CONFERENCE PROGRAM

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

<table>
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| 1530-1545 | Marek Malik, Imperial College, London, ENGLAND  
*Overview* |
| 1545-1635 | Richard Verrier, Harvard Medical School, Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA  
*Pathophysiological mechanisms involved in sudden cardiac death* |
| 1635-1655 | Break                               |
| 1655-1745 | Sumeet Chugh, Cedars-Sinai Heart Institute, Los Angeles, California, USA  
*Epidemiology of sudden cardiac death* |
| 1745-1835 | Georg Schmidt, Technische University, Munich, GERMANY  
*Stratification of sudden cardiac death risk* |

1835-2000 Opening Reception

THURSDAY, 16 APRIL 2015

0800-0815 Welcome & Opening Remarks
Dewar Finlay, University of Ulster, Belfast, NORTHERN IRELAND

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
0815-0820 Chair  
*Overview*
0820-0835 Salah Al-Zaiti, University of Pittsburgh, Pittsburgh, Pennsylvania, USA
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 Loriano Galeotti, U.S. Food and Drug Administration, Silver Springs, Maryland, USA
Computer simulations to investigate the causes of T wave notching

0905-0920 Discussion

0920-0935 Larisa Tereshchenko, Oregon Health & Science University, Portland, Oregon, USA
Velocity of the heart vector movement through the QRS predicts sudden Cardiac death

0935-0950 Discussion

0950-1005 Shu-Fen Wung, University of Arizona, Tucson, Arizona, USA
Revisit 18-lead electrocardiogram in acute myocardial infarction

1005-1020 Discussion

1020-1050 Break

1050-1235 Session II: Contemporary Approaches to AF Analysis
Chair: Gari D. Clifford, Emory University, Atlanta, Georgia, USA
Co-Chair: Julien Oster, University of Oxford, Oxford, ENGLAND

1050-1055 Chair
Overview

1055-1110 Valentina Corino, Politecnico Di Milano, Milan, ITALY
Atrioventricular conduction in patients with atrial fibrillation

1110-1125 Discussion

1125-1140 Randall Moorman, University of Virginia, Charlottesville, Virginia, USA
Heart rate dynamics distinguish among atrial fibrillation, normal sinus rhythm and sinus rhythm with frequent ectopy

1140-1155 Discussion

1155-1210 Julien Oster, University of Oxford, Oxford, ENGLAND
AF detection in noisy ECG using RR intervals and a machine learning approach

1220-1235 Discussion

1700-1800 Poster Session 1

PRESENTERS:

Roger Abächerli, Schillar AG, Baar, SWITZERLAND
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, Massachusetts, USA
Automatic Age Estimation of Pediatric Patients by analyzing 12-lead ECG

Chengzong Han, Philips Healthcare, Andover, Massachusetts, USA
Robust Automated Detection of ECG Cable Interchange in a noisy Environment
Jorgen Kanters, University of Copenhagen, Copenhagen, DENMARK
The QT interval increases with decreasing plasma potassium in the Danish general population

Mikko Kaski, GE Healthcare, Helsinki, FINLAND
False arrhythmia alarms in ICU patients: Evaluation of the causes and assessment of the performance of a new algorithm

Keith Marill, University of Pittsburgh, Pittsburgh, Pennsylvania, USA
The relative strength of association of clinical factors with QT prolongation

Steve Szymkiewicz, ZOLL LifeVest, Pittsburgh, Pennsylvania, USA
ECG characteristics of acute myocardial infarction patients

Eric Helfenbein, Philips Healthcare, Sunnyvale, California, USA
Response of an ECG signal quality indicator to increasing levels of noise

Reza Firoozabadi, Philips Healthcare, Thousand Oaks, California, USA
Features to improve diagnostic accuracy of exercise stress testing

Peter van Dam, UMC Nijmegen, Nijmegen, The Netherlands and David Geffen School of Medicine at UCLA, Los Angeles, California, USA
Comparison of a new vector approach to cardiac isochrone positioning system to localize PVCs from the 12 lead ECG

Larisa Tereshchenko, Oregon Health & Science University, Portland, Oregon, USA
Sympathetic nerve density in the left ventricle directly impacts heart rate variability and QT variability

Elyar Ghafoori, Oregon Health & Science University, Portland, Oregon, USA
Intracardiac vectorcardiogram reconstruction from implantable cardioverter-defibrillator intracardiac electrograms

