

## **CURRICULUM VITAE**

### **BRIEF BIOSKETCH**

Dr. Chugh is the Pauline and Harold Price Professor of Cardiac Electrophysiology, Director of the Heart Rhythm Center and Associate Director of the Heart Institute at Cedars-Sinai Los Angeles; and Professor of Medicine-in-Residence at the David Geffen School of Medicine at UCLA. He received his medical education at Punjabi University in India followed by an internship in internal medicine at the Tufts Newton-Wellesley Hospital program in Massachusetts and residency at Hennepin County Medical Center in Minneapolis. He trained as a fellow in cardiology at the University of Minnesota, and fellow in clinical cardiac electrophysiology at the Mayo Clinic, Rochester, MN. Dr. Chugh joined the faculty at Oregon Health and Science University, Portland, Oregon in 1999 and was appointed section chief of Clinical Electrophysiology in 2006. In 2008, he was recruited to the Cedars-Sinai Medical Center in Los Angeles. As Associate Director of the Heart Institute and Director of the Heart Rhythm Center he leads a clinical, teaching and research operation that involves over 70 personnel, including 12 FTEs in clinical cardiac electrophysiology.

His scientific career has been dedicated to understanding the etiology and mechanisms of sudden cardiac death in the community, with the goal of improving management and prevention. For this purpose he founded a real-time population cohort in an entire community of one million (The Oregon Sudden Unexpected Death Study, Oregon SUDS), bringing together all regional hospitals, the emergency medical system and the medical examiner to build a unique database of phenotyped patients linked to a biobank. Ongoing since 2002, this approach has helped to set the standard for population science approaches to sudden death. 2015, he has expanded the Oregon study to include a new population cohort of 850,000 in Ventura County, California under the PRESTO (PREdiction of Sudden death in mulTi-ethnic cOMmunities) umbrella, that will allow for race and ethnicity-specific evaluation of sudden death risk predictors. The mechanisms as well as clinical, plasma and genomic biomarkers his team continues to identify are being explored as tools to enhance management and prevention of sudden cardiac death.

He has been recognized by elected membership in the American Society for Clinical Investigation, the Howard Morgan Award for distinguished achievements in cardiovascular research, the Simon Dack Award, membership in the Association of University Cardiologists, Associate Editorship of two journals (IJC Heart & Vessels, Global Heart journal), Section Editorship of the JACC besides other national/international scientific and leadership responsibilities. Today, his population science laboratory at the Cedars-Sinai Heart Institute in Los Angeles continues to mentor and collaborate with researchers with an interest in investigation of sudden cardiac death. Chugh has led an independent and continuously funded research program since 2001 (R01 mechanism since 2007), and has published over 120 peer-reviewed scientific papers (95 original scientific papers, 20 review papers, 13 editorials), five book chapters and >175 scientific abstracts in the fields of cardiac electrophysiology and sudden cardiac death.

### **PRESENT APPOINTMENT**

Pauline and Harold Price Endowed Chair in Cardiac Electrophysiology  
Associate Director of the Heart Institute  
Section Chief, Clinical Cardiac Electrophysiology  
Director, Heart Rhythm Center  
Professor of Medicine at Cedars-Sinai  
Cedars-Sinai Medical Center, Los Angeles, CA, USA  
Professor of Medicine-In-Residence, David Geffen School of Medicine at  
UCLA, Los Angeles, CA, USA

**Office Address:** The Heart Institute  
Cedars-Sinai Medical Center  
Advanced Health Sciences Pavilion Suite 3100  
127, South San Vicente Blvd  
Los Angeles CA 90048  
(310) 423-3300

**Email:** [sumeet.chugh@cshs.org](mailto:sumeet.chugh@cshs.org)

**Personal History:** Born in Chandigarh, India (8-3-1964)  
Citizenship: USA

**Education: POST-GRADUATE TRAINING**

*July 1 1997 to  
June 30 1999* Fellow, Clinical Cardiac Electrophysiology  
Mayo Clinic, Rochester, MN

*July 1 1994 to  
June 30 1997* Fellow, Cardiology  
University of Minnesota

*July 1 1992 to  
June 30 1994* PGY-2,3 Resident (Internal Medicine)  
Hennepin County Medical Center, Minneapolis, MN

*July 1, 1991 to  
June 30, 1992* PGY-1 Resident (Internal Medicine)  
Newton Wellesley Hospital, Tufts University, Boston, MA

*July 1, 1989 to  
June 30, 1991* Research Associate  
Tufts New England Medical Center, Boston, MA

**UNDERGRADUATE TRAINING**

*July 1983 to  
Dec 1988* Medical School,  
Government Medical College, Patiala, Punjab, India  
Honors, graduated 3<sup>rd</sup> in class of 150

*July 1981 to  
June 1983* Premedical Studies  
D.A.V. College, Chandigarh, India

**Licensure:** California Medical License 2009  
Washington Medical License 2008  
Oregon Medical License 1999

Minnesota Medical License 1993  
DEA certificate

**Board Certification:**

- American Board of Internal Medicine (Diplomate in Internal Medicine) 1993
- American Board of Internal Medicine (Diplomate in Cardiovascular Disease) 1999 (valid 2019)
- American Board of Internal Medicine (Added Qualifications in Clinical Cardiac Electrophysiology) 2000 (valid 2020)

**Professional Experience:**

**ACADEMIC APPOINTMENTS**

2014-	Professor of Medicine-in-Residence Step IV, David Geffen School of Medicine at UCLA
2011-14	Professor of Medicine-in-Residence Step III, David Geffen School of Medicine at UCLA
2010-	Professor of Human Genetics, Medical Genetics Institute, Cedars-Sinai Medical Center
2009-	Pauline and Harold Price Chair in Cardiac Electrophysiology
2009-	Professor of Medicine, Cedars-Sinai Professorial Series
2009-	Professor of Emergency Medicine (Affiliate), Oregon Health & Science University
2008-	Associate Director of the Heart Institute, Cedars-Sinai Medical Center
2008-2011	Professor of Medicine-in-Residence Step I, David Geffen School of Medicine at UCLA
2008-	Section Chief, Clinical Cardiac Electrophysiology, Cedars-Sinai Medical Center
2008-	Program Director, Fellowship Training Program in Clinical Cardiac Electrophysiology, Cedars-Sinai Medical Center
2006-08	Section Chief, Clinical Cardiac Electrophysiology, Oregon Health & Science University
2006-08	Director, Cardiac Arrhythmia Center, Oregon Health & Science University
2003-08	Associate Professor of Medicine, Oregon Health & Science University
2007-08	Associate Professor of Anesthesiology & Peri-operative Medicine
2008-09	Associate Professor of Emergency Medicine, Oregon Health & Science University
2002-08	Director, Fellowship Training Program, Clinical Cardiac Electrophysiology, Oregon Health & Science University
2001-06:	Director, Heart Rhythm Research Laboratory, Oregon Health & Science University
2005-08	Graduate Faculty, School of Medicine, Oregon Health & Science University
1999-2003:	Assistant Professor of Medicine, Oregon Health & Science University

## **Professional Activities:**

### **COMMITTEE RESPONSIBILITIES (NATIONAL LEVEL)**

- 2015- Member, Young Investigator Awards Subcommittee, Heart Rhythm Society
- 2014- Member, Advisory Committee, National Registry for Sudden Death in the Young
- 2014- Member, North American Council, International Academy of Cardiovascular Sciences
- 2013- Phase 1 reviewer, 2013 NIH Director's New Innovator Award Program (ZRG1 MOSS-C)
- 2008-2012 Charter Member, Electrical Signaling, Ion Transport, and Arrhythmias Study Section (ESTA), Center For Scientific Review, National Institutes of Health
- 2008-2009 Member, American Heart Association Peer Review committee for Electrophysiology Research (National)
- 2010- Member, American Heart Association Peer Review committee for Genomics and Observational Epidemiology (National)
- 2009- ACC/AHA Electrophysiology Data Standards Update Writing Committee
- 2008-09 Member, Steering Committee, NHLBI-Heart Rhythm Society Working Group on Prediction and Prevention of Sudden Cardiac Death
- 2007 Reviewer (Ad hoc), Special Emphasis Panel, Vascular Cell and Molecular Biology Study Section (VCMB), Center For Scientific Review, National Institutes of Health
- 2008 Reviewer (Ad hoc), Cardiovascular and Sleep Epidemiology Study Section (CASE), Center for Scientific Review, National Institutes of Health
- 2007-08 Reviewer (Ad hoc), Electrical Signaling, Ion Transport, and Arrhythmias Study Section (ESTA), Center for Scientific Review, National Institutes of Health
- 2007 Reviewer (Ad hoc), Bioengineering, Technology and Surgical Sciences Study Section (BTSS), Center for Scientific Review, National Institutes of Health
- 2006 Reviewer (Ad hoc), Special Emphasis Panel (ZRG1 CVS D-90) National Heart Lung Blood Institute,

