



# 11<sup>TH</sup> NEURO-ONCOLOGY BRAIN TUMOR SYMPOSIUM

A CME/CNE-accredited Symposium



FRIDAY, JANUARY 26, 2024

## AGENDA

- 7:00 am **IN-PERSON:** Check In, Continental Breakfast, Visit Exhibits and Experts
- 7:15 am **VIRTUAL:** Log in to Virtual Conference
- 7:30 am **Welcome and Introduction**  
[Nduka Amankulor, MD](#) | Activity Director | Director of Penn Brain Tumor Center  
[Robert H. Vonderheide, MD, DPhil](#) | Director of Abramson Cancer Center  
[Daniel Yoshor, MD](#) | Chairman of Neurosurgery

## SCIENTIFIC SESSION I: NEW CONCEPTS AND INNOVATIVE TECHNOLOGIES

**MODERATOR:** [Steven Brem, MD](#) | Activity Director | Neurosurgery

- 7:40 am **Progress in “The War on Cancer”  
Innovation and Scientific Breakthroughs Addressing the Extraordinary Challenges of  
Brain Cancer: *Quo vadis?***  
[Nduka Amankulor, MD](#) | Activity Director | Neurosurgery  
[Steven Brem, MD](#) | Activity Director | Neurosurgery
- 8:00 am **KEYNOTE ADDRESS: The Roadmap for “Cancer Neuroscience”:  
Implications for oncology and neuro-oncology**  
[Shawn Hervey-Jumper, MD](#) | Neurosurgery | University of California San Francisco
- 8:30 am **Next Generation Sequencing (NGS) in Glioblastoma:  
Clinically relevant genomics**  
[Jennifer Morrisette, PhD](#) | Pathology & Laboratory Medicine
- 8:45 am **The 2021 WHO Classification and Integrated Molecular Profiling in the  
Diagnosis of Malignant Gliomas- The Role of AI/ML and the CHARM System for  
Real-Time Histopathologic Diagnosis**  
[MacLean Nasrallah, MD](#) | Pathology & Laboratory Medicine
- 9:00 am **RANO 2.0 and Advances in Neuroimaging: Impact on clinical trials and clinical  
practice**  
[Suyash Mohan, MD, PDCC](#) | Activity Co-Director | Radiology



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**9:20 am**      **Molecular Imaging and Theranostics in Neuro-Oncology**

[Ali Nabavizadeh, MD](#) | Radiology

**9:35 am**      **Q & A Panel Discussion**

**MODERATOR:** [Steven Brem, MD](#) | Activity Director | Neurosurgery

**PANEL:** all speakers from Scientific Session I

**9:50 am**      **Stories of Patient Survivors: Navigating the health care system,  
finding information, clinical trials, and hope**

[Kaileen M. Bevenour, PA-C](#) | Neuro-Oncology

[Elizabeth Heisler, PA-C](#) | Neurosurgery

[Arbena Merolli Trettin, MSW](#) | Neurosurgery

[Meghan O'Neill, CRNP](#) | Medical Oncology

**10:20 am**      **Special Town Hall Meeting for Patients, Caregivers, and Family Members**

**MODERATORS:** [Steven Brem, MD](#) & [Nduka Amankulor, MD](#) | Activity Directors | Neurosurgery

**10:35 am**      **Break | Visit Exhibits | Chat with Experts**

## SCIENTIFIC SESSION II: NEURO-ONCOLOGY 2.0

**MODERATOR:** [Nduka Amankulor, MD](#) | Activity Director | Neurosurgery

**10:50 am**      **CART Cell Immuno-Oncology Program: From First in Human to Current and Future Studies-  
The Clinical Trial Pipeline**

[Zev Binder, MD, PhD](#) | Neurosurgery

[Stephen J. Bagley, MD, MSCE](#) | Hematology Oncology | Neurosurgery

[Donald M. O'Rourke, MD](#) | Neurosurgery

**11:20 am**      **Overcoming Barriers to Extend Survival: Promising results of clinical trials for  
glioblastoma**

[Steven Brem, MD](#) | Activity Director | Neurosurgery

**11:40 am**      **Optimizing Surgery and Immunotherapy for Gliomas using Advances in Genomics**

[Nduka Amankulor, MD](#) | Activity Director | Neurosurgery



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**12:00 pm** Q & A Panel Discussion

