

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:

1:00-1:20	Didactic Session 1: Intraoperative Ultrasound Francesco Prada, MD and Geirmund Unsgård, MD
1:20-1:40	Case Presentations, Hands-on Session and Q&A
1:40-1:45	Discussion/Break
1:45-2:05	Didactic Session 2: Fluorescence Guided Surgery - 5ALA and Fluorescein Constantinos Hadjipanayis, MD and Jeff Bruce, MD
2:05-2:25	Case Presentations, Hands-on Session and Q&A
2:25-2:30	Discussion/Break
2:30-2:50	Didactic Session 3: Stimulated Raman Histology Sandra Camelo-Piragua, MD and Daniel Orringer, MD
2:50-3:10	Case Presentations, Hands-on Session and Q&A
3:10-3:15	Discussion/Break
3:15-3:35	Didactic Session 4: Laser Interstitial Thermal Therapy Dan Curry, MD and Veronica Chiang, MD
3:35-3:55	Case Presentations, Hands-on Session and Q&A
3:55-4:00	Discussion/Break
4:00-4:20	Didactic Session 5: Use of Tubular Retractor Tractography and fMRI for Presurgical Planning/Intraop Functional Imaging Michael E. Sughrue, MD and Mitesh Shah, MD
4:20-4:40	Case Presentations, Hands-on Session and Q&A
5:00-7:00 pm	Welcome Reception

Thursday, March 14, 2019

7:00-8:00 am	Registration/Breakfast
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	Innovation at TMCx: From Concept to Clinical Implementation Albert Huang, MD
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	Intraoperative BOLD Imaging Oliver Bozinov, MD

9:30-10:00	iMRI vs 5-ALA Constantin Roder, MD
10:00-10:15	iMRI for Gliomas of Eloquent Cortex Marcos Malduan, MD
10:15-10:25	Abstract Talk: A Multi-Institutional Analysis of the Impact of Intraoperative MRI and Other Factors on Outcomes after Surgery for Newly Diagnosed Grade II Gliomas Alexander Yahanda
10:25-10:35	Abstract Talk: Volumetric Analysis of Intraoperative MRI Guided Surgery in Low-Grade Gliomas: Outcome assessment in a retrospective multicenter cohort by the German Study-Group for Intraoperative MRI Moritz Scherer, MD
10:35-11:00	Break
11:00-11:30	Image Guided Therapy Program at MD Anderson 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	Techno-Stories From Space Introduction: Jeffrey Weinberg, MD Donald Pettit, PhD - NASA Representative
1:30-1:40	Question and Answer Session
1:40-2:00	Break
Session 2:	Advanced Imaging Modalities for Presurgical Planning Moderators: Richard Bouchard, MD and Oliver Bozinov, MD
2:00-2:15	PET in Glioma and Meningioma Surgery/Statistics Niklas Thon, MD, PhD
2:15-2:30	Advanced Ultrasonography Richard Bouchard, PhD
2:30-2:45	White Matter Tractography for Neurosurgical Planning Lauren O'Donnell, MD
2:45-3:00	Solutions and Challenges for Using fMRI to Plan Neurosurgical Procedures in Eloquent Locations Alexandra Golby, MD
3:00-3:15	Resting State and Surgical Planning for GBM in Intraoperative MRI Environment Albert Kim, MD, PhD
3:15-3:25	Abstract Talk: Toward Real Time Brain Shift Prediction to Update Preoperative MRI During Brain Surgery Anne Lesage, PhD
3:25-3:35	Abstract Talk: Intraoperative Neurosurgical White Matter Imaging—Evaluation of a Novel MRI Sequence Cameron Elliott, MD, PhD
3:35-3:45	Abstract Talk: Seed-Based Resting-State fMRI Analysis for Preoperative Language Mapping: A Data-Driven Approach for Guiding the Seed Selection Ho-Ling Liu, PhD
3:45-3:55	Abstract Talk: Intraoperative Identification of White Matter Tracts with Diffusion Tensor Imaging with 1.5T iMRI Peter Sylvester, MD
4:10-4:30	Break
Session 3:	Interpretation of Studies Evaluating Intraoperative Imaging Techniques Moderators: Marcus Maldaun, MD and Zvi Cohen, MD
4:30-4:45	An Evidence-Based Approach to the Application Intraoperative Imaging in Brain Tumor Surgery Colin Watts, MD