- 2007-09 Chair, National Clinical Research and Training Committee, Heart Rhythm Society
- 2007-09 Member, National Sudden Cardiac Arrest 360 Task Force, Heart Rhythm Society
- 2006-09 Member, National ICD Registry, Research and Publications Subcommittee
- 2005-06 Vice-Chair, National Clinical Research and Training Committee, Heart Rhythm Society
- 2005-06 Chair, Fellowship Sub-committee, Heart Rhythm Society
- 2005-06 Member, Legislative Task Force on Sudden Cardiac Arrest, Heart Rhythm Society
- 2005-07 Chair, Nominating Committee, Functional Genomics Interdisciplinary Working Group, American Heart Association
- 2005-07 Membership and Communications Committee, Working Group on Functional Genomics and Translational Biology, American Heart Association
- 2006-07 Member, Scientific Advisory Board, International Academy of Cardiology
- 2004 National Strategic Planning Task Force, Heart Rhythm Society

**INTERNATIONAL COMMITTEES / LEADERSHIP**

- 2008 – Chair, Arrhythmia Expert Panel, World Health Organization Global Burden of Disease Project
- 2012 – Member, Scientific Advisory Board, Asia-Pacific Heart Rhythm Society Annual Scientific Sessions
- 2013- Reviewer, Singapore National Medical Research Council Translational and Clinical Research Flagship Program
- 2014- Member, Scientific Advisory Board, European Cardiac Arrhythmia Society Scientific Sessions
- 2014- Member, Scientific Program Development Committee, CardioRhythm Sessions, Hong Kong

**EDITORIAL RESPONSIBILITIES:**

*Section Editor (Rhythm Disorders):* Journal of the American College of Cardiology (2014 - )

*Associate Editor (Sudden Death):* International Journal of Cardiology, Heart & Vessels (2013 - )

*Associate Editor:* Global Heart Journal (2015- )

*Guest Editor*

- Circulation (Sep 2013 - )

*Guest Editor (ad hoc)*

- Heart Rhythm Journal

*Member, Editorial Boards:*

2013-	Arrhythmia Grand Rounds: Patient-Based
2012-	International Journal of Cardiology: Heart and Great Vessels
2012-	Experimental & Clinical Cardiology
2011-	Journal of the American College of Cardiology
2011-	Journal of Cardiac Failure
2010-	Circulation
2010-	Heart Rhythm journal
2010-	Journal of Interventional Cardiac Electrophysiology
2005-2010	Journal of Cardiovascular Pharmacology and Therapeutics

*Reviewer:*

- Circulation
- Circulation: Arrhythmia and Electrophysiology
- Circulation: Cardiovascular Quality and Outcomes
- Circulation Research
- Diabetes Research and Clinical Practice
- Journal of the American College of Cardiology
- European Heart Journal
- Cardiovascular Research
- International Journal of Cardiology
- The American Journal of Cardiology
- Journal of Cardiovascular Electrophysiology
- Pacing and Clinical Electrophysiology
- Experimental and Molecular Pathology
- Resuscitation
- Critical Care Medicine
- Expert Opinion on Pharmacotherapy
- Heart
- Mayo Clinic Proceedings
- Arteriosclerosis, Thrombosis, and Vascular Biology
- The Lancet
- Hypertension
- The New England Journal of Medicine

*Abstract Grader:*

- American Heart Association Annual Scientific Sessions: Human Genetics of Cardiovascular Disease and Therapy (FGTB) 2005-present.
- Heart Rhythm Society Annual Scientific Sessions 2007-present
- American College of Cardiology Annual Scientific Sessions

## **PROFESSIONAL ORGANIZATIONS**

- Fellow, Heart Rhythm Society
- Fellow, American College of Cardiology
- Fellow, American Heart Association
- Fellow, International Academy of Cardiovascular Sciences
- Member, Association of University Cardiologists
- Member, Western Association of Physicians
- Mayo Alumni Association

## **LOCAL ADMINISTRATIVE/TEACHING RESPONSIBILITIES**

- 1999- Teaching Faculty, undergraduate core curriculum, Introduction to Cardiac Electrophysiology
- 2002- Director, Fellowship Training Program, Clinical Cardiac Electrophysiology, Oregon Health & Science University
- 2001-06 Director, Heart Rhythm Research Laboratory, Oregon Health & Science University
- 2005- Graduate Faculty, School of Medicine, Oregon Health & Science University
- 2006- Section Chief, Clinical Electrophysiology, Cardiovascular Medicine, Oregon Health and Science University
- 2006- Director, Cardiac Arrhythmia Center, Cardiovascular Medicine, Oregon Health and Science University
- 2007- Member, Promotion and Tenure Committee, Department of Medicine, Oregon Health and Science University
- Nov 2008- Associate Director of the Heart Institute (Genomic Cardiology), Cedars-Sinai Heart Institute
- Nov 2008- Section Chief, Clinical Cardiac Electrophysiology, Division of Cardiology
- Nov 2008- Program Director, Fellowship Training Program in Clinical Cardiac Electrophysiology, Cardiology Division, Cedars-Sinai Medical Center
- Dec 2008- Member, Physician Advisory Committee for the Electronic Medical Record, Cedars-Sinai Medical Center
- 2012- Chair, Clinical Database Repository and Bioinformatics Committee, Cedars-Sinai Heart Institute
- Feb 2012- Member, Information Sciences Committee, Cedars-Sinai Health System

- 2012- Member, Clinical Programs Growth Initiative Advisory Committee, Cedars-Sinai Health System
- 2013 Member, Search Committee for Director, Medical Genetics Research Institute, Cedars-Sinai Health System

#### **HONORS AND SPECIAL AWARDS:**

- Elected Member, American Society for Clinical Investigation, 2015
- Simon Dack Award for Outstanding Scholarship, from the Journal of the American College of Cardiology, 2014
- Elite reviewer, Journal of the American College of Cardiology for the year 2013
- Howard Morgan Award for Distinguished Achievements in Cardiovascular Research, from the International Academy of Cardiovascular Sciences, Aug 15, 2013
- Fellow, International Academy of Cardiovascular Sciences 2012
- Elected Member, Association of University Cardiologists 2012
- Elite reviewer, Journal of the American College of Cardiology 2011
- Elite reviewer, Journal of the American College of Cardiology 2010
- Accelerated promotion from Professor In Residence UCLA Step I to Step III, July 1, 2011
- Distinguished Visiting Professor, Heart & Vascular Center at MetroHealth-Case Western University, Cleveland OH, Dec 2-3, 2009
- 2007-08 Excellence in Teaching Award, School of Medicine, Oregon Health and Science University, Portland OR
- 2005 Annual Heart Research Center Award for Excellence in Research, Oregon Health and Science University, Portland OR
- Reynolds Visiting Professor, The Johns Hopkins University, Division of Cardiology, Jan 2004.
- Accelerated promotion to Associate Professor (2003) and Professor (2008)
- Doris Duke Innovation in Clinical Research Award 2001
- New Investigator Award, American Heart Association 2001 (for “*Molecular Basis of Atrial Arrhythmia Following Myocardial Infarction*”)



- STEP Award, American Association for the Advancement of Science, (New Orleans 1990)

### **EXAMINING PROFESSOR:**

- PhD Defense at the University of Adelaide, February 2015, Candidate Dr. Christopher Wong
- PhD Defense at the University of Amsterdam, May 2015, Candidate Dr. Abdenasser Bardai

### **RESEARCH GRANTS:**

#### **Current**

- R01HL122492 (PI - Chugh)                      11/14/14 – 11/13/18  
NIH NHLBI  
Total Costs: \$ 2,357,464  
Sudden Cardiac Death in Middle Age  
This study is a population-based translational approach to identify novel mechanisms of ventricular arrhythmogenesis in middle-aged residents of a large community

#### **Pending**

- R01HL126938 (PI - Chugh)                      **(Scored 8 percentile, Council review pending)**  
NIH NHLBI  
Total Costs: \$ 3,644,537  
Sudden Cardiac Death with Preserved Left Ventricular Ejection Fraction  
This study will evaluate mechanisms of sudden cardiac arrest in patients with preserved left ventricular systolic function.
- 1U01HL131909-01 (PI - Chugh)                      (IRG review pending)  
NIH NHLBI  
Total Costs: \$ 3,722,922  
Prediction and Prevention of Sudden Death in the Young  
Using a combination of the National Registry for Sudden Death in the Young as well as the PRESTO Network, this project will investigate specific novel mechanisms of sudden cardiac death in the 0-19 year age group.