**MODERATORS:** [Steven Brem, MD](#) & [Nduka Amankulor, MD](#) | Activity Directors | Neurosurgery

**PANEL:** all speakers from Scientific Session II & [Christina Jackson, MD](#) | Neurosurgery

**12:15 pm** Lunch Break | Visit Exhibits | Chat with Experts

## SCIENTIFIC SESSION III:

### PROGRESS IN THE TREATMENT OF MALIGNANT BRAIN TUMORS

**MODERATOR:** [Suyash Mohan, MD, PDCC](#) | Activity Co-Director | Radiology

**1:00 pm** KEYNOTE ADDRESS: Developing Novel Therapeutics in the Age of Genomics and Immuno-Oncology

[Evanthia Galanis, MD](#) | Neuro-Oncology | Mayo Clinic

**1:30 pm** Medical and Symptom Management of Patients with Brain Tumors

[Amy A. Pruitt, MD](#) | Neurology

**1:50 pm** Seizure Management for Brain Tumor Survivors: Current Concepts

[Saurabh R. Sinha, MD, PhD](#) | Neurology

**2:05 pm** Q & A Panel Discussion

**MODERATOR:** [Suyash Mohan, MD, PDCC](#) | Activity Co-Director | Radiology

**PANEL:** all speakers from Scientific Session III

## SCIENTIFIC SESSION IV: ADVANCES IN PRECISION SURGERY, MEDICAL AND RADIATION ONCOLOGY

**MODERATOR:** [Goldie Kurtz, MD](#) | Activity Co-Director | Radiation Oncology

**2:20 pm** Circulating Tumor DNA in Glioblastoma

[Stephen Bagley, MD, MSCE](#) | Medical Oncology

**2:35 pm** Biomarkers in Immuno-Oncology: Road to Personalized Immunotherapy

[Christina Jackson, MD](#) | Neurosurgery



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- 2:50 pm**      **Advances in Radiation Therapy for Patients with Brain Tumors**  
[Emily Schapira Lebow, MD](#) | Radiation Oncology
- 3:05 pm**      **Updates in the Targeted and Immunological Treatment of Brain Metastases: Melanoma**  
[Tara C. Mitchell, MD](#) | Medical Oncology
- 3:20 pm**      **mRNA Technology to Develop Vaccines for Brain Tumors: Preliminary Experience and Prospects for Future Development**  
[Peter J. Madsen, MD, MBE](#) | Neurosurgery | Children's Hospital of Philadelphia
- 3:35 pm**      **Advances in Intraoperative Molecular Imaging of Brain Tumors: Visualizing the Invisible**  
[John Y.K. Lee, MD, MSCE](#) | Neurosurgery
- 3:45 pm**      **Q & A Panel Discussion**  
**MODERATOR:** [Goldie Kurtz, MD](#) | Activity Co-Director | Radiation Oncology  
**PANEL:** all speakers from Scientific Session IV
- 4:00 pm**      **Adjourn**

## Post Conference Details

After the conference has concluded, all attendees will receive an email from Penn CME with instructions on how to complete the post-test, evaluation, claim credit and obtain a certificate. Look for the email after Friday, February 2.

If you missed the Pre-Test, you will still be eligible to obtain your certificate after you complete the Post-Test and Evaluation. A Certificate of Participation is available to attendees who are not physicians or nurses.

## Meeting Videos

Website: [PennMedicine.org/Abramson/Brain2024](https://PennMedicine.org/Abramson/Brain2024)

*\*Recordings from the meeting will be available Thursday February, 1<sup>st</sup> 2024 through February 2025*



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## 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.



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## Accreditation



In support of improving patient care, Penn Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

## Designation of Credit

**PHYSICIANS:** Penn Medicine designates this live activity for a maximum of **7.5 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

**NURSES:** The program awards **7.5 NCPD** hours.

## Guests & Penn Medicine Faculty

### Activity Directors

**Nduka M. Amankulor, MD**

Presidential Associate Professor in Neurosurgery  
Chief, Neurosurgical Oncology  
Director, Penn Brain Tumor Center  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Steven Brem, MD**

Professor of Neurosurgery  
Site Director, Surgery Rotation  
Neurosurgery Director, Neurosurgery Medical Student Education  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

### Activity Co-Directors

**Arati Desai, MD**

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

**Goldie Kurtz, MD**

Assistant Professor of Radiation Oncology  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Suyash Mohan, MD, PDCC**

Associate Professor of Radiology & Neurosurgery  
Director, Neuroradiology Clinical Research Division  
Department of Radiology, Division of Neuroradiology  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA



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## Guests & Penn Faculty

### **Stephen J. Bagley, MD, MSCE**

Assistant Professor of Medicine (Hematology Oncology)

