

M1: Rosanna Degani Young Investigator Award

Room: Grand Ballroom II & III

Chairpersons: Peter Macfarlane, Willem Dassen

- 1 **Support Vector Machine Based Conformal Predictors for Risk of Complications following a Coronary Drug Eluting Stent Procedure**
V Balasubramanian*, G Ramkiran, S Panchanathan, J Vermillion, A Bhaskaran, RM Siegel
- 2 **Spatial Projection of Tachycardia Electrograms for Morphology Discrimination in Implantable Cardioverter Defibrillators**
P Bouchet*, R Dubois, C Henry, P Roussel, G Dreyfus
- 3 **Computational Assessment of Spatio-Temporal Heterogeneity of Human Left Ventricular Contractions in Normal and Ischemic Heart**
T Chumarnaya*, O Solovyova, SV Sukhareva, VS Markhasin
- 4 **Effect of Respiration on the Solutions of Forward and Inverse Electrocardiographic Problems: A Simulation Study**
Y Jiang*, Y Meng, D Farina, O Dössel
- 5 **A Comparison of 2D and 3D Edge Detectors in Semi-Automated Measurements of Chamber Volumes Using 3D Echocardiographic Laboratory Phantom Images**
K Wang*, AJ Sims, A Murray
- 6 **Automated Blood Pressure Measurement: Reasons for Measurement Variability Uncovered**
D Zheng*, JN Amooore, S Mieke, FE Smith, ST King, A Murray

S21: Ultrasound

Room: Grand Ballroom I

Chairpersons: Victor Mor-Avi, Douglas Christensen

- 7 Quantitative Evaluation of Regional Left Ventricular Function Using Three-Dimensional Speckle Tracking Echocardiography**
F Maffessanti*, HJ Nesser, L Weinert, R Steringer-Mascherbauer, J Niel, W Gorissen, EG Caiani, RM Lang, V Mor-Avi
- 8 Multimodality Comparison of Quantitative Volumetric Analysis of the Right Ventricle**
L Sugeng, HJ Nesser, L Weinert, J Niel, C Ebner, R Steringer-Mascherbauer, R Bartolles, R Baumann, G Schummers, RM Lang, V Mor-Avi*
- 9 Quantitative Assessment of Changes in Left Ventricular Shape following Mitral Valve Repair**
F Maffessanti*, G Tamborini, F Muratori, M Zanobini, V Mor-Avi, L Sugeng, F Alamanni, RM Lang, M Pepi, EG Caiani
- 10 Quantification of Aortic Valve Stenosis Using Transesophageal Real-Time 3D Echocardiographic Images**
F Veronesi, C Corsi, V Mor-Avi, L Sugeng, L Wienert, RM Lang, C Lamberti*
- 11 A Computational Tool for Quantitative Assessment of Peripheral Arteries in Ultrasound Images**
M Higa*, PE Pilon, SG Lage, MA Gutierrez

S22: Heart Rate Variability I

Room: Grand Ballroom II

Chairpersons: Leif Sörnmo, Andreas Voss

- 12 **High Frequency Component of HRV-Respiratory Frequency Continuous Relationship during Postural Change**
S Carrasco-Sosa, A Guillén-Mandujano*, P Coello-Caballero
- 13 **Dynamic Cardiovagagal Response to Motion Sickness: A Point-Process Heart Rate Variability Study**
L LaCount*, V Napadow, B Kuo, K Park, J Kim, E Brown, R Barbieri
- 14 **Novel Feature for Quantifying Temporal Variability of Poincaré Plot: A Case Study**
C Karmakar*, J Gubbi, A Khandoker, M Palaniswami
- 15 **Rhythmometric Analysis of Heart Rate Variability Indices during Long Term Monitoring**
R Goya-Esteban*, I Mora-Jiménez, JL Rojo-Álvarez, O Barquero-Pérez, S Manzano-Martínez, F Pastor-Pérez, D Pascual-Figal, A García-Alberola
- 16 **Applications of Novel HRV Techniques to PGC1 α -Deficient and Wild Type Mice**
PK Stein*, DW Lee, J Lehman, A Gupta

S23: Cellular Models

Room: Grand Ballroom III

Chairpersons: Robert Gilmour, Frank Sachse

- 17 **A Modified FitzHugh-Nagumo Model that Allows Control of Action Potential Upstroke Velocity and Conduction Velocity**
J Li*, S Inada, H Dobrzynski, H Zhang, M Boyett
- 18 **Ensuring Stability in Models of Atrial Kinetics**
A van Oosterom*
- 19 **Systems Biology in Safety Assessment: Use of a Recalibrated Hund-Rudy Model to Predict the Effect of Novel Drug Compounds on Action Potential Duration**
MR Davies*, H Mistry, N Abi-Gerges, C Pollard, J Swinton
- 20 **Adaptation of an Action Potential Minimal Model to Acute Ischemia**
F Gasperini, C Lamberti, JM Ferrero*
- 21 **Mathematical Models of Human Sinus and Atrioventricular Node Action Potentials**
S Inada*, MR Boyett, H Dobrzynski
- 22 **Cardiac Memory in Human Atria and Relation to Arrhythmogenesis**
C Sánchez*, E Pueyo, P Laguna, B Rodríguez

S24: Monitoring

Room: Grand Ballroom IV

Chairpersons: Johan De Bie, Giovanni Bortolan

- 23 **An Open Source Toolkit for Managing Patient Monitoring Device Alarms Based on the IHE Alarm Communication Management Profile**
MJB van Ettinger*, JA Lipton, KJ Fuchs, TB van Dam, RJ Barendse, NHJJ van der Putten, SP Nelwan
- 24 **Evaluation of a Long-Term Continuous Full Disclosure Archiving System for Multi-Parameter Patient Monitoring Devices**
SP Nelwan, MCJ de Wijs, TB van Dam, W Scholz, KJ Fuchs, MJB van Ettinger, SH Meij, NHJJ van der Putten, J Lipton
- 25 **A New Simple Multimodal Platform for Home Monitoring of Cardiac Patients through Textile Technology**
P Meriggi*, F Rizzo, A Faini, F Chiarugi, I Karatzanis, G Zacharioudakis, M Valentini, G Parati, P Castiglioni, M Di Rienzo
- 26 **Validation of a Flexible and Innovative Home Platform for the Monitoring of Heart Failure Patients: First Results**
A Sciacqua, A Gualtieri, F Perticone, M Valentini, A Faini, G Parati, G Zacharioudakis, F Chiarugi*, C Assimakopoulou, M Stratakis, P Meriggi, M Di Rienzo
- 27 **Early Experiences of the Use of Remote Patient Monitoring for the Long Term Management of Chronic Disease**
M Clarke*, J Fursse, RW Jones