#### **Completed**

- R01 HL105170 (PI - Chugh)                      7/1/10 - 3/31/15 (No-cost extension)  
NIH NHLBI  
Total Costs: \$ 1,660,000  
Prolonged Ventricular Depolarization and Sudden Death in the Community  
This project focuses on mechanisms and clinical utility of prolonged ventricular depolarization as a predictor of sudden cardiac death in the general population.
- R01 HL088416 (PI – Chugh; \$ 2,075,000; 7/13/07 - 4/31/12). Determinants of Sudden Death Risk with Left Ventricular Hypertrophy. This study was a population-based translational approach to identifying mechanisms of fatal arrhythmia among subjects with left ventricular hypertrophy

- R01 HL088416-03S1 (PI – Chugh; \$ 406,250; 7/15/09 - 6/30/11). Administrative supplement for Determinants of Sudden Death Risk with Left Ventricular Hypertrophy.
- Reynolds Foundation Center of Excellence in Heart Disease – Co-investigator (10%), Center at the Johns Hopkins University (Direct costs \$50,000 annually ;Jul 2007- Jul 2010) for *Genomic Determinants of Sudden Cardiac Death*
- National Heart Lung and Blood Institute HL-04-001 (\$ 2,998,698; 7/1/2004 – 6/30/2009). *Emergency Prehospital Investigative Consortium (EPIC)*. Role: Co-Investigator (5%). PI Jerris Hedges MD
- Reynolds Foundation Center of Excellence in Heart Disease – Co-investigator (20%), Center at the Johns Hopkins University (\$1,500,000; Total \$ 24,000,000; Jul 2003- Jul 2007) for *Genomic Determinants of Sudden Cardiac Death*
- US Centers for Disease Control and Prevention, Project TS 0660. Principal Investigator (20%) Total costs \$838,442; 2001-2004 for *Mechanisms of Unexplained Sudden Cardiac Death: A Population-Based Cohort Study in Multnomah County, Oregon*
- North American Society of Pacing and Electrophysiology, Advanced Training Clinical Fellowship Award (\$150,000; 2004-2007) for Clinical Cardiac EP Training Program at Oregon Health & Science University
- Doris Duke Innovation in Clinical Research Award, Doris Duke Charitable Foundation, (\$200,000;2001 -2004) for *Mechanisms of Unexplained Sudden Cardiac Death: A Prospective, Population-based Investigation*
- American Heart Association, Grant-in-Aid (\$80,000;2001-2003) for *Mechanisms of Unexplained Sudden Cardiac Death: Clinical, Pathologic and Genetic Analysis of Archived Hearts from a 13-year Autopsy Series*
- Collins Medical Trust (\$25,000;2000-2001) for *Genetic Mechanisms of Cardiac Arrhythmia in Heart Failure: Gene Expression Profiling in the Rat Model of Myocardial Infarction*
- Minneapolis Medical Research Foundation (\$5,000; April-May 1994) for *Alterations in Chemoreceptor function in Heart Failure*: National Heart and Lung Institute, London, United Kingdom.

## **RESEARCH GRANTS/AWARDS TO TRAINEES (Dr Chugh as Primary Mentor)**

### **Current**

- National Institutes of Health K-12 Scholar award (NHLBI; \$390,000, 2013-2017) to Eric C. Stecker MD for “*Influence of pre-existing cardiovascular disease on response to cardiac arrest resuscitation (The Oregon Sudden Unexpected Death Study)*”
- 2012 National Center Research Program Scientist Development Grant (American Heart Association; \$308,000, 2013-2017) to Adriana Huertas-Vazquez PhD for “*Evaluation of Three Genetic Loci Associated with Sudden Cardiac Death.*”

- 2012 Western States Affiliate Beginning Grant-in-Aid (American Heart Association; \$140,000,2013-2015) to Adriana Huertas-Vazquez PhD for "*Fine Mapping and Gene Network Analysis of Selected Sudden Cardiac Death Loci.*"(Declined)

## Completed

- 2014 James Willerson Award for Excellence in Post-Doctoral Research (International Academy of Cardiovascular Sciences) to Kumar Narayanan MD for "*QRS Fragmentation Predicts Increased Risk of Sudden Cardiac Death*"
- 2011 AHA-Phillips Resuscitation Fellowship Award (American Heart Association Post-doctoral grant; \$103,000, 2011-2013) to Carmen Teodorescu MD PhD for "*Risk Factors of Pulseless Electrical Activity*"
- 2008 Heart Research Trainee of the year, Oregon Health and Science University, Portland OR, to Stacey Clegg MD for "*Gender Differences and Sudden Cardiac Death in the General Population: Is There Equal Opportunity for Prevention?*"
- 2005 American College of Cardiology Young Investigator Award to Eric Stecker MD for "*The Large Majority of Sudden Cardiac Death Cases Do Not Have Severe Left Ventricular Dysfunction: Prospective Evaluation of Alternative Risk Predictors in a Two-Year, Community-Based Study*"
- American Heart Association Post-doctoral Fellowship Award (2003-2005) to Eric Stecker MD for "*Phenotype-genotype correlations in sudden death with coronary artery disease*".
- 2004 American Heart Association New Investigator Award, to Benjamin John MD for "*Distinctive Remodeling of Myocardial Interstitium but no Connexin 43 Alterations in LVH Associated with Sudden Cardiac Death*"
- Fourjay Foundation (\$50,000; 2003-04) to Benjamin John, MD (Fellow, Cardiovascular Medicine, Oregon Health & Science University) for *Contributions of the Cardiac Interstitium to Fatal Arrhythmogenesis in Patients with Isolated Left Ventricular Hypertrophy and Sudden Cardiac Death*
- National Institutes of Health Summer Scholarship (*May-Aug 2002*) to Nasreen Ilias, second year medical student, Oregon Health & Science University.
- American Heart Association Medical Student Research Grant (*May-Aug 2002*) to Nasreen Ilias, second year medical student, Oregon Health & Science University.
- National Institutes of Health Summer Scholarship (*May-Aug 2002*) to Richard Shih, second year medical student, Oregon Health & Science University.

## TRAINING GRANTS:

Faculty mentor, NIH T32 grant, Cedars-Sinai Heart Institute Training Program in Advanced Heart Disease Research

## **SYMPOSIA ORGANIZED**

Arrhythmia Symposium at the Cedars-Sinai Heart Institute (Organized and chaired, Dec 2008, Dec 2010, Dec 2012).

## **INVITED LECTURES AND CHAIRED SESSIONS:**

### **National/International**

1. University of Texas, Houston TX, Cardiology Grand Rounds, January 1999 (Consequences of Ventricular Electrical Remodeling in Heart Failure)
2. University of Utah, Salt Lake City UT, Cardiology Division, February 1999 (Consequences of Ventricular Electrical Remodeling in Heart Failure)
3. New Mexico Heart Institute, Albuquerque NM, Cardiology Division, February 1999 (Sudden Cardiac Death with Apparently Normal Heart)
4. Duke University, Durham NC, Division of Cardiac Electrophysiology, March 1999 (Consequences of Ventricular Electrical Remodeling in Heart Failure)
5. Loyola University, Chicago IL, Cardiology Division, Mar 1999 (Sudden Cardiac Death with Apparently Normal Heart)
6. Post Graduate Institute for Medical Education and Research, Chandigarh, India, February 2001. (Sudden Cardiac Death – Population to Bedside to Bench)
7. All India Institute of Medical Sciences, New Delhi, India, February 2001. (Mechanisms of Sudden Cardiac Death)
8. University of Arkansas Medical Sciences, Little Rock AR, Cardiology Grand Rounds, January 25, 2002. (Proximal Mechanisms of Fatal Arrhythmia).
9. Invited Faculty, North American Society of Pacing and Electrophysiology (NASPE) 23rd Scientific Sessions, San Diego, May 9, 2002. (Current Understanding of the Genetic Epidemiology of the Acquired Long QT Syndrome)
10. Invited Speaker, US Centers for Disease Control & Prevention, Cardiovascular Health Branch, Atlanta, GA, June 3, 2002. (Seminar - A Translational Approach to Sudden Cardiac Death: The Genetic Connection).
11. University of Texas, Houston TX, Cardiology Grand Rounds, October 17, 2002 (Sudden Cardiac Death in the Genetic Age: Implications for the Clinical Approach)
12. Invited Faculty, XII World Congress of Cardiac Pacing and Electrophysiology, Hong Kong, February 19-22, 2003 (Acquired long QT and pre-prescription genotyping)
13. Invited Faculty, American College of Cardiology Annual Scientific Sessions, Chicago, Mar 30- April 2, 2003 (Who Should the Practicing Cardiologist Refer for EP Consultation?)

