virginia Tech, Blacksburg, VA
1:20 – 1:45 PM	Session 1 Q&A
1:45 – 2:00 PM	Break
Session 2: Atrial Arrhythmias Session Leaders: Drs. Emelia J. Benjamin, Harvard and Patrice Nickens, NHLBI	
2:00 – 2:10 PM	Polygenic Risk Scores for Atrial Fibrillation: Translating a Research Tool Into Clinical Practice Dr. Nicholas Marston, Brigham and Women's Hospital, Heart and Vascular Center, Boston, MA

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DAY 1

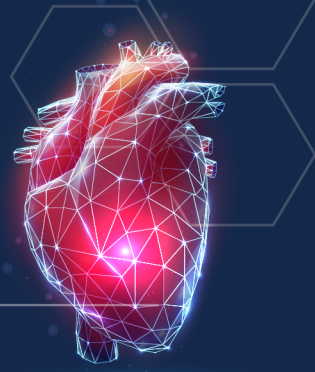
2:10 – 2:20 PM	<p>System Biology Approaches to Understanding Atrial Rhythm Homeostasis and Arrhythmias, Including The Interrelationship with Heart Failure Dr. Ivan Moskowitz, University of Chicago, Chicago, IL</p>
2:20 – 2:30 PM	<p>Multi-omics in Arrhythmia Research and Therapeutics Dr. Sean Wu, Stanford University, Stanford, CA</p>
2:30 – 2:40 PM	<p>Insights Into Arrhythmia Mechanisms From Cardiac Reprogramming Dr. Stacey Rentschler, Washington University, St. Louis, MO</p>
2:40 – 2:50 PM (5 min each)	<p>Early Career Investigator Talk 1: The Role of The Autonomic Nervous System in Atrial Fibrillation Dr. Anna Pfenniger, Northwestern University, Chicago, IL</p> <p>Early Career Investigator Talk 2: The Need for a Precision Approach to Atrial Fibrillation Screening; Integrating Clinical, Genomic, and Artificial Intelligence-Based Risk Dr. Shaan Khurshid, Harvard Medical School, Boston, MA</p>
2:50 – 3:15 PM	<p>Session 2 Q&A</p>
3:15 PM	<p>Attendee Closing - Adjourn Day 1</p>
3:15 – 3:30 PM	<p>Break</p>

DAY 1 (INVITED PARTICIPANTS ONLY)

3:30 – 4:30 PM	<p>Closed Breakout Session Discussion: Sessions 1 & 2</p>
4:30 – 4:35 PM	<p>Break</p>
4:35 – 4:50 PM	<p>Sessions 1 and 2: Report-out</p>
4:50 – 5:50 PM	<p>Day 1 Closing Remarks</p>

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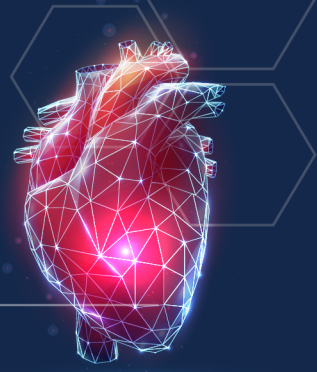
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DAY 2

Session 3: Ventricular Arrhythmias Session Leaders: Drs. Ilan Goldenberg, University of Rochester Medical Center and Olga Tjurmina, NHLBI	
12:30 – 12:40 PM	Welcome Dr. Ravi Balijepalli, Program Director, HFA, DCVS, NHLBI, NIH Day 1 Recap Dr. Kalyanam Shivkumar, University of California, Los Angeles, CA
12:40 – 12:50 PM	Genetic Framework for Improving Drug Therapy in Ventricular Arrhythmia Dr. Bjorn Knollmann, Vanderbilt University Medical Center, Nashville, TN
12:50 – 1:00 PM	Digital Twins from The Atom to The Rhythm Dr. Colleen E. Clancy, University of California, Davis, CA
1:00 – 1:10 PM	Successes and Failures of Interventional Ventricular Arrhythmia Treatments Dr. Francis Marchlinski, University of Pennsylvania, Philadelphia, PA
1:10 – 1:20 PM	Moving Beyond One Therapy Fits All: What is Needed to Implement Precision, Personalized Therapies for Arrhythmias Dr. J. Kevin Donahue, University of Massachusetts Medical School, Worcester, MA
1:20 – 1:30 PM (5 min each)	Early Career Investigator 1: Camkii Inhibition: An Example of Application of Basic Mechanistic Insights to The Development of Anti-Arrhythmic Drugs Dr. Olurotimi (Rotimi) Mesubi, The Johns Hopkins University, School of Medicine, Baltimore, MD Early Career Investigator 2: Novel Insights into The Mechanisms of Cardiac Neuromodulation in Ventricular Arrhythmias Dr. Peter Hanna, University of California, Los Angeles, CA
1:30 – 2:00 PM	Session 3 Q&A
2:00 – 2:15 PM	Break
Session 4: Interface with Heart Failure Session Leaders: Drs. Olujimi Ajjola, University of California and Bishow Adhikari, NHLBI	
2:15 – 2:25 PM	Arrhythmias in Heart Failure: What are The Knowledge Gaps? Dr. Dan Roden, Vanderbilt University Medical Center, Nashville, TN

