Stanford Biodesign New Arrhythmia Technologies Retreat  
May 8, 2018  
Hilton Logan Airport, Boston, MA

7:30 Breakfast  

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

Arrhythmia Mechanisms, Genetics  
Moderator: Glenn Fishman, MD, Fred Kusomoto, MD  

8:00 Purkinje Cells and Arrhythmia Mechanisms – Glenn I. Fishman, MD  

8:06 Biologic Markers and SCD – Christine Albert, MD, MPH  

8:12 Genetics of Atrial Fibrillation – Patrick Ellinor, MD, PhD  

8:18 Clinical genetic testing in very early onset AF – Marco Perez, MD  

8:24 Targeting the Ryanodine Receptor – Anne Gillis, MD  

8:30 Discussion  

New Therapies, Sudden Cardiac Death  
Moderators: Heather Ross, DNP, PhD and Rahul Doshi, MD
8:46 Myocardial Architecture And Electrogram Morphology – Nicholas Peters, MD, PhD

8:52 Modeling Arrhythmias: An update – Natalia Trayanova, PhD

8:58 Optogenetics for Arrhythmia Diagnosis and Control – Lior Gepstein, MD, PhD

9:04 Use of biocompatible material-embedded carbon nanotubes to help re-circuit electrophysiological substrates in the beating heart – Dawn M. Pedrotty, MD, PhD.

9:10 Sudden Death in Athletes – Mark Link, MD

9:16 Sudden Death in ARVD – Hari Tandri, MD

9:22 Discussion

Future of Arrhythmia Therapy

Moderators: Jodie Hurwitz, MD

9:34 Catheter Ablation in Patients with Heart Failure – David Callans, MD

9:40 New Lead Designs and Leadless Pacemaker – Andrea Russo, MD

9:46 Pacing, Neuromodulation, and Sensors for Heart Failure – Jagmeet P. Singh, MD, DPhil

9:52 Autonomics in Ventricular Arrhythmias – Peng-Sheng Chen, MD

9:58 Autonomics and Arrhythmogenesis- Ajijola, Olujimi M.D.
10:04 Optical Mapping of Human Atrial Fibrillation – Implications for Therapy – Vadim Fedorov, PhD

10:00 Paradigms for the Ablation of Persistent Atrial Fibrillation - Atul Verma, MD

10:06 Important Clinical Trial Results in 2017-2018 in Arrhythmia Therapy - Dhanunjaya R. Lakkireddy, MD

10:12 Atrial Fibrillation and Cognitive Impairment - Jared Bunch, MD

10:18 Paradigms for the Ablation of Persistent Atrial Fibrillation - Atul Verma, MD

10:24 Post-GWAS Insights From Human Atrial Transcriptomics – Mina Chung, MD

10:30 Gene Therapy for Arrhythmia Control - J. Kevin Donahue, MD

10:36 Discussion

10:50 Break

Device Therapy

Moderator: Niraj Varma, MD

11:10 Advances in AEDs and Wearable Defibrillators – Ulrika Birgersdotter-Green, MD

11:16 Advances in ICDs – Samir Saba, MD

11:22 Antiarrhythmic Therapy – Peter Kowey, MD
11:28 Low Energy Multi-Stage Therapy of AF – Igor Efimov, PhD
11:34 CIED Management of the Future – Bruce L. Wilkoff, MD
11:40 Discussion
12:00 Lunch
12:20 Panel Discussion: How to create an innovation training program – Uday Kumar, MD; Paul Wang, MD; Todd Cohen, MD; William Sauer, MD

Ventricular Arrhythmias, Advances in Mapping and Imaging

Moderators: Edward P. Gerstenfeld, MD, Mark Estes, MD

1:00 Advances in Ablation for Ventricular Tachycardia – William Stevenson, MD

1:06 Ablation Strategies for Ventricular Tachycardia – Miguel Valderrabano, MD

1:12 Epicardial Ablation of Arrhythmias – Mauricio I. Scanavacca, MD, PhD

1:18 Advances in Mapping Systems – Moussa Mansour, MD

1:24 Advances in Imaging for Ablation – Saman Nazarian, MD, PhD

1:30 Linear Ablation – Edward P. Gerstenfeld, MD

1:36 Antithrombotic Therapy – Michael Ezekowitz, MD, PhD

1:42 Discussion

1:56 Speed Dating and New Concepts. Moderator: Todd Cohen, MD
Mechanisms, Substrate, and Risk Modification of Atrial Arrhythmias

Moderator: Nitish Badhwar, 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 Guidelines for Atrial Fibrillation Ablation - Hugh Calkins, MD

2:40 Atrial tachycardia and Atrial fibrillation - mechanistic interface? - Steven Markowitz, MD

2:46 Advances in Ablation of Atrial Fibrillation - Pierre Jais, MD

2:52 Myocardial Fiber Disorganization and VT/VF after MI – Jose Jalife, MD

2:58 Artificial Intelligence Applications in Electrophysiology-Mintu Turakhia, MD, MAS

3:04 Discussion

3:20 Break

3:36 Speed Dating and New Concepts  Moderator: Ronald Berger, MD, PhD

Advances in Mapping and Ablation (Part I)
Moderator:  *Amin Al-Ahmad, MD*

3:56 **New Insights into Mapping Arrhythmias** - *Sanjiv Narayan, MD, PhD*

4:02 Atrial substrate property and non-PV triggers in catheter ablation of AF – *Shih-Ann Chen, MD*

4:08 **Novel Imaging of Substrate in Atrial Fibrillation** - *Eugene Kholmovski, PhD*

4:14 **Novel AF ablation approaches** - *John D. Hummel, MD*

4:20 A Novel Expandable Lattice Electrode Ablation Catheter Rapidly Produces Wide Radiofrequency Lesions with Low Risk of Thrombus and Steam Pop – *Hiroshi Nakagawa, MD, PhD*

4:26 **Electroporation** - *Kars Neven, MD*

4:32 Applied Biophysics to Improve Radiofrequency Ablation. - *William Sauer, MD*

4:38 **Optimizing RF Ablation** – *Gregory Michaud, MD*

4:44 Ablation in Patients with Adult Congenital Heart Disease – *Mohan Viswanathan, MD*

4:50 Break

**Advances in Mapping and Ablation (Part II)**

Moderators: *Jared Bunch, MD, David Haines, MD*
5:05  Laser and Ultrasound Ablation of Atrial Fibrillation – Vivek Reddy, MD

5:11  Balloon Cryoablation of Atrial Fibrillation – Wilber Su, MD

5:17  New Balloon Ablation Technologies - Amin Al-Ahmad, MD

5:23  EP-guided Noninvasive Cardiac Radioablation (ENCORE) - Phillip S. Cuculich, MD

5:29  Noninvasive Ablation – Paul C Zei, MD, PhD

5:35  New Developments in Surgical Ablation – Ralph Damiano, MD

5:41  Tools for Surgical Ablation of Atrial Fibrillation: Lessons from the Experimental Lab – Anson M. Lee, MD

5:47  Hybrid Surgical-Catheter Ablation – Mark La Meir, MD, PhD

5:53  Discussion

6:15  Adjourn Reception