

# ISCE 2019, Atlantic Beach, Florida, USA

Program of the 44<sup>th</sup> Annual Conference, updated 20190410

	<b>WEDNESDAY, APRIL 10, 2019</b>
<b>19:00-21:00</b>	<b>Opening reception</b>

	<b>THURSDAY, APRIL 11, 2019</b>
<b>07:00-08:00</b>	<b>Breakfast</b>
<b>08:15-08:25</b>	<b>Conference Chair:</b> <i>Cees Swenne</i> , Leiden University. Welcome and opening remarks
<b>08:25-10:30</b>	<b>Tutorial: Subclinical Atrial Fibrillation</b>
	<b>Chair:</b> <i>Pyotr Platonov</i> , Lund University. <b>Co-chair:</b> <i>JP Courderc</i> , University of Rochester
08:25-08:30	<i>Chair</i> . Overview
08:30-09:00	<i>Pyotr Platonov</i> , Lund University. Clinical problem
09:00-09:30	<i>Martin Stridh</i> , Lund University. Signal processing perspective
09:30-10:00	<i>Mark Brown</i> , Medtronic. Industry perspective
10:00-10:30	<i>Jean-Philippe Couderc</i> , University of Rochester. Camera-based detection of the presence of atrial fibrillation: the CAMAFIB study
<b>10:30-10:50</b>	<b>Break</b>
<b>10:50-12:30</b>	<b>Session 1: Updates 1</b>
	<b>Chair:</b> <i>Peter Macfarlane</i> , University of Glasgow. <b>Co-chair:</b> Brian Young, GE
10:50-10:55	<i>Chair</i> . Overview
10:55-11:25	<i>Brian Young</i> , GE. New standard for ECG interpretation
11:25-11:55	<i>Loriano Galeotti</i> , FDA. An FDA perspective on current ECG device development and drug safety
11:55-12:25	<i>Elsayed Soliman</i> , Wake Forest School of Medicine, Winston-Salem. The role of the ECG in current clinical trials
12:25-12:30	<i>Peter Macfarlane</i> , University of Glasgow. Tribute to Pentti Rautaharju (1932-2018)
<b>12:30-17:00</b>	<b>Lunch and Afternoon Discussions</b>
<b>17:00-18:00</b>	<b>Poster Session 1</b>
	<b>Chair:</b> <i>Jørgen Kanters</i> , University of Copenhagen
101	<i>Ben Bailey</i> , Philips. Influence of left arm and left leg ECG electrode reversal on lateral and inferior STEMI detection
102	<i>Mikhail Chmelevsky</i> , Almazov National Medical Research Centre, St. Petersburg. Single-center cross-sectional study of novel noninvasive ECG multivariate analysis in patients with wide complex arrhythmias
103	<i>Johan de Bie</i> , WelchAllyn Cardiology. Interpretation and measurement consistency of seven ECG computer programs
104	<i>Yama Fakhri</i> , The Heart Centre, Rigshospitalet, Copenhagen. Diagnostic performances of a new ECG algorithm for reducing false positive cases in a selected high prevalent STEMI population
105	<i>Werner Bystricky</i> , TSD, Langenburg, Germany. Determination of ventricular excitation propagation in abnormal heart beats using a moving dipole model
106	<i>Mikhail Chmelevsky</i> , Almazov National Medical Research Center, St. Petersburg. Evaluation of inter-observer variability in ECGI mapping accuracy of ventricular focal arrhythmias
107	<i>Peter van Dam</i> , Peacs BV. Prediction of the PVC origin using the standard 12-lead ECG: comparison of the accuracy of a novel automated ECG-vector based method to manual expert interpretation

108	<i>Daniel Guldenring</i> , Hochschule für Technik und Wirtschaft Berlin. Which part of the P-QRS-T is best when developing linear ECG-lead transformations for the performance assessment of patch based electrocardiographic devices?
109	<i>Suave Lobodzinski</i> , California State University. Synthesis of standard 12-lead electrocardiograms from asynchronous bipolar leads
110	<i>Ramun Schmid</i> , Schiller AG. An error constrained, spatial ECG denoising algorithm
111	<i>Dillon J. Dzikowicz</i> , University of Rochester. Prolonged QTc Interval is associated with poor pulse pressure during exercise which may be a proxy of arterial stiffness
112	<i>Behnaz Ghoraani</i> , Florida Atlantic University. Effectiveness of T wave alternans testing for risk stratification of ventricular tachyarrhythmias and sudden death in patients with cardiomyopathy
<b>18:00-19:00</b>	<b>Dinner</b>
<b>19:00-20:05</b>	<b>Session 2: Selected abstracts 1</b>
19:00-19:05	<b>Chair:</b> <i>Dave Albert</i> , Alivecor. Overview
19:05-19:35	<i>Danila Potyagaylo</i> , EP Solutions SA. ECG-adapted fastest route algorithm can improve non-invasive localization of focal arrhythmias in CRT patients
19:35-20:05	<i>Peter van Dam</i> , Peacs BV. Accuracy of a novel iECG-vector method: a new view into the onset of ventricular activation
<b>20:05-20:20</b>	<b>Break</b>
<b>20:20-21:55</b>	<b>Session 3: ECG Imaging</b>
	<b>Chair:</b> <i>Linwei Wang</i> , Rochester Institute of Technology. <b>Co-chair:</b> <i>Rob MacLeod</i> , University of Utah
20:20-20:25	<b>Chair.</b> Overview
20:25-20:55	<i>Ping Jia</i> , Medtronic. Bench to bedside: evolution and vision for electrocardiographic imaging
20:55-21:25	<i>Laura Bear</i> , LIRYC, University of Bordeaux. Advantages and pitfalls of noninvasive electrocardiographic imaging
21:25-21:55	<i>J. Michael Mangrum</i> , University of Virginia School of Medicine. CardiInsight 101: use in atrial arrhythmias
<b>21:55-22:45</b>	<b>Poster Session 1: Continuing Discussion</b>

