9th Annual Meeting of the SSG

Exploring Neurosurgery's Future through the Eyes of Innovation

July 21 - 23, 2022 | St Julien Hotel | Boulder, CO

Dear Friends and Colleagues:

Julian Bailes, MD

Welcome to the 9th Annual Meeting of the Subcortical Surgery Group (SSG). Your favorite neurosurgery meeting is back in-person July 21 – 23, 2022. Please join us as we continue our mission of optimizing Minimally Invasive Parafascicular Surgery or MIPS through collaborative research and technology applications that are proving to be better for the patient, the hospital, and the surgeon.

This year's theme, ***Exploring Neurosurgery's Future through the Eyes of Innovation***, presents a diverse agenda over 1½ days. Over 25 presenters to include ten Chairmen of Neurosurgery will share their experiences and published evidence using MIPS and advanced technologies. Day one of the meeting focuses on innovations in subcortical neurosurgery, the neurosurgeon's evolving role in the advancement of precision medicine and finding the answer to functional recovery in the deadliest form of stroke. Day two highlights many new technologies and its adjunct role in MIPS surgery.

New in 2022, we are excited to offer 3 hands-on workshops on Thursday, July 21 – the day before the meeting. Attend any or all of the following workshops:

- **Workshop 1 – MIPS: A Deficit Sparing Approach**
- **Workshop 2 – Optimizing Precision Network Surgery through the Lens of Connectomics**
- **Workshop 3 – Building the Modern-Day Neurosurgical OR**

The meeting is designed as an interactive learning experience to honor our commitment to open collaboration, learning and idea sharing. We encourage active participation in panel discussions, presentations, and audience polling.

This event will be held at the St Julien Hotel in Boulder, Colorado. The St Julien Hotel is a beautiful resort, full of family-oriented amenities. It is steps from Pearl Street Mall where visitors stroll the brick-paved pedestrian walkway, linger on restaurant patios, shop, and watch street performers. You are also walking distance to Boulder's iconic flatirons and creek path.

I am grateful for the SSG's leadership team and this year's presenters. Without their support, this meeting would not be possible. I thank the membership of the SSG for the honor to serve as your President.
I hope this meeting exceeds your expectations.

Regards,

Julian E. Bailes, Jr., MD
President, Subcortical Surgery Group
Bennett-Tarkington Chair
Department of Neurosurgery, NorthShore University Health System
Co-Director, NorthShore Neurological Institute
Clinical Professor of Neurosurgery, University of Chicago Pritzker School of Medicine

Comprehensive 2½ Day Event

Three Hands-on Workshops

1. **Introduction to MIPS: A Deficit Sparing Approach**
   Thursday, July 21 • 7am – 12pm
2. **Optimizing Precision Network Surgery through the Lens of Connectomics**
   Thursday, July 21 • 12pm – 2:45pm
3. **Building the Modern-Day Neurosurgical OR**
   Thursday, July 21 • 3pm – 6pm

Annual Meeting (didactic)

9th Annual Meeting of the Subcortical Surgery Group
Exploring Neurosurgery's Future through the Eyes of Innovation
Friday, July 22 • 7am – 5pm
Saturday, July 23 • 7am – 12pm

Minimally Invasive Parafascicular Surgery (MIPS) A Deficit Sparing Approach

Workshop 1

Thursday, July 21, 2022 | 7am – 12pm

Target Audience

Neurosurgeons who have **NOT** previously attended a MIPS education program

Workshop Description

Neurosurgery has continued to expand Minimally Invasive Surgical applications over the last decade. Through modern advancements in neurosurgery tools, technology, and refined microsurgical techniques, neurosurgeons now have more expanded options in subcortical surgical intervention than ever before.

This didactic and hands-on program introduces the concepts and skills of a deficit sparing approach for the subcortical space, known as MIPS (Minimally Invasive Parafascicular Surgery). This workshop is designed to provide current evidence-based content, personal surgeon experiences, a hands-on skills workshop, and is taught by tenured MIPS Neurosurgeons.

