

**International Society for Computerized Electrocardiology**  
**40<sup>th</sup> Annual Conference**  
**Hayes Mansion, San Jose CA**  
**Wednesday, April 15 - Sunday, April 19, 2015**

Dewar Finlay, Ph.D.  
University of Ulster  
*Conference Chair*

Marek Malik, Ph.D, MD  
Imperial College London  
*Conference Co-chair*

**CONFERENCE PROGRAM**

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**WEDNESDAY, 15 APRIL 2015**

1530-1835

**Pre-conference Tutorial**

*Sudden Cardiac Death*

**Organizers:** Marek Malik, Imperial College, London ENGLAND  
Dewar Finlay, University of Ulster, Belfast NORTHERN IRELAND

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1530-1545 Marek Malik, Imperial College, London ENGLAND

*Overview*

1545-1635 Richard Verrier, Boston

*Title: Pathophysiological mechanisms involved in sudden cardiac death*

1635-1655 **Break**

1655-1745 Sumeet Chugh, Los Angeles

*Title: Epidemiology of sudden cardiac death*

1745-1835 Georg Schmidt, Munich

*Title: Stratification of sudden cardiac death risk*

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1835-2000 **Opening reception**

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**THURSDAY, 16 APRIL 2015**

0800-0815 **Welcome & Opening Remarks**

**DEWAR FINLAY, UNIVERSITY OF ULSTER, BELFAST NORTHERN IRELAND**

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0815-1020 **Session I: Papers from submitted abstracts**

Chair: Marek Malik, Imperial College, London ENGLAND

Co-chair: Dewar Finlay, University Of Ulster, Belfast NORTHERN IRELAND

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0815-0820 Chair

*Overview*

0820-0835 Salah Al-Zaiti, University of Pittsburgh, PA USA

*Title The Clinical Utility of Ventricular Repolarization Dispersion for Real-Time  
Detection of Non-ST Elevation Myocardial Infarction in Emergency Departments*

0835-0850 Discussion

0850-0905 Lorian Galeotti, U.S. Food and Drug Administration, Silver Springs, MD USA

*Title Computer simulations to investigate the causes of T wave notching*

0905-0920 Discussion

0920-0935 Larisa Tereschchenko, Oregon Health & Science University, OR USA

*Title Velocity of the Heart Vector Movement through the QRS Predicts Sudden Cardiac Death*

0935-0950 Discussion

0950-1005 ShuFen Wung, The University of Arizona, AZ USA

*Title Revisit 18-Lead Electrocardiogram in Acute Myocardial Infarction*

1005-1020 Discussion

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1020-1050 **Break**

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**1050-1235 Session II: Contemporary approaches to AF analysis**

Chair: Gari. D. Clifford, Emory University, Atlanta, GA USA

Co-chair: Julien Oster, University of Oxford, UK

1050-1055 Chair

*Overview*

1055-1110 Valentina Corino, Politecnico Di Milano, Italy

*Title: Atrioventricular Conduction in Patients with Atrial Fibrillation*

1110-1125 Discussion

1125-1140 Randall Moorman, University of Virginia, VA USA

*Title: A large open database for AF analysis*

1140-1155 Discussion

1155-1210 Julien Oster, University of Oxford, UK

*Title: AF detection in noisy ECG using RR intervals and a machine learning approach*

1220-1235 Discussion

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**1700-1800 Poster Session 1**

