Department of Radiology
and Biomedical Imaging

The
University of California San Francisco
and Veterans Affairs Medical Centers
present

Research and Development

DIFFUSION IMAGING:

Theory, Methods and Clinical Research Applications

TUE. JUNE 7, 2011 / 8 am – 5 pm

Mahley Auditorium, Gladstone Institute
UCSF Mission Bay Campus - 1650 Owens Street, San Francisco

Chairs/Organizers: Dieter J. Meyerhoff, Norbert Schuff, Michael W. Weiner
Center for Imaging of Neurodegenerative Diseases (CIND)

Diffusion tensor magnetic resonance imaging (short: DTI) provides a unique non-invasive probe into the microstructure of brain tissue, facilitating many applications in medical research such as the characterization of brain lesions using voxel-based metrics and modern fiber tractography, as well as mapping brain anatomical connectivity. Emerging computational diffusion methods beyond standard tensor imaging further have opened new opportunities for studying the developing and aging brain as well as brain disorders.

The aim of this full day symposium is to familiarize participants with state-of-the art techniques of diffusion imaging and to critically evaluate the clinical use of this unique image modality, which can provide information so far only obtainable by histology. This symposium complements DTI applications discussed throughout the IBMISPS Annual World Congress that follows June 8-10 at the neighboring Mission Bay Conference Center. In the technical lectures of our symposium, several eminent speakers will present the physical and mathematical foundations of diffusion imaging as well as advanced strategies of acquisition, computational tractography, and assessments of brain connectivity. In the clinical lectures, expert researchers will highlight applications of diffusion imaging to better understand brain aging, Alzheimer's and other dementias, Parkinson's disease, substance abuse, motor neuron diseases, and psychiatric conditions.

This symposium is aimed equally at students and professionals in the field of brain imaging, who strive to explore new avenues in developing and applying diffusion imaging, including but not limited to neuroscientists, clinicians, statisticians, and bioengineers.

Morning session, 8 am - 12 pm
Theory: Methods,
<u>Techniques, Development</u>

Peter Basser	*Fundamentals*
David Feinberg	*Acquisition*
Van Wedeen	*Diffusion Spectral Imaging*
Roland Henry	*Tractography*
Paul Yushkevich	*Registration, Tract-specific Stats*

Afternoon session, 1 - 5 pm
<u>Clinical Research Applications</u>

Dolf Pfefferbaum	*Aging/Alcohol*
Kelvin Lim	*Psych Diseases*
Michael Yassa	*Perforant Pathway*
David Vaillancourt	*Parkinson's*
Jonathan Katz	*ALS*
Howard Rosen	*Dementia*

Endorsed by IBMISPS

International Brain Mapping & Intraoperative Surgical Planning Society

www.ibmisps.org

Registration by 5/27/11 *(see form on reverse)* Send an email to CINDworkshop@vacind.org for further details on the program, location and parking. Registration fee of $60 (check only, no refunds), includes continental breakfast, lunch, coffee breaks, program booklet. Check payable to "UC Regents", mail to Attn: UCSF Rad DTI, 3333 California St, Rm 375, SF CA 94118. Be sure to include an email address and phone number.

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National Center for Research Resources

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NCIRE
The Veterans Health Research Institute

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Registration DEADLINE May 27, 2011

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REGISTRATION FORM Please print.

_____ ❍ MD ❍ PhD
First Last

_____
Address ❍ *Home* ❍ *Work*

_____
City State Zip Country *(other than USA)*

_____
Email Phone *(including area code)*

Please include your email address so we can send you any updates.
We will not phone you unless necessary.