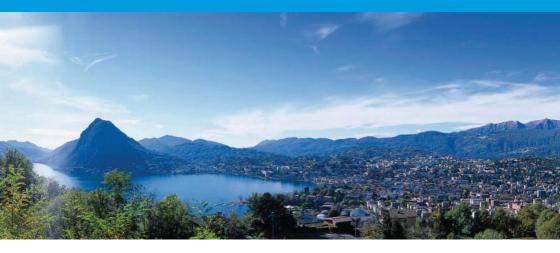


Creating the Basis for Tailored Therapies

7th TRM Forum on Computer Simulation and Experimental Assessment of Cardiac Function



Lugano, Switzerland December 1-3, 2013

Sponsored by the Theo-Rossi-di-Montelera (TRM) Foundation Forum Organizers: Nathalie Virag and Lukas Kappenberger

In collaboration with Rolf Krause (USI) and Angelo Auricchio (CCT)

Sunday, December 1, 2013

Welcome Dinner at Villa Castagnola

19:00-22:00

| Monday, December 2, 2013 From Computer to Bedside: How predictive are computer models? | Creating the Basis for Tailored Therapies |
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| Departure from Villa Castagnola to USI Campus (walking) | 8:30 |
| Welcome and Introduction Lukas Kappenberger, Nathalie Virag (TRM Foundation), Tiziano Moccetti (C | 9:00-9:30 |
| Patient Specific Modeling Sessions Chairs: Frits Prinzen & Nathalie Virag | 9:30-12:00 |
| Patient specific modeling: How good do we have to be? Molly Maleckar (Oslo Norway) | 9:30-9:50 |
| Understanding CRT outcomes using patient-specific models of dyssynchronous heart failure Andrew McCulloch (San Diego, USA) | 9:50-10:10 |
| Simulation of non-contact mapping Vincent Jacquemet (Montreal, Canada) | 10:10-10:30 |
| Coffee Break | 10:30-11:00 |
| Recreating atrial rotors in silico Edward Vigmond (Bordeaux, France) | 11:00-11:20 |
| Difficulties and progress in the quantitative assessment of the substrate for atrial fibrillation Ulrich Schotten (Maastricht, The Netherlands) | 11:20-11:40 |
| Simulating the effects of drugs and genetic defects on atrial electrophysiology Gunnar Seemann (Karlsruhe, Germany) | 11:40-12:00 |
| Lunch Break and Posters | 12:00-13:30 |

| Predict the Effect of Cardiac Therapies Sessions Chairs: Lukas Kappenberger & Angelo Auricchio | 13:30-17:00 |
|---|-------------|
| Prediction of effect of cardiac therapies Tammo Delhaas (Maastricht, The Netherlands) | 13:30-13:50 |
| The nonlinear mixing of normal conduction in normal tissue and slow conduction in uncoupled tissue Jan Kucera (Bern, Switzerland) | 13:50-14:10 |
| Atrial fibrillation rate as a tool for assessing outcome in patients with AF or heart failure Pyotr Platonov (Lund, Sweden) | 14:10-14:30 |
| Drug-induced post-repolarization refractoriness as an antiarrhythmic principle and its possible underlying mechanism/s Michael Franz (Washington DC, USA) | 14:30-14:50 |
| Coffee Break | 14:50-15:30 |
| Patient-specific modeling to predict CRT outcome <i>Mark Potse (Lugano, Switzerland)</i> | 15:30-15:50 |
| Lumped parameter modeling of mechanical dyssynchrony to identify the substrate(s) amenable to CRT Joost Lumens (Maastricht, The Netherlands) | 15:50-16:10 |
| Imaging of cardiac mechanics for optimal CRT application Frits Prinzen (Maastricht, The Netherlands) | 16:10-16:30 |
| Wrap up Lukas Kappenberger, Nathalie Virag (TRM Foundation) | 16:30-17:00 |
| Meet in the Lobby of Villa Castagnola for departure to the Surprise Dinner | 19:00 |