S31: Ischemia

Room: Grand Ballroom I

Chairpersons: Dewar Finlay, Tobin Lim

- 28 **Electrocardiographic Response of the Heart to Myocardial Ischemia**
KK Aras*, S Shome, DJ Swenson, JG Stinstra, RS MacLeod
- 29 **Validation of New Enhanced ACC/ESC STEMI Criteria on a
Population of Patients with Suspected Acute Coronary Syndrome**
JJ Wang*, GS Wagner, TN Martin, JW Warren, M Mirmoghisi,
BM Horáček
- 30 **Spatial Characterization of Ischemia in 12-Lead ECG Recordings
during PCI Using Both Depolarization and Repolarization Indices**
D Romero*, E Pueyo, M Ringborn, P Laguna
- 31 **Effectiveness of ECG Interpretation Programs in the Ambulance
Setting**
E Clark*, M Sejersten, P Clemmensen, PW Macfarlane
- 32 **Detection of Myocardial Ischemia with Hidden Semi Markovian
Models**
J Dumont*, G Carrault, P Gomis, GS Wagner, AI Hernandez
- 33 **Beat-to-Beat Variation of Three-Dimensional QRS-T Angle
Measures during Exercise Test**
M Karsikas*, K Noponen, M Tulppo, H Huikuri, T Seppänen

S32: AF Detection and Analysis

Room: Grand Ballroom II

Chairpersons: Jason Ng, Steven Swiryn

- 34 Quantitative Analysis of Circadian Variation in Atrial Fibrillation Frequency**
F Sandberg*, A Bollmann, D Husser, M Stridh, L Sörnmo
- 35 Non-Invasive Estimates of Left Atrial Activation in a Patient with Dissociated Left Atrial Tachycardia following Ablation of Atrial Fibrillation**
PG Platonov*, I Nault, M Stridh, F Holmqvist, M Haissaguerre
- 36 A Statistical Approach for Accurate Detection of Atrial Fibrillation and Flutter**
S Dash*, E Raeder, S Merchant, K Chon
- 37 Significance of Mixing Matrix Structure on Principal Component Based Analysis of Atrial Fibrillation Body Surface Potential Maps**
P Bonizzi*, M Guillem, F Castells, AM Climent, V Zarzoso, O Meste
- 38 In-Vivo Measurements of Atrial Repolarization Alternans Based on Standard Pacemaker Technology**
F Jousset*, JM Vesin, P Pascale, P Ruchat, M Fromer, E Pruvot
- 39 Stability and Correlation of Electrogram Organization and Synchronization Indices during Atrial Fibrillation**
F Simón*, A Arenal, P Laguna, JP Martínez

S33: Heart Rate Variability II

Room: Grand Ballroom III

Chairpersons: Vladimir Shusterman, Kees Swenne

- 40 **Heart Rate Turbulence Detection Using Mean Shape Information**
D Smith*, K Solem, P Laguna, JP Martínez, L Sörnmo
- 41 **Characterizing Histograms of Heartbeat Interval Differences with Gaussian Mixture Densities**
R Sassi*
- 42 **RSA Component Extraction from Heart Rate Signal by Independent Component Analysis**
S Tiinanen*, M Tulppo, T Seppänen
- 43 **Long Memory and Volatility in HRV: An ARFIMA-GARCH Approach**
A Leite, AP Rocha*, ME Silva
- 44 **Modified Elhers' Index for Improved Detection of Heart Rate Asymmetry in Poincaré Plot**
C Karmakar*, J Gubbi, A Khandoker, M Palaniswami

S34: ECG Imaging

Room: Grand Ballroom IV

Chairpersons: Rob MacLeod, Dana Brooks

- 45 **Non-Invasive Cardiac Imaging Based on Just the Standard 12-Lead Signals?**
PM van Dam*, TF Oostendorp, A van Oosterom
- 46 **Evaluation of Approaches to Solving Electrocardiographic Imaging Problem**
M Milanic, V Jazbinsek, DF Wang, J Sinstra, R Macleod, DH Brooks, R Hren*
- 47 **Evaluation of Rule-Based Approaches for the Incorporation of Skeletal Muscle Fiber Orientation in Patient-Specific Anatomy**
DUJ Keller*, O Dössel, G Seemann
- 48 **Reconstruction from Experimental Data of a Mathematical Model of Cardiac Tissue: A Feasibility Study**
T Bakir, B Xu, S Jacquir, S Binczak*
- 49 **Methods for Initialization of Activation-Based Inverse Electrocardiography Using Graphs Derived from Heart Surface Geometry**
B Erem*, PM van Dam, A Keely, JG Stinstra, TF Oostendorp, DH Brooks
- 50 **Finite Element Refinements for Inverse Electrocardiography: Hybrid-Shaped Elements, High-Order Element Truncation and Variational Gradient Operator**
DF Wang*, RM Kirby, CR Johnson

S41: Monitoring

Room: Grand Ballroom IV

Chairpersons: John Wang, Thomas Hilbel

- 51 **The Effect of Signal Quality on Six Cardiac Output Estimators**
T Chen*, GD Clifford, RG Mark
- 52 **Blood Pressure Tracking Capabilities of Pulse Transit Times in
Different Arterial Segments: A Clinical Evaluation**
C Douniama*, CU Sauter, R Couronne
- 53 **A Distributed Algorithm for Real Time Analysis of Heart Rate
Variability Using Low Power Wireless Monitors**
E Ertin*, L Wittmers, M al'Absi, S Kumar
- 54 **A Novel Single-Channel Real-Time Event Monitoring Software for
Extremely Hardware-Limited ECG Devices**
R Petrovic, A Khawaja*, J Steininger, TK Zywiets

S42: Whole Heart Models

Room: Grand Ballroom II

Chairpersons: Adriaan Van Oosterom, Rok Hren

- 55 A Mesh-Less Method for Estimation of Left Ventricle
Electrophysiological Activation Time**
A Pashaei*, R Sebastian, V Zimmerman, BH Bijmens, AF Frangi
- 56 Grid Computing Simulations of Ion Channel Block Effects on the
ECG Using 3D Anatomically-Based Models**
MO Bernabeu*, A Corrias, J Pitt-Francis, B Rodriguez, B Bethwaite,
C Enticott, S Garic, T Peachey, J Tan, D Abramson, D Gavaghan
- 57 Wave Equation Based Interpolation on Volumetric Cardiac Electrical
Potentials**
DJ Swenson*, JG Stinstra, BM Burton, KK Aras, RS MacLeod
- 58 Activity Level of an Atrial Ectopic Focus Observed through the
Equivalent Dipole: A Biophysical Model**
M Lemay, V Jacquemet, C Duchêne*, A van Oosterom,
R Abaecherli, JM Vesin