<b>FRIDAY, APRIL 12, 2019</b>	
<b>07:00-08:00</b>	<b>Breakfast</b>
<b>08:15-09:30</b>	<b>Session 4: Personal ECG</b>
08:15-08:20	<b>Chair:</b> <i>Paul Kligfield</i> , Weil Cornell Medical College, New York. Overview
08:20-08:40	<i>Dave Albert</i> , Alivecor. Personal ECG devices including smartphone and watch technologies
08:40-09:00	<i>Mohsen Mollazadeh</i> , Apple Inc. Atrial Fibrillation classification using the ECG app in Apple Watch
09:00-09:30	Panel Discussion: <i>Dave Albert</i> , Alivecor; <i>Alexis Beatty</i> , Apple Inc; <i>Mohsen Mollazadeh</i> , Apple Inc.; <i>Pyotr Platonov</i> , Lund University; <i>Paul Kligfield</i> , Weil Cornell Medical College, New York (moderator)
<b>09:30-10:00</b>	<b>Break</b>
<b>10:00-11:40</b>	<b>Session 5: Updates 2</b>
	<b>Chair:</b> <i>Bob Lux</i> , University of Utah. <b>Co-chair:</b> <i>Eric Helfenbein</i> , Philips Healthcare
10:00-10:05	<b>Chair.</b> Overview
10:05-10:35	<i>Cindy Green</i> , Duke University. Research implications of the FDA ECG warehouse and related resources

10:35-11:05	<i>Markus Zabel</i> , Universitätsmedizin Göttingen. Present criteria for prophylactic ICD implantation – Insights from the EU-CERT-ICD project
11:05-11:35	<i>Rob Macleod</i> , University of Utah. Present and future of body surface mapping
11:35-11:40	<i>Rob Macleod</i> , University of Utah. Tribute to Fred Kornreich (1938-2018)
<b>11:40-12:00</b>	<b>ISCE Business Session</b>
<b>12:00-17:00</b>	<b>Lunch and afternoon discussions</b>
<b>17:00-18:00</b>	<b>Poster Session 2</b>
	<b>Chair:</b> <i>Thomas Hilbel</i> , University Hospital Heidelberg
201	<i>Salah Al-Zaiti</i> , University of Pittsburgh. Electrocardiographic methods for the prompt identification of coronary events (EMPIRE): algorithm testing & validation on an independent training cohort
202	<i>Sushravya Raghunath</i> , Geisinger Health. Deep neural networks can predict one-year mortality and incident atrial fibrillation from raw 12-lead electrocardiogram voltage data
203	<i>Scott Roset</i> , Draeger Medical. Convolutional neural network for signal quality index
204	<i>Ting Yang</i> , Philips Healthcare. Detection of strict left bundle branch block using random forest and deep neural network
205	<i>Donald Musgrove</i> , Medtronic. Deep neural network approach to classifying VT/VF episodes
206	<i>Khaled Rjoob</i> , Ulster University. Feature engineering and machine learning for the auto-detection of misplaced V1 and V2 chest electrodes when recording 12-lead ECGs ( <i>Jos Willems Early Career Investigators Competition submission</i> )
207	<i>Alessandro Montemurro</i> , Technical University of Denmark. Temporal convolutional networks for automatic ECG feature extraction ( <i>Jos Willems Early Career Investigators Competition submission</i> )
208	<i>Reza Firoozabadi</i> , Philips Healthcare. Suppression of false automated STEMI detections in low-quality ECG recordings
209	<i>Sukardi Suba</i> , University of California, San Francisco (UCSF). Characteristic differences between actionable and non-actionable true ventricular tachycardia alarms
210	<i>John Wang</i> , Philips Healthcare. Real-time ECG monitoring for patients with implantable pacemaker - A review of current status and future directions
211	<i>Wei Zong</i> , Philips Healthcare. Reducing insignificant high/low heart rate alarms using the cross-limit area based algorithm
212	<i>Jonas Isaksen</i> , University of Copenhagen. Electrocardiographic effect of thyroid hormones
<b>18:00-19:00</b>	<b>Dinner</b>
<b>19:00-19:50</b>	<b>Kenichi Harumi Plenary Address</b>
19:00-19:05	<b>Chair:</b> <i>Cees Swenne</i> , Leiden University. Introduction
19:05-19:50	<i>Frits Prinzen</i> , Maastricht University. Conventional and novel ECG analysis for use in CRT
<b>19:50-20:00</b>	<b>Break</b>
<b>20:00-22:05</b>	<b>Session 6: Jos Willems Early Career Investigators Competition</b>
20:00-20:05	<b>Chairs:</b> <i>Shen Luo</i> , Star Care Medical & <i>Michele Pelter</i> , University of California. Overview
20:05-20:35	<i>Danila Potyagaylo</i> , EP Solutions SA. Combination of lead-field theory with cardiac vector direction: A novel ECG imaging method for localization of focal ventricular activation
20:35-21:05	<i>Jacob Melgaard</i> , Aalborg University. Method to visualize and quantify ventricular dyssynchrony
21:05-21:35	<i>Ali Rababah</i> , Ulster University. Novel hybrid method for interpolating missing information in body surface potential maps
21:35-22:05	<i>Gabriela Paixao</i> , Federal University of Minas Gerais. Evaluation of mortality in bundle branch block patients from an electronic cohort - the CODE study
<b>22:05-22:50</b>	<b>Poster Session 2: Continuing Discussion</b>