14. Invited Faculty, North American Society of Pacing and Electrophysiology (NASPE) 24th Scientific Sessions, Washington, DC, USA, May 14-17, 2003 (Management of the ICD Patient)
15. Invited Faculty, Functional Genomics in Heart Failure, Herz Zentrum Gottingen, Georg-August-Universität Göttingen, Germany, June 26-28, 2003 (Population-Based Analysis of Unexplained Sudden Death)
16. *Reynolds Center Visiting Professor and Speaker*, The Johns Hopkins University, Division of Cardiology. Grand rounds January 7, 2004 (Unexplained Sudden Cardiac Death- Scope of the Problem and Pursuit of Concealed Etiologies)
17. Invited seminar speaker, Cedars Sinai Medical Center, Division of Cardiology, Los Angeles CA, March 17, 2004
18. Cardiology Grand Rounds, New England Medical Center Cardiology Division, Tufts University, Boston MA, April 16, 2004
19. Invited Faculty, American Medical Athletic Association, 33<sup>rd</sup> Annual Sports Medicine Symposium at Boston, April 17-18, 2004 (Sudden Cardiac Death with an Apparently Healthy Heart)
20. *Session Chair*, NASPE/Heart Rhythm Society Annual Scientific Sessions, San Francisco CA, May 21, 2004. SESSION TITLE: Risk Stratification in Genetic Disorders
21. *Session Chair*, NASPE/Heart Rhythm Society Annual Scientific Sessions, San Francisco CA, May 21, 2004. SESSION TITLE: Clinical Electrophysiology V: Genetics of Arrhythmias
22. Invited Faculty, NASPE/Heart Rhythm Society Annual Scientific Sessions, San Francisco CA, May 21, 2004. Featured Symposium - Celebrating the Past, Shaping the Future: Sudden Cardiac Death: An Evolving Paradigm (The Epidemiology of SCD: Scope of the Problem).
23. Invited Faculty, American College of Cardiology Combined International Symposium on Congenital Heart Disease in the Adult. Skemania Lodge, Skemania WA, June 6-9, 2004 (Utility of Re-synchronization Therapy in Heart Failure)
24. Invited Faculty, 14<sup>th</sup> World Congress on Cardiac Electrophysiology and Cardiac Techniques (CARDIOSTIM) June 16-19, 2004; Nice, France (Epidemiology and Risk Stratification of Sudden Cardiac Death: Role of Genetic Screening)
25. Invited Faculty, Second National CDC Prevention Conference on Heart Disease and Stroke, Atlanta GA, August 17-20, 2004 (Current Burden of Sudden Cardiac Arrest in the Community).
26. Invited Faculty, American Heart Association Annual Scientific Sessions, New Orleans November 7-10, 2004. Session: Circulation Research Symposium: The Fundamental Biology of Cardiac Arrhythmias (Genomics of Sudden Cardiac Death).
27. Invited Faculty, International Summit on Coronary Artery Disease and Cardiovascular Interventions, Mumbai, India, February 19, 2005 (Sudden Cardiac Arrest and the Human Genome – Unlocking the Secrets of Biology’s Storehouse).

28. Invited Faculty, International Summit on Coronary Artery Disease and Cardiovascular Interventions, Mumbai, India, February 20, 2005 (Clinical Selection of the ICD Candidate- Can we look beyond the ejection fraction?)
29. *Session Co-Chair*, Rama K. Bernstein Program for Fellows, Heart Rhythm Society Annual Scientific Sessions, May 4, 2005 (Sudden Academic Arrest: Resuscitate or Abandon?)
30. Invited Faculty, Heart Rhythm Society Annual Scientific Sessions May 7, 2005 (Genetic Screening in Sudden Death)
31. Invited Faculty, Heart Rhythm Society Annual Scientific Sessions May 7, 2005 (Long QT Syndrome- What we know and what we are learning)
32. SUNY at Stony Brook, NY, Division of Cardiology, Cardiology Grand Rounds, June 13, 2005 (Novel Predictors of Sudden Cardiac Death)
33. Mayo Clinic, Rochester MN, Division of Cardiology, Cardiology Grand Rounds, August 26, 2005 (Novel Predictors of Sudden Cardiac Death in the General Population)
34. Invited Faculty, The Great Wall of China International Cardiology Symposium, Beijing, China, November 3-6, 2005 (Clinical Selection of the ICD Candidate- Can we look beyond the ejection fraction?)
35. University of California, Los Angeles, CA, Division of Cardiology, November 30, 2005 (Predicting the Perfect Storm: Determinants of Sudden Cardiac Arrest in the General Population)
36. University of California, Irvine, CA. Cardiology Grand Rounds, December 1, 2005 (Predicting the Perfect Storm: Determinants of Sudden Cardiac Arrest in the General Population)
37. Mount Sinai Medical Center, New NY, Division of Cardiology, Cardiology Grand Rounds, December 6, 2005 (Predicting the Perfect Storm: Determinants of Sudden Cardiac Arrest in the General Population)
38. St Lukes-Roosevelt Hospital Center, New York, NY, Division of Cardiology, Cardiology Grand Rounds, December 7, 2005 (Predicting the Perfect Storm: Determinants of Sudden Cardiac Arrest in the General Population)
39. University of Washington, Seattle, Harborview Medical Center Citywide Resuscitation Research Rounds, February 21, 2006 (Predicting the Perfect Storm: Determinants of Sudden Cardiac Arrest in the General Population)
40. Christian Medical College, Ludhiana, Panjab, India. Department of Anesthesiology, March 6, 2006 (Management of Intra-Operative and Post-Operative Cardiac Arrhythmias)
41. Invited Faculty, Heart Rhythm Society Annual Scientific Sessions, Boston, MA, May 18-20, 2006 (Sudden Death in Young Adults)

42. Invited Faculty, Heart Rhythm Society Annual Scientific Sessions, Boston, MA, May 18-20, 2006 (Mutations in Cardiomyopathies: What Are The Clinical Implications?)
43. Invited Faculty, Heart Rhythm Society Annual Scientific Sessions, Boston, MA, May 18-20, 2006 (Chronic Resynchronization Therapy: An Update)
44. Invited Faculty, 15<sup>th</sup> World Congress on Cardiac Electrophysiology and Cardiac Techniques (CARDIOSTIM) June 14-17, 2006; Nice, France (Molecular abnormalities in unexplained sudden death)
45. Invited Speaker, US-wide Race Directors Conference, the Portland Marathon, Portland OR, Sep 29, 2006 (Sudden Cardiac Arrest in Marathon Runners)
46. University of Minnesota, Division of Cardiology, Minneapolis, MN, December 15, 2006 (A Perfect Storm: Determinants of Sudden Cardiac Death in the General Population)
47. Hennepin County Medical Center, Minneapolis, MN. Medical Grand Rounds, March 8, 2007.
48. Invited faculty, American College of Cardiology Annual Scientific Sessions, March 26, 2007 (Sudden Cardiac Death symposium- Autopsy Negative Sudden Death)
49. Invited Faculty, The Great Wall of China International Cardiology Symposium, Beijing, China, October 10-13, 2007.
50. University of Texas at Houston. Cardiology Grand Rounds, October 25, 2007
51. Northwestern University Feinberg School of Medicine, Chicago, November 16, 2007. Cardiology Grand Rounds.
52. *Keynote Address*: Second Annual Heart Disease and Stroke Educational Conference, Partnership for a Heart Healthy and Stroke Free Massachusetts, Marlboro MA, January 25, 2008 (Community Approaches to Reducing Out of Hospital Deaths)
53. Evergreen Health Care, Kirkland, WA, April 18, 2008. Cardiology Grand Rounds.
54. Cedars-Sinai Hospital, Division of Cardiology, Los Angeles, CA, April 24, 2008. Cardiology Grand Rounds.
55. Invited faculty, Heart Rhythm Society Annual Scientific Sessions, Denver, CO, May 2008 (Ablation of Focal Tachycardias in the Right Atrium).
56. *Session Co-Chair*, Stem Cell And Gene Therapy For Cardiac Conditions, Cardiovascular Diseases In The Elderly, CARDIOSTIM, Nice, France, June 19, 2008
57. Invited speaker, Stem Cell And Gene Therapy For Cardiac Conditions, Cardiovascular Diseases In The Elderly (Sudden Cardiac Death and Population Genetics: Evidences and Promises), CARDIOSTIM, Nice, France, June 19, 2008
58. Invited speaker, Heart Rhythm Society Annual Scientific Sessions, Boston, MA, May 13-16, 2009 (RF ablation of focal atrial tachycardias)

59. *Session Chair*, Heart Rhythm Society Annual Scientific Sessions, Boston, MA, May 13-16, 2009 (VT/VF Summit Update: Sudden Cardiac Arrest - Epidemiology and Early Management)
60. Cardiology Grand Rounds, Cardiology Division, University of California San Diego, San Diego, CA, Sep 9, 2009.
61. Medical Grand Rounds, Department of Medicine, University of California San Diego, San Diego, CA, September 9, 2009.
62. Cardiology Grand Rounds, Cardiology Division, University of Pittsburgh, Pittsburgh PA, Dec 1, 2009.
63. Cardiology Grand Rounds, Cardiology Division, Metro-Health Medical Center, Case Western Reserve University, Cleveland, OH, December 2, 2009.
64. Medicine Grand Rounds, Department of Medicine, Metro-Health Medical Center, Case Western Reserve University, Cleveland, OH, December 3, 2009.
65. *Session Co-Chair*, Heart Rhythm Society Annual Scientific Sessions, Denver, CO, May 2010 (Cardiac Re-synchronization Therapy)
66. *Session Chair*, Heart Rhythm Society Annual Scientific Sessions, Denver, CO, May 2010 (Annual CCEP Program Directors Meeting)
67. Visiting Professor and grand rounds speaker, Cardiovascular Center, Korea University Seoul, Korea, June 16, 2010 (Novel predictors of sudden cardiac death in the general population).
68. Invited faculty, Atrial Fibrillation Research Summit, Washington, D.C., June 11-13, 2010,(Global burden of atrial fibrillation)
69. Visiting Professor and grand rounds speaker, National Cardiovascular Center, Fuwai Hospital, Beijing, China, June 18, 2010 (Novel predictors of sudden cardiac death in the general population).
70. Invited Faculty, World Heart Federation Annual Sessions, Beijing, China, June 17-19, 2010 (Nature Cardiovascular Reviews Symposium – Early Detection of Risk Factors for Sudden Cardiac Death)
71. Invited Faculty, World Heart Federation Annual Sessions, Beijing, China, June 17-19, 2010 (Global Burden of Sudden Cardiac Death)
72. Invited Faculty, World Heart Federation Annual Sessions, Beijing, China, June 17-19, 2010 (Global Burden of Atrial Fibrillation)
73. *Session co-chair*, American Heart Association Annual Scientific Sessions, Chicago, IL, November 14-16, 2010 (Genetics of sudden death)
74. Invited speaker, American Heart Association Annual Scientific Sessions, Chicago, IL, November 14-16, 2010 (Genetics of sudden death in coronary artery disease)