S43: Arrhythmia Mapping and Informatics

Room: Grand Ballroom III

Chairpersons: John Windle, Robert Arzbaecher

- 59 **Differential Electrograms Computed from Unipolar Endocardial Recordings Improve Purkinje Activation Identification**
DJ Dossall*, J Huang, RE Ideker

- 60 **A Method for Assessing the Sampling Bandwidth for Activation Time and Voltage Maps in Cardiac Navigators**
JL Rojo-Alvarez*, FJ Sáiz-Rodríguez, CA Ruiz-Villa,
F Alonso-Atienza, A García-Alberola

- 61 **An XML Format for Storing Body Surface Potential Map Recordings**
R Bond*, D Finlay, C Nugent, G Moore

- 62 **A Smart Phone Based Telemedicine System for Recording Limited Lead Body Surface Potential Maps**
DD Finlay*, CD Nugent, CJ Breen

S44: Phonocardiography

Room: Grand Ballroom I

Chairpersons: Chema Ferrero, Paul Kligfield

- 63 **Heart Sound Extraction to Enable Remote Auscultation of Patients**
N Mahmood*, T Syeda-Mahmood
- 64 **Stationary Wavelet-Domain Phonocardiogram Segmentation Based on a Dissimilarity Measure**
C Guarnizo-Lemus*, E Delgado-Trejos
- 65 **ODySSY: An on-Demand Stethoscope System for Remote Auscultation**
T Syeda-Mahmood*, N Mahmood, T Zimmerman, S Oakley, G Carraro, N Bhatnagar

M5: Nanotechnology

Room: Grand Ballroom II & III

Chairpersons: Gang Bao, Matt Prucka

- 66 **Relationship between Local Hemodynamics and Inflammatory Protein Expression in the Mouse Aorta**
WR Taylor*, J Oshinski, J Suo, N Willett, M Consolini,
I Campbell, S Nie, DP Giddens
- 67 **Nanoparticles for Drug Delivery to Atherosclerotic Plaques**
JW Smith*
- 68 **Assessment of Natriuretic Peptide Clearance Receptor with Positron Emission Tomography in a Cardiovascular Disease Model**
Y Liu*, R Rossin, D Abendschein, GE Woodard, J Zheng,
K McCommis, PK Woodard, MJ Welch
- 69 **Engineering Molecular Imaging Probes for Nanocardiology**
G Bao*

S61: Database I

Room: Grand Ballroom I

Chairpersons: Bruce Bray, Harold Ostrow

- 70 **Increasing Patient Safety in Drug Trials with Computer Based ECG Analysis and Classification: A Study with 13,000 Resting ECGs**
TK Zywiets*, A Khawaja, R Petrovic, R Fischer, J Reinstaedtler
- 71 **Long-Time Experience with a Dedicated Database for a Chest Pain Observation Unit**
T Hilbel*, D Lossnitzer, HA Katus, E Giannitsis
- 72 **A Database for Cardiac MRI and CT Reporting and Scientific Work**
D Lossnitzer*, E Giannitsis, HA Katus, T Hilbel
- 73 **Alarming Data from the Intensive Cardiac Care Unit**
JA Lipton*, MJB van Ettinger, RJ Barendse, TB van Dam,
NHJJ van der Putten, SP Nelwan
- 74 **EPOCH: A Web-Based Platform for Integrating Outcomes Research and Healthcare Delivery**
GE Soto*, JA Spertus

S62: Cardiac MRI

Room: Grand Ballroom II

Chairpersons: Edward DiBella, Rob MacLeod

- 75 **Visualization of Lesion Transmurality following Radio-Frequency Ablation of Atrial Fibrillation**
JJE Blauer*, D Swenson, C Gloschat, J Stinstra, NF Marrouche, RS MacLeod
- 76 **Patient-Specific Cardiac Anatomical Models from Short-and Long-Axis MRI Slices**
P Prior*, R Casero Canas, B Rodriguez, V Grau
- 77 **Toward an Imaging-Based Atlas of the Mouse Myocardial Fiber Structure**
LJ Healy, S Joshi, O Abdullah, EW Hsu*
- 78 **Local Indices of Aortic Stiffness: A Magnetic Resonance Imaging Study**
A Dogui*, A De Cesare, N Kachenoura, F Frouin, M Lefort, E Mousseaux, A Herment
- 79 **Evaluation of Magnetic Resonance First-Pass Contrast-Enhanced Data Registration as a Basis for Quantification of Myocardial Perfusion**
N Kachenoura*, P Cluzel, CA Cuenod, P Grenier, F Frouin, D Balvay
- 80 **A Semi-Automatic Software Package for Analysis of Dynamic Contrast-Enhanced MRI Myocardial Perfusion Studies**
NA Pack*, S Vijayakumar, TH Kim, CJ McGann, EVR DiBella

S63: ECG Lead Systems

Room: Grand Ballroom III

Chairpersons: Franco Chiarugi, Rute Almeida

- 81 **Assessing QT Interval Hysteresis from Standard 12-Lead ECG Measurements**
V Varadarajan *, VN Polotski, CP Danford, JM Starobin
- 82 **Individually Improved VCG Synthesis**
S Man*, EW van Zwet, AC Maan, MJ Schali, CA Swenne
- 83 **Effects of Electrode Misplacement on the Reconstruction of the 12-Lead ECG**
DD Finlay*, SP Nelwan, CD Nugent
- 84 **Stability Analysis of the 12-Lead ECG Morphology in Different Physiological Conditions: Of Interest for Biometric Applications**
F Porée, JY Bansard, G Kervio, G Carrault*
- 85 **Multi-Lead Wavelet-Based ECG Delineation on a Wearable Embedded Sensor Platform**
N Boichat, V Barbero, N Khaled, F Rincon*, D Atienza
- 86 **Optimization of Electrode Positions of a Wearable ECG Monitoring System for Efficient and Effective Detection of Acute Myocardial Infarction**
Y Jiang*, C Qian, R Hanna, D Farina, O Dössel