Assistant Professor of Neurosurgery

Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

### **Kaileen M. Bevenour, PA**

Physician Assistant (Hematology, Medical Oncology)

Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

### **Zev Binder, MD, PhD**

Research Assistant Professor, Department of Neurosurgery

Scientific Director, Adult Brain Tumor Tissue Bank

Instructor, Department of Neurosurgery

Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

### **Evanthia Galanis, MD**

Sandra J. Schulze Professor of Novel Therapeutics

Chair, Alliance for Clinical Trials in Oncology and President, Alliance Foundation

Mayo Clinic College of Medicine

Rochester, MN, USA

### **Elizabeth Heisler, PA-C**

Physician Assistant, Neurosurgery

Penn Medicine

Philadelphia, PA, USA



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**Shawn Hervey-Jumper, MD, FAANS**

Professor Department of Neurological Surgery  
Associate Program Director Neurosurgery Residency  
Medical Director Neurosurgery  
Director Glial Tumor Neuroplasticity Research Laboratory  
Co-Director of the Sheri Sobrato Brisson Brain Cancer Survivorship Program  
Principal Investigator, Brain Tumor Center  
Weill Institute for Neuroscience / Helen Diller Family Comprehensive Cancer Center  
San Francisco, CA, USA

**Christina Jackson, MD**

Assistant Professor of Neurosurgery  
Assistant Professor of Neurosurgery in Otorhinolaryngology: Head and Neck Surgery  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Emily Schiapira Lebow, MD**

Instructor A of Radiation Oncology  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**John Y.K. Lee, MD, MSCE**

Professor of Neurosurgery  
Professor of 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, PA, USA

**Peter J. Madsen, MD, MBE**

Attending Neurosurgeon in the Division of Neurosurgery  
Children's Hospital of Philadelphia  
Philadelphia, PA, USA

**Arbena Merolli Trettin, MSW**

Social Worker  
Manager of Patient Affairs  
Penn Medicine  
Philadelphia, PA, USA





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**Tara C. Mitchell, MD**

Associate Professor of Medicine (Hematology Oncology)  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Jennifer J.D. Morrisette, PhD**

Associate Professor of Clinical Pathology and Laboratory Medicine  
Clinical Director, Center for Personalized Diagnostics  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Ali Nabavizadeh, MD**

Assistant Professor of Radiology  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**MacLean Nasrallah, MD, PhD**

Assistant Professor of Clinical Pathology and Laboratory Medicine  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Meghan O'Neill, CRNP**

Nurse Practitioner (Hematology, Medical Oncology)  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Donald M. O'Rourke, MD**

John Templeton, Jr., M.D. Professor in Neurosurgery  
Director, Glioblastoma Translational Center of Excellence  
Director, Human Brain Tumor Tissue Bank  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Amy A. Pruitt, MD**

William N. Kelley Professor of Neurology  
Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA



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**Saurabh R. Sinha, MD, PhD**

Professor of Neurology

Program Director, Epilepsy Fellowship

Director, EEG Laboratories

Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Robert H. Vonderheide, MD, DPhil**

Director, Abramson Cancer Center

John H. Glick, Abramson Cancer Center's Director Professor

Vice Dean for Cancer Programs, Perelman School of Medicine

Vice President for Cancer Programs, UPHS

Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

**Daniel Yoshor, MD**

Charles Harrison Frazier Professor of Neurosurgery

Chair, Department of Neurosurgery

Vice President, Clinical Integration and Innovation

Surgical Director of Penn Pituitary Center

Perelman School of Medicine at the University of Pennsylvania / Penn Medicine  
Philadelphia, PA, USA

## Disclosure of Financial Relationships

Staff in the Office of Continuing Medical and Interprofessional Education (CMIE) (Bruce Brod, MD, MCHI, FAAD, Vaughn Wurst and Belinda Rose, CHCP), and the listed Planning Committee Members (Barbara Lopez, Hyacen Putmon) have reported that they have no financial relationships with any ineligible companies related to the content of this educational activity.

The following faculty and planning committee (\*) members have disclosed that they have no financial relationships with any ineligible companies related to the content of this educational activity.

Kaileen M. Bevenour, PA  
Arati Desai, MD \*  
Elizabeth Heisler, PA-C  
Christina Jackson, MD  
Goldie A. Kurtz, MD \*  
Emily Schiapira Lebow, MD  
John Y.K. Lee, MD

Peter J. Madsen, MD, MBE  
Meghan O'Neill, CRNP  
Amy A. Pruitt, MD  
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The following planning committee (\*) and faculty members have reported the listed financial relationships with ineligible companies related to the content of their presentations. All financial relationships have been mitigated.

