



**Penn Medicine**

Continuing Medical and  
Interprofessional Education

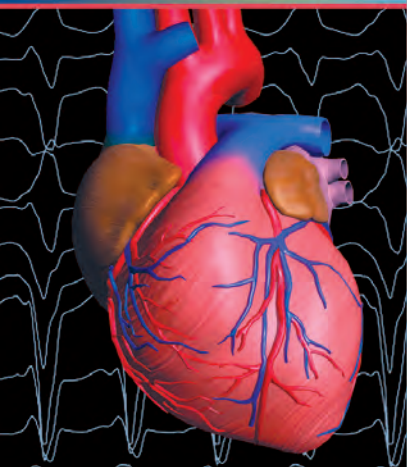
14th International Symposium on

# **VENTRICULAR ARRHYTHMIAS:**

## **Pathophysiology & Therapy**

[www.vtsymposium.com](http://www.vtsymposium.com)

<https://upenn.cloud-cme.com/vt2019>



**Friday & Saturday  
October 11-12, 2019**

Hyatt at the Bellevue  
200 South Broad Street  
Philadelphia, PA 19102

A CME-ACCREDITED COURSE

Co-hosted by:

**Hospital of the  
University of Pennsylvania  
The Mount Sinai Hospital**

Co-sponsored with:



**Heart Rhythm Society<sup>™</sup>**

**Course Directors**

**Francis Marchlinski, MD**

**David Callans, MD**

**Vivek Reddy, MD**

**Andre d'Avila, MD, PhD**

**Srinivas Dukkipati, MD**



### **Program Overview**

The purpose of this educational activity is to provide a current review of new information on the basic pathophysiology of ventricular arrhythmias; to provide an in-depth understanding of the various management strategies that are currently being developed for the management of ventricular arrhythmias in various disease states, including non-pharmacologic therapies such as implantable device therapy and advances in catheter ablation techniques.

### **Hosting Organizations**

The *14th International Symposium on Ventricular Arrhythmias: Pathophysiology & Therapy* is hosted by the Department of Medicine, Division of Cardiology, University of Pennsylvania Health System, Philadelphia, PA and the Division of Cardiology, The Mount Sinai Hospital, New York, NY.

### **Target Audience**

This course has been developed to meet the educational needs of electrophysiologists, cardiologists and other physicians and associated professionals with an interest in the pathophysiology and management of ventricular arrhythmias.

### **Program Objectives**

1. Provide a review of new information on the basic pathophysiology of ventricular arrhythmias
2. Provide an in-depth understanding of current management strategies used for the care of ventricular arrhythmias in various disease states, including non-pharmacological therapies such as implantable device and catheter ablation techniques.

At the conclusion of this symposium, participants should be able to:

- Discuss strategies to improve treatment outcome in patients with ventricular arrhythmias and structural heart disease including new techniques and technologies
- Discuss the current status and future role for device therapy in the management of sudden cardiac death and heart failure.
- Discuss the role of new techniques for VT substrate assessment including functional scar imaging, intra procedure MRI, and high density mapping
- Describe risk stratification for sudden death and treatment including VF ablation in patients with VF due to various substrates and syndromes
- Identify the challenges related to treatment of PVCs and idiopathic VT

14th International Symposium on  
**VENTRICULAR ARRHYTHMIAS:**  
Pathophysiology & Therapy

[www.vtsymposium.com](http://www.vtsymposium.com)  
<https://upenn.cloud-cme.com/vt2019>

A CME-accredited Course

**Friday & Saturday, October 11-12, 2019**

Hyatt at the Bellevue  
200 South Broad Street  
Philadelphia, PA 19102  
215-893-1234

- Describe the science critical to the understanding and treatment of ventricular arrhythmias including:
  - The role of the autonomic nervous system in ventricular arrhythmogenesis
  - Anatomic substrate for ventricular tachycardia (VT)
- Describe the status of ongoing multicenter VT related trials and discuss future directions and questions to be answered

### Accreditation



education for the healthcare team.

In support of improving patient care, Penn Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing

### Designation of Credit

**Physicians:** Penn Medicine designates this live activity for a maximum of 18.25 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

**Physician Assistants:** AAPA accepts certificates of participation for educational activities certified for *AMA PRA Category 1 Credit*<sup>™</sup> from organizations accredited by ACCME or a recognized state medical society. PAs may receive a maximum of 18.25 Category 1 credits for completing this activity.

### Certificates and Transcripts

After the conference has concluded, all participants will receive a follow-up email with instructions and a link with instructions on how to claim their credit. Once participants submit the request for credit, the earned credits will be available for viewing on your transcript or available for printing at <https://upenn.cloud-cme.com>. Please note that the individual certificate will not be mailed.