4:45-5:00	Application of Intraoperative Imaging Techniques in the Molecular Era of Glioma Diagnosis Christian Senft, MD
5:00-5:15	Twenty Year Experience Using Low Field iMRI for Intra-Axial Tumor Resection Zvi Cohen, MD
5:15-5:30	iMRI Applications in Children John Honeycutt, MD
5:30-5:40	Abstract Talk: Intraoperative MRI versus 5-ALA in Glioblastoma Resection: A Systematic Review and Meta-Analysis Danielle Golub, MD
5:40-5:50	Abstract Talk: Intraoperative MRI in Transsphenoidal Pituitary Surgery: 10 years' Experience with iMRT Assisted Resection of Pituitary Adenomas Andrej Pala, MD
5:50 pm	Abstract Talk: Value of Intraoperative MRI for Resection Control in Microscopic Transsphenoidal Pituitary Surgery Moritz Scherer, MD
6:00 pm	Adjourn

Friday, March 15, 2019

7:00-8:00 am	Registration/Breakfast
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	Near Infrared Imaging for Brain tumor resection John Y. K. Lee, MD
9:50-10:05	Stimulated Raman Histology Todd Hollon, MD
10:05-10:20	2HG Spectroscopy Randy Jensen, MD
10:20-10:35	Fluorescence Guided Surgery Costas Hadjipanayis, MD
10:35-10:50	Abstract Talk: Stimulated Raman Histology for the Rapid Intraoperative Diagnosis of Sellar Region Tumors Todd Hollon, MD
10:50-11:00	Abstract Talk: Role of Photodynamic Therapy Using Talaporfin Sodium and a Semiconductor Laser in Patients with Newly Diagnosed Glioblastoma Shunsuke Tsuzuki
11:00-11:10	Abstract Talk: The Additional Value of 11C-Methionine Positron Emission Tomography and Perfusion Weighted MRI in Fluorescence and Intraoperative MRI-Guided Resection of Glioblastoma Andrej Pala, MD
11:10-11:35	Break

11:35-12:05	Keynote: Mass Spectrometry for Cancer Diagnosis and Detection Introduction: Daniel Orringer, MD Livia Eberlin, PhD
12:05-12:15 pm	Question and Answer Session
12:15-1:20	Lunch (provided)
Session 5:	Intraoperative Ultrasound, Focused Ultrasound, Surgical Robotics, and other Modalities Moderators: Richard Bucholz, MD and Daniel Orringer, MD
1:20-1:35	MR Guided Applications of High-Intensity Focused Ultrasound for Brain Tumor Ablation Julie Pilitsis, MD
1:35-1:50	LITT-Emerging Applications Eric Leuthardt, MD
1:50-2:05	Applications of Radiogenomics to Neurosurgical Practice Rivka Colen, MD
2:05-2:25	Surgical Robotics Garnette Sutherland, MD
2:25-2:45	Break
2:45-3:00	Intraoperative CT as a Registration Device Christopher Nimsky, MD
3:00-3:15	iUS Francesco Prada, MD
3:15-3:30	Frameless Registration Techniques Using Intraoperative CT Richard Bucholz, MD
3:30-3:45	Surgical VR Concepts, 3D Visualization John Golfinos, MD
3:45-3:55	Abstract Talk: Brain Atlas (BA) and Virtual Reality (VR) Improves Analysis of Complex Brain and Skull Base Tumors Vinodh A. Kumar, MD
3:55-4:05	Abstract Talk: How to Improve the Benefit of Ultrasound in Intraoperative Imaging Geirmund Unsgård, MD
4:05-4:15	Abstract Talk: Intraoperative MRI for Minimally Invasive Resection of Deep-Seated Brain Tumors Via Tubular Retractors James Sun, MD
4:15-4:25	Abstract Talk: First Results Using a Highly Mobile Computed Tomography for Cranial Surgery David P. Sarmet, MD
4:25-4:35	Robotic Devices in the Hyper SCOT (Smart Cyber Operating Theatre) Jun Okamoto, MD
6:30-9:30 pm	George Ranch Dinner Event