S64: Brugada Syndrome/Repolarization

Room: Grand Ballroom IV

Chairpersons: Robert Lux, Steve Poelzing

- 87 **Automatic Assessment of Right Ventricular Repolarisation Heterogeneity during Diagnostic Ajmaline Test for Suspected Brugada Syndrome**
VN Batchvarov, Il Christov, G Bortolan*, M Govindan, ER Behr
- 88 **The E1784K Mutation in SCN5A and Phenotypic Overlap of Type 3 Long QT Syndrome and Brugada Syndrome: A Simulation Study**
KQ Wang, YF Yuan*, S Kharche, HG Zhang
- 89 **QRS&T Wave Alternans and Beat-to-Beat Ventricular Repolarization Variability Assessed from 12-Lead Holters in Patients with Suspected Brugada Syndrome**
G Bortolan*, Il Ivaylo, VN Batchvarov, ER Behr
- 90 **Dynamically-Induced Spatial Dispersion of Repolarization and the Development of Conduction Block and VF in an Animal Model of Sudden Death**
ARM Gelzer, NF Otani, ML Koller, MW Enyeart, NS Moise, RF Gilmour Jr*
- 91 **Efficient Modeling of ECG Waves for Morphology Tracking**
R Dubois*, P Roussel, M Vaglio, F Extramiana, F Badilini, P Maison-Blanche, G Dreyfus
- 92 **Relative Prolongation of the Terminal Part of the QT Segment Is Associated with Sudden Death in the Elderly**
DW Lee*, PK Stein, EP Lundequum, N Sotoodehnia

S71: Ventricular Arrhythmias

Room: Grand Ballroom II

Chairpersons: Roger Freedman, Jodie Hurwitz

- 93 **Modifications on Regularity and Spectrum of Ventricular Fibrillation Signal Induced by Physical Training**
JF Guerrero, A Rosado*, M Bataller, AJ Serrano, FJ Chorro
A Alberola, L Such
- 94 **Analysis of Spatial and Temporal Evolution of Regularity Maps during Ventricular Fibrillation**
JF Guerrero, A Rosado*, M Bataller, AJ Serrano, FJ Chorro,
A Alberola, L Such
- 95 **Computer Algorithm for Tracking ECG Spectral Dynamics in Ventricular Tachyarrhythmias**
P Langley*, A Murray
- 96 **Cardiac Arrhythmia Spectral Analysis of Electrogram Signals Using Fourier Organization Analysis**
O Barquero-Pérez*, JL Rojo-Álvarez, J Requena-Carrión,
F Alonso-Atienza, E Everss, R Goya-Esteban, JJ Sánchez-Muñoz,
A García-Alberola
- 97 **Risk Stratification in Congestive Heart Failure Patients Using a Model-Based Approach to Heart Rate Turbulence Characterization**
JP Martínez, D Smith, A Bayés de Luna, P Laguna*, L Sörnmo
- 98 **Circadian Pattern to Ventricular Arrhythmias in Mouse Models of Heart Failure and Arrhythmia**
V Shusterman*, CF McTiernan, H Mehdi, B London

S72: Databases II

Room: Grand Ballroom I

Chairpersons: Alan Murray, William Sanders

- 99 **Ranking Predictors of Complications following a Drug Eluting Stent Procedure Using Support Vector Machines**
RK Gouripeddi*, VN Balasubramanian, J Harris, A Bhaskaran,
RM Siegel, S Panchanathan
- 100 **Integration of Standard Myocardial and Epicardial Segmentation: Validation by CT and Autopsy Studies**
G Szabó, L Balkay, R Veisz, P Gergely, Z Kőszegi*
- 101 **Controlling True Positive Rate in ROC Analysis**
T Eftestøl*
- 102 **Artificial Neural Network Based 'Continuous Feedback Loop' Platform to Support Multicenter Cardiac Clinical Trials**
S Jacob, D Bhandare, C Bhandare, R Aravindhakshan*

S73: Physiological Oscillations I

Room: Grand Ballroom III

Chairpersons: Roger Mark, Phyllis Stein

- 103 **Time Varying Heart Rate Variability Analysis of Active Orthostatic and Cold Face Tests Applied Both Independently and Simultaneously**
AR Mejía-Rodríguez, MJ Gaitán-González*, S Carrasco-Sosa, A Guillén-Mandujano
- 104 **Heart Rate Variability Analysis in Normal Infants and Infants with Single Ventricle Anatomy Using Power Spectral Density**
ER Wathen, RL Smith, P Cetin Abaci, NH Von Bergen, IH Law, M Dick, CE Connor, EL Dove*
- 105 **Time Frequency Relationships between Heart Rate and Respiration: A Diagnosis Tool for Late Onset Sepsis in Sick Premature Infants**
G Carrault*, A Beuchee, P Pladys, L Senhadji, A Hernandez
- 106 **Cardiac Autonomic Neuropathy Associated Alteration of Sympatho-Vagal Balance through the Tone-Entropy Analysis of Heart Periods**
AH Khandoker*, HF Jelinek, M Palaniswami

S74: Mechanical Modeling

Room: Grand Ballroom IV

Chairpersons: Peter van Dam, George Moody

- 107 **An Anisotropic Fluid-Solid Model of the Mouse Heart**
JP Carson*, AP Kuprat, X Jiao, F del Pin, DR Einstein
- 108 **Modeling Effects of Strain-Modulated Membrane Capacitance and Conductance of K⁺ Inward-Rectifier on Conduction Velocity in Cardiac Tissue**
TG McNary*, FB Sachse
- 109 **Multi-Scale Modeling of Hypertension**
Al Veress*, GM Raymond, GT Gullberg, JB Bassingthwaighte
- 110 **Hemodynamic Assessment of Virtual Surgery Options for a Failing Fontan Using Lumped Parameter Simulation**
CM Haggerty*, DA de Zelicourt, KS Sundareswaran, K Pekkan, MA Fogel, AP Yoganathan
- 111 **A Cardiovascular Model for the Analysis of Pacing Configurations in Cardiac Resynchronization Therapy**
K Tse Ve Koon, V Le Rolle, G Carrault*, Al Hernandez
- 112 **Transmural Heterogeneity in Ion Channel Properties in the Left Ventricle Optimizes Pump Function during Natural Electrical Activation**
E Hermeling*, TM Verhagen, FW Prinzen, NHL Kuijpers

