

USC BRAIN TUMOR CENTER

Report

Volume 3 • Issue 4
AUTUMN 2023

From the USC BTC Directors

2023 has been an exceptional year for the USC Brain Tumor Center.

In this Autumn issue, we are excited to highlight the members of our **Brain Tumor Center Labs**.

Our Brain Tumor Center works with teams of researchers, clinicians, and scientists to advance our understanding of brain cancer and develop more effective treatments. “Bench to Beside” research, or translational research, is critical in the field of brain cancer; It is an interdisciplinary process that aims to accelerate the development of new treatments, therapies, and diagnostics for brain tumor patients.

At the **USC Brain Tumor Center (USC BTC)** we recognize the importance of the growing field of personalized medicine and the benefit it provides to patient care. In this issue you will find a highlight of our **Genomic Tumor Testing and Live tumor culture pipeline with personalized tumor avatar development**. It is our collective goal to optimize the process of tumor specimen collection for each patient’s tumor from the operating room to the growth and testing of these compounds on living cancer cells in culture in our BTC laboratory, to truly provide precision treatment for our brain tumor patients.

A primary mission of the USC BTC is to provide high-level support and ease for patients and their caregivers while navigating through a life-changing medical event. We are pleased to continue to offer our **USC BTC Patient Caregiver Support Group** lead by **Jinsy Rogers** and **Nancy Hart**. In this issue, you will find a beautiful story of a family who was touched by the compassionate care that was offered to them during their son’s diagnosis.

During the few months since our last newsletter, our team has had the privilege of being part of brain tumor community outreach and fundraising efforts that make a significant impact in supporting all individuals who are affected by a brain tumor diagnosis. This year the USC BTC had the opportunity to sponsor and attend the **American Brain Tumor Association (ABTA) National Conference** in Chicago and also participated in the **ABTA Brain Tumor 5K run/walk**. We were also very honored to host a thank you lunch to the **Brain Tumor Companion (www.meningiomacompanion.com)** for a day of education



and brunch celebration. We are proud to share that this year we had our first high school intern in our BTC; Training future generations is essential for advancing and understanding this complex disease and developing better treatments and potential cures.

Last but certainly not least, the USC Brain Tumor Center is also looking forward to hosting the **Inaugural Southern California Brain Tumor Conference** which will be held at the Health Science Campus on December 8th, 2023. This event will be held in collaboration with **Cedars Sinai, Children’s Hospital Los Angeles, City of Hope, Pacific Neuroscience Institute, UC Irvine, and UCLA**. The conference will showcase the latest research from major scientists across Southern California.

At the USC Brain Tumor Center, we continue to offer and are always working on expanding our vast clinical trial portfolio, with several new trials for glioblastoma, brain metastases and meningiomas opening soon.

We want to thank you for your support of the USC BTC and its mission to provide unsurpassed clinical care to patients from all over the world and to cure brain tumors.

Heal on!

David D. Tran, MD, PhD

Co-Director, USC Brain Tumor Center

Gabriel Zada, MD, MS, FAANS, FACS

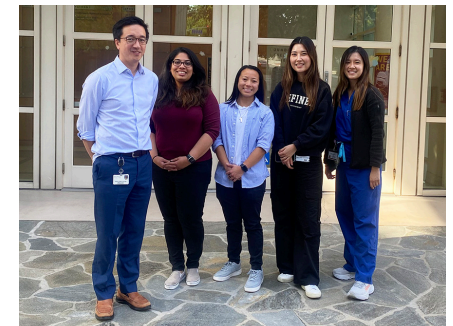
Co-Director, USC Brain Tumor Center

Josh Neman, PhD

Scientific Director, USC Brain Tumor Center

The USC Brain Tumor Center Laboratories

In both clinical and basic science settings, the USC Brain Tumor Center labs utilize a number of techniques that aim to understand nervous system mechanisms that give rise to primary tumors and promote tumor metastasis. The labs’ goals are to develop improved strategies for brain cancer treatment and improve treatment efficacy.