Saturday, March 16, 2019

7:00-8:00 am	Registration/Breakfast
8:00-8:05 am	Opening Remarks Jeffrey Weinberg, MD
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
9:20-9:35	Applications of Focused Ultrasound in Neurosurgery Ying Meng, MD
9:35-9:45	Abstract Talk: MRI-Guided Interstitial Laser Thermal Therapy for Spinal Metastases: An Initial 6 Year, Single-Institution Experience Rafael A. Vega, MD, PhD
9:45-10:00	Break
Session 7:	Neuro Anesthesia, Robotics, Functional Neurosurgery, Cerebrovascular Imaging & Other Advances in the iMRI Environment Moderator: Richard Bucholz, MD
10:00-10:15	Abstract Talk: Perioperative Considerations for an Awake Craniotomy in the Intraoperative MR Imaging Suite (iMRI) Incorporating a Musical Instrument as Part of Motor and Cognitive Monitoring Shreyas Bhavsar, MD
10:15-10:30	Abstract Talk: Timing of Postoperative MRI in Low Grade Glioma Surgery: Increasing Accuracy by Ultra-Early Imaging Jan Coburger, MD
10:30-10:45	Anesthetic Considerations for Awake Craniotomies in iMRI Environment David Ferson, MD
10:45-11:00	Robotic SEEG and LITT Nitin Tandon, MD
11:00-11:15	The Use of Image Guidance in Functional Neurosurgery Paul Larson, MD
11:15-11:30	Intraoperative Vascular Imaging Colin Derdeyn, MD
11:30-11:45	Indications for Use; Pitfalls; Utility of Extent of Resection Jan Coburger, MD
11:45-12:00	Augmented Reality Osamah Choudhry, MD
12:00-1:00pm	Box Lunch
1:00-1:55pm	Rapid Fire Abstract Session Moderators: Jeffrey Weinberg, MD and Daniel Orringer, MD
1:00-1:05	Abstract Talk: Prognostic Prediction of Hypertensive Intracerebral Hemorrhage Using CT Radiomics and Machine Learning X. Xu, MD
1:05-1:10	Abstract Talk: Prospective Analysis of Intraoperative Angiography in a Hybrid Operating Room Setup in the Treatment of Cerebrovascular Lesions: Comparison to Indocyanine Green Videoangiography and Analysis of Efficacy, Workflow and Cost Gregor Durner, MD
1:10-1:15	Abstract Talk: Application of Augmented Reality (AR) in Ventricular Puncture Michal Hlaváč, MD
1:15-1:20	Abstract Talk: Estimated Maps of Proliferative Activity Present Alternative Targets For Initial Glioma Biopsy Evan Gates, MS
1:20-1:25	Abstract Talk: Dual-Utility Intraoperative MRI: Experience of the First 100 Patients Oliver W. Sakowitz, MD
1:25-1:30	Abstract Talk: Establishment of a multi-center intraoperative MRI database

Peter Sylvester, MD

- 1:30-1:35 **Abstract Talk:** Intraoperative MRI Assisted Neuro-Port Surgery for the Resection of Cerebral Intraparenchymal Cavernous Malformation
Zhao
- 1:35-1:40 **Abstract Talk:** Implementation of Fluorescence-Guided Surgery, A Single Center Experience and Model of Logistical Workflow for Future Adopters of 5-Aminolevulinic Acid
Sameah Haider, MD
- 1:40-1:45 **Abstract Talk:** Alterations in Functional Connectomics Associated with Neurocognitive Changes Following Brain Tumor Resection
Kyle Noll, PhD
- 1:45-1:50 **Abstract Talk:** Resting State fMRI Improves Localization of Eloquent Speech and Motor Areas in Glioma Patients
Vinodh A. Kumar, MD, PhD
- 1:50-1:55 **Abstract Talk:** Laser Interstitial Thermal Therapy and Intraoperative MR Thermography in the setting of Aneurysm Clips
Kimberly Hoang, MD
- 1:55-2:00 Award Presentation for Top Abstract Presentations & Meeting Wrap-up
- 2:00pm Adjourn