**PRESENTERS:**

- Roger Abächerli, Schillar AG, Switzerland  
*Title: An automatic lead quality monitoring system for optimal recording of 12-lead resting ECG" Validation on a clinical dataset from emergency department*
- Richard Gregg, Philips Healthcare, Andover, MA USA  
*Title: Automatic Age Estimation of Pediatric Patients by Analyzing 12-lead ECG*
- Chengzong Han, Philips Healthcare, Andover, MA USA  
*Title: Robust Automated Detection of ECG Cable Interchange in a Noisy Environment*
- Jorgen Kanters, University of Copenhagen, Denmark  
*Title: The QT interval increases with decreasing plasma potassium in the Danish general Population*
- Hanna Viertio-Oja, GE Healthcare Finland  
*Title: False arrhythmia alarms in ICU patients: Evaluation of the causes and assessment of the performance of a new algorithm*
- Keith Marill, University of Pittsburgh, PA USA  
*Title: The Relative Strength of Association of Clinical Factors with QT Prolongation*
- Adam M. Sullivan, ZOLL LifeVest, Pittsburgh, PA USA  
*Title: ECG characteristics of acute myocardial infarction patients*
- Eric Helfenbein, Philips Healthcare, Sunnyvale, CA USA  
*Title: Response of an ECG Signal Quality Indicator to Increasing Levels of Noise*

- Reza Firoozabadi, Philips Healthcare  
*Title: Features to Improve Diagnostic Accuracy of Exercise Stress Testing*
- Peter van Dam, University of Los Angeles, CA USA  
*Title: Comparison of a New Vector Approach to Cardiac Isochrone Positioning System to Localize PVCs from the 12 Lead ECG*
- Larisa Tereschenko, Oregon Health & Science University, OR USA  
*Title: Sympathetic nerve density in the left ventricle directly impacts heart rate variability and QT variability*
- Elyar Ghafoori, Oregon Health & Science University, OR USA  
*Title: Intracardiac Vectorcardiogram Reconstruction from Implantable Cardioverter-Defibrillator Intracardiac Electrograms*
- Dirk Feild, Philips Healthcare  
*Title: Unleashing the Full Power of the Long Term ST Database*
- John Criley, University of Los Angeles, CA USA  
*Title: Teaching ECG analysis – A new approach*

### **1900-2125 SESSION III: Applying Electrocardiographic Inverse Solutions in the Clinic: Progress and Challenges**

Chair: Rob MacLeod, University of Utah, USA

Co-chair: Peter van Dam, Radboud Medical Center Nijmegen, Arnhem, THE NETHERLANDS

1900-1905 Chair

*Overview*

1905-1920 Milan B. Horacek, Dalhousie University, Canada

*Title: Localization of the origin of ventricular activation: deterministic vs. statistical models*

1920-1935 Discussion

1935-1950 Noel G. Boyle, University of California Los Angeles, USA

*Title: Activation Mapping of PVCs and VT using Patient Specific Anatomy, 12 lead ECG and the vector*

1950-2005 Discussion

2005-2025 **Break**

2025-2040 Rémi Dubois, IHU LIRYC (Electrophysiology and Heart Modeling Institute) Pessac (Bordeaux), France

*Title: ECGI in clinical practice: Panoramic Mapping to guide AF ablation*

2040-2055 Discussion

2055-2110 Rob MacLeod, University of Utah, USA

*Title: The time is right: ECG Inverse solutions in research and clinical practice*

2110-2125 Discussion

2125-2300 **Poster Session 1 – Continuing Discussions**

**FRIDAY, 17 APRIL 2015**

**0830-1005 Session IV: Training and education in ECG acquisition and interpretation**

Chair: Raymond Bond, University of Ulster, Belfast, UK

Co-chair: Tomáš Novotný, University Hospital Brno, CZECH REPUBLIC

0830-0835 Chair

*Overview*

0835-0850 Richard Fidler, University of California San Francisco, USA

*Title: A Simulation Approach to Human Factors Analysis of Bedside Monitoring*

*Displays*

0850-0905 Discussion

0905-0925 Tomáš Novotný, University Hospital Brno, CZECH REPUBLIC

*Title: The role of automatic computerised diagnoses: Are cardiac fellows better at ECG interpretation when compared to internists?*

0925-0940 Discussion

0940-0955 Aaron Peace, Altnagelvin Hospital, Derry, UK

*Title Using Interactive Response Technology for Training Electrocardiographers and for Aggregating Diagnoses*

0955-1005 Discussion

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1005-1030

**Break**

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**1030-1205 Session V: Neuro-autonomic signatures on the surface ECG**

