AGENDA

7:00 am Log-in to Virtual Conference - Visit Virtual Exhibit Hall

7:30 am Educational Meeting Begins - Welcome and Introduction
Steven Brem, MD, Chief Neurosurgical Oncology // Penn Medicine
Daniel Yoshor, MD, Chairman, Neurosurgery // Penn Medicine
Lawrence N. Shulman, MD, Deputy Director Abramson Cancer Center // Penn Medicine
M. Sean Grady, MD, Charles Harrison Frazier Professor of Neurosurgery // Penn Medicine

SPECIAL PRESENTATION
7:40 am From Icarus to Aequanimitas, Revisited
Joseph C. Maroon, MD, FACS – Professor of Neurosurgery,
Former President of the Congress of Neurological Surgeons
Author of the book, Square One: A Simple Guide to a Balanced Life
University of Pittsburgh, Pittsburgh, PA, USA

SCIENTIFIC SESSION 1: New Concepts And Innovative Technologies
MODERATOR: Arati Desai, MD

8:10 am The New WHO Classification and the Role of Integrated Molecular Profiling in the Diagnosis of Malignant Gliomas
Maclean Nasrallah, MD - Pathology & Laboratory Medicine
Perelman School of Medicine at the University of Pennsylvania
Philadelphia, Pennsylvania, USA

8:25 am Clinically Useful Next Generation Sequencing in Glioblastoma
Jennifer Morrissette, PhD - Pathology & Laboratory Medicine
Perelman School of Medicine at the University of Pennsylvania
Philadelphia, Pennsylvania, USA
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
<th>Institution</th>
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<tbody>
<tr>
<td>8:40 am</td>
<td>Advanced Neuroimaging of Brain Tumors: Radiogenomics, Predictive Biomarkers, and Response Assessment</td>
<td>Suyash Mohan, MD, PDCC - Radiology</td>
<td>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, USA</td>
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<td>9:00 am</td>
<td>Overview of PET Imaging for Primary and Secondary Brain Tumors</td>
<td>Seyed Ali Nabavizadeh, MD - Radiology</td>
<td>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, USA</td>
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<td>9:20 am</td>
<td>Seeing Beyond the Visible: Fluorescent Imaging of Brain Tumors</td>
<td>John Y. K. Lee, MD - Neurosurgery</td>
<td>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, USA</td>
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<td>9:50 am</td>
<td>Immunotherapy for Brain Tumors- Advances in CAR T-Cell Therapy for Glioblastoma</td>
<td>Donald O’Rourke, MD - Neurosurgery</td>
<td>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, USA</td>
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<td>10:10 am</td>
<td>BREAK</td>
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<td>10:30 am</td>
<td>Scientific Session 2: Progress in The Treatment Of Malignant Brain Tumors</td>
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<td>10:30 am</td>
<td>Advances in Brain Mapping of Brain Tumors</td>
<td>Alexandra Golby, MD - Neurosurgery</td>
<td>Harvard Medical School, Boston, Massachusetts, USA</td>
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<td>11:00 am</td>
<td>Advances in the Treatment of Gliomas</td>
<td>Susan Chang, MD - General Surgery</td>
<td>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, USA</td>
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<td>11:30 am</td>
<td>Medical and Symptom Management of Patients with Brain Tumors</td>
<td>Amy A. Pruitt, MD - Neurology</td>
<td>Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, USA</td>
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11:45 am  Seizure Management for Brain Tumor Survivors: Current Concepts  
Kathryn A. Davis, MD, MTR - Neurology  
Perelman School of Medicine at the University of Pennsylvania  
Philadelphia, Pennsylvania, USA

12:00 pm  LUNCH

SCIENTIFIC SESSION 3:  
Advances In Precision Surgery, Medical And Radiation Oncology  
– Survivorship Of Patients With Brain Tumors  
MODERATOR: Suyash Mohan, MD

1:00 pm  Integrating New Technologies in the Treatment of Malignant Brain Tumors, from LITT to Connectomics - Oncofunctional Optimization  
Steven Brem, MD - Neurosurgery  
Perelman School of Medicine at the University of Pennsylvania  
Philadelphia, Pennsylvania, USA

1:30 pm  Immunotherapy and Circulating Tumor DNA in Glioblastoma  
Stephen Bagley, MD, MSCE - Hematology Oncology  
Perelman School of Medicine at the University of Pennsylvania  
Philadelphia, Pennsylvania, USA

2:15 pm  Advances in Radiation Therapy for Patients with Brain Tumors  
Goldie A. Kurtz, MD - Radiation Oncology  
Perelman School of Medicine at the University of Pennsylvania  
Philadelphia, Pennsylvania, USA

2:35 pm  Targeted Therapy for Brain Metastases (Melanoma, Breast and Lung Cancer): Principles and Progress  
Tara C. Mitchell, MD - Medical Oncology  
Perelman School of Medicine at the University of Pennsylvania  
Philadelphia, Pennsylvania, USA

2:55 pm  Stories of Patient Survivors: Navigating the Health Care System, Finding Information, Clinical Trials, Innovation, and Hope  
Elizabeth Heisler, PA-C - Neurosurgery  
Eleanor Miller, MSN, RN, OCN, CBCN - Neuro Oncology  
Karen Albright, MSN, CRNP - Medical Oncology
Overview
The purpose of this educational activity is to provide a review of new treatment options in neuro-oncology, including surgical techniques, and intraoperative imaging, along with, radiation and systemic therapies that have improved patient outcomes. Sessions will feature the latest advances in state-of-the-art care for practicing clinicians treating patients with brain tumors. Cutting-edge topics in precision medicine, including genetic, translational, and clinical research will also be featured. Activity format will provide significant opportunity for interaction with expert faculty and other attendees with the aim of implementing new standards of patient care. Participants will leave with up-to-date, practical information which will have immediate clinical application, as well as technical and scientific background on the current state, and where the latest scientific advances may take the field.