Attenello Lab

The Attenello lab (<https://sites.usc.edu/attenello/lab/staff/>) studies metabolic and epigenetic regulation of glioma chemoresistance. Lab members are approaching this question with studies of chromatin and targeted metabolic knockdown, while using flow cytometry, metabolomic and proteomic approaches, with both in vitro and in vivo tumor models.

Current Team Members

Krutika Deshpande, PhD is a Senior Research Associate in the lab. Before joining the Attenello Lab, Krutika received her Ph.D. in Medical Biology from USC and then went on to work as a Scientist in the biotech industry for 2 years. Her research experience and interests are focused on elucidating mechanisms of spread and chemo-responsiveness in primary and secondary brain cancers.

Tammy Doan, BS is a master’s student in the Biochemistry and Molecular Medicine (BMM) program. She got her B.S. in biochemistry from the University of Washington.

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"USC BTC Labs..." continued

Jane Han, MS recently finished her third year of medical school at the Keck School of Medicine and is currently in her research year. She received both her BS in Biochemistry and MS in Molecular Genetics and Biochemistry from USC.

Kristie Liu, MS is fourth-year medical student at the Keck School of Medicine and recently finished up her research year. She received her BS in Biochemistry from UCLA and MS in Biomedical Research from the University of Navarra.

**Tran Lab**

Research in the Tran lab focuses on utilizing life science and cancer immunotherapy techniques to understand the molecular mechanism of how cancer develops, progresses, and resists treatments through an integrated approach from clinical observations to computational biology, and to animal models and quantitative molecular validation, with the ultimate goal of returning to human patients to develop novel, safe and effective anti-cancer therapeutics.

Current Team Members

Dr. Tran's research team is split into two divisions: Computational: **Dr. Son Le, Ph.D.**, **Harshit Manektalia, M.S.**; and Experimental: **Dr. Dongjiang Chen M.D., M.S.**, **Tianyi Liu, M.D.**, **Adam O'Dell, M.S.**, and **Samuel Amponsah-Effah, Ph.D. Student.**

**Neman Lab
(Laboratory of Cancer Neuroscience)**

The Neman lab (www.cancerneuroscience.com) is a translational research lab focused on raising awareness that transdisciplinary investigation between cancer and neuroscience foundations can advance our current understanding of how the nervous system contributes to primary and metastatic brain tumors. Specifically, by leveraging current advances in **neurodevelopment** and the **brain's microenvironment** (neurons, astrocytes, oligodendrocytes, microglia, cerebral spinal fluid),

we aim to uncover novel mechanisms used by the nervous system which:

1. Give tumors outside the brain (breast, melanoma, lung), the proclivity to grow and metastasize (spread) to the brain.
2. Allow pediatric brain tumors (medulloblastoma) to metastasize (spread) from the brain.

This will ultimately result in development of improved strategies for treatment of brain tumor patients.

Current Team Members

Dr. Josh Neman is an Associate Professor of Neurological Surgery, Physiology & Neuroscience at the Keck School of Medicine of University of Southern California (USC). Dr. Neman is the Director of the Cancer Biology & Genomics Doctoral Program and the Scientific Director of the USC Brain Tumor. As well, Dr. Neman is the Co-leader of Neuro-oncology Disease Affinity Group and Director of Cancer Research Training and Education Coordination (CRTEC) at the USC Norris Comprehensive Cancer Center. As the Director of the Laboratory of Cancer Neuroscience, Dr. Neman's current research investigates the biology of brain metastases (cancers that spread to the brain—i.e. breast, lung, melanoma, prostate) and pediatric brain tumors. Dr. Neman is a strong supporter of involving the community in his basic and translational laboratory—this involves engaging with patients, patient advocates, and their families'.