P81: Heart Rate Variability

Room: Outdoor Pavillion

- 113 **Analysis of Cardiac Cells Field Potentials Using Wavelet Transform**
S Jacquir*, B Xu, T Bakir, JM Bilbault, S Binczak
- 114 **Detrended Fluctuation Analysis of Heart Rate by Means of Symbol Series**
JF Valencia*, M Vallverdú, R Schroeder, A Voss, I Cygankiewicz, R Vázquez, A Bayés de Luna, P Caminal
- 115 **Evidence for Respiration Influence on the Heart Rate Variability after Human Heart Transplantation: Effect of Observation Model**
G Laouini*, A Cabasson, G Blain, P Bonizzi, O Meste, S Bermon
- 116 **The Estimation Method of Physical Activity Energy Expenditure considering Heart Rate Variability**
DH Kim*, JS Cho, HS Oh, YJ Chee, IY Kim
- 117 **Multifractal Properties of the Heart Rate Dynamics during Acute Myocardial Ischemia**
R Magrans, P Gomis*, P Caminal, G Wagner
- 118 **Comparative Study of Approximate Entropy and Sample Entropy Performance Applied to RR Interval Records**
D Cuesta-Frau, P Miro-Martinez, S Oltra Crespo, M Aboy, D Austin, JL Rodríguez-Sotelo*
- 119 **Modifications in the Heart Dynamics of Patients with Cardiac Disease**
FMHS Pereira da Silva*, AC Silva Filho, OF Souza, L Gallo Jr

P82: Autonomic Reflex

Room: Outdoor Pavillion

- 120 **On Exact Number of Baroreflex Sequences in Surrogate Data Sets**
T Loncar Turukalo, N Japundzic Zigon, O Sarenac, D Bajic*
- 121 **Blood Pressure and Impedance Cardiography during Tilt Table Test**
P Jurak*, J Halamek, V Vondra, M Plachy, P Frana, P Leinveber

P83: Cellular Modeling

Room: Outdoor Pavillion

- 122 **Ionic Basis of Arrhythmic Risk Biomarkers on Simulated Rabbit Ventricular Myocytes**
L Romero, B Carbonell*, B Trénor, JM Ferrero
- 123 **Positive Correlation between Heart Rate Variability and Stochastic Nervous Modulation: A Computer Simulation Study**
H Zhang*, AV Holden
- 124 **Potentiation of Dofetilide LQT-Related Effects by Late Sodium Current Enhancement: A Simulation Study**
K Cardona, J Saíz, L Romero, B Carbonell, JM Ferrero, B Trenor*
- 125 **Combined Effects of Acquired LQT Syndrome by Dofetilide and Reduced Repolarization Reserve on Human Ventricular Action Potential: A Simulation Study**
R Gonzalez*, L Romero, J Gomis-Tena, B Trenor, JM Ferrero, J Saíz

P84: Cardiac Modeling

Room: Outdoor Pavillion

- 126 **Effect of the Ectopic Beat Location on Vulnerability to Reentries in a Three-Dimensional Realistic Model of Human Atrium**
C Tobón, C Ruiz, E Heidenreich, F Hornero, J Saíz*
- 127 **Parametric Modeling of the Beating Heart with Respiratory Motion Extracted from MR Images**
G Pons Moll, G Crosas Cano, G Tadmor, RS MacLeod,
B Rosenhahn, DH Brooks*
- 128 **Influence of Atrial Dilatation in the Generation of Re-Entries Caused by Ectopic Activity in the Left Atrium**
CA Ruiz-Villa, C Tobón, JF Rodriguez, JM Ferrero, F Hornero,
J Saíz*
- 129 **Modeling the Purkinje Conduction System with a Non Deterministic Rule Based Iterative Method**
V Zimmerman, R Sebastian*, BH Bijnens, AF Frangi
- 130 **Canine Left Ventricular Purkinje Fiber Network Construction Using Manifold Learning**
J Li, KQ Wang*, WM Zuo, HG Zhang, YF Yuan
- 131 **Suppression of Spiral Waves by Electric Stimulation: A Simulation Study**
B Xu, S Jacquir, S Binczak*, G Laurent, JM Bilbault
- 132 **Measuring Implantable Cardioverter Defibrillators (ICD) during Implantation Surgery for Simulation Verification**
JT Tate*, JG Stinstra, TA Pilcher, RS MacLeod
- 133 **Simulation of Effects of Ischemia in 3D Human Ventricle**
WG Lu, TJ Liu, WM Zuo*, KQ Wang, HG Zhang

P85: Monitoring

Room: Outdoor Pavillion

- 134 **Design of Bioimpedance Monitor and Its Application to Atrioventricular Delay Optimization**
V Vondra*, I Viscor, J Halamek, P Jurak
- 135 **Automatic Emergency Detection Using Commercial Accelerometers and Knowledge-Based Methods**
M Struck*
- 136 **An Autonomic Mobile Computing System for Cardiac Parameter Monitoring**
E Ramírez-Islas*, PV Morales-Montañes, A García-Avelar, E Moyao-Chamorro, U Ravelo-Antonio, C Morales-Torres, Y Terán-Salgado, DA González-Perales
- 137 **Noise Reduction for Non-Contact Electrocardiogram Measurement in Daily Life**
KM Lee*, SM Lee, KS Sim, KK Kim, KS Park
- 138 **A New Fuzzy Controlled ECSS-System: First Results of an In-Vitro Investigation**
U Schreiber*, S Eichhorn, A Mendoza, B Baumgartner, R Bauernschmitt, R Lange, A Knoll, M Krane

P86: QRS Morphology I

Room: Outdoor Pavillion

- 139 **A Wavelet Transform for Atrial Fibrillation Cycle Length Measurements**
R Dubois*, P Roussel, M Hocini, F Sacher, M Haissaguerre, G Dreyfus
- 140 **Adaptive Multiple Frequency Tracking Algorithm: Detection of Stable Atrial Fibrillation Sources from Standard 12-Lead ECG**
C Duchêne*, M Lemay, V Jacquemet, R Abaecherli, JM Vesin, A van Oosterom
- 141 **Organization Tracking of Long-Term Atrial Fibrillation Recordings: Differences between Paroxysmal and Persistent Episodes**
R Alcaraz*, F Sandberg, L Sörnmo, JJ Rieta
- 142 **Detecting and Discriminating Premature Atrial and Ventricular Contractions: Application to Prediction of Paroxysmal Atrial Fibrillation**
A Ghaffari, MR Homaeinezhad*, M Akraminia, M Atarod, Y Ahmadi
- 143 **Comparative Study of Non-Invasive Organization Estimation Strategies to Predict Spontaneous Termination of Atrial Fibrillation**
R Alcaraz*, JJ Rieta
- 144 **Dynamic Properties of QT Intervals**
J Halamek*, P Jurak, V Vondra, J Lipoldova, P Leinveber, M Plachy