| Tuesday, December 3, 2013 From Bedside to Computer: How much data do we need ? | Creating the Basis for Tailored Therapies |
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| Departure from Villa Castagnola to USI Campus (walking) | 8:30 |
| Signal Analysis and Arrhythmia Diagnostics Sessions Chairs: Adriaan van Oosterom & Natalia Trayanova | 9:00-11:30 |
| Divining the drivers of multi-wavelet reentry: delineating the spati distribution of dynamic circuits <i>Peter Spector (Vermont, USA)</i> | al 9:00-9:20 |
| Adaptive tracking of atrial fibrillation ECG oscillations Jean-Marc Vesin (Lausanne, Switzerland) | 9:20-9:40 |
| Variabilities of ventricular rate response and of arterial blood pressure values in atrial fibrillation Sergio Cerutti (Milano, Italy) | 9:40-10:00 |
| Coffee Break | 10:00-10:30 |
| An atrioventricular node model of the ventricular response during atrial fibrillation: model building and applications Leif Sörnmo (Lund, Sweden) | 10:30-10:50 |
| Post-extrasystolic potentiation of blood pressure: | |
| Non-invasive assessment of myocardial Ca++ handling Georg Schmidt (Münich, Germany) | 10:50-11:10 |
| Statistical modelling of the drug-induced ECG changes - comparison of cross-over and parallel investigations Marek Malik (London, UK) | 11:10-11:30 |
| Lunch Break and Posters | 11:30-13:00 |
| From Imaging to Cardiac Function Sessions Chairs: Michael Franz & Marek Malik | 13:00-16:30 |
| Atrial fibrosis and arrhythmias: a patient-specific approach Natalia Trayanova (Baltimore, USA) | 13:00-13:20 |
| Three-dimensional left ventricular segmentation from MRI images for patient-specific modelling purposes Enrico Caiani (Milano, Italy) | 13:20-13:40 |

| Towards tissue-accurate 3D histology of the heart <i>Peter Kohl (Oxford, UK)</i> | 13:40-14:00 |
|---|-------------|
| Pro-fibrillatory remodeling of failing human heart: excitation-contraction coupling, metabolism, signaling <i>Igor Efimov (St Louis, USA)</i> | 14:00-14:20 |
| Coffee Break | 14:20-15:00 |
| Electrophysiologic substrate and cardiac resynchronization therapy (CRT) in heart failure patients: Insights from noninvasive ECG imaging (ECGI) Yoram Rudy (St Louis, USA) | 15:00-15:20 |
| A comparison of the performances of electrocardiographic imaging based on the epicardial potential field and the EDL type of sources Adriaan van Oosterom (Nijmejen, The Netherlands) | 15:20-15:40 |
| Electromechanical characterization in heart failure patients with abnormal QRS Wilco Kroon (Lugano, Switzerland) | 15:40-16:00 |
| Closing Remarks and Outlook Lukas Kappenberger, Nathalie Virag (TRM Foundation), Rolf Krause (USI), Angelo Auricchio (CCT) | 16:00-16:30 |
| Meet in the Lobby of Villa Castagnola for departure to the Serata Ticinese Dinner | 19:00 |
| Wednesday, December 4, 2013 | Aula Magna |
| First European Conference for Standardization of Advanced ECG Analysis in Arrhythmia Diagnostics | 8:00-14:30 |
| 2013 Focus: Quantification of the Atrial Fibrillation Substrate Comp Conference | blexity |
| Chairs: Lukas Kappenberger, Ulrich Schotten Endorsed by: European Heart Rhythm Association (EHRA, the German Cou work of Atrial Fibrillation (AFNET) and the ESC Working Group for e-cardie | |
| This conference is open for TRM participants. Detailed program: http://af-complexity.ics.usi.ch | |
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Sponsor & Forum Organizers

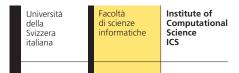
This Forum is sponsored by the Theo-Rossi-di-Montelera (TRM) Foundation, thanks to the generosity and "avant-garde" spirit of late Contessa Ida Rossi di Montelera.

It is organized by Prof. Lukas Kappenberger (president TRM foundation) and Dr. Nathalie Virag (member TRM foundation) from the Lausanne Heart Group.



ausanne Heart

It is hosted by the Università della Svizera Italiana (USI) and the Cardiocentro Ticino (CCT).

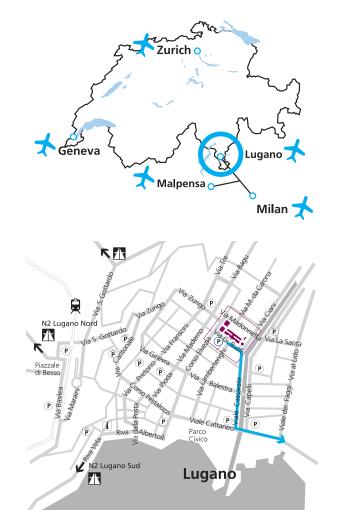






Location

The TRM forum will be held in Lugano. Speakers will stay at the Grand Hotel Villa Castagnola. Presentations and discussions will take place in the main lecture hall "Aula Magna" on the campus of USI. Walking from Villa Castagnola to USI takes 15-10 minutes.



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