Brooke Nakamura, is the lab manager and "lab boss" of the Neman lab. She has been at USC for 11 years, where Brooke has worked in a variety of labs. She is passionate about her research in brain tumors and hopes her work will impact patient care. Brooke enjoys traveling, reading, and relaxing when not in lab.

Mukund Iyer is a PhD candidate in Dr. Neman's laboratory. Before joining, he received his BS in Biochemistry and Cell Biology from Rice University while working at a pancreatic cancer lab at MD Anderson. His research interests are focused on elucidating the mechanisms through which tumor cells enter the brain and adapt to the brain micro-environment. In his free time he enjoys watching basketball, hiking all around LA, and playing video games.

Dr. Saman Sedighi is a research associate in the Neman lab and the USC Brain Tumor Center. Dr. Sedighi earned her MD from Iran is currently a research associate in the Neman lab and the USC Brain Tumor Center (BTC). Her current projects involve with the development of personalized brain tumor treatments at the USC BTC and the role of chemobrain in brain metastasis. During her time away from the lab, she enjoys meditation and yoga when she is not in the lab.

Dr. Diganta Das is currently a post doctoral fellow in the lab. He received his PhD from Tezpur University in Assam, India. Dr. Das is a cancer neu-

roscientist focusing on breast to brain metastasis, leptomeningeal dissemination, and the blood brain barrier. Dr. Das is strong believer in the power of collaboration to advance scientific knowledge and innovation. On his spare time, he enjoys traveling, creating YouTube content, playing guitar, and singing.

Priya Shah is a current undergraduate at USC majoring in Neuroscience on the pre-med track. After her sister's brain tumor diagnosis, she gained a passion for neurobiology and medicine, leading her to volunteer at the Neman Lab. Along with brain tumor research, Priya is incredibly passionate about using the intersections between public health and medicine to improve overall health outcomes. In the future, she hopes to pursue a career as a physician while also focusing on prevention and education to support patients both inside and outside the hospital.

**Zada Lab**

The Zada lab (<https://www.doctorzada.com/>) is focused on translational research in both clinical and basic science settings. Clinical research interests involve matters of brain/pituitary tumors and skull base surgeries. The research laboratory at the Zilkha Neurogenetic Institute focuses on the genomics and epigenetics of brain and pituitary tumors.

Dr. Zada is a highly experienced neurosurgeon-scientist with expertise in treating brain, pituitary and skull base tumors using both minimally invasive and open cranial approaches. He has performed over 2,500 complex brain tumor operations and is regarded as an expert in minimally invasive cranial tumor neurosurgery. He is a fellowship trained specialist in endoscopic endonasal and minimally invasive keyhole operations for a variety of brain and skull base tumors.

Dr. Zada is Professor of Neurosurgery at the Keck School of Medicine of USC. He is the Co-Director of the USC Brain Tumor Center. He has published over 300 peer-reviewed articles on various topics, mostly relating to brain/pituitary tumors and skull base surgery. He is an NIH-funded principal investigator whose research laboratory at the USC Zilkha Neurogenetic Institute focuses on the genomics and epigenetics of the same brain and pituitary tumors that he resects. Dr. Zada serves on the editorial board of The Journal of Neurosurgery.

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“USC BTC Labs...” continued

Oscar Aurelio is a Research Scientist and Manager of the research laboratory. He earned his Ph.D. from the University of California, Irvine. His research career covers a wide range of experiences from academic research in cancer biology of human cell lines, developmental neurobiology in *C. elegans*, genomics, and biochemistry. His career has included positions in both academia and the biotechnology industry.

Reza Ghodsi is a Ph.D. holder in bioengineering, is currently serving as an adjunct faculty member at Caltech and a postdoctoral fellow in the Zada lab. His research portfolio covers a wide range, including tumor-treating magnetic fields, stroke sensors, and diagnostic neurological devices.

Alyssa Wong is a 2nd-year Cancer Biology and Genomics PhD Student at the Keck School of Medicine of USC. She earned her BS in Biology with Honors from California State University, Los Angeles. She currently studies brain cancer, specifically malignant meningiomas.