Learning Objectives
Upon completion of this course, participants should be able to:

- Implement WHO classification of brain tumors and how molecular profiling affects diagnosis, MRI interpretation, prognosis and therapy of patients with gliomas
- List advances in the surgical treatment of brain tumors including the use of fiber tracking (DTI), awake craniotomy, brain mapping, laser thermocoagulation, and fluorescence IGS (image-guided surgery)
- Identify the role of immune system to defend against CNS malignancy including the new class of checkpoint inhibitors and the potential use of CAR-T cell therapy
- List the benefits and application of proton therapy for low-grade and malignant gliomas
- Identify the scientific rationale, practical application, and survival benefit of electric field therapy for malignant brain tumors
- Identify the rationale and potential for viral therapies for malignant gliomas
- List recent advances in anti-angiogenic therapy in the treatment of gliomas
Who Should Attend
This symposium is designed for neurosurgeons, neuro-oncologists, neurologists, radiologists, medical oncologists, radiation oncologists, primary care physicians, oncology nurses, and other healthcare professionals involved in the treatment of patients with brain tumors. Additionally, patients and their caregivers, family members, advocates and members of the public who may benefit from understanding current innovative approaches to brain tumor care are invited.

ACCREDITATION
This symposium is designed for neurosurgeons, neuro-oncologists, neurologists, radiologists, medical oncologists, radiation oncologists, primary care physicians, oncology nurses, and other healthcare professionals involved in the treatment of patients with brain tumors. Additionally, patients and their caregivers, family members, advocates and members of the public who may benefit from understanding current innovative approaches to brain tumor care are invited.

DESIGNATION OF CREDIT
PHYSICIANS: Penn Medicine designates this live activity for a maximum of 6.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

NURSES: The program will award 6.25 contact hours.

PHYSICIAN ASSISTANTS: AAPA accepts certificates of participation for educational activities certified for AMA PRA Category 1 Credits™ from organizations accredited by ACCME or a recognized state medical society. PAs may receive a maximum of 6.25 Category 1 credits for completing this activity.

FACULTY
Activity Director
Steven Brem, MD
Professor of Neurosurgery
Chief of Surgical Neuro-Oncology
Co-Director of Penn Brain Tumor Center
Activity Co-Directors

**Arati Desai, MD**
Assistant Professor of Medicine (Hematology Oncology)
Co-Director of Penn Brain Tumor Center
Perelman School of Medicine at the University of Pennsylvania
Pennsylvania/ Penn Medicine
Philadelphia, PA, USA

**Robert A. Lustig, MD, FACR**
Professor of Radiation Oncology
Chief of Clinical Operations in the Department of Radiation Oncology
Perelman School of Medicine at the University of Pennsylvania
Pennsylvania/ Penn Medicine
Philadelphia, PA, USA

**Suyash Mohan, MD, PDCC**
Assistant Professor of Radiology in Neurosurgery
Assistant Professor of Radiology
Perelman School of Medicine at the University of Pennsylvania
Pennsylvania/ Penn Medicine
Philadelphia, PA, USA

Guest Speakers

**Joseph C. Maroon, MD, FACS**
Clinical Professor, Heindl Scholar in Neuroscience, University of Pittsburgh
Pittsburgh, PA, USA

**Alexandra Golby, MD**
Professor of Neurosurgery
Professor of Radiology
Director of Image-guided Neurosurgery
Co-Director AMIGO (advanced multi-modality image-guided OR)
Co-Director clinical fMRIHaley
Distinguished Chair in the Neurosciences
Harvard Medical School
Boston, MA, USA
Penn Speakers
Karen Albright, MSN, CRNP
Medical Oncology
Penn Medicine
Philadelphia, PA, USA

Stephen Bagley, MD, MSCE
Assistant Professor of Medical Oncology
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Philadelphia, PA, USA

Susan Chang, MD
Clinical Associate of Surgery
Perelman School of Medicine at the University of Pennsylvania
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Medical Director, Epilepsy Monitoring Unit
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Perelman School of Medicine at the University of Pennsylvania / Penn Medicine Philadelphia, PA, USA
John Y. K. Lee, MD
Associate Professor of Neurosurgery and Otorhinolaryngology: Head and Neck Surgery
Medical Director, Gamma Knife Center
Clinical Director, Center for Precision Surgery
Perelman School of Medicine at the University of Pennsylvania/Penn Medicine
Philadelphia, Pennsylvania, USA

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