Dirk Feild, Philips Healthcare, Camarillo, California, USA
Unleashing the full power of the long term ST database

Jessica Zègre-Hemsey, University of North Carolina, Chapel Hill, North Carolina, USA
Electrocardiographic signs of ischemia in patients with acute coronary syndrome symptoms differ by mode of transport to the emergency department

1900-2125 SESSION III: Applying Electrocardiographic Inverse Solutions in the Clinic: Progress and Challenges
Chair: Rob MacLeod, University of Utah, Salt Lake City, Utah, USA
Co-Chair: Peter van Dam, UMC Nijmegen, Nijmegen, The Netherlands and David Geffen School of Medicine at UCLA, Los Angeles, California, USA

1900-1905 Chair
   Overview

1905-1920 Milan B. Horacek, Dalhousie University, CANADA
   Localization of the origin of ventricular tachycardia in patients with infarct scar

1920-1935 Discussion

1935-1950 Noel G. Boyle, University of California, Los Angeles, California, USA
   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
ECGI in clinical practice: panoramic mapping to guide AF ablation
2040-2055 Discussion
2055-2110 Rob MacLeod, University of Utah, Salt Lake City, Utah, USA
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: Human Factors in Cardiology
Chair: Raymond Bond, University of Ulster, Belfast, NORTHERN IRELAND
Co-Chair: Tomás Novotný, University Hospital Brno, CZECH REPUBLIC
0830-0835 Chair
Overview
0835-0850 Richard Fidler, University of California, San Francisco, California, USA
Human factors approach to the user interface of physiological monitors
0850-0905 Discussion
0905-0925 Tomás Novotný, University Hospital Brno, CZECH REPUBLIC
The role of automatic computerised ECG diagnoses: Are cardiac fellows better at ECG interpretation than fellows of other Internal Medicine subspecialties?
0925-0940 Discussion
0940-0955 Aaron Peace, Altnagelvin Hospital, Derry, UK
Using interactive response technology for training electrocardiographers and for aggregating diagnoses
0955-1005 Discussion
1005-1030 Break

1030-1205 Session V: Neuro-Autonomic Signatures on the Surface ECG
Chair: Vladimir Shusterman, University of Iowa, Iowa City, Iowa, USA
Co-Chair: Rachel Lampert, Yale School of Medicine, New Haven, Connecticut, USA
1030-1035 Chair
Overview
1035-1050 Rachel Lampert, Yale School of Medicine, New Haven, Connecticut, USA
ECG signatures of psychological stress in daily life
1050-1105 Discussion
1105-1120 Cees A. Swenne, Leiden University Medical Center, The Hague Area, THE NETHERLANDS
Within-subject ECG differences at equal heart rates during exercise and recovery, in normal and in heart failure patients
1120-1135 Discussion
1135-1150 Vladimir Shusterman, University of Iowa, Iowa City, Iowa USA
Nighttime patterns of respiration and repolarization in patients with implantable devices

1150-1205 Discussion

1205-1215 ISCE Membership Meeting

1430-1530 SPECIAL SESSION Remembering Ron and Rory
with reception immediately following

1700-1800 Poster Session 2

PRESENTERS:

Richard Gregg, Philips Healthcare, Andover, Massachusetts, USA
Automated detection of pre-excitation in pediatric 12-lead ECG

Oluwadare Ogunlade, Obafemi Awolowo University, NIGERIA
Sensitivity of an electrocardiographic score for sex determination in young adults

Erik Carter, University of California, San Francisco, California, USA
Heart transplant recipients’ frontal QRS-T angle is greater than an ambulatory population: A matched cross-sectional study

Timothy Callahan, Biomedical Systems, Woodland Hills, California, USA
Non-linear dynamical metrics distinguish between baseline, 160 mg, and 320 mg doses of Sotalol

Richard Fidler, University of California, San Francisco, California, USA
Impedance measurement in patient electrodes affecting noise in clinical electrocardiography: The IMPEDANCE Study

Michele Pelter, University of California, San Francisco, CA, USA
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, California, USA
ECG-derived abnormal breathing patterns in healthy and ill populations

Simon C. Chien, California Institute of Technology, Pasadena, California, USA
The tradeoff of sensitivity loss to the specificity increase for LVH voltage criteria in Chinese population

Shu-Fen Wung, University of Arizona, Tucson, Arizona, USA
Judicious monitoring aimed at minimizing alarm fatigue

