Scope

MICCAI 2012 workshop on DBS methodological challenges aims at establishing a forum for discussing advanced methods for preoperative planning, intra-operative placement, and post-operative programming of surgical Deep Brain Stimulation (DBS).

During the past decade, this neurosurgical technique has grown in importance for the treatment of movement disorders such as Parkinson's disease. However, planning and performing such interventions still remain difficult, either for defining accurately the location of the anatomical structure to stimulate, determining an optimal position for the electrode, dealing with brain shift, or determining the optimum stimulator settings.

This workshop aims at gathering researchers and clinicians in various fields such as medical image computing, computer graphics, computational modeling, computer-aided surgical planning, and interventional imaging to discuss the recent advances and the challenges to address to improve DBS interventions. It is expected to be a forum of discussion and exchanges between young and experimented scientists and clinicians.

The workshop will be held on October 1st, 2012. The venue will be co-located with MICCAI 2012 at the Acropolis Convention Center in Nice, France. Details of conference venue, paper submission, registration, can be found on the workshop's website http://dbsmc2012.sciencesconf.org.

Topics of interests include but are not limited to:

- DBS pre-operative planning
- Assistance to decision making
- Modeling/Representation of surgical procedures
- 3D modeling of brain vessels
- Modeling for surgical workflow
- Biomechanical simulation of brain shift
- Image guided DBS surgery
- Biomechanical simulation of electrode deformations
- Brain atlases
- Segmentation and modeling of anatomical structures of the brain
- Automatic definition of nuclei
- Modeling of the effect of electrical stimulation
- Intra-operative images for DBS
- Post-operative analysis of DBS
- Validation and evaluation of computer-assisted DBS

Organizers and Program Committee

Organizers
- Eric Bardinet, PhD, France
- Stéphane Cotin, PhD, France
- Benoit Dawant, PhD, USA
- Caroline Essert, PhD, France
- Pierre Jannin, PhD, France
- Leo Joskowicz, PhD, Israel

Program Committee
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- Srivatsan Pallavaram, PhD, USA
- G. Bruce Pike, PhD, Canada
- Reuben Shamir, PhD, Israel
- Nada Yousif, PhD, UK
- Marie-Laure Welter, MD, France

Submission Guidelines

We invite electronic submissions of 8-page to 10-page papers for oral or poster presentation, formatted following the same submission guidelines as the main conference MICCAI (LNCS style, anonymity for double-blind review).

Important dates

Paper Submission Deadline	June 11, 2012
Notification of Acceptance	July 5, 2012
Camera-ready Version	July 25, 2012
Deadline for early registration	July 12, 2012
Workshop	October 1, 2012