75. Visiting Professor and Grand Rounds speaker, Cardiovascular Department, University of Leicester, UK, January 9, 2011 (Sudden death in the general population)
76. Visiting Professor and Grand Rounds speaker, Hatter Cardiovascular Research Institute, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa, January 12, 2011 (Genomics of sudden death)
77. Visiting Professor and Grand Rounds speaker, Department of Medicine at Groote Schuur Hospital and the University of Cape Town, 13 Jan 2011 (Sudden death in the general population)
78. Visiting Professor and grand rounds speaker, Tel Aviv University, Sheba Medical Center Department of Cardiology, Tel Aviv, Israel; Israeli Electrophysiology Society, Tel Aviv Israel, Mar 3, 2011 (Sudden Death with Structurally Normal Heart; Arrhythmias and the Genomic Revolution; Sudden Death in the general population- Can we predict and Prevent?)
79. *Session Chair*, Heart Rhythm Society Annual Scientific Sessions, San Francisco, CA, May 2011 (Annual CCEP Program Directors Meeting)
80. Invited speaker, Heart Rhythm Society Annual Scientific Sessions, San Diego, CA, May 2011 (Utility of the Electrocardiogram in Risk Stratification)
81. Visiting Professor and grand rounds speaker, University of Tokyo, Department of Cardiology, Tokyo, Japan, Sep 20, 2011 (Genomics of Sudden Cardiac Death)
82. Invited Faculty Speaker, Sudden Cardiac Death Symposium, Asia-Pacific Heart Rhythm Society, Fukuoka, Japan, Sep 22, 2011 (Clinical and Genetic Epidemiology of SCD: One Decade of the Ore-SUDS)
83. Visiting Professor and speaker, Fortis Hospital, Mohali, Panjab, India, Dec 19, 2011 (Sudden Cardiac Death: New Insights and Opportunities).
84. Invited Speaker, American College of Cardiology Annual Scientific Sessions, Chicago, IL, March 26, 2012 (“Genetics of Sudden Death in the General Population”).
85. Invited Speaker, American College of Cardiology Annual Scientific Sessions, Chicago, IL, March 26, 2012 (“Assessment of LV Function for Sudden Death Risk Stratification in Heart Failure”).
86. Visiting Professor and grand rounds speaker, New York University Langone Medical Center, Division of Cardiology, NY, New York, April 13, 2012 (“Prediction of Sudden Cardiac Death in the Community: One Decade of the Oregon Sudden Unexpected Death Study”)
87. Invited Faculty Speaker, World Congress of Cardiology Annual Scientific Sessions, Dubai, United Arab Emirates, April 17, 2012 (Epidemiology of Sudden Cardiac Death)
88. *Session Co-Chair*, European Cardiac Arrhythmia Society Annual Scientific Sessions, Munich, Germany, April 20, 2012 (Genetics of Inherited Arrhythmia Syndromes)

89. Invited Faculty Speaker, European Cardiac Arrhythmia Society Annual Scientific Sessions, Munich, Germany, April 20, 2012 (Genetics of Sudden Cardiac Death)
90. Invited Speaker, Stanford Biodesign New Arrhythmia Technologies Retreat, Boston, MA, May 17, 2012 (Mechanisms of Sudden Death)
91. *Chair*, Heart Rhythm Society, Boston, MA, May 9 -12, 2012
92. Invited Speaker, Heart Rhythm Society, Boston, MA, May 9 -12, 2012 (Mechanisms of Sudden Death Not Related to VT or VF)
93. Visiting Professor and Grand Rounds Speaker, Paris Cardiovascular Research Center, INSERM University of Paris, Paris, France, June 12, 2012 (Sudden Death in the Population: New Risk Factors)
94. Invited Faculty Speaker, CARDIOSTIM Annual Scientific Sessions, Nice, France, June 13-14, 2012 (Genomics of Out-of-Hospital Sudden Cardiac Arrest)
95. *Co-Chair*, American College of Cardiology Tutorial on Atrial Fibrillation, Sao Paulo, Brazil, August 4, 2012
96. Invited Speaker, American College of Cardiology Tutorial on Atrial Fibrillation, Sao Paulo, Brazil, August 4, 2012 (Non-Pharmacologic Therapy)
97. Invited Speaker, American College of Cardiology Tutorial on Atrial Fibrillation, Sao Paulo, Brazil, August 4, 2012 (Anti-thrombotic therapy – Risk of Bleeding)
98. Invited Speaker, Conference and Advanced Research Workshop “Sudden Cardiac Death & Cardioprotection”, "Victor Babes" University of Medicine & Pharmacy, Timisoara, Romania Sep 6-8 (Population Genomics of Sudden Cardiac Death).
99. Invited Speaker, Pathway to Sudden Cardiac Death Risk Stratification, Schiller Park, IL, September 12, 2012 (Population based risk stratification/ out-of-hospital cardiac arrest –VF and non VF)
100. Invited Speaker, University of California at San Diego Cardiology Grand Rounds, San Diego, CA, January 18, 2013 (Personalized Medicine for the Cardiac Patient: Are We There Yet?)
101. Invited Speaker and Faculty, Sudden Cardiac Arrest in Children & Adolescents: Current Controversies, Anaheim, CA, January 25, 2013 (Sudden Cardiac Arrest in the Young: Lessons from Community-Based Studies)
102. Moderator, American Heart Association Annual Scientific Sessions, Los Angeles, CA, November 3-6, 2012 (Abstract Oral Session - Ventricular Arrhythmias: Innovations and Inherited Syndromes)
103. Invited Faculty Speaker, 2013 Cardiac Arrhythmia Mechanisms *Gordon Research Conference*, Ventura, CA, Feb 17-22, 2013 (Clinical Genomics of Sudden Cardiac Death)

104. Visiting Professor, Shanghai Jiao Tong University School of Public Health, Shanghai, China, Mar 3-6, 2013 (Workshop and visiting professor lecture)
105. Invited Speaker, American College of Cardiology Scientific Session, San Francisco, CA, March 11, 2013 (Predicting SCD: Role of Imaging)
106. Visiting Professor, Duke University School of Medicine, Durham, NC, Mar 21-22, 2013 (Electrophysiology grand rounds: Sudden Cardiac Death in the General Population)
107. Invited Faculty Speaker, European Cardiac Arrhythmia Society Annual Scientific Sessions, Paris, France, Apr 13-16, 2013 (Pulseless activity versus ventricular fibrillation: determining factors)
108. Invited Speaker, Stanford Biodesign New Arrhythmia Technologies Retreat, Denver, CO, May 7, 2013 (Mechanisms of Sudden Death)
109. *Session Chair*, Heart Rhythm Society Annual Scientific Sessions, Denver, CO, May 2013 (Sudden Cardiac Arrest: State of the Art 2013)
110. Invited Speaker, Heart Rhythm Society Annual Scientific Sessions, Denver, CO, May 2013 (Sudden Cardiac Death not due to Ventricular Arrhythmias)
111. Invited Speaker, The National Space Biomedical Research Institute Cardiovascular Team Symposium, Houston, TX, May 20, 2013 (Clinical and Genetic Markers of Sudden Cardiac Death)
112. Invited Speaker, Advances in Cardiovascular Research: From the Bench to the Bedside, Bratislava, Slovakia, May 23-26, 2013 (Clinical Genomics of Sudden Cardiac Death)
113. *Co-Chair*, Advances in Cardiovascular Research: From the Bench to the Bedside, Bratislava, Slovakia, May 23-26, 2013 (Drug Therapy and New Approaches to Management of Cardiovascular Diseases)
114. Invited Speaker, Annual Cardiovascular Forum of the International Academy of Cardiovascular Sciences, University of Louisville, Kentucky Aug 15-16 (Clinical Genomics of Sudden Cardiac Death)
115. *Session Co-Chair*, Asia Pacific Heart Rhythm Society Annual Sessions, Hong Kong, October 3, 2013 (Global Burden and Stand against Out-Of-Hospital Sudden Cardiac Death).
116. Invited Speaker, Asia Pacific Heart Rhythm Society Annual Sessions, Hong Kong, October 3, 2013. (Sudden Cardiac Death: North American Experience and Lessons from the Oregon Sudden Death Study).
117. *Session Chair*, Asia Pacific Heart Rhythm Society Annual Sessions, Hong Kong, October 4, 2013 (Clinical Case-Based Focus Session on sudden cardiac death).
118. Invited Speaker, Asia Pacific Heart Rhythm Society Annual Sessions, Hong Kong, October 4, 2013 (Reduction of Sudden Cardiac Death in Hypertrophic Cardiomyopathy).

