7th Intraoperative Imaging Society Meeting

Wednesday, March 13, 2019

10:00-11:00 am  IOIS Board meeting
10:00  Registration
12:00 pm  Welcome, Opening Remarks and Introduction to Practical Course- Daniel Orringer, MD

Practical Course: 5 stations, 5 rotations with 10 minute break between rotations
5 groups of participants to rotate through all five stations for 40 minutes each

1:00-1:40  Rotation 1: Intraoperative ultrasound
Francesco Prada, MD and Geirmund Unsgård, MD

1:50-2:20  Rotation 2: Fluorescence - 5ALA and Fluorescein
Constantinos Hadjipanayis, MD and Jeff Bruce, MD

2:30-3:00  Rotation 3: Stimulated Raman Histology
Sandra Camelo-Piragua, MD and Daniel Orringer, MD

3:10-3:40  Rotation 4: Laser Interstitial Thermal Therapy
Dan Curry, MD and Veronica Chiang, MD

3:50-4:20  Rotation 5: Use of Tubular Retractor Tractography and fMRI for Presurgical Planning/Intraop Functional Imaging
Michael E. Sughrue, MD and Mitesh Shah, MD

5:00-7:00 pm  Welcome Reception

Thursday, March 14, 2019

8:00-8:30 am  Presidential Address and Opening Remarks
Michael Chicoine, MD

Session 1: The Application of Intraoperative MRI to Glioma Surgery
Moderators: Christopher Nimsky, MD and Moshe Hadani, MD

8:30-8:45  TBD

8:45-9:00  Glioma surgery in Smart Cyber Operating Theater realized through Internet of Things (IoT)
Yoshihiro Muragaki, MD, PhD

9:00-9:15  Utility of iMRI for non-enhancing low-grade gliomas:
Why there are implications also for postoperative surveillance
Moritz Scherer, MD
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>9:15-9:30</td>
<td><strong>Intraoperative BOLD imaging</strong></td>
<td>Oliver Bozinov, MD</td>
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<td>9:30-10:00</td>
<td><strong>iMRI vs 5-ALA</strong></td>
<td>Constantin Roder, MD</td>
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<td>10:00-10:15</td>
<td><strong>iMRI for Gliomas of Eloquent Cortex</strong></td>
<td>Marcos Malduan, MD</td>
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<td>10:15-10:25</td>
<td><strong>Abstract Talk</strong></td>
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<td>10:25-10:35</td>
<td><strong>Abstract Talk</strong></td>
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<td>10:45-11:00</td>
<td>Break</td>
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<td>11:00-11:30</td>
<td><strong>Image Guided Therapy Program at MD Anderson</strong></td>
<td>Jeffrey Weinberg, MD John Hazle, MD</td>
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<td>11:30-11:40</td>
<td><strong>Question and Answer Session</strong></td>
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<td>12:00-1:00</td>
<td>Lunch (provided)</td>
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<td>1:00-1:30</td>
<td><strong>IMAGING TOPIC</strong></td>
<td>Jeffrey Weinberg, MD Donald Pettit, PhD - NASA Rep.</td>
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<td>1:30-1:40</td>
<td><strong>Question and Answer Session</strong></td>
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<td>1:40-2:15</td>
<td>Break</td>
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<td>2:15-2:30</td>
<td><strong>PET in Glioma and Meningioma Surgery/ Statistics</strong></td>
<td>Joerg-Christian Tonn, MD</td>
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<td>2:30-2:45</td>
<td><strong>Advanced Ultrasonography</strong></td>
<td>Richard Bouchard, MD</td>
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<td>2:45-3:00</td>
<td><strong>White Matter Tractography for Neurosurgical Planning</strong></td>
<td>Lauren O'Donnell, MD</td>
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<td>3:00-3:15</td>
<td><strong>Solutions and Challenges for Using fMRI to Plan Neurosurgical Procedures in Eloquent Locations</strong></td>
<td>Alexandra Golby, MD</td>
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<td>3:15-3:45</td>
<td><strong>Resting State and Surgical Planning for GBM in Intraoperative MRI Environment</strong></td>
<td>Albert Kim, MD, PhD</td>
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<td>3:45-3:55</td>
<td><strong>Abstract Talk</strong></td>
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<td>3:55-4:05</td>
<td><strong>Abstract Talk</strong></td>
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<td>4:05-4:20</td>
<td>Break</td>
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<td>4:20-4:35</td>
<td><strong>An Evidence-Based Approach to the Application Intraoperative Imaging in Brain Tumor Surgery</strong></td>
<td>Colin Watts, MD</td>
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<td>4:40-4:50</td>
<td><strong>Discussion and Closing Remarks</strong></td>
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**Session 2: Advanced Imaging Modalities for Presurgical Planning**