P87: Cardiac Mapping

Room: Outdoor Pavillion

- 145 Using Image Registration to Reconstruct Spatiotemporal Electrical Activity in Cardiac Optical Mapping Studies**
M Svrcek*, S Rutheford, AYT Chen, I Provaznik
- 146 Influence of Ischemia and Reperfusion Duration on Left Ventricular Depolarization in Isolated Rabbit Hearts Registered by Optical Method**
J Kolářová*, O Janoušek, I Provazník, M Nováková, K Fialová
- 147 Model of Preconditioning in Guinea Pig and Rabbit Isolated Hearts Loaded with Voltage-Sensitive Dye Di-4-ANEPPS**
K Fialova*, J Kolarova, I Provaznik, M Novakova

P88: Databases

Room: Outdoor Pavillion

- 148 The Clinical Application of an XML-Based 12-Lead ECG Structure Report System**
JC Hsieh*, CC Hung, HJ Chuan, KC Yu, HC Lo
- 149 A New Approach to Affordable and Reliable Cardiology PACS Architecture Using Open-Source Technology**
P Marcheschi*, A Ciregia, A Mazzarisi, G Augiero, A Gori

S91: PhysioNet/CinC Challenge I

Room: Grand Ballroom II

Chairpersons: George Moody, Pablo Laguna

- 150 **Predicting Acute Hypotensive Episodes: The 10th Annual PhysioNet/Computers in Cardiology Challenge**
GB Moody*, LH Lehman
- 151 **Forecasting Acute Hypotensive Episodes in Intensive Care Patients Based on a Peripheral Arterial Blood Pressure Waveform**
X Chen*, D Xu, G Zhang, R Mukkamala
- 152 **PhysioNet/CinC Challenge**
JH Henriques*
- 153 **Predicting Acute Hypotensive Episodes from Mean Arterial Pressure**
P Langley*, S King, D Zheng, EJ Bowers, K Wang, J Allen, A Murray
- 154 **An RPS-NN Approach toward the Prediction of Acute Hypotensive Episodes**
MA Mneimneh*, RJ Povinelli

S92: ECG and Ambulatory Monitoring

Room: Grand Ballroom III

Chairpersons: Brent Muhlestein, Johan de Bie

- 155 **Analysis of Multi Domain Features for ECG Classification**
M Llamedo*, JP Martínez
- 156 **Electrocardiographic Prediction of Arrhythmias**
Z Syed*, BM Scirica, CM Stultz, JV Guttag
- 157 **Nonparametric Density-Based Clustering for Cardiac Arrhythmia Analysis**
JL Rodriguez-Sotelo*, D Peluffo-Ordoñez, D Cuesta-Frau, G Castellanos-Dominguez
- 158 **ECG Events Segmentation via Discrete-Wavelet Transform: Modified Detection-Delineation of Premature Contractions**
A Ghaffari, MR Homaeinezhad*, M Atarod, M Akraminia, M Davaeaha
- 159 **A New Method for Atrial Electrical Activity Analysis from Surface ECG Signals Using an Energy Ratio Measure**
N Weissman*, A Katz, Y Zigel
- 160 **Non-Linear 12-Lead ECG Synthesis from Two Intracardiac Recordings**
A Kachenoura, F Porée*, G Carrault, AI Hernandez

S93: QT Intervals

Room: Grand Ballroom IV

Chairpersons: Esther Pueyo, Jean Philippe Couderc

- 161 Impact of Different Autonomic Balances on Early and Late Cardiac Repolarization Duration**
R Handzel*, JP Couderc
- 162 Short-Term QT Variability: A Marker for Reduced Repolarization Reserve in Anthracyclin Therapy**
HJ Ritsema van Eck*, FJ Broeyer, G van Herpen, J Burggraaf, JA Kors
- 163 Potential Confounding Effect of Heart Rate on T-Wave Morphology Can Affect the Measurement of Ventricular Instability**
JP Couderc*
- 164 T-Wave Morphology as a Covariate in Drug-Induced QTc Prolongation**
JJ Struijk*, C Graff, J Matz, MP Andersen, JK Kanters, J Nielsen, JQ Xue, E Toft
- 165 Are 2 ECG Leads Enough for Multilead Wave Boundary Location and QT Measuring?**
R Almeida*, JP Martínez, AP Rocha, P Laguna
- 166 Transmural Differences in Rate Adaptation of Repolarization Duration Quantified from ECG Repolarization Interval Dynamics**
A Mincholé*, E Pueyo, P Laguna

S94: Cardiovascular Imaging

Room: Grand Ballroom I

Chairpersons: Claudio Lamberti, Victor Mor-Avi

- 167 **Volumetric Quantification of Myocardial Perfusion Using Analysis of Multi-Detector Computed Tomography 3D Datasets**
N Kachenoura*, F Veronesi, JA Lodato, C Corsi, R Mehta,
B Newby, RM Lang, V Mor-Avi
- 168 **2D-3D Registration of Cardiac Images Using Catheter Constraints**
MVN Truong*, A Aslam, CA Rinaldi, R Rezavi, G Penney, K Rhode
- 169 **Dense Motion Estimation of the Heart Using Gram-Charlier Based Mutual Information**
M Rubeaux*, JC Nunes, M Garreau
- 170 **Data Fusion of Left Ventricle Electro-Anatomic Mapping and Multislice Computerized Tomography for Cardiac Resynchronisation Therapy Optimization**
F Tavard, A Simon*, C Leclercq, P Mabo, A Hernandez, M Garreau
- 171 **Use of Ultrasound Imaging to Map Propagating Action Potential Waves in the Heart**
NF Otani, S Luther, R Singh*, RF Gilmour Jr
- 172 **Numerical Modeling of Current Distribution in and near the Tips of Cardiac Pacemaker Electrodes during Magnetic Resonance Imaging**
SA Seitz*, O Dössel

SA1: PhysioNet/CinC Challenge II

Room: Grand Ballroom II

Chairpersons: Philip Langley, Guy Carrault

- 173 Predicting the Occurrence of Acute Hypotensive Episodes: The PhysioNet Challenge**
F Chiarugi*, I Karatzanis, V Sakkalis, I Tsamardinos, M Foukarakis, A Dermitzakis, G Vrouchos
- 174 Acute Hypotension Episode Prediction Using Information Divergence for Feature Selection and Non-Parametric Methods for Classification**
PA Fournier*, JF Roy
- 175 Predicting Critical Situations of High Risk Cardiac Patients by Hemodynamic Monitoring**
D Hayn*, A Kollmann, G Schreier
- 176 Smoothing and Discriminating MAP Data**
K Jin*, NL Stockbridge
- 177 Predicting Acute Hypotensive Episodes**
F Jousset*, M Lemay, JM Vesin

