Welcome!!

Boston CIBC Workshop 2009
Northeastern University
January 18 and 19 2009
Welcome!
Introduction

Center for Integrative Biomedical Computing

Goals

• Produce cutting edge software for biomedical researchers

• Develop new techniques and algorithms in image processing, geometric modeling, simulation and visualization

• Carry out original research in segmentation, bioelectric field simulation, and visualization
Software from the Center

Introduction

SCIRun
SCIRun is a Problem Solving Environment (PSE), for simulation, modeling, and visualization of

Seg3D
Seg3D is an open source interactive segmentation tool that mixes powerful ITK

map3d
map3d is a scientific visualization application written to display and edit complex, three-dimensional geometric models and scalar, time-based data associated with those models.

Teem
Teem is a collection of libraries written by Gordon

ImageVis3D
Beta 0.02

Northeastern University
Purpose of the Workshop

- Describe our software
- Use our software
- Improve our software
- Develop relationships

Introduction
Boston Workshop Personnel

**PI**

- Dana Brooks

**Workshop Leader / Staff Scientist**

- Jeroen Stinstra

**Developer Team**

- Ayla Khan
- Tom Fogal

**PhD Student Teaching Assistants**

- Burak Erem
- Sila Kurogol
Workshop Logistics
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 - 1:10</td>
<td>Introduction (Dana Brooks)</td>
<td>Dana Brooks</td>
</tr>
<tr>
<td>1:10 - 1:40</td>
<td>Segmentation overview (Dana Brooks)</td>
<td>Dana Brooks</td>
</tr>
<tr>
<td>1:40 - 2:10</td>
<td>Demo Seg3D (Jeroen Stinstra)</td>
<td>Jeroen Stinstra</td>
</tr>
<tr>
<td>2:10 - 2:30</td>
<td>- Break -</td>
<td></td>
</tr>
<tr>
<td>2:30 - 3:00</td>
<td>Seg3D Tutorial (Jeroen Stinstra, Ayla Khan)</td>
<td>Jeroen Stinstra, Ayla Khan</td>
</tr>
<tr>
<td>3:00 - 3:40</td>
<td>ImageVis3D (Tom Fogal)</td>
<td>Tom Fogal</td>
</tr>
<tr>
<td>3:40 - 6:00</td>
<td>ImageVis3D Tutorial (Tom Fogal)</td>
<td>Tom Fogal</td>
</tr>
</tbody>
</table>
### Schedule Tomorrow

**Monday, 19th January (SCIRun workshop):**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>9:00 - 9:30</td>
<td>Overview CIBC Center &amp; Software Download (Dana Brooks &amp; Ayla Khan)</td>
</tr>
<tr>
<td>9:30 - 10:00</td>
<td><strong>SCIRun Basics Part 1</strong> (Jeroen Stinstra)</td>
</tr>
<tr>
<td>10:00 - 10:20</td>
<td><strong>SCIRun Lab 1</strong> (Ayla Khan)</td>
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<tr>
<td>10:20 - 10:40</td>
<td><strong>Break</strong></td>
</tr>
<tr>
<td>10:40 - 11:10</td>
<td><strong>SCIRun Basics Part 2</strong> (Jeroen Stinstra)</td>
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<tr>
<td>11:10 - 12:00</td>
<td><strong>SCIRun Lab 2</strong> (Ayla Khan)</td>
</tr>
<tr>
<td>12:00 - 1:00</td>
<td><strong>Lunch Break</strong></td>
</tr>
<tr>
<td>1:00 - 2:00</td>
<td><strong>SCIRun: Creating a model in SCIRun</strong> (Jeroen Stinstra)</td>
</tr>
<tr>
<td>2:00 - 2:20</td>
<td><strong>Break</strong></td>
</tr>
<tr>
<td>2:20 - 4:00</td>
<td><strong>SCIRun Lab 3</strong> (Jeroen Stinstra &amp; Ayla Khan)</td>
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Northeastern University
Workshop Dinner Plans

Introduction

Group Dinner to be Organized for Interested Participants
Let us know if you want to join us
The Sixth IEEE International Symposium on Biomedical Imaging (ISBI'09) will be held June 28 - July 1, 2009 in Boston, Massachusetts, U.S.A. ISBI is widely recognized as the preeminent international forum for the presentation of leading-edge research in the biomedical imaging field. The symposium supports a tradition of cross-fertilization between different imaging communities and an integrative approach across all observation scales.

**Latest Information**

Call for Papers: Extension of submission deadline to January 25, 2009. No further extensions are possible.

Deadline for 4-page paper is January 29, 2009 January 26, 2009, Midnight at UTC-12 hours.

**NEW! Special Workshops**

Don't miss these special learning opportunities!

**Current and Future Challenges in Clinical Imaging**

This workshop will feature three world-renowned clinicians from Massachusetts General Hospital and Harvard Medical School who will discuss biomedical imaging challenges confronting clinical research and patient care:

- Cardiac Imaging, Thomas J. Brady, MD
- Brain Imaging, A. Gregory Sorensen, MD.
- Breast Imaging, Dan Kopans, MD.

**Large multi-institutional programs**

More details soon!

**NEW! Plenary Speakers**

Potential and Possibilities: From the Very Critical to the Very Difficult

Thomas Miller
Chief Executive Officer, Workflow and Solutions Division
Siemens Healthcare

Advances in Molecular Imaging

Ralph Weissleder
Director, Center for Molecular Imaging Research
Director, Center for Systems Biology
Massachusetts General Hospital and Harvard Medical School

Nanoscopic Imaging of Biomolecules, Cells and Tissues

Xiaowei Zhuang
Professor of Chemistry and Chemical Biology
Professor of Physics
Harvard University

**NEW! Special Sessions**

- Statistical methods in neuroimage analysis
- Computational and visualization challenges in virtual colonoscopy
- Super-resolution processing in medical imaging
- Technological advances in ultrasound contrast agents
- Emerging photonic imaging techniques
- Biomedical computing on many cores
- Large-scale physiological modeling and simulation initiatives

http://www.biomedicalimaging.org
Memo (to self)

Please turn cell phones/pagers on vibrate
# Schedule Today

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