A recent Meta-Analysis published on MIPS Suggests*

- ✓ MIPS technologies reduce parenchymal injury as compared to traditional retraction
- ✓ There is lower surgical morbidity and post-operative complications as compared to traditional retraction
- ✓ There is consistency in clinical outcomes for ICH and tumor resection reported across studies
- ✓ There is an economic benefit to MIPS through shorter hospital stays as noted in several studies

**Mansour et al., https://dx.doi.org/10.1016/j.wneu.2019.08.218*

By attending this workshop, you can increase surgical efficiency, potentially improve clinical outcomes over historical measures, and develop your practice further by becoming a leader in minimally disruptive subcortical neurosurgery.

Agenda

7:00am	Registration & Breakfast
7:45am	Principles of MIPS: ACCESS, REMOVAL, and COLLECTION
9:30am	WHO and WHY: Patient Selection Guidance and Creating Value for Your Practice
10:15am	Hands-on Skills Lab
12:00pm	Workshop 1 Concludes & Lunch

Faculty

Gustavo Pradilla, MD
Associate Professor of Neurosurgery
Emory University School of Medicine
Chief of Neurosurgery Service
Grady Memorial Hospital

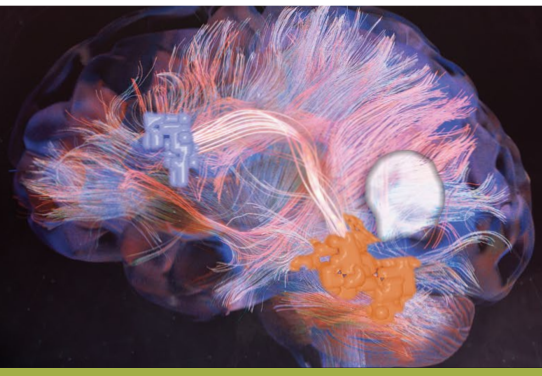
Ronald Young II, MD
Neurosurgeon
Delray Medical Center

Kaisorn Chaichana, MD, FACS
Professor of Neurosurgery
Mayo Clinic

Justin Singer, MD
Director of Vascular Neurosurgery Program
Spectrum Health

Jefferson Chen, MD, PhD
Professor of Neurological Surgery
Director of Neurological Trauma,
Neurosurgery Services
UCI Health

Optimizing Precision Network Surgery through the Lens of Connectomics



Workshop 2

Thursday, July 21, 2022 | 12pm – 2:45pm

Target Audience

Neurosurgeons seeking an advanced understanding of connectomic anatomy as it correlates to subcortical surgery

Workshop Description

Connectomics is the use of machine learning to make sense of brain connectivity data and has enormous potential in improving our understanding of patients with neurologic disease. This workshop will explore the latest techniques for precision network surgery through practical use of structural and functional mapping to achieve greater onco-functional balance. The event will be conducted through a brief lecture and interactive case reviews from field leading experts through the lens of Connectomics.

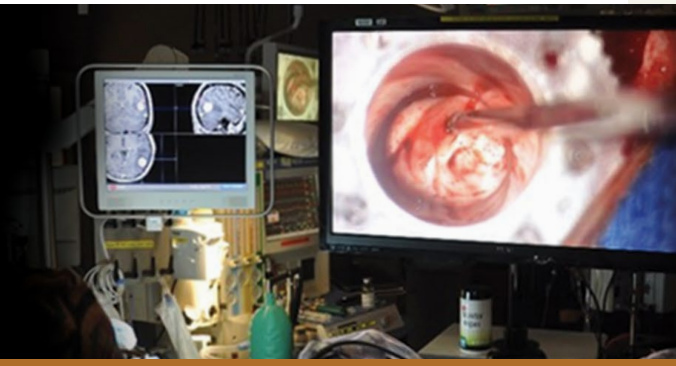
Faculty

Michael Sughrue, MD
Neurosurgeon
Prince of Wales Hospital

Agenda

12:00pm	Registration & Lunch
12:45pm	Welcome & Introductions
1:00pm	Practical Use of Connectomics in Neurosurgery
1:30pm	Practical Applications: A Series of Case Reviews & Experiences
2:00pm	Hands-on Structural & Functional Mapping Exercise
2:30pm	Discussion/Q&A
2:45pm	Workshop 2 Concludes