<b>SATURDAY, APRIL 13, 2019</b>	
<b>07:00-08:00</b>	<b>Breakfast</b>
<b>08:15-09:50</b>	<b>Session 7: Selected abstracts 2</b>
	<b>Chair:</b> Peter Clemmensen, University Heart Center Hamburg. <b>Co-chair:</b> Fabio Badilini, AMPS LLC
08:15-08:20	<i>Chair:</i> Overview
08:20-08:50	<i>Jimo Borjigin</i> , University of Michigan. Electrocardiomatrix (ECM) promotes accurate detection of atrial fibrillation in stroke patients
08:50-09:20	<i>Pyotr Platonov for Marina Demidova</i> , Lund University. Early repolarization pattern on historical ECG does not predict ventricular fibrillation during STEMI
09:20-09:50	<i>Michele Pelter</i> , University of California. Consolidation of electrocardiographic alarms in ICU patients reduces nuisance alarms and alarm fatigue
<b>09:50-10:15</b>	<b>Break</b>
<b>10:15-12:15</b>	<b>Session 8: Machine learning</b>
	<b>Chair:</b> Ana Minchole, University of Oxford. <b>Co-chair:</b> Antonio Ribeiro, Federal University of Minas Gerais, Belo Horizonte, Brazil
10:15-10:20	<i>Chair:</i> Overview
10:20-10:40	<i>Ana Minchole</i> , University of Oxford. Machine learning in the electrocardiogram
10:40-11:00	<i>Rob Brisk</i> , Ulster University. Deep learning to automatically interpret images of the electrocardiogram: do we need the raw samples? ( <i>Jos Willems Early Career Investigators Competition submission</i> )
11:00-11:20	<i>Saman Parvaneh</i> , Philips Research North America. Cardiac arrhythmia detection using deep learning; a review
11:20-11:40	<i>Antonio Ribeiro</i> , Federal University of Minas Gerais, Belo Horizonte, Brazil. Tele-electrocardiography and big data: the CODE (Clinical Outcomes in Digital Electrocardiography) study
11:40-12:15	<i>Round table.</i> Rule-based systems versus artificial intelligence algorithms (discussions immediately after the previous talks are restricted to 5 minutes to facilitate this round table). Introduction and moderator: <i>Antonio Ribeiro</i>
<b>12:15-17:10</b>	<b>Lunch and Afternoon Discussions</b>
<b>17:10-18:45</b>	<b>Session 9: ECG-based Decision Making</b>
	<b>Chair:</b> Raymond Bond, Ulster University. <b>Co-chair:</b> Richard Gregg, Philips Healthcare
17:10-17:15	<i>Chair:</i> Overview
17:15-17:45	<i>Richard Gregg</i> , Philips Healthcare. 12-lead ECG interpretation by database comparison
17:45-18:15	<i>Charles Knoery</i> , NHS Highland, Scotland. SPICED-ACS: Study of the Potential Impact of a Computer-generated ECG Diagnostic Algorithmic Certainty index in STEMI diagnosis
18:15-18:45	<i>Victoria McGilligan</i> , Ulster University. Can blood biomarkers augment ECG interpretation?
<b>19:00-22:00</b>	<b>Dinner Banquet</b>
	Poster Awards Jos Willems Early Career Investigators Competition Awards President's Remarks

<b>SUNDAY, APRIL 14, 2019</b>	
<b>7:30-9:00</b>	<b>Closing breakfast</b>