119. Invited Speaker, American Heart Association Annual Scientific Sessions Nov 18, 2013 (*Sudden Cardiac Death: State of the Science- Genetics of sudden death- of non- inherited arrhythmia syndromes*).
120. Invited Speaker, American Heart Association Annual Scientific Sessions Nov 19, 2013 (CVS.415-*Ventricular Fibrillation: From Bench to Bedside- Sudden Cardiac Death: Predictable?*).
121. Visiting Professor and invited speaker, CARE Group Hospitals Cardiovascular Institute, Hyderabad, India, Dec 28, 2013 (Grand Rounds: Sudden Cardiac Death- Challenges and Opportunities)
122. Visiting Professor and invited speaker, CARE Group Hospitals Cardiovascular Institute, Hyderabad, India, Dec 28, 2013 (Sudden Death in Hypertrophic Cardiomyopathy: Clinical Approach to Prevention and Management).
123. *Session Chair*, European Cardiac Arrhythmia Society Annual Scientific Sessions, Munich Mar 23-25, 2014 (Sudden Cardiac Death: Risk Factors, Epidemiology, and prevention)
124. Invited Speaker, European Cardiac Arrhythmia Society Annual Scientific Sessions, Munich Mar 23-25, 2014 (Genetics of sudden cardiac death and the role of molecular autopsy)
125. Invited Speaker, Heart Rhythm Society Annual Scientific Sessions, San Francisco, CA, May 2013 (Sudden Cardiac Death not due to Ventricular Arrhythmias)
126. Invited Faculty Speaker, World Congress of Cardiology Scientific Sessions, Melbourne, Australia, May 5, 2014 (The Global Burden of Atrial Fibrillation: What we know and future directions)
127. Invited Faculty Speaker, 9th Heart Rhythm Society – 35th Annual Scientific Sessions, San Francisco, CA, May 8, 2014 (Observational Population Research)
128. Invited Faculty Speaker, 9th Heart Rhythm Society – 35th Annual Scientific Sessions, San Francisco, CA, May 8, 2014 (The Role of Sleep Apnea Diagnosis and Treatment in the Preventions of Atrial Fibrillation)
129. *Session Chair*, Cardiostim Scientific Sessions, Nice, France June 18-20, 2014 (Management of Arrhythmias in the Elderly)
130. Invited Faculty Speaker, 2<sup>nd</sup> Cardiovascular Forum for Promoting Centers of Excellence And Young Investigators, Winnipeg, Manitoba, Canada, September 5, 2014 (Thematic Symposium: Sudden Cardiac Death and Arrhythmias).
131. *Session Co-Chair*, 2<sup>nd</sup> Cardiovascular Forum for Promoting Centers of Excellence And Young Investigators, Winnipeg, Manitoba, Canada, September 5, 2014 (Genetics of Sudden Cardiac Death and Role of the Molecular Autopsy).
132. Invited Faculty Speaker, Brown University, Medicine Grand Rounds, Cardiovascular Institute, Rhode Island Hospital, Providence, Rhode Island, September 30, 2014 (Prediction of Sudden Death in the General Population).

133. Invited Speaker, International Academy for Cardiovascular Sciences, 2014 European Section Meeting, Balatongorok, Hungary, October 8, 2014 (Sudden Cardiac Death in the Middle-aged Athlete).
134. Invited Faculty Speaker, The 7<sup>th</sup> Asia-Pacific Heart Rhythm Scientific Session, New Delhi, Delhi, India, October 30, 2014 (Burden of AF).
135. Session Chair, The 7<sup>th</sup> Asia-Pacific Heart Rhythm Scientific Session, New Delhi, India, November 1, 2014 (Primary Prevention of SCD in Asia).
136. Session Chair / Moderator, American Heart Association Annual Scientific Sessions, Chicago, Illinois, November 17, 2014 (Atrial Fibrillation Epidemic: Clinical and Research Implications at a Global Level).
137. Poster Professor, Abstract Poster Session, American Heart Association Annual Scientific Sessions, Chicago, Illinois, November 18, 2014 (Sudden Cardiac Death: Arrhythmia: Clinical Electrophysiology, Diagnosis and Risk Stratification).
138. Invited Speaker, American Heart Association Annual Scientific Sessions, Chicago, Illinois, November 19, 2014 (Community Based Studies on Sudden Death).
139. Invited Faculty Speaker, January 30, 2015, 2015 CardioRhythm, Inherited Arrhythmia, Approach to Genetic Testing for Heritable Arrhythmias: How to...”Optimizing the yield of genetic testing: Avoiding unnecessary testing” Hong Kong.
140. Invited Faculty Speaker, January 30, 2015, 2015 CardioRhythm, “Exercise Activity and Sudden Cardiac Death”, Hong Kong.
141. Visiting Professor and Grand Rounds Speaker, Department of Cardiology, the Academic Medical Center, University of Amsterdam, the Netherlands, May 29, 2015 (“Sudden Cardiac Death in the Younger Vs. Older Athlete”).

## **Regional**

1. Oregon Health & Science University, Medical Grand Rounds, Sep 1999 (Supraventricular Tachycardia: Does Radiofrequency Ablation Offer a Cure?)
2. Cardiology 2000 for Nurses, Oregon Health Sciences University: Applications for Practice and Research, Sep 2000 (Devices: Pacemakers and Internal Cardiac Defibrillators)
3. St Charles Medical Center, Bend, Oregon, Feb 2001: (Beyond Bradycardia – New Developments in Cardiac Pacemakers)
4. Grand Rounds, Department of Molecular and Medical Genetics, Oregon Health & Science University, Mar 2001. (Sudden Cardiac Death – An Investigative Approach)
5. Continuing Medical Education Lecture, Mercy Medical Center, Roseburg, OR, April 2001. (Non-Pharmacologic Treatment of Arrhythmia)

6. Oregon Health Sciences University 8<sup>th</sup> Annual Internal Medicine Review Course, April 2001. (Pacemakers – Primer and Update for Primary Care)
7. Medical Grand Rounds, Oregon Health & Science University, July 10, 2001. (Unexplained Sudden Cardiac Death).
8. Invited Faculty, NIH Human Investigations Program (K-30), Oregon Health & Science University, Jan 7, 2002. (Basis, Initiation and Conduct of a Clinical Research Project: Lessons from Sudden Death Research)
9. Invited Faculty, Oregon Health & Science University Annual Family Practice Review Course, Feb 2001. (Fundamentals of Electrocardiography)
10. Invited Faculty, The Salishan Conference, Cardiology Update for the Primary Care Physician, Oct 4-6, 2002 (Biventricular Pacing: Is improvement on a 6-minute walk test worth the effort?)
11. Invited Faculty, The Salishan Conference, Cardiology Update for the Primary Care Physician, Oct 4-6, 2002 (Prevention of Sudden Cardiac Death in Heart Failure: Is Documentation of Arrhythmias necessary?)
12. Honorary Chairman, Heart Research Center Annual Scientist Retreat, Oregon Health & Science University, Nov. 2, 2002
13. Invited Faculty, Oregon Health & Science University Annual Family Practice Review Course, Feb 14, 2003. (Update on Ventricular Pacing)
14. Oregon Health & Science University 10<sup>th</sup> Annual Internal Medicine Review Course, April 17, 2003. (Cardiology Update 2003)
15. Invited faculty, Oregon College of Emergency Physicians Winter Conference, Feb 1-4, 2004, Sunriver, OR. (Cardiac Devices: A Practical Approach To Pacemakers & Defibrillators)
16. Invited Faculty, Oregon Health & Science University Annual Family Practice Review Course, Feb 14, 2003. (Electrocardiography Basics)
17. Invited Faculty, The Salishan Conference, Cardiology Update for the Primary Care Physician, Oct 1-3, 2004 (Update on Management of Syncope; Utility of the Automatic External Defibrillator)
18. Invited Faculty, Oregon Health & Science University 12<sup>th</sup> Annual Internal Medicine Review Course, April 8, 2005. (Cardiology Update 2003)
19. Invited Faculty, 2006 Northwest Electrophysiology Society Annual Meeting, Sunriver, Bend, OR. (Predicting the Perfect Storm: Determinants of Sudden Cardiac Arrest in the General Population).
20. Medical Grand Rounds, Oregon Health and Science University, Portland OR, Oct 24, 2006 (Sudden Death in the Young Athlete: Preventable or Destined to Happen?).

