7:30 Breakfast
7:50 Introduction to the Retreat  Paul Wang, MD, Sanjiv Narayan, MD PhD

Arrhythmia Outcomes, Mechanisms, Genetics
Moderator: Fred Kusumoto, MD
8:00 Important Clinical Trial Results in 2018-2019 in Arrhythmia Therapy - Dhanunjaya R. Lakkireddy, MD
8:06 Biologic Markers and SCD - Christine Albert, MD, MPH
8:12 Candidate Therapeutics from Genomic Data - Mina Chung, MD
8:18 Using stem cells to guide clinical care of inherited arrhythmia patients - Marco Perez, MD
8:24 Ablation in Patients with Adult Congenital Heart Disease - Mohan Viswanathan, MD
8:30 Speed Talks and New Concepts Moderator: Todd Cohen, MD
TBD

New Therapies, Sudden Cardiac Death
Moderators: Heather Ross, DNP, PhD and Rahul Doshi, MD
9:00 Solving Complex Arrhythmogenesis with Machine Learning - Nicholas Peters, MD, PhD
9:06 OPTIMA: An optimal personalized AF ablation strategy- Natalia Trayanova, PhD
9:12 Optogenetics for Arrhythmia Diagnosis and Control - Lior Gepstein, MD, PhD
9:18 Use of biocompatible material-embedded carbon nanotubes to help re-circuit electrophysiological substrates in the beating heart - Suraj Kapa, MD
9:24 Sudden Death in Athletes - Mark Link, MD
9:30 Sudden Death in ARVD - Hari Tandri, MD
9:36 Discussion

Future of Arrhythmia Therapy
Moderators: Jodie Hurwitz, MD, Mark Estes, MD  Jodie Hurwitz
9:48 Catheter Ablation in Patients with Heart Failure - David Callans, MD
9:54 New Lead Designs and Leadless Pacemaker - Andrea Russo, MD
10:00 Holistic Physiologic Pacing as a treatment for HFpEF - Daniel Lustgarten, MD
10:06 Pacing, Neuromodulation, and Sensors for Heart Failure - Jagmeet P. Singh, MD, DPhil
10:12 Subcutaneous nerve stimulation to control cardiac arrhythmia - Peng-Sheng Chen, MD
10:18 Harnessing Autonomics for Arrhythmia Control - Olujimi Ajijola MD, PhD
10:24 Optical Mapping of Human Atrial Fibrillation - Implications for Therapy – Vadim Fedorov, PhD
10:30 Paradigms for the Ablation of Persistent Atrial Fibrillation - Atul Verma, MD
10:36 Atrial Fibrillation and Cognitive Impairment - Jared Bunch, MD
10:42 Gene Therapy for Arrhythmia Control - J. Kevin Donahue, MD
10:48 Artificial Intelligence Applications in Electrophysiology - Mintu Turakhia, MD, MAS
10:52 Discussion
11:15 Break

Device Therapy
Moderator: Niraj Varma, MD
11:30 Advances in AEDs and Wearable Defibrillators - Ulrika Birgersdotter-Green, MD
11:36 Advances in ICDs - Samir Saba, MD
11:42 CIED Management of the Future - Bruce L. Wilkoff, MD
11:48 Discussion
12:00 Lunch
12:20 Panel Discussion: How to innovate - Uday Kumar, MD, Paul J. Wang, MD
TBD
Ventricular Arrhythmias, Advances in Mapping and Imaging
Moderator: Mauricio Scanavacca, MD
1:00 Advances in Imaging for Ablation - Saman Nazarian, MD, PhD
1:06 Antithrombotic Therapy - Michael Ezekowitz, MD, PhD
1:12 Discussion
1:30 Speed Talks and New Concepts. Moderator: Todd Cohen, MD
TBD

Mechanisms, Substrate, and Risk Modification of Atrial Arrhythmias
Moderators: Steven Markowitz, MD
2:10 Advances in Mapping Systems - Moussa Mansour, MD
2:16 Left Atrial Appendage Occlusion Devices - Shephal Doshi, MD
2:22 Atrial Appendage: Physiology and Electrophysiology - Nitish Badhwar, MD
2:28 Lessons Learned from Clinical Trials and Registries of Atrial Fibrillation Ablation - Riccardo Cappato, MD
2:34 Advances in Ablation of Atrial Fibrillation - Pierre Jais, MD
2:40 Discussion
2:56 Break
3:10 Speed Talks and New Concepts Moderator: Ronald Berger, MD, PhD
TBD

Advances in Mapping and Ablation (Part I)
Moderators: Amin Al-Ahmad, MD, John D. Hummel, MD
3:50 New Balloon Ablation Technologies - Amin Al-Ahmad, MD
3:56 New Insights into Mapping Arrhythmias - Sanjiv Narayan, MD, PhD
4:02 Application of artificial intelligence AI in catheter ablation of atrial fibrillation - Shih-Ann Chen, MD
4:08 Novel Imaging of Substrate in Atrial Fibrillation - Eugene Kholmovski, PhD
4:14 A Novel Expandable Lattice Electrode Ablation Catheter Rapidly Produces Wide Radiofrequency Lesions with Low Risk of Thrombus and Steam Pop - Hiroshi Nakagawa, MD, PhD
4:20 Nonthermal electroporation ablation - Kars Neven, MD
4:26 Applied Biophysics to Improve Radiofrequency Ablation - Duy Nguyen, MD
4:32 Optimizing RF Ablation - Gregory Michaud, MD
4:38 Discussion
4:50 Break

Advances in Mapping and Ablation (Part II)
Moderator: Jared Bunch, MD
5:05 Laser and Ultrasound Ablation of Atrial Fibrillation - Jacob Koruth, MD
5:11 Balloon Cryoablation of Atrial Fibrillation - Wilber Su, MD
5:17 EP-guided Noninvasive Cardiac Radioablation (ENCORE) - Phillip S. Cuculich, MD
5:23 Noninvasive Ablation - Paul C Zei, MD, PhD
5:29 Myocardial Fiber Disorganization and VT/VF after MI - Jose Jalife, MD
5:35 Tools for Surgical Ablation of Atrial Fibrillation: Lessons from the Experimental Lab - Anson M. Lee, MD
5:41 Hybrid Surgical-Catheter Ablation - Mark La Meir, MD, PhD
5:47 Surgical Ablation of Arrhythmias – Ralph Damino, MD
5:53 Discussion
6:00 Adjourn Reception