## Disclosures

Penn Medicine, Office of Continuing Medical and Interprofessional Education, adheres to the *ACCME Standards for Commercial Support*. Faculty disclosure information will be made available in the conference materials and syllabus. Faculty members are also expected

to disclose to participants any discussions of off-label and/or investigational uses of pharmaceutical products within their presentations.

## Registration Fees

Prior to September 6, 2019 the early registration fees for the *14th International Symposium on Ventricular Arrhythmias: Pathophysiology & Therapy* are \$525 for physicians & industry employees and \$275 for all other healthcare professionals, residents and fellows. On or after September 6, 2019 the registration fees for the *14th International Symposium on Ventricular Arrhythmias: Pathophysiology & Therapy* are \$600 for physicians & industry employees and \$350 for all other healthcare professionals, residents and fellows.

The registration fee includes tuition, a course booklet with access to presentations online, link to credit certificate, continental breakfasts, breaks and lunches.

If you are registering with a credit card, please register online at <https://upenn.cloud-cme.com/vt2019>. You must log-in with your Penn ID or your email and password or if you do not already have a profile, you must create one before you can register for an event. We cannot accept faxed or mailed registration forms with credit card information. To pay by check, complete the registration form and mail it in with your check. Please see the registration form for mailing information. Please note: mailed registrations can take up to 5-10 business days before they are received. All registrations will be confirmed by email as long as your registration is received no later than September 27, 2019.

For VT Symposium Information Contact:

Carolyn Siwinski or Erica Zado

Hospital of the University of Pennsylvania

Tel: 215-662-6005 | Fax: 215-662-2879

Website: [www.vtsymposium.com](http://www.vtsymposium.com)

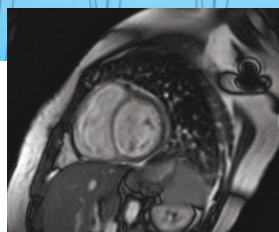
Email: [carolyn.siwinski@uphs.upenn.edu](mailto:carolyn.siwinski@uphs.upenn.edu) or

[erica.zado@uphs.upenn.edu](mailto:erica.zado@uphs.upenn.edu) (Subject: VT Symposium)

## Cancellation and Refund Policy

In order to process refunds for course withdrawals, cancellations must be received in writing by September 27, 2019 (subject to a service charge equivalent to 10% of the registration fee, but no less than \$25.00). No refunds will be issued thereafter.

The University reserves the right to cancel or postpone any course due to unforeseen circumstances. In the event of cancellation or postponement, the University will refund registration fees but is not responsible for related costs or expenses to participants, including cancellation fees assessed by hotels, airlines, and travel agencies.



## Meeting Location and Parking

The *14th Annual International Symposium on Ventricular Arrhythmias: Pathophysiology & Therapy* will take place at the Hyatt at the Bellevue, 200 South Broad Street, Philadelphia, PA 19102.

The hotel's main number is 215-893-1234. Please visit the Hyatt website at [www.philadelphiabellevue.hyatt.com](http://www.philadelphiabellevue.hyatt.com) for directions and additional information.

The Hyatt at the Bellevue Philadelphia offers valet services and a self-parking garage. Parking and associated fees are not included in the registration fee and will not be validated.

## Overnight Options

**Hyatt at the Bellevue:** A limited number of rooms have been reserved at the Hyatt at the Bellevue at a special group rate of \$269 per night single/double occupancy. Taxes are 15.5% per room per night and are subject to change. We recommend you make a reservation as soon as possible since there are a limited number of rooms available. Please call the Bellevue at the Hyatt reservations directly at 215-893-1234 or 1-800-GO-HYATT. Identify yourself as a “*Penn VT Symposium*” participant. This room block is available until September 20, 2019 or until the block is full.

## Alternate Options

**The Warwick at Rittenhouse Square**  
220 S. 17th Street  
Philadelphia, PA 19103  
<http://www.warwickrittenhouse.com/>  
215-735-6000

**Club Quarters Hotel**  
1628 Chestnut Street  
Philadelphia, PA 19103  
<https://clubquartershotels.com/locations/club-quarters-hotel-philadelphia>  
215-282-5000

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**Services for the Disabled** If special arrangements are required for an individual with a disability to attend this meeting, please contact the Office of Continuing Medical Education no later than September 27, 2019 at 215-898-6400.