21. Invited Faculty, Oregon Health & Science University Annual Family Practice Review Course, Feb 13, 2007 (Update on Management of Atrial Fibrillation).
22. Oregon American College of Cardiology Chapter Meeting, Feb 28, 2007 (The Oregon Sudden Unexpected Death Study: Lessons Learned and Promises to Keep)
23. Invited Faculty, 13<sup>th</sup> Cardiovascular Conference in the Cascades, Bend Oregon Aug 07 (Bangs, Bucks and Prevention of Sudden Cardiac Death: Can We Do Better?)
24. Invited Faculty, Cardiology Update, St John Medical Ctr, Longview WA, Oct 20, 2007 (Management of Atrial Fibrillation)
25. Grand Rounds, Cardiovascular Institute of the Cascades, Bend Oregon 18 Feb 08 (Sudden Death in the Young Athlete: Preventable or Destined to Happen?)
26. Kaiser Permanente Center for Health Research Seminar, Portland, OR, April 9, 2008 (Lessons from a population: The Oregon Sudden Unexpected Death Study)
27. Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, Sep 4-5, 2008 (1. Sudden death treatment debate: ICD Costs Outweigh Modest Benefits 2. Atrial Fibrillation debate– Medical management is the treatment of choice for the majority of patients). Organized by Cedars-Sinai Medical Center, Los Angeles, CA.
28. Cardiovascular Update for Primary Care – 2008, Yuba City, CA, Sep 26-27, 2008 (Hypertrophic Cardiomyopathy and Sudden Death in the Young Athlete).
29. The Second Annual Dysrhythmias Symposium, San Antonio, TX, Dec 5-6, 2008 ("How to Approach a Patient with Palpitations?" and "Non-invasive Studies for Risk Stratification - Cardiac Substrates and Functions "). Organized by the Division of Cardiology, Texas A&M University
30. The Oklahoma Chapter American College of Cardiology Annual Scientific Meeting, Oklahoma City, OK, 18 April 2009 ("Sudden Cardiac Death in Coronary Disease — Who Is Most Susceptible?")
31. *Session Chair*, Electrophysiology Program, Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, Oct 1-2, 2009
32. Lakewood Regional Medical Center, Lakewood, CA, Feb 5, 2009 (Cardiac Electrophysiology Update)
33. University of Southern California Heart Failure Symposium Los Angeles Jan 30, 2010 (Implantable Defibrillators in Patients with Heart Failure: Have They Stood the Test of Time?)
34. Los Angeles County Coroner Weekly Seminar, Los Angeles CA, Feb 4, 2010 (Autopsy Negative Sudden Death: Implications for the Pathologist and Electrophysiologist)
35. Northwest Electrophysiology Society Annual Meeting, Bend, Oregon Mar 5-7, 2010 (Sudden Cardiac Arrest in the Community: Who is Susceptible?)

36. CSMC Heart Institute Grand Rounds, 13 April, 2010
37. CSMC Heart Institute Grand Rounds, June 29, 2010 (Acute management of the arrhythmia while minimizing risk of stroke – what is the evidence?)
38. CSMC Medical Grand Rounds, 17 September, 2010
39. Primed Symposium, Anaheim, CA, May 5, 2010 (Atrial fibrillation- magnitude and susceptibility)
40. Kaiser Permanente 12th Annual Cardiovascular Medicine and Surgery (COAST) Conference, San Francisco, CA, Sep 24-26, 2010 (Epidemiology of atrial fibrillation; sudden cardiac arrest).
41. Medicine Grand Rounds, Harbor-UCLA Medical Center, Nov 30, 2010 (Sudden cardiac arrest: mechanisms and management)
42. Cardiology Grand Rounds, Harbor-UCLA Medical Center, Nov 30, 2010 (Susceptibility to sudden death in the general population)
43. Women and Ischemic Heart Disease Symposium Los Angeles, CA, April 29, 2011 (SCD in Women: Prediction, Prevention, and Treatment)
44. Cedars-Sinai Optimal Care and New therapies for Advanced Heart Disease Symposium, Bakersfield, CA, May 21, 2011 (Cardiac Resynchronization, ICD's, and Device Monitoring for Heart Failure)
45. San Diego Electrophysiology and Pacing Society Meeting, June 2, 2011 (Sudden Cardiac Death and Ventricular Arrhythmias—An Epidemiologic Perspective)
46. Sharp Memorial Hospital, San Diego, June 3, 2011 (Young Athletes and Sudden Death—Should we Screen or Let them be?)
47. Invited Faculty, The California Heart Rhythm Symposium, San Diego, CA, September 3, 2011 (Genomic Factors/ Inheritability of SCA)
48. Session Chair, The California Heart Rhythm Symposium, San Diego, CA, September 3, 2011 (Ablation of VT/VF)
49. Cedars-Sinai Optimal Care and New therapies for Advanced Heart Disease Symposium, New Port Beach, CA, September 17, 2011 (Cardiac Resynchronization, ICD's, and Device Monitoring for Heart Failure)
50. Mercy Heart & Vascular Institute 21<sup>st</sup> Annual Symposium 2011 Concepts & Controversies, Sacramento, CA, October 8, 2011 (Sudden Death in the General Population: Can we Predict and Prevent?)
51. Cedars-Sinai Optimal Care and New therapies for Advanced Heart Disease Symposium, Las Vegas, NV, October 22, 2011 (Cardiac Resynchronization, ICD's, and Device Monitoring for Heart Failure)



52. Cardiology Grand Rounds, CA Pacific Medical Center, March 7, 2012 (Susceptibility to Sudden Cardiac Death: Nature vs. Nurture)
53. CSMC Medical Grand Rounds, March 23, 2012 (Sudden Cardiac Arrest: Prevention and Management)
54. Invited Speaker, Annual Kansas City Heart Rhythm Symposium, Kansas City, KN August 18-19, 2012 (Protagonist: Heart Failure Patients with an EF <35% and Who Failed to Respond to Optimal Therapy Should Get a CRTD!)
55. Providence Tarzana Medical Center, Tarzana, CA, September 14, 2012 (Personalized Medicine for the Cardiac Patient: Are we There Yet?)
56. Cedars-Sinai Optimal Care and New therapies for Advanced Heart Disease Symposium, Riverside CA, Sep 15, 2012 (Cardiac Resynchronization, ICD's, and Device Monitoring for Heart Failure)
57. Invited Speaker, Harbor UCLA Medical Grand Rounds, Los Angeles, CA November 20, 2012 (Personalized Medicine for the Cardiac Patient: Are We There Yet?)
58. Invited Speaker, Pacific Hospital, Long Beach, CA, January 14, 2013 (Management of Atrial Fibrillation: When to Ablate, Medicate or Refrain from Either)
59. CSMC Medicine Grand Rounds, October 18, 2013 (Prevention of Sudden Cardiac Death: Challenges and Opportunities).
60. Invited Speaker, Pomona Valley Hospital, Pomona, CA, September 3, 2013 (Atrial Fibrillation: When to Ablate, Medicate or Refrain from Either)
61. *Session Chair*, Electrophysiology Program, Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, November 21, 2013
62. *Session Chair*, Electrophysiology Program, Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, November 22, 2013
63. Invited Speaker, Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, November 21-22, 2013 (Assessing risk of sudden death in the older athlete).
64. Invited Speaker, Mayo Clinic Scottsdale: 2nd Annual Heart rhythm Course: A Case based approach, Dec 6, 2013 (Medications for Maintaining Sinus Rhythm: what do the guidelines say?).
65. Invited Speaker, Mayo Clinic Scottsdale: 2nd Annual Heart rhythm Course: A Case based approach, Dec 6, 2013 (Stroke in Atrial Fibrillation - Guidelines and practical tips).
66. Heart Institute Grand Rounds, Cedars-Sinai Medical Center, Jan 14, 2014 (Atrial Fibrillation Epidemic: Results & Implications of the WHO's Global Burden of AF Project).

67. Invited Speaker, Western Association of Physicians Annual Scientific Sessions, Carmel January 23, 2014 Symposium on Personalized Medicine (Personalized Medicine for The Cardiac Patient: Are We There Yet?).
68. Invited Speaker, 18TH Annual Heart Failure Symposium 2014: An Update on Therapy (The expanding role of CRT- How to maximize the patient's response)
69. University of Hawaii, Queens Hospital Cardiology Grand Rounds, Oahu HI, April 7, 2014 (Screening for Sudden Death in the Younger vs. Older Athlete)
70. Cardiology Grand Rounds, Harbor-UCLA Medical Center, April 21, 2014 (Atrial Fibrillation Epidemic: Results and Implications of the WHO's Global Burden of AF Project)
71. Invited Faculty Speaker, 8<sup>th</sup> Annual Women and Ischemic Heart Disease Symposium, Los Angeles, CA, April 25, 2014 (Genomics, Channelopathies and Cardiovascular Disease in Women)
72. Invited Faculty Speaker, 8th Annual Women and Ischemic Heart Disease Symposium, Los Angeles, CA, April 25, 2014 (Cardiac Rhythm Devices in Women: Differences and Similarities)
73. Invited faculty speaker, Pathway to Risk Stratification meeting, Washington DC, April 29, 2014 (Current SCD risk stratification strategies).
74. CSMC Emergency Medicine Grand Rounds, Los Angeles, CA September 11, 2014 (Management of Atrial Fibrillation: When to Ablate, Medicate, or Retrain from Either).
75. *Session Chair*, Session VI Electrophysiology Debate, 25<sup>th</sup> Annual Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, November 21, 2014
76. Invited Speaker, 25<sup>th</sup> Annual Controversies and Advances in the Treatment of Cardiovascular Diseases, Beverly Hills California, November 21, 2014 (Impact of the Prophylactic ICD in the Community, Low Impact, Need to Change Strategy).
77. Invited Faculty Speaker, 3<sup>rd</sup> Annual Mayo Clinic Heart rhythm Course: A Case based approach, Scottsdale, AZ, December 6, 2014 (PVC's and Cardiomyopathy Cases).
78. Invited Faculty Speaker, 3<sup>rd</sup> Annual Mayo Clinic Heart rhythm Course: A Case based approach, Scottsdale, AZ, December 6, 2014 (Debate: Con – VT Ablation Should be Performed Before ICD Implantation Secondary Prevention).
79. Invited Faculty Speaker, 40<sup>th</sup> Annual Conference, International Society for Computerized Electrocardiology, Hayes Mansion, San Jose CA, April 15, 2015 (Epidemiology of Sudden Cardiac Death).
80. Invited Faculty Speaker, 2015 Stanford Biodesign New Arrhythmia Technologies Retreat, Hilton Boston Logan Airport, Boston, MA, May 12, 2015 (Mechanisms of Sudden Cardiac Arrest).

