

Scientific Computing Applications in Surgical Simulation of Soft Tissues

Monday January 7, 2008

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Rick Satava** (University of Washington)
Simulation and the Future of Healthcare Education
- 10:00–10:15 *Break*
- 10:15–11:05 **Joseph Teran** (University of California, Los Angeles (UCLA))
- 11:15–11:30 *Break*
- 11:30–12:20 **Aaron Olikier** (Bio Digital Systems)
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Demetri Terzopoulos** (University of California, Los Angeles (UCLA))
- 3:30–4:00 *Break*
- 4:00–4:50 **Walter Johansen** (The Corporation for Education Network Initiative in California (CENIC))

Tuesday January 8, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Dwight Meglan** (SimQuest LLC)
Simulation-based surgical/procedural training in everyday use: Figuring out what to build and how to built it
- 10:00–10:15 *Break*
- 10:15–11:05 **Markus Schill** (VRmagic GmbH)
- 11:15–11:30 *Break*

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- 11:30–12:20 **Suvranu De** (Rensselaer Polytechnic Institute)
Some advances in a meshfree computational technique for surgical simulation
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Peter Schulam** (University of California, Los Angeles (UCLA))
- 3:30–4:00 *Break*
- 4:00–4:50 **Matthias Harders** (Eidgenössische TH Zürich-Zentrum)
Deformation Computation via Statistical Models

Wednesday January 9, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Stanley Osher** (University of California, Los Angeles (UCLA))
- 10:00–10:15 *Break*
- 10:15–11:05 **Eugene Grossi** (NYU Medical Center)
Cardiac Simulation: The Challenges of Today's Patients
- 11:15–11:30 *Break*
- 11:30–12:20 **Ming Lin** (University of North Carolina)
Robot Algorithms for Medical Simulation and Virtual Prototyping
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Thomas Sørensen** (Aarhus University)
Implementation of a GPU based surgical simulator for open heart surgery
- 3:00–3:50 **Benjamin Fregly** (University of Florida)
SIMULATION-BASED TREATMENT DEVELOPMENT
- 4:00–4:30 *Coffee Break at CNSI*
- 4:30–5:30 *Public Lecture at CNSI - Dr. Court Cutting, "Virtual Surgery: Computational Methods and Simulations for Facial Reconstructions"*
- 5:45–7:30 *Reception at IPAM following Public Lecture*

Thursday January 10, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Sarthak Misra** (Johns Hopkins University)
Reality-Based Modeling for Simulation and Robot-Assisted Surgery
- 10:00–10:15 *Break*
- 10:15–11:05 **Gregory Carman** (University of California, Los Angeles (UCLA))
- 11:15–11:30 *Break*
- 11:30–12:20 **Wendy Murray** (Northwestern University)
BIOMECHANICAL MODELING AND SURGICAL SIMULATION: APPLICATIONS IN HAND SURGERY
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Eftychios Sifakis** (University of California, Los Angeles (UCLA))
- 3:30–4:00 *Break*
- 5:00–6:00 *Panel Discussion (All)*

Friday January 11, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Julien Lenoir** (Laboratoire d'Informatique Fondamentale de Lille)
1D models in medical simulation
- 10:00–10:15 *Break*
- 10:15–11:05 **Mark Ottensmeyer** (Massachusetts General Hospital □ □ Massachusetts General Hospital)
Does your virtual liver feel like concrete? (Mostly) In vivo techniques for measuring soft tissue properties.
- 11:15–11:30 *Break*
- 11:30–12:20 **Kevin Montgomery** (Stanford University)