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Medical Center  
Leiden, Netherlands

# AGENDA

Friday, October 11, 2019

**6:30 – 7:25 AM**  
Registration and Continental Breakfast

**7:25 – 7:30 AM**  
Opening Remarks  
Francis Marchlinski, MD

**Session I**  
**New Concepts in Risk Stratification**  
*Moderators* – David Callans, MD;  
Sami Viskin, MD

**7:30 – 7:40 AM**  
Changing Paradigms in SCD  
Kalyanam Shivkumar, MD, PhD

**7:40 – 7:50 AM**  
Redefining Sudden Cardiac Death: Insights from the San Francisco POST SCD Study  
Zian Tseng, MD

**7:50 – 8:00 AM**  
Racial Differences in SCD Risk  
Rajat Deo, MD

**8:00 – 8:10 AM**  
SCD in Mitral Valve Prolapse  
Haris Haqqani, MBBS, PhD

**8:10 – 8:20 AM**  
Sudden Death Risk in Patients with PVCs  
Daniele Muser, MD

**8:20 – 8:55 AM** Discussion

**Session II**  
**VT in NICM**  
*Moderators* – Paolo Della Bella, MD;  
Vivek Reddy, MD

**8:55 – 9:05 AM**  
Ablation in NICM: Impact of Substrates and Genetics  
Katja Zeppenfeld, MD

**9:05 – 9:15 AM**  
Intramural Ablation  
William Sauer, MD

**9:15 – 9:25 AM**  
Layered Epicardial Scar in RV and LV Cardiomyopathy  
Francis Marchlinski, MD

**9:25 – 9:35 AM**  
Voltage Mapping at Initial NICM Presentation to Predict Outcome and Guide Therapy  
David Frankel, MD

**9:35 – 9:45 AM**  
Timing of Transplant After Successful VT Ablation – Important Considerations  
Anjali Owens, MD

**9:45 – 10:10 AM** Discussion

**10:10 – 10:35 AM** Break

**Session III**  
**VF Ablation**

*Moderators* – Andre d'Avila, MD, PhD;  
William Stevenson, MD

**10:35 – 10:45 AM**  
Phenotype Classification of VF Associated with Structurally Normal Hearts  
Michel Haissaguerre, MD

**10:45 – 10:55 AM**  
Ablation of PVC Triggered VF  
Samuel Asirvatham, MD

**10:55 – 11:05 AM**  
Polymorphic VT in Coronary Heart Disease  
Sami Viskin, MD

**11:05 – 11:15 AM**  
Endocardial Mapping and Ablation of VF  
David Krummen, MD

**11:15 – 11:25 AM**  
Induction of VF During PES, Non-random Patterns?  
Timm Dickfeld, MD, PhD

**11:25 – 11:50 AM** Discussion

**11:50 – 12:00 PM** Pick up box lunch

**12:00 – 2:00 PM**  
**Live Cases With Working Lunch**  
Live Cases from Hospital of the University of Pennsylvania

*Moderator:* Francis Marchlinski, MD  
*Operators:* David Callans, MD, Pasquale Santangeli, MD, PhD, Gregory Supple, MD, Fermin Garcia, MD, Jeffrey Arkles, MD, Ramanan Kumareswaran, MD, Robert Schaller, DO, Matthew Hyman, MD, PhD, David Lin, MD

*Panel:* Andre d'Avila, MD, PhD, Luigi Di Biase, MD, PhD, Vivek Reddy, MD, William Stevenson, MD, Paolo Della Bella, MD, Pierre Jais, MD

**2:00 – 2:20 PM** Break

**Session IV**  
**Device Therapy**

*Moderators* – Andrew Epstein, MD,  
Eric Prystowsky, MD

**2:20 – 2:30 PM**  
Natural History of Arrhythmias After ICD Implant: PARTITA Lessons  
Paolo Della Bella, MD

**2:30 – 2:40 PM**  
Resynchronization with His and LV Pacing  
Kenneth Ellenbogen, MD

**2:40 – 2:50 PM**  
Should DFT Testing be Required in S-ICD?  
Michael Gold, MD, PhD

**2:50 – 3:00 PM**  
New Leadless ICD Technologies  
Martin Burke, DO

**3:00 – 3:10 PM**  
Does Recovery of EF Preclude ICD Generator Replacement?  
Sanjay Dixit, MD

**3:10 – 3:20 PM**  
PROTECT-ICD Study:  
Programmed Stimulation Post MI  
Pramesh Kovoor, MBBS, PhD

**3:20 – 3:45 PM** Discussion

**3:45 – 4:05 PM** Break

**Session V**  
**Physiology of VT**

*Moderators* – David Callans, MD;  
Francis Marchlinski, MD

**4:05 – 4:15 PM**  
The Footprint Study:  
Evolution of Post MI VT Substrate  
Antonio Berruezo, MD, PhD

**4:15 – 4:25 PM**  
Is the VT Circuit Fixed or Functional?: Insights from Differential Wavefront Mapping  
Roderick Tung, MD