Frank Marcus, University of Arizona, Tucson, Arizona, USA
Estimation of 4th intercostal space using sternal notch to xiphoid length for accurate electrocardiogram lead placement

Derek Xu, Philips Research North America, New York, USA
Atrial fibrillation and patient deterioration in the general ward

S. Suave Lobodzinski, Logan Research, Long Beach, California, USA
Very long-term ECG cloud computing - opportunities and challenges

Jose Vicente, USFDA, Silver Spring, Maryland, USA
Sex differences in drug-induced changes in ventricular repolarization
1900-1950

Kenichi Harumi Plenary Address

DAVID W. MORTARA, PhD
Mortara Instrument, Milwaukee, Wisconsin, USA

Turning points in 40 years of electrocardiography

1950-2000 Break

2000-2205 Session VI: Jos Willems Young Investigators Competition
Chair: Mary G. Carey, University of Rochester Medical Center, Rochester, New York, USA
Co-Chair: Shen Luo, Mindray Biomedical, Mahwah, New Jersey, USA

2000-2005 Chair

Overview

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

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

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

Absence of ST elevation in lead V1 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, Portland, Oregon, USA

High atrioventricular phase index on near-field intracardiac electrogram is associated with risk of ventricular arrhythmia

2150–2205 Discussion

2205-2300 Poster Session 2 – Continuing Discussions

SATURDAY, 18 APRIL 2015

0830-1205 Session VII: Leads, Vectors and Dipoles
Chair: Cees A. Swenne, Leiden University Medical Center, The Hague Area, THE NETHERLANDS
Co-Chair: Daniel Guldenring, University of Ulster, Belfast, NORTHERN IRELAND

0830-0835 Chair

Overview

0835-0850 John J. Wang, Philips Healthcare, Andover, Massachusetts, USA

Validation of improved vessel-specific leads (VSLs) for detecting acute myocardial ischemia
0850-0905  Discussion
0905-0920  Jan Kors, Erasmus MC, Rotterdam, THE NETHERLANDS
  *Lead transformations and the dipole approximation: practical applications*
0920-0935  Discussion
0935-0950  Daniel Guldenring, University of Ulster, Belfast, NORTHERN IRELAND
  *The derivation of the spatial QRS-T angle and spatial ventricular gradient using the Mason-Likar 12-lead ECG*
0950-1005  Discussion

1005-1030  Break

1030-1205  **Session VIII: Inherited Arrhythmia and the ECG**
Chair: Frank Marcus, University of Arizona, Tucson, Arizona, USA
Co-Chair: Marti Tristani-Firouzi, University of Utah, Salt Lake City, USA
1030-0835  Chair
  *Overview*
1035-1050  Wojciech Zareba, University of Rochester, Rochester, New York, USA
  *QT morphology and dynamics in LQTS*
1050-1105  Discussion
1105-1120  Marti Tristani-Firouzi, University of Utah, Salt Lake City, Utah, USA
  *Revisiting the challenges of universal screening for long QT syndrome*
1120-1135  Discussion
1135-1150  Frank Marcus, University of Arizona, Tucson, Arizona, USA
  *The electrocardiographic (ECG) abnormalities in arrhythmogenic right ventricular cardiomyopathy (ARVC)*
1150-1205  Discussion

1650-1900  **Session IX: New Applications and Innovations in ECG Monitoring**
Chair: Xiao Hu, University of California, San Francisco, California, USA
Co-Chair: David Pickham, Stanford Hospital and Clinics, Stanford, California, USA
1650-1655  Chair
  *Overview*
1655-1710  Barbara Drew, University of California, San Francisco, California, USA
  *Insights into the problem of alarm fatigue and recommendations for device innovations*
1710-1725  Discussion
1725-1740  Duc Do, University of California, Los Angeles, California, USA
  *Can ECG monitoring identify three major types of in-hospital cardiac arrest?*
1740-1755  Discussion

1755-1800  Break

1800-1815  Carolina Varon, KU Leuven, Leuven, BELGIUM
  *Can ECG monitoring identify seizures?*
1815-1830  Discussion
1830-1845  Randall Moorman, University of Virginia, Charlottesville, Virginia, USA
Predictive monitoring for subacute potentially catastrophic monitoring in real time

1845-1900  Discussion

1915  Banquet
Poster Awards
JWYI Awards
President’s Remarks
Conference Chair’s Remarks

SUNDAY, 19 April 2015

0730-0900  Closing Breakfast