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DAY 2

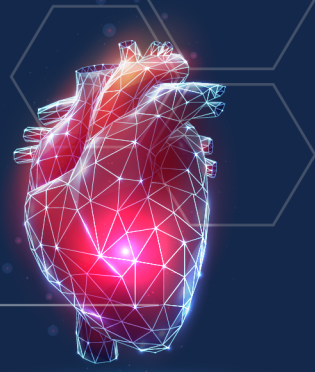
2:25 – 2:35 PM	Arrhythmogenic Cardiomyopathies (ACMs) Dr. Mario Delmar, New York University, New York, NY
2:35 – 2:45 PM	Ventricular Arrhythmia in Advanced Heart Failure Dr. David T. Huang, University of Rochester, Rochester, NY
2:45 – 2:55 PM	Neural Remodeling and Sympathetic Imbalance in Arrhythmia-HF Dr. Olujimi Ajijola, University of California, Los Angeles, CA
2:55 – 3:05 PM (5 min each)	Early Career Investigator Talk 1: Challenges in The Management of Arrhythmia in Heart Failure Dr. Mona El Refaey, Ohio State University, Columbus, OH Early Career Investigator Talk 2: Targeting Channel Trafficking as a Treatment Strategy for Arrhythmias Dr. Joseph Palatinus, University of Utah, Salt Lake City, UT
3:05 – 3:30 PM	Session 4 Q&A
3:30 PM	Attendee Closing - Adjourn Day 2
3:30 – 3:45 PM	Break

DAY 2 (INVITED PARTICIPANTS ONLY)

3:45 – 4:45 PM	Breakout Session Discussion: Sessions 3 and 4 Moderated by: Dr. Elizabeth McNally, Northwestern University, Chicago, IL Dr. Kalyanam Shivkumar, University of California, Los Angeles, CA
4:45 – 4:50 PM	Break
4:50 – 5:00 PM	Sessions 3 and 4: Report-out & Closing Remarks

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DAY 3

<p>Session 5: Arrhythmias at the Population Level Session Leaders: Drs. Elizabeth McNally, Northwestern University and Su Shanbhag, NHLBI</p>	
12:00 – 12:10 PM	<p>Welcome Dr. Ravi Balijepalli, Program Director, HFA, DCVS, NHLBI, NIH</p> <p>Day 2 Recap Dr. Elizabeth McNally, Northwestern University</p>
12:10 – 12:20 PM	<p>Genetic Risk and Cardiac Arrhythmias Dr. Steven Lubitz, Harvard Medical School, Boston, MA</p>
12:20 – 12:30 PM	<p>Multi-Omics of Sudden Cardiac Arrest Dr. Nona Sotoodehnia, University of Washington School of Public Health, Seattle, WA</p>
12:30 – 12:40 PM	<p>Modifiable Risk Factors and Prevention of Atrial Fibrillation Dr. Andrea Russo, Cooper University Health Care, Camden, NJ</p>
12:40 – 12:50 PM	<p>Risk Prediction and Prevention of SCD at The Population Level Dr. Christine Albert, Cedars-Sinai, Smidt Heart Institute, Los Angeles, CA</p>
12:50 – 1:00 PM	<p>Sex Specific Differences in Arrhythmogenic Risk Factors and Outcomes Dr. Sana Al-Khatib, Duke University Medical Center, Durham, NC</p>
1:00 – 1:10 PM	<p>Key Barriers Limiting Pharmacologic Therapies in Arrhythmia Treatment Dr. Sridharan Rajamani, Johnson & Johnson, New Brunswick, NJ</p>
1:10 – 1:20 PM (5 min each)	<p>Early Career Investigator Talk 1: Arrhythmias in Older Adults: Learning from Atrial Fibrillation Dr. Darae Ko, Harvard Medical School, Boston, MA</p> <p>Early Career Investigator Talk 2: Sex Specific Molecular Pathways Underlying Arrhythmias in The Failing Heart Dr. Jessica Caldwell, University of California, Davis, CA</p>
1:20 – 1:45 PM	<p>Session 5 Q&A</p>
1:45 – 2:00 PM	<p>Break</p>
<p>Session 6: Novel Approaches to Arrhythmia Detection, Treatment, and Management Session Leaders: Drs. Glenn Fishman, Patricia Bandettini, and George Sopko, NHLBI</p>	

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DAY 3

2:00 – 2:10 PM	AI/ML and Wearable/Implantable Devices in Detection and Management of Arrhythmias Dr. Kenneth Bilchick, University of Virginia, Charlottesville, VA
2:10 – 2:20 PM	AI in Detecting Subclinical Arrhythmia Risk Dr. Peter Noseworthy, Mayo Clinic College of Medicine and Science, Rochester, MN
2:20 – 2:30 PM	Large Animal Models for Improved Therapeutic Interventions in Arrhythmia Dr. Randall S. Prather, University of Missouri, Columbia, MO
2:30 – 2:40 PM	FDA Perspective on Pharmacotherapy and Device Therapy Dr. Hetal Odobasic, FDA, Washington, DC
2:40 – 2:50 PM	Early Career Investigator 1: Novel Approaches to Arrhythmia Detection, Treatment, and Management Dr. William Goodyer, Stanford University, Stanford, CA Early Career Investigator 2: New Insights from Computational Bioengineering on Arrhythmic Side Effects in Cell Therapy Dr. Patrick M. Boyle, University of Washington, Seattle, WA
2:50 – 3:15 PM	Session 6 Q&A
3:15 PM	Attendee Closing - Adjourn Day 3
3:15 – 3:30 PM	Break

DAY 3 (INVITED PARTICIPANTS ONLY)

3:30 – 4:15 PM	Closed Parallel Breakout Sessions: Breakout Session 1 (Basic & Translational) Moderated by Dr. Kalyanam Shivkumar, University of California, Los Angeles, CA Breakout Session 2 (Clinical & Population) Moderated by Dr. Elizabeth McNally, Northwestern University, Chicago, IL
4:15 – 4:20 PM	Break
4:20 – 4:45 PM	Outline WS Summary (Gaps and Opportunities)
4:45 – 5:00 PM	Closing Remarks