SA2: Coronary Artery Imaging

Room: Grand Ballroom I

Chairpersons: Cristiana Corsi, Nico Bruining

- 178 **Coronary Sinus Lead Tracking for Its 3D Dynamic Position Assessment in Cardiac Resynchronization Therapy**
C Corsi*, F Veronesi, M Mosconi, C Tomasi, S Severi, C Lamberti
- 179 **Estimation of Coronary Atherosclerotic Plaque Composition Based Only on Grey-Scale Intravascular Ultrasound Images**
FJR Sales*, JLAA Falcao, BAA Falcao, SS Furuie, PA Lemos
- 180 **A New Tool for Automated Border Detection and Characterization of Atherosclerotic Plaque Composition in IVUS Images**
A Taki*, A Roodaki, A Bigdelou, G Unal, SK Setarehdan, N Navab
- 181 **Evaluation of the Spatial Changes of the Coronary Morphology Due to Stent Implantation with 3D Angiography**
T Ungvári, J Sánta, Z Béres, B Tar, P Sánta, P Lugosi, Z Kőszegi*
- 182 **A Method towards Automated Thrombolysis in Myocardial Infarction (TIMI) Frame Counting Using 3D Reconstruction**
GA ten Brinke*, CH Slump, CJ Storm

SA3: Ischemia and Bidomain Modeling

Room: Grand Ballroom III

Chairpersons: Jorge Henriques, Javier Saíz

- 183 Comparison of Microscopic and Bidomain Models of Anisotropic Conduction**
JG Stinstra*, CS Henriquez, RS MacLeod
- 184 Increasing the Effective Interstitial Resistivity Promotes the Escape of Premature Beats**
ML Hubbard*, CS Henriquez
- 185 Development of a Two-Dimensional Model of the Whole Rabbit Heart**
J Higham*, H Dobrzynski, MR Boyett, HG Zhang
- 186 Electrical Propagation Patterns in a 3D Regionally Ischemic Human Heart: A Simulation Study**
E Heidenreich, JF Rodriguez, M Doblare, B Trenor, JM Ferrero*
- 187 An Electrophysiological Cardiac Model with Applications to Ischemia Detection and Infarction Localization**
MA Mneimneh*, RJ Povinelli
- 188 Mathematical Modeling of Dynamic Subcellular Calcium Alternans**
SA Gaeta, G Bub, GW Abbott, DJ Christini*

SA4: Physiological Oscillations II

Room: Grand Ballroom IV

Chairpersons: Paul Kligfield, Riccardo Barbieri

- 189 **Analyzing Heart Rate Variability in Infants Using Non-Linear Poincaré Techniques**
RL Smith*, ER Wathen, P Cetin Abaci, NH Von Bergen, IH Law, M Dick II, C Connor, EL Dove
- 190 **Modified Wavelet Bicoherence as a Diagnostic Tool for Very High Frequency Peaks in Cardiovascular Signals of Heart Transplant Patients**
K Keissar*, O Gilad, S Akselrod
- 191 **Avoiding Pitfalls with Approximate and Sample Entropy: A Computational Recipe**
R Sassi*, G Manis
- 192 **Continuous Quantification of Spectral Coherence Using Quadratic Time-Frequency Distributions: Error Analysis and Application**
M Orini*, R Bailón, L Mainardi, A Mincholé, P Laguna
- 193 **Does Sample Entropy Reflect Nonlinear Characteristics of Cardiovascular Murmurs?**
SE Schmidt*, M Græbe, J Hansen, E Toft, JJ Struijk

PB1: Ischemia

Room: Outdoor Pavillion

- 194 **Analysis of T Wave Morphology Parameters with Signal Averaging during Ischemia Induced by Percutaneous Transluminal Coronary Angioplasty**
FH Baglivo, PD Arini*, JP Martínez, P Laguna
- 195 **Study of Morphological Parameters of QRS Loop Using Singular Value Decomposition during Ischemia Induced by Coronary Angioplasty**
R Correa, PD Arini*, E Laciari, P Laguna, R Jané
- 196 **A Comparative Study of Abnormal Intra-QRS Potentials and High-Frequency Components in Signal-Averaged Electrocardiogram**
CC Lin, WC Hu*
- 197 **Reliability of the Prediction of the Location of the Culprit Lesion from the ECG in Totally Occluded Arteries in Case of Single Vessel Disease**
WA Dijk*, NHJJ van der Putten, R Hoekema, ET van der Velde, AC Maan, CA Swenne, WRM Dassen

PB2: Repolarization

Room: Outdoor Pavillion

- 198 Detecting and Quantifying T-Wave Alternans in Patients with Heart Failure and Non-Ischemic Cardiomyopathy via Modified Spectral Method**
A Ghaffari, MR Homaeinezhad, M Atarod, M Akraminia,
M Davaeaha, B Hejrati*
- 199 Vectorcardiographic Representation of Concordant and Discordant T-Wave Alternans**
D Janusek*, Z Pawlowski, M Kania, S Karczmarewicz, A Przybylski,
R Maniewski

PB3: ECG

Room: Outdoor Pavillion

- 200 **A Computer Model for Generating Artificial Abnormal Multi-Lead Electrocardiographic Phenomena**
A Ghaffari, MR Homaeinezhad*, Y Ahmadi, M Rahnavard, M Atarod
- 201 **Automated Identification of Abnormal Fetuses Using Fetal ECG and Doppler Ultrasound Signals**
AH Khandoker*, Y Kimura, M Palaniswami
- 202 **A Robust Electrocardiogram Delineation Algorithm Based on FIR Filter Bank**
A Ghaffari, MR Homaeinezhad*, M Akraminia, M Atarod, M Davaeaha
- 203 **Convolutive Multiband Blind Separation to Dissociate Atrial from Ventricular Activity in Atrial Fibrillation**
C Vayá, JJ Rieta, R Alcaraz*

PB4: ECG Leads

Room: Outdoor Pavillion

- 204 **Calculating Optimal Virtual Lead from Multichannel ECG by Minimizing Morphological Beat-to-Beat Variability**
K Noponen*, T Seppänen
- 205 **Waveform Phase Shift Study on Extremities to Compute the Relation between the Mason-Likar and the Standard Limb Lead Electrode Placement**
M Sagiroglu*, S Thiagarajan
- 206 **Image Processing on ECG Chart for ECG Signal Recovery**
TW Shen*, TF Laio