**4:25 – 4:35 PM**  
Role of His-Purkinje System in VT  
John Miller, MD

**4:35 – 4:45 PM**  
Wavefront and Frequency Mapping in Post MI VT  
Elad Anter, MD

**4:45 – 4:55 PM**  
VT Post MI: Where is the Parasympathetic Nervous System?  
Marmar Vaseghi, MD, PhD

**4:55 – 5:20 PM** Discussion

**Session VI**  
**Radioablation for VT**

*Moderators* – Douglas Packer, MD;  
Vivek Reddy, MD

**5:20 – 5:30 PM**  
Epicardial Exit Sites May Not Localize VT Circuits  
Eugene Downar, MD

**5:30 – 5:40 PM**  
Cardiac Radioablation: Lessons Learned  
Phillip Cuculich, MD

**5:40 – 5:50 PM**  
Stereotactic Radiosurgery for VT  
Josef Kautzner, MD, PhD

**5:50 – 6:00 PM**  
Proton Beam Ablation for VT/VF  
Gerhard Hindricks, MD

**6:00 – 6:30 PM** Discussion

**6:30 – 7:30 PM** Welcome Reception

Saturday, October 12, 2019

**6:30 – 7:30 AM**  
Registration and Continental Breakfast

**Session VII**  
**Challenges in the Treatment of PVCs/Idiopathic VT**  
*Moderators* – Kenneth Ellenbogen, MD;  
Francis Marchlinski, MD

**7:30 – 7:40 AM**  
Anatomic Considerations Re: LV Summit VT/VPDs  
Fermin Garcia, MD

**7:40 – 7:50 AM**  
Mechanism of PVC Related Cardiomyopathy  
Edward Gerstenfeld, MD

**7:50 – 8:00 AM**  
Usefulness of Local Impedance Measurements in Outflow Tract VT Ablation  
Jesus Almendral, MD, PhD

**8:00 – 8:20 AM**  
Debate: Patients with High Burden PVCs and Normal EF Should Undergo Ablation  
*Pro:* David Callans, MD  
*Con:* G. Neal Kay, MD

**8:20 – 8:40 AM** Discussion

**Session VIII**  
**Trials/Consortia Based Studies**  
*Moderators* – Karl-Heinz Kuck, MD;  
Vivek Reddy, MD

**8:40 – 8:50 AM**  
Clinical Trials:  
Are We Asking the Right Questions?  
David Wilber, MD

**8:50 – 9:00 AM**  
Less VT Study – Goals and Enrollment  
Andrea Natale, MD

**9:00 – 9:10 AM**  
VANISH Substudies and VANISH 2  
John Sapp, MD

**9:10 – 9:20 AM**  
Sarcoid Consortium  
Frank Bogun, MD

**9:20 – 9:30 AM**  
IVTCC 2  
Jason Bradfield, MD

**9:30 – 9:40 AM**  
LV Summit VT: Multicenter Registry  
Fa-Po Chung, MD

**9:40 – 9:50 AM**  
MR Signature of VT Risk Post MI  
Christian de Chillou, MD, PhD

**9:50 – 10:20 AM** Discussion

**10:20 – 10:40 AM** Break

**Session IX**  
**VT in Inflammatory Cardiomyopathy**  
*Moderators* – David Callans, MD;  
Andre d'Avila, MD, PhD

**10:40 – 10:50 AM**  
Basics of PET Imaging  
Paco Bravo, MD

**10:50 – 11:00 AM**  
Is MVP an Inflammatory Cardiomyopathy?  
Marc Miller, MD

**11:00 – 11:10 AM**  
Is Brugada Syndrome an Inflammatory Cardiomyopathy?  
Pasquale Santangeli, MD, PhD

**11:10 – 11:30 AM**  
Debate: Ablation Should be Used for VT in the Inflammatory Phase of Cardiac Sarcoid  
*Pro:* Thomas Deneke, MD  
*Con:* Usha Tedrow, MD, MS

**11:30 – 11:50 PM** Discussion  
**11:50 AM – 12:00 PM** Pick up box lunch

**12:00 – 12:50 PM**  
**Third Annual Mark E. Josephson VT Innovation Award**

*Moderators* – David Callans, MD, Francis Marchlinski, MD, Vivek Reddy, MD, Srinivas Dukkipati, MD, Andre d'Avila, MD, PhD

