

## 7<sup>th</sup> 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

	1:00-1:30	1:40-2:20	2:30-3:00	3:10-3:40	3:50-4:20
<b>Ultrasound</b>	Group 1	Group 2	Group 3	Group 4	Group 5
<b>Fluorescence</b>	Group 5	Group 1	Group 2	Group 3	Group 4
<b>SRH</b>	Group 4	Group 5	Group 1	Group 2	Group 3
<b>LITT</b>	Group 3	Group 4	Group 5	Group 1	Group 2
<b>Tubular</b>	Group 2	Group 3	Group 4	Group 5	Group 1

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 Nimsy, 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

9:15-9:30	<b>Intraoperative BOLD imaging</b> Oliver Bozinov, MD
9:30-10:00	<b>iMRI vs 5-ALA</b> Constantin Roder, MD
10:00-10:15	<b>iMRI for Gliomas of Eloquent Cortex</b> Marcos Malduan, MD
10:15-10:25	<b>Abstract Talk</b>
10:25-10:35	<b>Abstract Talk</b>
10:45-11:00	Break
11:00-11:30	<b>Image Guided Therapy Program at MD Anderson</b> Introduction: Jeffrey Weinberg, MD John Hazle, MD

11:30-11:40 **Question and Answer Session**

12:00-1:00 pm Lunch (provided)

1:00-1:30 **IMAGING TOPIC**  
Introduction: Jeffrey Weinberg, MD  
Donald Pettit, PhD - NASA Representative

1:30-1:40 **Question and Answer Session**

1:40-2:15 Break

## **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**  
Niklas Thon, 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**

3:55P-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	<b>Application of Intraoperative Imaging Techniques in the Molecular Era of Glioma Diagnosis</b> Christian Senft, MD
4:50-5:05	<b>Twenty Year Experience Using Low Field iMRI for Intra-Axial Tumor Resection</b> Zvi Cohen, MD
5:05-5:20	<b>iMRI Applications in Children</b> John Honeycutt, MD
5:20-5:35	<b>Image Guidance Techniques as a Basis for a Surgical Education Curriculum</b> Arya Nabavi, MD
5:35-5:45	<b>Abstract Talk</b>
5:45-5:55	<b>Abstract Talk</b>
6:00 pm	Adjourn

#### **Friday, March 15, 2019**

8:00-8:05 am	<b>Opening Remarks and Introduction of Keynote Speaker</b> Daniel Orringer, MD
8:05-8:35	<b>Keynote</b> <b>Optical Techniques to Improving Outcomes in Neurosurgery and the Development of 5-ALA and Future Directions for 5-ALA and FGS</b> Walter Stummer, MD
8:35-8:45	<b>Question and Answer Session</b>
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	<b>The Application of Handheld Confocal Microscopy in Brain Tumor Surgery</b> Peter Nakaji, MD
9:20-9:35	<b>Pushing Limits of Fluorescence-Guided Surgery</b> Linton Evans, MD
9:35-9:50	<b>FT-IR</b> Mattias Kirsch, MD
9:50-10:05	<b>Near Infrared Imaging for Brain Tumor Resection</b> John Y. K. Lee, MD
10:05-10:20	<b>Stimulated Raman Histology</b> Todd Hollon, MD
10:20A-10:35	<b>2HG Spectroscopy</b> Randy Jensen, MD
10:35-10:50	<b>Fluorescence Guided Surgery</b> Costas Hadjipanayis, MD
10:50-11:00	<b>Abstract Talk</b>
11:00-11:10	<b>Abstract Talk</b>

11:10-11:20	<b>Abstract Talk</b>
11:20-11:35	Break
11:35-12:05	Keynote <b>Mass Spectrometry for Cancer Diagnosis and Detection</b> 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

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	<b>LITT-Radiation Necrosis</b> Veronica Chiang, MD
8:35-8:50	<b>LITT-Brain Tumor- LITT for Radiation Necrosis in the Setting of Metastatic Disease</b> Ian Lee, MD
8:50-9:05	<b>LITT for Epilepsy</b> Dan Curry, MD
9:05-9:20	<b>LITT-Glioma</b> Gene Barnett, MD
9:20-9:35	<b>Applications of Focused Ultrasound in Neurosurgery</b> Ying Meng, MD
9:35-9:45	<b>Abstract Talk</b>
9:45-9:55	<b>Abstract Talk</b>
9:55-10:20	Break

**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	<b>Delivering Anesthesia in the Setting of iMRI Environment</b> Shreyas Bhasvar, MD
10:35-10:50	<b>Delivering Anesthesia in the Setting of the iMRI Environment</b> Sergio Bergese, MD
10:50-11:05	<b>Anesthetic Considerations for Awake Craniotomies in iMRI Environment</b> David Ferson, MD
11:05-11:20	<b>ROSA Robot</b> Nitin Tandon, MD
11:20-11:35	<b>The Use of Image Guidance in Functional Neurosurgery</b> Paul Larson, MD
11:35-11:50	<b>Intraoperative Vascular Imaging</b> Colin Derdeyn, MD
11:50-12:05	<b>Indications for Use; Pitfalls; Utility of Extent of Resection</b> Jan Coburger, MD
12:05-12:20pm	<b>Augmented Reality</b> Osamah Choudhry
12:20-12:30	<b>Abstract Talk</b>
12:30-12:40	<b>Abstract Talk</b>
12:40-1:00	<b>Award Presentation for Top Abstract Presentations &amp; Meeting Wrap-up</b>
1:00 pm	Adjourn