PB5: Apnea

Room: Outdoor Pavillion

- 207 **Support Vector Regression Model for Assessing Respiratory Effort during Central Apnea Events Using ECG Signals**
AH Khandoker*, M Palaniswami
- 208 **Quantification of Obstructive Sleep Apnea in HRV Signals Using Quadratic Time-Frequency Distributions, Dynamic Features and PLS Analysis**
AF Quiceno-Manrique, LD Avendano-Valencia,
JL Rodriguez-Sotelo*, CG Castellanos-Dominguez
- 209 **Classification of Obstructive and Central Sleep Apnea Using Wavelet Packet Analysis of ECG Signals**
J Gubbi*, A Khandoker, M Palaniswami

PB6: Hemodynamics

Room: Outdoor Pavillion

- 210 **Mean Arterial Pressure Estimation Method Using Morphological Changes in Oscillometric Waveform**
SH Song*, DH Kim, JS Lee, YJ Chee, IY Kim
- 211 **Estimation of Blood Pressure Using Photoplethysmography on the Wrist**
SH Song*, JS Cho, HS Oh, JS Lee, IY Kim
- 212 **Detection of Mean Arterial Pressure Dropping Regimes during Acute Hypotensive Episodes**
A Ghaffari, MR Homaeinezhad*, M Atarod, M Akraminia, R Rahmani
- 213 **Evaluation of Blood Pulse Wave Velocity and Arterial Relaxation Time Constant**
WC Hu*, JJ Wang, LY Shyu, HM Cheng, CH Chen, YT Shih, YJ Sun
- 214 **Stroke Volume during Mueller Maneuver Measured by Impedance Cardiography in Patients with Mitral Regurgitation**
I Viscor*, P Jurak, V Vondra, J Halamek, P Leinveber
- 215 **Evaluate the Relationship between Coronary Artery Calcification (CAC) and Arterial Compliance**
LY Shyu, GY Lan, WC Hu*
- 216 **Comparative Analysis of Infrasonic Cardiac Signals**
K Tavakolian*, B Ngai, A Akhbardeh, B Kaminska, AP Blaber

PB7: Imaging

Room: Outdoor Pavillion

- 217 Latest Technical Advances in the Cathlab through 3D Arteriography and 3D Coronary Angiography**
T Hilbel*, D Lossnitzer, R Becker, W Rottbauer, HA Katus
- 218 Delineation of Tumor Volume in Cardiac Gated PET Images**
J Gubbi*, M Palaniswami, K Tomas, D Binns
- 219 Volumetric Measurement of the Anatomic Regurgitant Orifice Area in Mitral Regurgitation**
S Chandra, L Weinert, L Sugeng, IS Salgo, SH Settlemier, JX Shen, RM Lang, V Mor-Avi*
- 220 Similarity Measures Evaluation in Contrast Enhanced Echocardiography Motion Detection and Registration**
EP Rodrigues, LO Murta*
- 221 Epicardial Coronary Angiography from Microbubble-Based Tridimensional Echocardiography: A Feasibility Study**
DM Lage*, JM Tsutsui, SS Furuie
- 222 Cardiac Function Estimation Using MSCT: A Comparison to Speckle Tracking Imaging**
A Simon*, R Delaunay, C Leclercq, E Donal, M Garreau
- 223 A Validation Study of Left Ventricular Contraction and Relaxation Model**
WC Hu*, JJ Wang, LY Shyu, CC Lin, HM Tsao
- 224 Visualization of Segmented Cardiac Anatomy with Accelerated Rendering Method**
F Yang, WM Zuo*, KQ Wang, HG Zhang
- 225 Mapping Myocardial Elasticity Changes after RF-Ablation Using Supersonic Shear Imaging**
M Pernot, E Macé, R Dubois*, M Couade, M Fink, M Tanter

Wednesday, September 16, 2009, 11:30

PB8: Physionet/CinC Challenge

Room: Outdoor Pavillion

- 226 Utilizing Histogram to Identify Patients Using Pressors for Acute Hypotension**
CT Ho*, X Chen

PB9: QRS Morphology II

Room: Outdoor Pavillion

- 227 Arrhythmia Detection Using Image Representation of Electrocardiogram**
F Wang, T Syeda-Mahmood*, D Beymer
- 228 Quality Evaluation and Effect of Time Synchronization on the Digital Recovery of Intracardiac Electrograms**
M Sanroman-Junquera, I Mora-Jimenez*, E Everss,
J Almendral-Garrote, A Garcia-Alberola, F Atienza,
L Castilla-SanJose, JL Rojo-Alvarez
- 229 Noise Effect Analysis in the Non-Invasive Organization Estimation of Atrial Fibrillation**
R Alcaraz*, JJ Rieta
- 230 Optimal Basis Function Study in Wavelet Sample Entropy for Electrical Cardioversion Outcome Prediction of Persistent Atrial Fibrillation**
R Alcaraz*, JJ Rieta
- 231 Ventricular Activity Residual Reduction in Remainder ECGs Based on Short-Term Autoregressive Model Interpolation**
P Bonizzi*, M Stridh, L Sörnmo, O Meste
- 232 Detection of Shockable and Non-Shockable Rhythms in Presence of CPR Artifacts by Time-Frequency ECG Analysis**
JP Didon*, I Dotsinsky, I Jekova, V Krasteva

MC: Closing Plenary Session

Room: Grand Ballroom II & III

Chairpersons: Sheri Prucka, Dewar Finlay

- 233 Finding Cardiac Disease Correlations through Time-Varying Disease Modeling for Decision Support**
T Syeda-Mahmood*, S Adelman, A Hobbs, J Terdiman, M London, A Amir, H Greenspan, D Gruhl
- 234 Non-Invasive Potassium Measurements from ECG Analysis during Hemodialysis Sessions**
S Severi, C Corsi*, M Haigney, J DeBie, D Mortara
- 235 Ability of Heart Rate Variability as Screening Tool for Heart Diseases in Men**
A Heitmann, T Huebner, R Schroeder, S Perz, A Voss*
- 236 Gated Intravascular Ultrasound Reduces the Population Size in Clinical Trials: A Computer Simulation Study**
SA De Winter*, R Hamers, JRTC Roelandt, PWJC Serruys, N Bruining
- 237 Enhanced Software Based Detection of Implanted Cardiac Pacemaker Stimuli**
M Jennings, B Devine*, S Luo, PW Macfarlane