**Session X**  
**VT Ablation in Advanced Heart Failure**  
*Moderators* – Pasquale Santangeli, MD, PhD;  
Vivek Reddy, MD

**12:50 – 1:00 PM**  
Effectiveness of VT Ablation in Severe Heart Failure  
Wendy Tzou, MD

**1:00 – 1:10 PM**  
ECMO Support for VT Ablation  
Pasquale Vergara, MD, PhD

**1:10 – 1:20 PM**  
Prophylactic Surgical Ablation During LVAD Implantation  
Gregory Supple, MD

**1:20 – 1:30 PM**  
VT Ablation in Patients with LVADs  
William Stevenson, MD

**1:30 – 1:50 PM** Discussion

**Session XI**  
**New Concepts for VT Imaging and Mapping**  
*Moderators* – David Callans, MD;  
Srinivas Dukkipati, MD

**1:50 – 2:00 PM**  
Multicenter Study of CT Channel-based Ablation  
Pierre Jais, MD

**2:00 – 2:10 PM**  
Value of MR Imaging in Recurrent VT Post Ablation  
Frank Bogun, MD

**2:10 – 2:20 PM**  
Real-time MR for RF Lesion Characterization  
Henry Halperin, MD, MA

**2:20 – 2:30 PM**  
Intersection of Physiology and Imaging  
Saman Nazarian, MD, PhD

**2:30 – 2:40 PM**  
Rapid Automatic VT Localization  
John Sapp, MD

**2:40 – 2:50 PM**  
ECG Imaging for Localizing VT  
Harikrishna Tandri, MD

**2:50 – 3:15 PM** Discussion

**3:15 – 3:35 PM** Break

**Session XII**  
**New Ablation Technologies**  
*Moderators* – Andre d'Avila, MD, PhD;  
Hiroshi Nakagawa, MD, PhD

**3:35 – 3:45 PM**  
Overview of New Technologies  
David Haines, MD

**3:45 – 3:55 PM**  
Electroporation for Ventricular Ablation  
Jacob Koruth, MD

**3:55 – 4:05 PM**  
SERF Ablation  
Atul Verma, MD

**4:05 – 4:15 PM**  
Update on Bipolar Ablation  
Srinivas Dukkipati, MD

**4:15 – 4:25 PM**  
Lattice Tip Catheter Ablation  
Vivek Reddy, MD

**4:25 – 4:55 PM** Discussion

**4:55 – 5:00 PM**  
Closing Comments  
Francis Marchlinski, MD

14th International Symposium on  
**VENTRICULAR ARRHYTHMIAS:  
 PATHOPHYSIOLOGY & THERAPY**

Friday and Saturday  
 October 11-12, 2019

If you are registering using your credit card, please register online at:  
<https://upenn.cloud-cme.com/vt2019>

**Questions? Contact us at:**

Phone: 215-898-6400 or 215-898-8005 • [penncme@penncme.upenn.edu](mailto:penncme@penncme.upenn.edu)

**Please note we are unable to accept faxed registration forms.**

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 Name (First) (Last)

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 Medical Specialty

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**Registration Fee** (pre-payment is required to be officially registered)

	<b>Before 9/6/19</b>	<b>On or after 9/6/19</b>
Physicians	<input type="checkbox"/> \$525	<input type="checkbox"/> \$600
Biomedical, pharmaceutical or medical device industry employees	<input type="checkbox"/> \$525	<input type="checkbox"/> \$600
Residents, fellows, and allied health professionals	<input type="checkbox"/> \$275	<input type="checkbox"/> \$350

**Payment Method**

- If you are paying by credit card, please register online at <https://upenn.cloud-cme.com/vt2019>
- If you are paying by check, you may mail your completed registration form and check made payable to **The Trustees of the University of Pennsylvania/CME** to:  
 Conference Coordinator, Penn Medicine  
 Office of Continuing Medical and Interprofessional Education  
 150 Anatomy/Chemistry Building  
 3620 Hamilton Walk, Philadelphia, PA 19104-6061
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**For VT Symposium Questions Contact**

Phone: 215-662-6005; 215-898-6400 or email: [erica.zado@uphs.upenn.edu](mailto:erica.zado@uphs.upenn.edu) or [carolyn.siwinski@uphs.upenn.edu](mailto:carolyn.siwinski@uphs.upenn.edu) (Subject: VT symposium)

**Please Note:** *Walk-in registrants must bring payment to the program.*





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