The workshop provided a platform for researchers from multiple disciplines to engage in a discussion on the challenges and potential of diffusion MRI software tools for evaluation of Traumatic Brain Injury (TBI). TBI is a major cause of death and disability globally and is considered a serious public health problem.

The international research community recognizes the importance of interdisciplinary collaboration to develop better diagnostic tools and treatments for traumatic brain injury (TBI). Informatics standardization of data elements and tools are sought together with the development of a shared data repository. An International Initiative for TBI Research (InTBIR) has been established and national efforts, such as the Federal Interagency Traumatic Brain Injury Research (FITBIR) informatics system in the USA, have been initiated.

The workshop includes presentations by experts with discussion of the challenges and opportunities by sponsors, computer scientists, biomedical engineers and medical physicists who develop and apply diffusion MRI software tools.

Topics discussed included:

- Design and development of a TBI shared data resource
- Linking freeware diffusion MRI software tools with shared data repositories
- Policies and procedures that govern access and disseminate results
- Quality control and augmentation of the shared resource with longitudinal studies
- The potential for image-based biomarkers of TBI using diffusion MRI data

Meeting website, including video of presentations:

http://tbi.ci.uchicago.edu/diffusion-mri-tbi-workshop
Diffusion MRI in Traumatic Brain Injury Software Tools and International Shared Data Repository

CENTER-TBI: Comparative Effectiveness Research in TBI  
Andrew I.R. Maas - Antwerp University Hospital (Belgium)

Tools for the Delineation of Regional MR Diffusion Abnormalities in Individual Patients  
Michael L. Lipton - Albert Einstein College of Medicine, Yeshiva University (USA)

Abnormalities That Are Not Depicted at Conventional MR  
Quantitative Diffusion-Tensor Tractography Can Detect Posttraumatic  
Nina Brandstack – University of Turku (Finland)

Quantitative Tractography as a Clinical Diagnostic Method in TBI  
Timo Kurki - Univ of Turku (Finland)

Imaging Biomarkers for Early Diagnosis of Traumatic Brain Injury  
Lyubdomir Zagorchev – Philips (USA)

Modeling Brain Injury and Trajectory of Brain Changes from Longitudinal Multimodal Imaging  
Guido Gerig – University of Utah (USA)

DTI-STUDIO Software for Image Processing  
Susumu Mori - Johns Hopkins (USA)

CAMINO and DTI–TK Advanced Diffusion MRI Pipeline for Traumatic Brain Injury  
Gary Hui Zhang - University College London (UK)

MedInria Neuroimaging Software System for Diffusion MRI  
Olivier Comminowick - NRIA Rennes – Bretagne, (France)

Federal Interagency Traumatic Brain Injury Research (FITBIR)–  
A Platform for International Collaboration  
Ramona Hicks - NIH, NINDS (USA)

Federal Interagency Traumatic Brain Injury Research (FITBIR) Informatics System  
Matthew McAuliffe - NIH, CIT (USA)

ACR-Siemens Traumatic Brain Injury Workstation Software Environment  
Benjamin Odry -Siemens Corporate Research (USA)

Neuroimaging of Structural Pathology and Connectomics in Traumatic Brain Injury  
Andrei Irimia – Laboratory of Neuro Imaging (LONI), UCLA, (USA)

DTI Image Processing Pipeline and Cloud Computing Environment  
Kyle Chard - University of Chicago - Computation Institute (USA)

MITK – Medical Imaging Toolkit Software for DTI Processing  
Klaus Maier-Hein - DFKZ Heidelberg (Germany)

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