81. Invited Speaker, 36<sup>th</sup> Annual Scientific Sessions, Heart Rhythm Society 2015, Boston Convention & Exhibition Center, Boston, MA, May 14, 2015. (What's New in the Epidemiology of AF: Risk Factors and Predictors of New Onset AF).
82. Session Chair and Abstract Commentator, 36<sup>th</sup> Annual Scientific Sessions, Heart Rhythm Society 2015, Boston Convention & Exhibition Center, Boston, MA, May 15, 2015. (Epidemiology and Management of AF).

## Media and the Press

**ACCEL Interview – American College of Cardiology Extended Learning Audio CD**  
Genomics of Sudden Cardiac Death in coronary artery disease (2011 January, Volume 43, No. 01)

**ACCEL Interview – American College of Cardiology Extended Learning Audio CD**  
Genomics of Sudden Cardiac Death (2005 July issue, CD-2)

American Heart Association National News Conference, Annual Scientific Sessions, Dallas, Nov 05  
- *Optimizing Location of the AED: Does Neighborhood Socioeconomic Status Matter?*

Chugh SS. Community-Wide Analysis of Sudden Cardiac Death: Clinical and Research Implications. ISHNE World Wide Sudden Cardiac Death Internet Symposium, October 2006.

American Heart Association National News Conference, Annual Scientific Sessions, Dallas, Nov 2013- Warning Signs Preceding Sudden Cardiac Death in Middle Age.

Chugh S. Protein Biomarkers Identify Patients Unlikely to Benefit From Primary Prevention ICDs. PracticeUpdate website. Available at: <http://www.practiceupdate.com/journalscan/13180>. Accessed October 31, 2014.

## PAPERS PUBLISHED (Total: 138)

### Original Papers (Total: 94)

1. Chugh SS, Wilson RF, Amplatz K. New cusp catheters for improved visualization of ostial left main coronary artery lesions. **Journal of Vascular & Interventional Radiology** 1997; 8(5): 898-9. PMID:9314387
2. Anand IS, Liu D, Chugh SS, Prahash AJ, Gupta S, John R, Popescu F, Chandrashekhara Y. Isolated Myocyte Contractile Function Is Normal in Postinfarct Remodeled Rat Heart With Systolic Dysfunction. **Circulation** 1997; 96 (11): 3974-84. PMID:9403622
3. Anand IS, Prasad BAK, Chugh SS, Rao RM, Cornfield DN, Milla CE, Singh N, Singh S, Selvamurthy W. Effects of Inhaled Nitric Oxide and Oxygen in High-Altitude Pulmonary Edema. **Circulation** 1998; 98(22): 2441-5. PMID:9832490
4. Chugh SS, Chan RC, Johnson SB, Packer DL. Catheter Tip Orientation Affects Radiofrequency Ablation Lesion Size in the Canine Left Ventricle. **Pacing Clin Electrophysiol** 1999;22(3):413-20. PMID:10192850

5. Chugh SS, Shen WK, Luria DM, Smith HC. First evidence of premature ventricular complex induced cardiomyopathy: a potentially reversible cause of heart failure. **J Cardiovasc Electrophysiol** 2000;11(3):328-9. PMID:10749356
6. Luria DM, Chugh SS, Munger TM, Friedman PA, Rea RF, Packer DL, et al. Electrophysiologic characteristics of diverse accessory pathway locations of antidromic reciprocating tachycardia. **Am J Cardiol** 2000;86(12):1333-8. PMID:11113408
7. Pierpont GL, Chugh SS, Hauck JA, Gornick CC. Endocardial activation during ventricular fibrillation in normal and failing canine hearts. **Am J Physiol Heart Circ Physiol** 2000;279(4):H1737-47. PMID:11009461
8. Chugh SS, Kelly KL, Titus JL. Sudden Cardiac Death With Apparently Normal Heart. **Circulation** 2000;102(6):649-54. PMID:10931805
9. Luria DM, Nemej J, Etheridge SP, Compton SJ, Klein RC, Chugh SS, et al. Intra-atrial conduction block along the mitral valve annulus during accessory pathway ablation: evidence for a left atrial "isthmus". **J Cardiovasc Electrophysiol** 2001;12(7):744-9. PMID:11469420
10. Luria D, Glikson M, Brady PA, Lexvold NY, Rasmussen MJ, Hodge DO, Chugh SS, et al. Predictors and mode of detection of transvenous lead malfunction in implantable defibrillators. **Am J Cardiol** 2001;87(7):901-4. PMID:11274950
11. Chugh SS, Johnson SB, Packer DL. Altered response to ibutilide in a heart failure model. **Cardiovasc Res** 2001;49(1):94-102. PMID:11121800
12. Chugh SS, Johnson SB, Packer DL. Amplified effects of d,l-sotalol in canine dilated cardiomyopathy. **Pacing Clin Electrophysiol** 2001;24(12):1783-8. PMID:11817813
13. Kammeraad J, Balaji S, Oliver R, Chugh SS, Halperin BD, Kron J, McAnulty JH. Nonautomatic focal atrial tachycardia: characterization and ablation of a poorly understood arrhythmia in 38 patients. **Pacing Clin Electrophysiol** 2003;26(3):736-42. PMID:12698675
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## RESEARCH MENTEES/POST-DOCTORAL FELLOWS

- 1) Benjamin John, MD: 1999-2006; Resident, Internal Medicine Program, Oregon Health & Science University (Presently Staff Cardiologist, Vancouver Clinic, Vancouver, WA). *Recipient, American Heart Association New Investigator Award July 2004.*
- 2) Eric Stecker, MD: 2001-2007; Resident, Internal Medicine Program, Oregon Health & Science University (Presently Assistant Professor, Cardiovascular Medicine, Oregon Health & Science University, Portland, OR). *American College of Cardiology Young Investigator Award Mar 2005.*
- 3) Vivek Dogra, MD: August 2001 to September 2003; Research Fellow, Cardiac Electrophysiology (Presently Staff Physician, Providence Health System, Portland OR)
- 4) Balaji Tamarappoo, MD, PhD: August 2002 to 2007; Presently attending cardiologist, the Cleveland Clinic, Cleveland OH
- 5) Carmen Socoteanu: June 2004 to 2007; Presently Staff Physician, Bucharest, Rumania
- 6) Celia Dervan, MD: April 2004 to 2008; Presently faculty cardiologist.
- 7) Stacey Clegg MD, 2008, Trainee, Oregon Health and Science University, Portland OR, (Presently Cardiologist at Oregon Health and Science University)
- 8) Kyndaron Reinier, PhD: October 2004-2008; Currently Instructor in Medicine, Cardiovascular Division, Oregon Health and Science University
- 9) Tejwant Singh, MBBS: January 2005 – 2008; Currently Fellow, Cardiovascular Medicine, St Johns Health System, Detroit, MI
- 10) Carmen Teodorescu, MD, PhD: October 2007- 2011 (Post-doctoral fellow). Currently Project Scientist in the Cardiac Arrest Prevention Program, Cedars-Sinai Heart Institute.
- 11) Adriana Huertas-Vazquez, PhD: July 2009- 2010 (Post-doctoral fellow). Currently Research Scientist/Assistant Professor of Medicine in the Cardiac Arrest Prevention Program, Cedars-Sinai Heart Institute.
- 12) Ragesh Panikkath, MD: March 2010 – July 2011 (Post-doctoral fellow). Currently Resident, Internal Medicine.
- 13) Rasmus Havmoeller, MD, PhD: July 2011 – July 2012 (Post-doctoral fellow, currently at Karolinska Institute, Stockholm, Sweden)
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- 15) Eloi Marijon, MD, PhD: November 2012 – June 2014 (Visiting Faculty Scientist), Associate Professor at Paris Descartes University, Associate Professor in Electrophysiology at European Georges Pompidou Hospital Paris Cardiology
- 16) Lin Zhang MD: Oct 2013 – Feb 2015 (Visiting PhD Grad Student, currently faculty at Shanghai Jiaotong University School of Public Health)
- 17) Aapo Aro MD: July 2015 – present (Visiting postdoctoral scientist, University of Helsinki, Finland)



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