Trey Garrett, B.A., helps with coordination of all aspects of both sponsor and investigator initiated clinical trials and helps maintain regulatory approvals by ensuring all studies are conducted using Good Clinical Practice and that all lab members follow all rules, laws, and regulations. He also helps maintain a large database of clinical data that is used to perform retrospective analyses.

Transforming Brain Tumor Care: The Personalized Medicine Initiative at the USC Brain Tumor Center

At the USC Brain Tumor Center, we have developed a transformative approach in the realm of personalized medicine for brain tumor patients. This Personalized Medicine Initiative, led by our scientific director Dr. Josh Neman, starts with harnessing patient’s brain tumor tissue from the operating room and subsequently growing cancer cells in our core lab. Subsequently, both these patient brain tumor tissue and cells will go through genetic and molecular profiling, followed by a rigorous screening with a panel of FDA-approved drugs. This innovative pipeline not only sheds light on the unique genetic and molecular characteristics of the tumor but also enables the identification of drugs with the highest efficacy in eradicating these brain tumor cells.

By acting as a critical bridge between surgery and treatment, this approach has the potential to significantly expedite the patient’s journey toward effective therapy. Through the discerning evaluation of the patient’s brain tumor cell’s response to a variety of FDA-approved drugs, the platform can reveal treatment options that may not have been initially considered by the oncologist. These uncovered drugs, selected based on their exceptional cancer cell-killing capabilities within the patient’s unique tumor, have the potential to revolutionize the treatment strategy.

Furthermore, the resulting report provided to our clinical team represents a dynamic list of tailored drug options. This list is cultivated through a



deep understanding of the tumor’s response, effectively turning the tumor cells into an “avatar” for the patient. Such a report is invaluable, as it empowers our neuro-oncologists to make informed, patient-centric decisions and initiate treatment with a higher likelihood of success. This true personalized approach holds the potential to accelerate treatment and elicit better responses, ultimately improving patient outcomes and quality of life.

Thus, the Personalized Medicine Initiative exemplifies the convergence of cutting-edge scientific technology, medical expertise, and compassion, fostering hope for those confronting the formidable challenge of brain tumors.

Caregiver Support Group of the USC Brain Tumor Center

Nancy Hart and I are so pleased to be going on our third year of having our **USC Brain Tumor Caregiver Support Group**. It has been a vital resource to many caregivers who need an outlet to discuss their unique experiences. Recently, we have had attendees from around the nation join our group and we have seen an interesting shift in how our groups have run. Attendees have begun to form closer bonds so that discussion and support have been seamless. This can only happen when trust abounds. We have been in awe with how our attendees are vulnerable in sharing their stories and they are leaving each group with a stronger sense of community with others who are walking a similar road. We look forward to seeing how our group will continue to grow in the coming year. If you would like to join our group, please contact Jinsy Rogers LCSW at Jinsy.Rogers@med.usc.edu in order to be added to the monthly email list. We meet the second Thursday of every month from 4pm-5pm via Zoom.

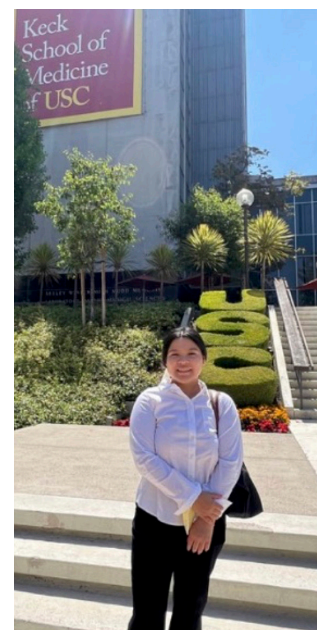


Jinsy Rogers, LCSW

Training the next generation- USC Brain Tumor Center High School Internship

Madi Herrera, a high school senior, spent her summer as the USC Brain Tumor Center intern. We were very excited to have her join us in the laboratory and to showcase our research to the next generation of scientists. **Madi spent 5 weeks shadowing Saman Sedighi**, where she learned a variety of techniques. She was able to experience the hard work it takes to generate and maintain cell lines derived from brain tumor samples obtained from the hospital. After generating these cell lines, Madi helped the lab in characterizing the brain tumor cell line with immunocytochemistry and using a confocal microscope to take images. The lab is very thankful for all her hard work and her enthusiasm for learning about our research.

