Structural and diffusion brain imaging for medical image analysis in 3D Slicer

A WORKSHOP AND TUTORIAL ON 3D NEUROIMAGING AND VISUALIZATION

Objective: to introduce the capabilities of the 3D Slicer open-source software for medical image analysis and 3D visualization. The workshop is divided into two parts: the first part introduces the basics of 3D visualization of magnetic resonance imaging (MRI) and diffusion tensor imaging (DTI) analysis within the platform, and the second part introduces the 3D Slicer capabilities for translational research on traumatic brain injury.

Intended audience: neuroscience and biomedical engineering students; medical school students; postdoctoral scholars; neuroscience researchers; clinicians and faculty in neurology, neurosurgery, radiology, psychiatry or related fields

Logistics: The workshop includes hands-on sessions and lectures:
1. 3D interactive visualization of structural MRI
2. Diffusion tensor imaging and tractography
3. Longitudinal mapping of traumatic brain injury

Participants will be provided access to Windows desktop computers with required 3D Slicer software and tutorial data sets.

FACULTY

Dr. Sonia Pujol is Instructor of Radiology at Harvard Medical School, Director of Training of the National Alliance for Medical Image Computing (NA-MIC), and Director of Outreach at the Neuroimage Analysis Center (NAC), two national research centers supported by the National Institutes of Health. She has been teaching medical image analysis workshops at both national and international venues and has trained more than 2,000 clinicians and scientists on topics which include 3D visualization, image segmentation, diffusion tensor imaging and computer-assisted surgery.

Dr. Andrei Irimia is Assistant Professor at the USC Institute for Neuroimaging and Informatics. He specializes in the multimodal imaging of brain structure and connectivity in neurological disease, with a focus on traumatic brain injury (TBI). Dr. Irimia's areas of expertise include multimodal methods for imaging brain structure and function, brain pathology segmentation and morphometry in longitudinal MRI data sets, connectomics, neurophysiology and brain network theory.

Dr. John Darrell Van Horn is Associate Professor at the USC Institute for Neuroimaging and Informatics. His expertise is in human neuroimaging with MRI and DTI, clinical neuroimaging, connectomics, neuroinformatics, statistical and quantitative methods, scientific workflows, neuroimaging data sharing and data mining, undergraduate and graduate teaching. He is Chair Elect and Chair of the Education Subcommittee for the Organization for Human Brain Mapping.
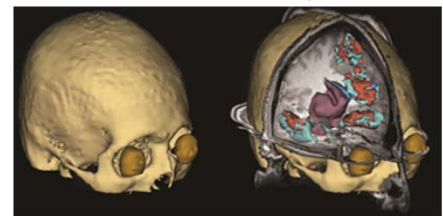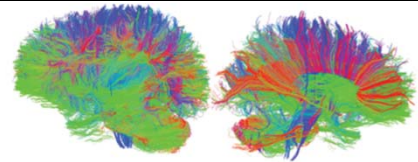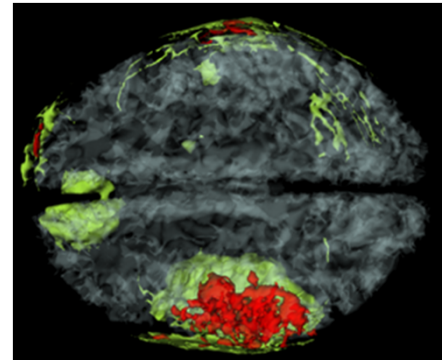
Keck School of Medicine of USC

Friday, February 14, 2013
9:00 AM – 3:30 PM
2001 N. Soto St., Room 105
Los Angeles CA 90032
RSVP: irimia@usc.edu

INI