Building the Modern-Day Neurosurgical OR



Workshop 3

Thursday, July 21, 2022 | 3pm – 6pm

Target Audience

For experienced MIPS neurosurgeons interested in improving clinical outcomes and OR efficiency during subcortical cases, while broadening their technical skills and surgical applications through the use of neurosurgery's most advanced technologies

Workshop Description

Minimally invasive subcortical neurosurgery is expanding and evolving at a rapid pace. This workshop provides a vast range of advanced technology to explore hands-on. It is designed to allow attendees to explore surgical adjuncts to assist in increasing appropriate surgical volume, efficiency, and performance in the OR. Attendees will choose up to 3 in-depth labs. The final hour of the workshop allows for independent exploration.

Agenda

3:00pm	Registration & Select up to 3 Labs to Explore
3:30pm	Lab Rotation 1
4:00pm	Lab Rotation 2
4:30pm	Lab Rotation 3
5:00pm	Independent Exploration
6:00pm	Workshop 3 Concludes

In-depth Labs 1 thru 6

Lab 1 – Innovations in Port Surgery

Experience the latest technology advancements that enable you to improve OR efficiency while safely expanding the breadth of possible case selection.

- Gain experience new techniques enabling safe and efficient resection of larger abnormalities through smaller access systems
- Practice microdissection skills using multifunctional and automated technology to allow minimized instrument exchange and improved operative efficiency
- Understand OR options to use less equipment during surgery set up while allowing your choice of surgical optics – loupes, microscope or exoscope

Lab 2 – Intraoperative Tissue Differentiation – Improving the Odds of Maximal Safe Resection

Intraoperative tissue differentiation is a key principle in gaining maximal safe resection. Gain hands-on experience with multiple technologies to improve your ability to safely gain GTR.

- Couple automated resection with Fluorescence and 5ALA
- Practice MIS skills with the latest ultrasound technology for improved intraoperative real time visualization

Lab 3 – Tissue is the Issue in the Molecular Era Starting in the OR & Extending through the Preclinical Lab

Gain hands-on experience with technology that expands your role, as the neurosurgeon, in the OR , as well as the research lab. Key elements include:

- Understand how to improve the volume of tissue for research purposes to beyond just making the diagnosis
- Improve the quality of tissue collected for precision medicine initiatives by automating biological preservation in the OR
- Streamline workflow and minimize sample variability between the OR, pathology, and research lab without adding distractions
- Experience a new paradigm in the preclinical PDX lab setting that enables serial interrogation of the murine model to evaluate mutagenic changes while keeping the murine animal alive for each biopsy
- Review new in vivo anti-inflammatory delivery strategies post ICH evacuation
- Discuss how this has opened new possibilities for research, grant application and clinical trials

Lab 4 – SCUBA Technique for ICH

Gain valuable insights and practical skills with the SCUBA technique for MI endoscopic ICH removal. Review current literature and evaluate safety and efficiency to further expand your vascular practice and surgical options for patients.

Lab 5 – From MRI to Intervention

Explore the integration of mid-field MRI with automated surgical planning and navigation to improve the neuro-care workflow. Gain confidence working with images generated from the 0.5T MRI and apply automated tractography to impact surgical decision making.

Lab 6 – Connectomics

Explore the latest techniques for precision network surgery through practical use of structural and functional mapping to achieve greater onco-functional balance. This session will focus on interactive case reviews to bridge the gap between the esoteric to true patient application.