Moderators: Richard Bouchard, MD and Oliver Bozinov, MD

- **2:15-2:30** PET in Glioma and Meningioma Surgery/ Statistics
  Jöerg-Christian Tonn, MD

- **2:30-2:45** Advanced Ultrasonography
  Richard Bouchard, MD

- **2:45-3:00** White Matter Tractography for Neurosurgical Planning
  Lauren O’Donnell, MD

- **3:00-3:15** Solutions and Challenges for Using fMRI to Plan Neurosurgical Procedures in Eloquent Locations
  Alexandra Golby, MD

- **3:15-3:45** Resting State and Surgical Planning for GBM in Intraoperative MRI Environment
  Albert Kim, MD, PhD

- **3:45-3:55** Abstract Talk

- **3:55-4:05** Abstract Talk

- **4:05-4:20** Break

**Session 3: Interpretation of Studies Evaluating Intraoperative Imaging Techniques**

Moderators: Marcus Maldaun, MD and Zvi Cohen, MD

- **4:20-4:35** An Evidence-Based Approach to the Application Intraoperative Imaging in Brain Tumor Surgery
  Colin Watts, MD
4:35-4:50  Application of Intraoperative Imaging Techniques in the Molecular Era of Glioma Diagnosis  
Christian Senft, MD

4:50-5:05  Twenty year experience using low field iMRI for intra-axial tumor resection  
Zvi Cohen, MD

5:05-5:20  iMRI Applications in Children  
John Honeycutt, MD

5:20-5:35  Image Guidance Techniques as a Basis for a Surgical Education Curriculum  
Arya Nabavi, MD

5:35-5:45  Abstract Talk

5:45-5:55  Abstract Talk

6:00 pm  Adjourn

Friday, March 15, 2019

8:00-8:05 am  Opening Remarks and Introduction of Keynote Speaker  
Daniel Orringer, MD

8:05-8:35  Keynote  
Optical Techniques to Improving Outcomes in Neurosurgery and the Development of 5-ALA and Future Directions for 5-ALA and FGS  
Walter Stummer, MD

8:35-8:45  Question and Answer Session

8:45-9:05  Break

Session 4: Fluorescence Guided Surgery and Optical Imaging Techniques  
Moderators: Daniel Orringer, MD and Walter Stummer, MD

9:05-9:20  The Application of Handheld Confocal Microscopy in Brain Tumor Surgery  
Peter Nakaji, MD

9:20-9:35  Pushing Limits of Fluorescence-Guided Surgery  
Linton Evans, MD

9:35-9:50  FT-IR  
Mattias Kirsch, MD

9:50-10:05  Near Infrared Imaging for Brain tumor resection  
John Y. K. Lee, MD

10:05-10:20  Stimulated Raman Histology  
Todd Hollon, MD

10:20A-10:35  2HG Spectroscopy  
Randy Jensen, MD

10:35-10:50  Fluorescence Guided Surgery  
Costas Hadjipanayis, MD

10:50-11:00  Abstract Talk

11:00-11:10  Abstract Talk
11:10-11:20 Abstract Talk

11:20-11:35 Break

11:35-12:05 Keynote
Mass Spectrometry for Cancer Diagnosis and Detection
Introduction: Daniel Orringer, MD
Livia Eberlin, MD

