SPONSORS

MAIN ORGANIZERS

Irene Vignon-Clementel, PhD
Permanent Research Scientist
REO Project-Team
INRIA Paris-Rocquencourt / Université Pierre-et-Marie-Curie

Jeffrey A. Feinstein, MD, MPH
Department of Pediatrics (Cardiology) and Bioengineering
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LOCAL ORGANIZERS

Jessica M. Oakes, PhD
REO project team
INRIA Paris Rocquencourt

Sanjay Pant, PhD
REO project team
INRIA Paris Rocquencourt
MAY 21, 2014

8:30  Registration / Check-in
9:00  Welcome

CARDIAC ELECTROPHYSIOLOGY
Session Chair: Anne Dubin, MD: Stanford, USA

9:05  Electrophysiology Device Therapy in Children and Patients with Congenital Heart Disease
Scott Ceresnak, MD: Stanford, USA

9:30  Cardiac Electrophysiology Modeling from the Ion Channel to the Organ and Body Levels:
Two Examples from Pharmacological and Clinical Studies
Yvès Couvriere, PhD: INRIA, France

9:55  Simulating Venous Flow with Pacemaker/ICD Leads in Pediatric Patients
Weiguang Yang, PhD: Stanford, USA

10:20  Pro-Arrhythmic Ventricular Remodeling in a Porcine Model of Repaired Tetralogy of Fallot
Olivier Bernus, PhD: University Bordeaux Segalen, France

10:45  Forward and Inverse Problems in Computational Electrocardiology
Jean-Frederic Gerbeau, PhD: INRIA, France

11:10  Coffee Break

ANIMAL AND IN-VITRO EXPERIMENTS
Session Chair: Irene Vignon-Clementel, PhD: INRIA, France

11:35  Experimental Work on Right Ventricular Outflow Tract: From Clinical Issues to Animal Work
And Back To Clinical Application
Guiti Milani, MD: Necker-Enfants Malades Hospital, France

12:00  Distinct Roles of RhoA and Rac1 During Hemodynamic Remodeling of Embryonic Heart Valves
Jonathan Butcher, PhD: Cornell University, USA

12:25  In Vitro Multi-Domain Modeling of the Univentricular Circulation
Richard Figliola, PhD: Clemson University, USA

12:50  Analysis of Hemodynamic Stimuli, Persistent Vascular Changes and Gene Expression
in a Rabbit Model of Human Aortic Coarctation and Repair
John LaDisa, PhD: Marquette University, USA

1:15  Lunch

2:15  Direct in Vivo Imaging (Time-Lapse) of Cell to Organ Morphogenetic Coupling
Vincent Fleury, PhD: Paris Diderot, France

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TETRALOGY OF FALLOT
Session chair: Silvia Schievano, PhD: UCL, UK

2:40 Tetralogy of Fallot: an Opportunity for Collaboration
Adam Dorfman, MD: University of Michigan, USA

Alfonso Caiazzo, PhD: Weierstrass Institute, Germany

3:30 Coffee Break

3:55 Tetralogy of Fallot: Contribution of MRI and CT to Clinical Practice, Treatment Planning, and Research
Frantics Chan, MD, PhD: Stanford, USA

4:15 Reduced-Order Statistical Models of Cardiac Growth and Motion in Tetralogy of Fallot Patients
Maxime Sermesant, PhD: INRIA, France

YOUNG INVESTIGATORS

4:40 Shape Atlas of the Surgically Reconstructed Aortic Arch in Patients with Hypoplastic Left Heart Syndrome
Jan Bruse

4:50 Characterization of Avian Embryonic Cardiac Outflow Hemodynamics Through 3D-0D Coupling
Stephanie Lindsey

5:00 Computational Modeling of First-Stage Shunt Hemodynamics: Novel Shunt Configurations, Diameter and Cerebral Great Vessels
Senol Piskin

5:10 Poster Session-A

5:40 Poster Session-B

6:10 Poster Session-mingling

6:30 End of Day
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MAY 22, 2014

8:30 Registration / Check-in
9:00 Welcome

RESPIRATORY AND CARDIOVASCULAR MODELING IN PRACTICE
Session chair: Miguel Fernandez, PhD: INRIA, France

9:05 An Analytical Formulation to Calculate Pressure Distributions of Gas Mixtures in an Infant Airway Morphology Model
Ira Katz, PhD: Air Liquide, France

9:30 Mathematical and Numerical Modelling of Some Aspects of Respiration
Celine Grandmont, PhD: INRIA, France

9:55 Unveiling the Mechanics of Healthy and Pathological Tracheobronchial Trees During Forced Expiration
Agnes Pradel, MD: AP-HP Groupe Hospitalier Pitié France

10:20 The Application of Computational Biomechanics in Clinical Science – Bicuspid Aortic Valve and Ross Procedure
Ryo Torii, PhD: UCL, England

SINGLE VENTRICLE HEART
Session chair: Francesco Migliavacca, PhD: Politecnico di Milano, Italy

10:45 Leducq Transatlantic Network of Excellence in Multi-Scale Modeling of Single Ventricle Hearts for Clinical Decision Support
Tain-Yen Hsia, MD: Great Ormond Street Hospital, England

11:10 Coffee Break

11:35 Central and Modified Blalock-Taussig Shunts: CFD Patient-Specific Models
Giancarlo Pennati, PhD: Politecnico di Milano, Italy

12:00 Single Ventricle Heart Disease in the BME Laboratory
William DeCampli, MD: University of Central Florida, USA

12:25 Simulation of Assisted Bidirectional Glenn: Early Results and Future Directions
Alison Marsden, PhD: University of California, San Diego, USA

12:50 Patient-Specific Modeling–Based Assessment of Cardiovascular Function
Hao Liu, PhD: Chiba University, Japan

1:15 Lunch

2:15 Discussion/Prize-Giving Ceremony with Valérie Berthé, FSMP, France

3:30 Departure for Château de Versailles

6:00 Return of Shuttle from Château de Versailles