Chair: Vladimir Shusterman, University of Iowa, IA USA

Co-chair: Rachel Lampert, Yale University, New Haven, CT USA

1030-1035 Chair

*Overview*

1035-1050 Rachel Lampert, Yale University, New Haven, CT USA

*Title: ECG signatures of psychological stress in daily life*

1050-1105 Discussion

1105-1120 Cees A. Swenne

*Title: Within-subject ECG differences at equal heart rates during exercise and recovery, in normals and in heart failure patients..*

1120-1135 Discussion

1135-1150 Vladimir Shusterman, University of Iowa, IA USA

*Title: Nighttime patterns of respiration and repolarization in patients with implantable devices.*

1150-1205 Discussion

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1205- 1215 ISCE Membership Meeting

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**1430-1530 SPECIAL SESSION Remembering Ron and Rory**

*with reception immediately following*

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## 1700-1800 Poster Session 2

### PRESENTERS:

- Richard Gregg, Philips Healthcare, Andover, MA USA  
*Title: Automated detection of preexcitation in pediatric 12-lead ECG*
- Jessica Zègre-Hemsey, University of North Carolina at Chapel Hill, NC USA  
*Title: Electrocardiographic Signs of Ischemia in Patients with Acute Coronary Syndrome Symptoms Differ by Mode of Transport to the Emergency Department*
- Oluwadare Ogunlade, Obafemi Awolowo University, Nigeria  
*Title: Sensitivity of an electrocardiographic score for sex determination in young adults*
- Erik Carter, University of California San Francisco, CA USA  
*Title: Heart Transplant Recipients Frontal QRS-T Angle is Comparative to an Ambulatory Population: A Matched Case Control study*
- Timothy Callahan, Biomedical Systems, Woodland Hills, CA USA  
*Title: Non-Linear Dynamical Metrics Distinguish Between Baseline, 160 mg, and 320 mg Doses of Sotalol*
- Richard Fidler, University of California San Francisco, CA USA  
*Title: Impedance Measurement in Patient Electrodes Affecting Noise in Clinical Electrocardiography: The IMPEDANCE Study*
- Michele Pelter, University of Nevada, NV USA  
*Title: Frequency, Characteristics & Consequences of Ischemia using 12-lead ECG Holter in Non-STEMI & Unstable Angina Patients Comparing Invasive to Conservative Treatment*
- Adelita Tinoco, University of California San Francisco, CA USA  
*Title: ECG-Derived Abnormal Breathing Patterns in Healthy and Ill Populations*
- Simon C. Chien, California Institute of Technology, CA USA  
*Title: The Tradeoff of Sensitivity Loss to the Specificity Increase for LVH Voltage Criteria in Chinese Population*
- Shu-Fen Wung, University of Arizona, AZ USA  
*Title: Judicious monitoring aimed at minimizing alarm fatigue*
- Kevin Day, University of Arizona, AZ USA  
*Title: Estimation of 4th Intercostal Space Using Sternal Notch to Xiphoid Length for Accurate Electrocardiogram Lead Placement*
- Di Xu, Philips Research North America, NY USA  
*Title: Atrial Fibrillation and Patient Deterioration in the General Ward*
- S. Suave Lobodzinski Logan Research, Long Beach, CA USA  
*Title: Very Long Term ECG Cloud Computing - Opportunities and Challenges*
- Jose Vicente, US FDA (no location listed)  
*Title: Sex-Differences in Drug-Induced Changes in Ventricular Repolarization*

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1900-1950

**Kenichi Harumi Plenary Address**

DAVID W. MORTARA, PHD  
Mortara Instrument, Milwaukee WI USA  
*Title Turning points in 40 years of electrocardiography*

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1950-2000 Break

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**2000-2205 Session VI: Jos Willems Young Investigators Competition**