<b>Faculty Name</b>	<b>Name of Ineligible Companies</b>	<b>Relationship(s)</b>
Nduka M. Amankolor, MD *	Johnson and Johnson	Consultant fee
Stephen J Bagley, MD	Incyte Corporation Kiyatec (Relationship has ended)  Eli Lilly, Novocure, C2i Genomics, Kite, GlaxoSmithKline, Tempus Sumitomo Dainippon (Relationship has ended) Telix, Servier (Relationships have ended)	Grant or research support Membership on Advisory Committees or Review Panels, Board Membership, etc. Grant or research support  Consulting Fee Membership on Advisory Committees or Review Panels, Board Membership, etc.
Zev Binder, MD, PhD	Tmunity (Relationship has ended)	Royalties or Patent Beneficiary
Steven Brem, MD *	Northwest Biotherapeutics, Medicenna, Inovio, Imvax (Relationships have ended) Novocure	Grants or research support  Grants or research support
Evanthia Galanis, MD	Servier Pharmaceuticals Boston Scientific Corporation, Kiyatec Inc., Karyopharm Therapeutics, (Relationships have ended) Celgene Corporation, Denovo Biopharma, MedImmune, Inc. (Relationships have ended)	Consulting Fee, Grant or research support Consulting fee  Grant or research support
Shawn Hervey-Jumper, MD	Gilmartin Capital (Relationship has ended)	Consulting
Tara C Mitchell, MD	Bristol Myers Squibb, GigaGen, Merck & Co., Plaint, Pfizer (All relationships have ended)	Honoraria
Suyash Mohan, MD *	Galileo CDS, Novocure Northwest Biotherapeutics (Relationship has ended) ACR Imaging Network (ACRIN) & ACR Image Metrix (Relationships have ended)  Qynapse and AIRS Medical	Grant or research support Advisor  Grant or research support Independent Contractor (included contracted research) Consultant

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Faculty Name	Name of Ineligible Companies	Relationship(s)
Jennifer J.D. Morrissette, PhD	Novartis (Advanced Health Media) (Relationship has ended)	Honoraria
	AbbVie, Inc. (Relationship has ended)	Advisor
	Bayer (Relationship has ended)	Honoraria
	ThermoFisher	Stocks or stock options, excluding diversified mutual funds of a publicly traded company
Ali Nabavizadeh, MD	Blue Earth Diagnostics (Relationship has ended)	Membership on Advisory Committees or Review Panels, Board Membership, etc
	Telix	Membership on Advisory Committees or Review Panels, Board Membership, etc.-
MacLean Nasrallah, MD, PhD	Kiyatec (Relationship has ended)	Membership on Advisory Committees or Review Panels, Board Membership, etc.-
Saurabh R. Sinha, MD, PhD	Monteris Medical (Relationship has ended)	Independent Contractor (included contracted research), Advisor- Independent Contractor (included contracted research)
	Blackthorn Therapeutics, Basilea Pharmaceutica, Neumora Tx (Relationships have ended)	Membership on Advisory Committees or Review Panels, Board Membership, etc.-
	American Clinical Neurophysiology Society, Annals of Clinical and Translational Neurology, Journal of Clinical Neurophysiology	
Donald O'Rourke, MD	Gilead Sciences, Inc, University of Pennsylvania, Elicio, Novartis/AMGEN	Royalties or Patent Beneficiary
	Tmunity Therapeutics (Relationship has ended)	
	Century Therapeutics (Relationship has ended),	Grant or research support
	Gilead Sciences, Inc., Novartis/AMGEN (Relationship has ended)	Grant or research support
	Prescient Therapeutics, Implicyte, Third Rock Ventures	Stocks or stock options, excluding diversified mutual funds of a privately held company



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## We Gratefully Acknowledge the Following Companies for Providing Educational Grants

American Brain Tumor Association  
National Brain Tumor Society  
Northwest Biotherapeutics  
Novocure

## Thank you to Our Exhibitors

AstraZeneca	MD Surgical	Novocure
BK Medical	Products	SK Life Science
Caris Life Sciences	Molecular Targeting	UCB Inc
Invax	Technologies	
Integra LifeSciences	Novartis	

## Thank you to Our Experts

American Brain Tumor Association  
Good Shepherd Penn Partners  
National Brain Tumor Society  
OncoLink.org  
Reiki  
Social Work – Patient & Family Services