

**Sunday May 9**

3:00 pm      Check-in

6:00 pm      Reception (Lobby)

7:00 pm      Dinner

8:00 pm      Refreshments available at Bob's Pub

**Monday May 10**

- 7:30 am Breakfast
- 8:55 am Opening Remarks and Session 1: Digital atlases for model animals**  
**Chair: Gene Myers**
- 9:00 am **David W. Knowles**, Lawrence Berkeley National Laboratory  
*A 3D cellular resolution gene expression atlas for *Drosophila* embryogenesis*
- 9:30 am **Michael Liebling**, University of California, Santa Barbara  
*Towards a dynamic microscopy atlas of embryonic heart development and function*
- 10:00 am **Fuhui Long**, Janelia Farm Research Campus/HHMI  
*Automated annotation approaches for high-throughput neuroscience*
- 10:30 am Break and Group Photo
- 11:00 am Session 2: Neuroinformatics**  
**Chair: Michael Hawrylycz**
- 11:00 am **Giorgio A. Ascoli**, George Mason University  
*Coming of age of the hippocampome*
- 11:30 am **Hanchuan Peng**, Janelia Farm Research Campus/HHMI  
*Visualization and annotation of complicated 3D image patterns in a brain*
- 12:00 pm **Maryann E. Martone**, University of California, San Diego  
*Semantic and spatial annotation of neuroscience imaging data within a consistent neuroscience information framework*
- 12:30 pm Lunch
- 1:00 pm Tour (optional - meet at reception)
- 2:10 pm Session 3: Poster highlights**  
**Chair: Fuhui Long**
- 2:10 pm **Anne E. Carpenter**, Broad Institute of Harvard and MIT  
*Image analysis and data mining for quantifying microscopy images*
- 2:18 pm **Laura A. Herndon**, Albert Einstein College of Medicine  
*WormAtlas, WormImage, and gfpworm: Platforms for image data sharing*

- 2:26 pm **Richard A. Baldock**, Medical Research Council  
*Managing and spatial mapping of high throughput in situ data in the mouse embryo*
- 2:34 pm **James R. Anderson**, University of Utah  
*Scalable multiuser annotation and summarization of large terabyte scale volumes*
- 2:42 pm **Maryam Halavi**, George Mason University  
*Annotation, management, and visualization of 3D data in NeuroMorpho.org*
- 2:50 pm **Fred A. Hamprecht**, University of Heidelberg  
*"Go find more of the same"*
- 2:58 pm **Frank Midgley**, Janelia Farm Research Campus  
*Neuroptikon: A customizable tool for dynamic, multi-scale visualization of complex neural circuits*
- 3:06 pm **Richard H. Thompson**, University of Southern California  
*Neural circuit tracing: Direct visualization and systematic analysis of brain networks with double coinjections*
- 3:14 pm **Diek W. Wheeler**, Krasnow Institute for Advanced Study  
*The hippocampome project*
- 3:22 pm **Weimiao Yu**, Institute of Molecular and Cell Biology  
*3-D Segmentation of neural stem/progenitor cells in neurosphere formation assays*
- 3:30 pm Break
- 4:00 pm Session 4: Software tool highlighting**  
**Chair: Maryann Martone**
- 4:00 pm **Dmitry Fedorov**, University of California, Santa Barbara  
*Bisque: A Web-based platform for annotation and analysis of 5D biological images*
- 4:08 pm **Michael Hawrylycz**, Allen Institute for Brain Science  
*Navigating 3D mouse developmental gene expression data*
- 4:16 pm **Anne E. Carpenter**, Broad Institute of Harvard and MIT  
*CellProfiler: Open-source image analysis software for high-throughput microscopy*
- 4:24 pm **Yang Yu**, Janelia Farm Research Campus/HHMI  
*Automated multiscale stitching of large 3D microscopic images*

