Computational Biomechanics for Medicine II Workshop

29 October 2007, Brisbane

Programme

Invited lectures are planned for 40 min + 20 min discussion
Podium presentations are planned for 20 min + 10 min discussion

08.00-9.00 Registration

09.00-09.10 Opening remarks (*Karol Miller***)**

Stream 1. Computational Solid Mechanics

09.10 – 10.10 Invited Lecture 1: A model sharing infrastructure for computational physiology
Peter Hunter

10.10 – 10.40 Physiological Integration of Structural and Functional Cardiac Magnetic Resonance Imaging Using Finite Element Modelling
Hoi Ieng Lam, Vicky Yang Wang, Daniel B. Ennis, Alistair A. Young, Martyn P. Nash

10.40 – 11.00 Break

11.00 – 11.30 Spherical Harmonics 3D Active Contours for Membrane Bilayer-Bound Surfaces
Khaled Khairy, Jacques Pecreaux, Jonathon Howard

11.30-12.00 Finite Element Simulation of the Beating Heart for Image-Guided Robotic Cardiac Surgery
Philip Pratt, Fernando Bello, Eddie Edwards, and Daniel Rueckert

12.00-12.30 3-D Non-Linear Finite Element Analysis of Normal Pressure Hydrocephalus
Tonmoy Dutta-Roy, Adam Wittek, Karol Miller

12.30-13.00 Computational Biomechanics of the Breast: The Importance of the Reference State
Vijay Rajagopal, Angela Lee Jae-Hoon Chung, Poul M.F. Nielsen, and Martyn P. Nash

13.00 – 14.00 Lunch and registration

14.00 – 15.00 Poster Session

Meshless Methods for LV Strain Computations from Tagged MRI
Suejung Huh, Xiaoxu Wang, Dimitris Metaxas, and Leon Axel

PPU-based deformable models for Catheterisation training
Jixiang Guo, Shun Li, Yim Pan Chui, Qiang Meng, Howard, Zhang, Simon Chun Ho Yu, Pheng Ann Heng

3D FEM/XFEM-based Biomechanical Brain Modeling for Preoperative Image Update
Lara M. Vigneron, Romain C. Boman, Jean-Philippe Ponthot, Pierre A. Robe, Simon K. Warfield, and Jacques G. Verly

Modelling Cerebral Cortical Folding
Guangqiang Geng, Leigh Johnston, Edwin Yan, David Walker and Gary Egan

Suite of finite element algorithms for accurate computation of soft tissue deformation for surgical simulation
Grand Roman Joldes, Adam Wittek, Karol Miller

High Resolution Ultrasound Elastography: a Dynamic Programming Approach
Hassan Rivaz, Pezhman Foroughi, Emad Boctor, Richard Zellars, Gabor Fichtinger and Gregory Hager

Imaging Facial Signs of Neuro-Physiological Responses
Dvijesh Shastri, Arcangelo Merla, Panagiotis Tsiamyrtzis, Ioannis Pavlidis

Multi-resolution 3D Nonrigid Registration via Optimal Mass Transport on the GPU
Tauseef ur Rehman, Gallagher Pryor, John Melonakos, and Allen Tannenbaum

Stream 2. Computational Fluid Mechanics and Thermodynamics

15.10 – 16.10 Invited Lecture 2: Integration of Multiple Imaging Data for improved Volumetric Cardiac Motion Analysis
Dimitis Metaxas

16.10 – 16.40 Purely Evidence Based Multiscale Cardiac Tracking Using Optic Flow
Hans van Assen, Luc Florack, Avan Suinesiaputra, Jos Westenberg, and Bart ter Haar Romeny

16.40-17.00 Break

17.00 – 17.30 Hardware-accelerated Bleeding Simulation for Virtual Surgery
Jing Qin, Wai-Man Pang, Yim-Pan Chui, Yong-Ming Xie, Tien-Tsin Wong, Wai-Sang Poon, Kwok Sui Leung, Pheng-Ann Heng

17.30-18.00 Modeling Air-flow in the Tracheobronchial tree using Computational Fluid Dynamics
Ilhan Kaya, Anand P. Santhanam, Celina Imielinska and Jannick Rolland

18.00 Close