Lab 7 – Holographic Visualization – The Final Frontier of Medical Imaging

- Experience holographically rendered 3D imaging utilizing a state-of-the-art head mounted display and highly advanced PACS integrations
- Explore the potential of augmented reality-based image guidance and holographic patient registration
- Discover the concept of holographic multi-user sharing and immersive remote collaboration for anatomical education as well as surgery

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Exploring Neurosurgery's Future through the Eyes of Innovation

Friday, July 22 — *Annual Meeting Agenda*

7:00 am **REGISTRATION, EXHIBIT VIEWING & BREAKFAST**

8:00 am **Welcome, Mission and Progress of the SSG**
Julian Bailes, MD: NorthShore University HealthSystem

8:15 am **MIPS SURGICAL APPLICATIONS + INTRAOPERATIVE BIOLOGICAL PRESERVATION + ADVANCED RESEARCH**

Minimally Invasive Parafascicular Surgery: Who and Where in the Neuro-Oncology Landscape
Ranjeev Bhangoo, MD: Kings Hospital, London

Improving Clinical Outcomes & Expanding Surgical Options in Brain Metastases
J.D. Day, MD: UAMS Health

Maximal Safe GTR of Primary Brain Tumors in Eloquent Locations
Kaisorn Chaichana, MD: Mayo Clinic

9:45 am **Keynote Presentation: Tissue is the Issue in the Molecular Era: How the Neurosurgeon Uniqueley Meets the Unmet Need**
Henry Brem, MD: Johns Hopkins Medicine

10:15 am **BREAK WITH EXHIBITORS**

10:40 am **New Paradigm Brain Tumor Models for Serial Interrogation of Disease Progression & Therapy Evaluaton**
Safwan Alomari, MD: Johns Hopkins Medicine

10:55 am **Molecular Biobanking Begins in the Operating Room: Role of the Neurosurgeon**
Analiz Rodriguez, MD, PhD: UAMS Health

Surgical Applications: Improving our Understanding of GBM through Biological Tissue Preservation
Alireza Mohammadi, MD: Cleveland Clinic

11:35 am **Solving Neuro-Oncology Problems in the Operating Suite via Intra-Operative Tissue Collection with Biological Preservation – MUSC Experience**
Arabinda Das, PhD: Medical University of South Carolina

Spatially-Registered Sampling to Elucidate Intra-Tumor Heterogeneity of the Glioblastoma Immune Landscape
Dionysios Watson, MD, PhD: Cleveland Clinic

12:15 pm **LUNCH WITH EXHIBITORS**

1:00 pm **MIPS IN VASCULAR NEUROSURGERY – WILL THESE TRIALS DELIVER?**

ENRICH: A 300 Patient Randomized Controlled Trial Progress Report
Gustavo Pradilla, MD: Emory University School of Medicine

INVEST/MIND/MIRROR/EVACUATE/MINUTE: Endoscopic & Surgiscopic ICH Trials
Christopher Kellner, MD: Mount Sinai

ENRICH Plus: Building on What We have Learned – A Neuroprotective Agent ICH Trial
J. Marc Simard, MD: University of Maryland School of Medicine

2:00 pm **Vascular Indications & Case Selection for MIPS with Emerging Technology**
Justin Singer, MD: Spectrum Health

Biomarker Identification in Hemorrhagic Stroke
Jay Lusk: Duke University

2:40 pm **BREAK WITH EXHIBITORS**

3:05 pm **THE LEARNING CURVE IN MIPS, TIPS & TECHNIQUES TO LIMIT COMPLICATIONS & IMPROVE OUTCOMES**

Straight Talk on Complications – What can go Wrong
Moderator - Zachary Litvack, MD, MCR, FAANS, FACS: Swedish Neuroscience Institute

5-ALA Fluorescence-Guided Surgery and Intraoperative Photodynamic Therapy for Gliomas
Constantinos Hadjipanayis, MD, PhD: Mount Sinai

4:30 pm **Day 1 Wrap-Up**
Julian Bailes, MD: NorthShore University HealthSystem

5:00 pm **NETWORKING RECEPTION** – *sponsored by:*
Red Garden Terrace, St Julien Hotel

STORZ
KARL STORZ — ENDOSKOPE

7:00 am **BREAKFAST & EXHIBIT VIEWING**

8:00 am **Keynote Presentation: Optimizing MIPS through the Lens of Connectomics**
Michael Sughrue, MD: Prince of Wales Hospital, Austraila