- 4:32 pm **Mark H. Longair**, University of Edinburgh  
*Semi-automatic neuron tracing*
- 4:40 pm **Seymour Knowles-Barley**, University of Edinburgh  
*BrainTrap: A database of 3D protein expression patterns in the Drosophila brain*
- 4:48 pm **Sridevi Polavaram**, George Mason University  
*An ontology-based search interface for NeuroMorpho.Org*
- 4:56 pm Poster Reception
- 7:00 pm Dinner
- 8:00 pm** **Session 5: Open Discussion - Challenges of large scale 3D image data annotation, visualization, and management**  
**Chair: The Organizers**
- 9:00 pm Refreshments available at Bob's Pub

## **Tuesday May 11**

7:30 am Breakfast

**9:00 am Session 6: Bioimage analysis I**  
**Chair: B. S. Manjunath**

9:00 am **Robert Waterston**, University of Washington  
*C. elegans embryonic gene expression patterns*

9:30 am **Amit K. Roy-Chowdhury**, University of California, Riverside  
*Dynamical modeling and similarity computation in biological video databases*

10:00 am **Ivo F. Sbalzarini**, Swiss Federal Institute of Technology (ETH), Zurich  
*Including prior knowledge in segmentation and tracking algorithms*

10:30 am Break

**11:00 am Session 7: Bioimage analysis II**  
**Chair: Hanchuan Peng**

11:00 am **David Kleinfeld**, University of California, San Diego  
*Toward the murine angiotime – The vectorization of all vessels and cells in neocortex*

11:30 am **Scott T. Acton**, University of Virginia  
*A graph theoretic approach to neuron segmentation*

12:00 pm **Jean-Christophe Olivo-Marin**, Institut Pasteur  
*Segmentation and visualization of multidimensional images*

12:30 pm Lunch

**2:00 pm Session 8: Annotation systems**  
**Chair: Maryann Martone**

2:00 pm **Eugene W. Myers**, Janelia Farm Research Campus/HHMI  
*MyTagger: A system and GUI for curating image collections*

2:30 pm **David Osumi-Sutherland**, University of Cambridge  
*Virtual Fly Brain - A tool for integrative queries of Drosophila neuro-anatomy*

3:00 pm **Dmitri Chklovskii**, Janelia Farm Research Campus/HHMI  
*Raveler: An interface for proofreading and annotating electron microscopy stacks*

3:30 pm Break

- 4:00 pm**      **Session 9: Large-scale image computing**  
**Chair: Fuhui Long**
- 4:00 pm      **Ernst H. K. Stelzer**, European Molecular Biology Laboratory (EMBL)  
*Very large scale data handling and image processing in Light Sheet based  
Fluorescence Microscopy*
- 4:30 pm      **Luis E. Ibanez**, Kitware, Inc.  
*Collaboration platforms for large scale image analysis and visualization*
- 5:00 pm      **Lydia Ng**, Allen Institute for Brain Science  
*Informatics data processing for the Allen Developing Mouse Brain Atlas*
- 5:30 pm      Poster Reception
- 7:00 pm      Dinner
- 8:00 pm**      **Session 10: Open Discussion**  
**Chair: The Organizers**
- 9:00 pm      Refreshments available at Bob's Pub

## **Wednesday May 12**

- 7:30 am Breakfast
- 9:00 am Session 11: Digital atlases and annotation database of model animals I**  
**Chair: Gene Myers**
- 9:00 am **B. S. Manjunath**, University of California, Santa Barbara  
*Building a retinal connectome*
- 9:30 am **Anne L. Plant**, National Institute of Standards and Technology  
*Cell image reference data with complete experimental metadata, and semantic web tools for database searching*
- 10:00 am **Partha P. Mitra**, Cold Spring Harbor Laboratory  
*A digital reference atlas for brainwide connectivity data in mouse*
- 10:30 am Break
- 11:00 am Session 12: Digital atlases and annotation database of model animals II**  
**Chair: Michael Hawrylycz**
- 11:00 am **David H. Hall**, Albert Einstein College of Medicine  
*WormAtlas, WormImage, and gfpworm: Platforms for image data sharing*
- 11:30 am **Douglas Armstrong**, University of Edinburgh  
*Mapping protein expression patterns using standard ontologies*
- 12:00 pm Lunch (Take-out boxes available from servery for those on first shuttle) and Departure
- 12:30 pm First shuttle to Dulles
- 1:15 pm Second shuttle to Dulles
- 2:00 pm Last shuttle to Dulles