12:05-12:20 pm Question and Answer Session

12:20-1:30 Lunch (provided)

Session 5: Intraoperative Ultrasound, Focused Ultrasound, Surgical Robotics, and other Modalities
Moderators: Richard Bucholz, MD and Daniel Orringer, MD

1:30-1:45 MR Guided Applications of High-Intensity Focused Ultrasound for Brain Tumor Ablation
Julie Pilitsis, MD

1:45-2:00 LITT-Emerging Applications
Eric Leuthardt, MD

2:15-2:30 Applications of Radiogenomics to Neurosurgical Practice
Rivka Colen, MD

2:30-2:45 Surgical Robotics
Garnette Sutherland, MD

2:45-3:00 Surgical Robotics/SCOT
Richard Bucholz, MD

3:00-3:30 Break

3:30-3:45 Intraoperative CT as a Registration Device
Christopher Nimsky, MD

3:45-4:00 iUS
Francesco Prada, MD

4:00-4:15 DBS
Richard Bucholz, MD

4:15-4:30 Surgical VR concepts, 3D Visualization and/or Open Abstracts
John Golfinos, MD

4:30-4:45 3D VR Concepts, 3D Visualizations
Samer K Elbabaa, MD

6:30-9:30 pm George Ranch Dinner Event

Saturday, March 16, 2019

8:00-8:05 am Opening Remarks Jeff Weinberg

Session 6: LITT and other advanced therapeutics
Moderators: John Honeycutt, MD and Michael Schulder, MD
8:05-8:20  
**Review of Published Evidence for LITT**  
Michael Schulder, MD

8:20-8:35  
**LITT-Radiation Necrosis**  
Veronica Chiang, MD

8:35-8:50  
**LITT-Brain Tumor- LITT for Radiation Necrosis in the Setting of Metastatic Disease**  
Ian Lee, MD

8:50-9:05  
**LITT for Epilepsy**  
Dan Curry, MD

9:05-9:20  
**LITT-Glioma**  
Gene Barnett, MD

9:20-9:30  
**Applications of Focused Ultrasound in Neurosurgery**  
Jeffrey Weinberg, MD

9:40-9:40  
**Abstract Talk**

9:40-9:50  
**Abstract Talk**

9:50-10:20  
**Break**

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**Session 7: Neuro Anesthesia, Robotics, Functional Neurosurgery, Cerebrovascular Imaging & Other Advances in the iMRI Environment:**  
Moderators: Richard Bucholz, MD and Rene Bernays, MD

10:20-10:35  
**Delivering Anesthesia in the Setting of iMRI Environment**  
Shreyas Bhasvar, MD

10:35-10:50  
**Delivering Anesthesia in the Setting of the iMRI Environment**  
Sergio Bergese, MD

10:50-11:05  
**Anesthetic Considerations for Awake Craniotomies in iMRI Environment**  
Abe VanDer Spek, MD

11:05-11:20  
**ROSA Robot**  
Nitin Tandon, MD

11:20-11:35  
**The Use of Image Guidance in Functional Neurosurgery**  
Paul Larson, MD

11:35-11:50  
**Intraoperative Vascular Imaging**  
Colin Derdeyn, MD

11:50-12:05  
**Indications for Use; Pitfalls; Utility of Extent of Resection**  
Jan Coburger, MD

12:05-12:20pm  
**Augmented Reality**  
Osamah Choudhry

12:20-12:30  
**Abstract Talk**

12:30-12:40  
**Abstract Talk**

12:40-1:00  
**Award Presentation for Top Abstract Presentations & Meeting Wrap-up**

1:00 pm  
Adjourn