9:00 am **ADVANCED TECHNOLOGY & ITS ROLE IN BROADENING MIPS APPLICATIONS & IMPROVING OUTCOMES**

Pre-Clinical Advancements, Subcortical Chip Implantation in Rodents: A Feasability Milestone
Julian Bailes, MD: NorthShore University Health System

Awake Craniotomy Tips and Technique
Ronald Young II, MD: Delray Medical Center

Can Proximity of Excitation Light Improve Differentiation between Normal Parenchyma & Tumor Boundary?
Martin Young, DVM, DACVIM (Neurology)

Integrated Neuro Monitoring in MIPS
José Pedro Lavrador, MD: Kings Hospital, London

10:10 am **BREAK WITH EXHIBITORS**

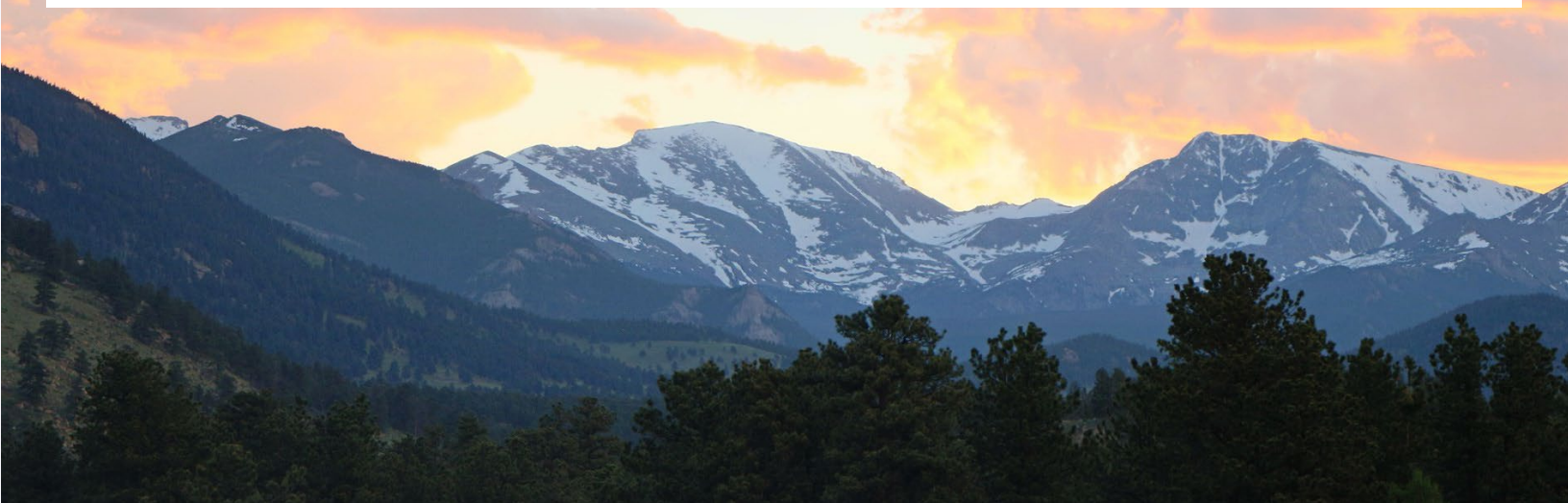
10:35 am **The Debate on MIPS for Traumatic ICH**
Jefferson Chen, MD, PhD: UCI Health