Chair: Mary G. Carey, University of Rochester Medical Center, Rochester, NY USA

Co-chair: Shen Luo, MindRay Biomedical, Mahwah NJ USA

2000-2005 Chair

*Overview*

2005-2020 Alan Kennedy, University Of Ulster, Belfast NORTHERN IRELAND

*Title: Improved recording of atrial activity by modified bipolar leads derived from the 12-lead electrocardiogram*

2020-2035 Discussion

2035-2050 Matthijs Cluitmans, Maastricht University, THE NETHERLANDS

*Title: High-resolution validation of localization of electrocardiographic imaging shows a centimeter-accuracy*

2050-2105 Discussion

2105-2120 Naoki Misumida, Mount Sinai Beth Israel, New York USA

*Title: Absence of ST Elevation in Lead VI Predicts Worse Long-term Outcomes in Patients with First Anterior ST Elevation Myocardial Infarction*

2120-2135 Discussion

2135-2150 Muammar Kabir, Oregon Health and Science University, USA

*Title: High Atrioventricular Phase Index on Near-Field Intracardiac Electrogram is Associated With Risk of Ventricular Arrhythmia*

2150-2205 Discussion

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**2205-2300 Poster Session 2 – Continuing Discussions**

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**SATURDAY, 18 APRIL 2015**

**0830-1205 Session VII: Leads, vectors and dipoles**

Chair: Cees A. Swenne, Leiden University Medical Center, Leiden, NL

Co-chair: Daniel Guldenring, University of Ulster, Belfast, UK

0830-0835 Chair

*Overview*

0835-0850 John J Wang, Philips Healthcare, Andover MA USA

*Title Validation of improved vessel-specific leads (VSLs) for detecting acute myocardial ischemia*

0850-0905 Discussion

0905-0920 Jan Kors, Erasmus MC, Rotterdam, THE NETHERLANDS

*Title Lead Transformtions*

0920-0935 Discussion

0935-0950 Daniel Guldenring, University of Ulster, Belfast, UK  
*Title The derivation of the spatial QRS-T angle and spatial ventricular gradient using the Mason-Likar 12-lead ECG*

0950-1005 Discussion

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1005-1030 BREAK

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**1030-1205 Session VIII: Inherited Arrhythmia and the ECG**

Chair: Frank Marcus, University of Arizona, AZ, USA

Co-chair: Marti Tristani-Firouzi, University of Utah, USA

1030-0835 Chair

*Overview*

1035-1050 Wojciech Zareba, University of Rochester, Rochester NY USA

*Title: QT morphology and dynamics in LQTS*

1050-1105 Discussion

1105-1120 Marti Tristani-Firouzi, , University of Utah, USA

*Title: tbc*

1120-1135 Discussion

1135-1150 Frank Marcus, University of Arizona, AZ, USA

*Title: ECG findings in Arrhythmogenic Right Ventricular Cardiomyopathy*

1150-1205 Discussion

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**1650-1900 Session IX: New applications and innovations in ECG monitoring**

Chair: Xiao Hu, University of California San Francisco, CA USA

Co-chair: David Pickham, Stanford Hospital and Clinics, Stanford, CA USA

1650-1655 Chair

*Overview*

1655-1710 Barbara Drew, University of California San Francisco, CA USA

*Title: Insights into the Problem of Alarm Fatigue and Recommendations for Device Innovations*

1710-1725 Discussion

1725-1740 Duc Do, University of California Los Angeles, CA USA

*Title: Can ECG monitoring identify three major types of in-hospital cardiac arrest?*

1740-1755 Discussion

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1755-1800 Break

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1800-1815 Carolina Varon, KU Leuven, Belgium

*Title: Can ECG monitoring identify seizures?*

1815-1830 Discussion

1830-1845 Randall Moorman, University of Virginia, USA

*Title: Predictive monitoring for subacute potentially catastrophic monitoring in real time*

1845-1900 Discussion

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**1915 Banquet**

Poster Awards; JWYI Awards

President's Remarks; Conference Chair's Remarks

**SUNDAY, 19 April 2015**

0730-0900 Closing breakfast