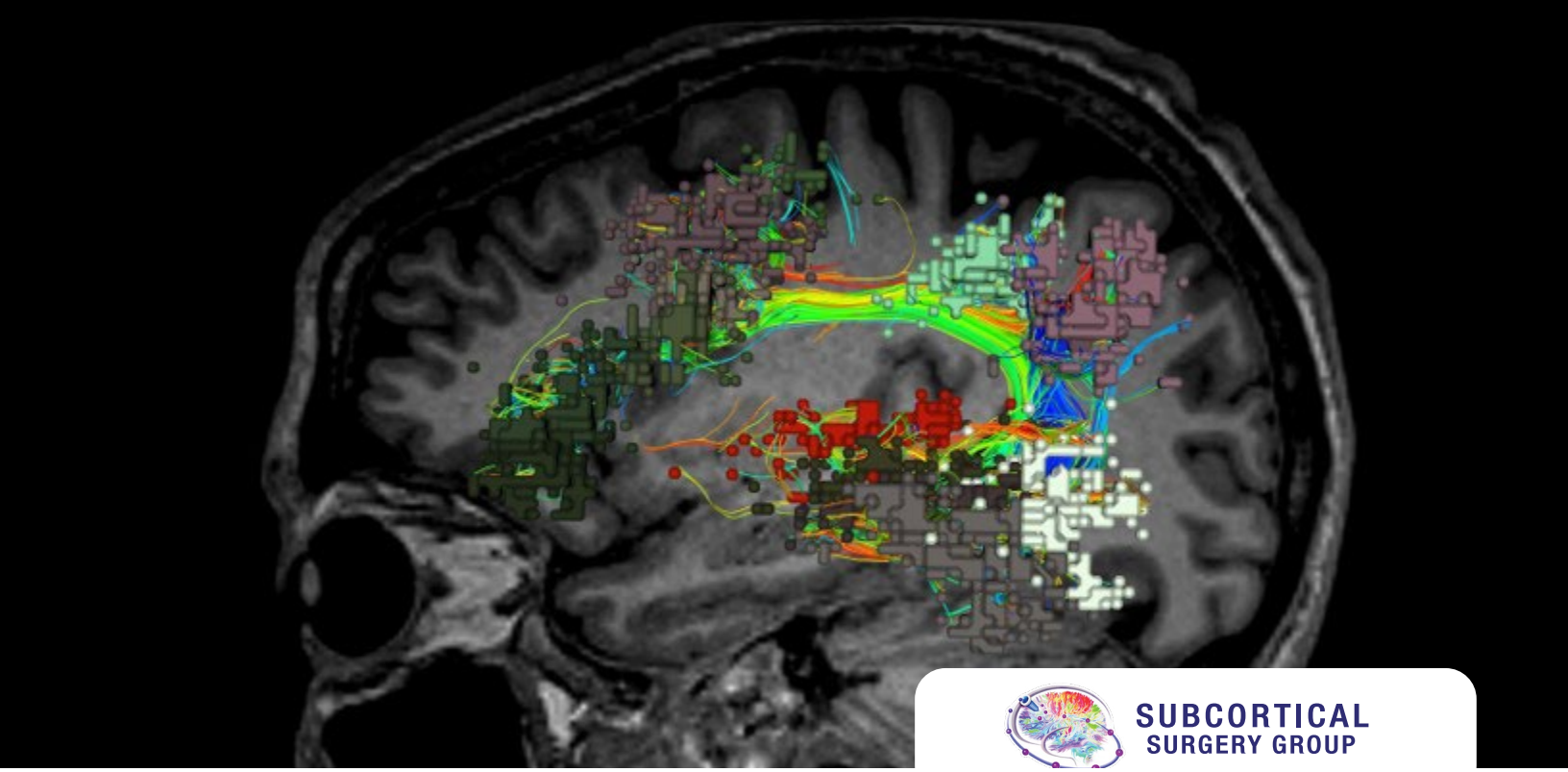
Gammatile Therapy for Recurrent Glioblastomas: Potential Synergy with Minimally Invasive Neurosurgery
Clark Chen, MD, PhD: University of Minnesota Medical School

Edema-Invariant White Matter Tractography in Precision Neurosurgery: A Dynamic Free-Water Correction Solution
Sebastian Koga, MD: Ochsner Neuroscience Institute, New Orleans, University of Queensland (AU)

11:55 am **Summary Points & Questions**
Julian Bailes, MD: NorthShore University HealthSystem

12:00 pm **MEETING ADJOURNED**





SUBCORTICAL
SURGERY GROUP

Click the button or scan the QR code to Register

- No cost for neurosurgeons to attend
- Workshops are limited to 36 attendees

REGISTER NOW

For questions, contact:
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Oakley Meetings & Events
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jennifer@eventsbyoakley.com