“Interning at the USC Brain Tumor Center alongside the incredible team has been such an amazing hands-on experience and a great way to learn about cancer research and brain tumor treatment procedures”, said Madi.



Madi Herrera

Drs. Freddi Segal-Gidan and Jon Gidan Give Gift in Memory of Son Hayden

A primary mission of the USC Brain Tumor Center is to provide high-level support and ease for patients and their caregivers while navigating through a life-changing medical event. The Center implements coordinated visits and appointments, 24/7 availability of staff, and a wraparound team approach that includes a licensed clinical social worker available to offer assistance and resources for psychosocial needs that inevitably occur when someone is diagnosed with a brain tumor.

Compassionate caregiving is at the heart of the USC Brain Tumor Center, and we are grateful to announce a meaningful gift from **Dr. Freddi Segal-Gidan** (a USC Department of Neurology faculty member) and **Dr. Jon Gidan** (alumnus of the USC Pediatric Dentistry Residency program), in memory of their son **Hayden M. Gidan**. The gift will provide recognition to individuals who exemplify the principles of compassionate caregiving and educate future physicians of the importance of providing **“care, not just treatment.”**

“Hayden was such a caring, empathic, and giving person. Sometimes to a fault,” Freddi and Jon said with a chuckle. “He had the best smile and laugh and would give you a big hug that would lift you off the ground. He was a big teddy bear.”

Nine years after his initial brain tumor diagnosis Hayden died in 2021 at the age of 28. His family seeks to honor his memory in a way that would “remind clinicians to get out of their medical skin, once in a



Pictured Left to Right- Hayden, Freddi, Jared, and Jon.

while.” It is with that legacy and their own personal experiences in mind, that led them to seek an opportunity to spread the message of treating the person first. With their support, the **Hayden M. Gidan Compassionate Care Fund** was created to educate and remind care teams that patients and caregivers need more than medical treatment.

This year, the fund will recognize **Jinsy Rogers, Licensed Clinical Social Worker** at the USC Brain Tumor Center. Jinsy has been an invaluable addition to the BTC team, walking alongside our patients and their loved ones from their very first appointment and providing a compassionate advisor who can help

them digest the heaviness of their diagnosis and the many choices and questions that follow. It is a model for which all centers and care providers should aspire to provide. Jinsy will share more about her inspiration and approach at this year’s **Southern California Brain Tumor Conference**, hosted by Keck School of Medicine of USC on Friday, December 8—making Hayden’s legacy impactful beyond just those recognized and inspiring exemplary compassionate care by all of those who will be in attendance.

“We hope that this will be a reminder for clinicians that treatment should happen *with* care. Too often we focus on treatment alone, and the care gets lost,” Freddi and Jon said. “Even though we had wonderful providers and clinicians along the way, if we can make things better for patients and families in the future, we’re glad we can do that.”

Brain Tumor Companion Raises Funds for the USC Brain Tumor Center

On Saturday October 7th, 2023, **The Brain Tumor Companion**, and members of the USC Brain Tumor Center came together for a day of education and celebration.

The Brain Tumor Companion was founded by **Angel Jones**, a brain tumor survivor, with a vision to provide a safe place for brain tumor patients to get support and resources to assist them with challenges and uncertainties of the diagnosis.

Angel meets with them, one on one, or with peers via a Brain Tumor Support Group through zoom (<https://www.meningiomacompanion.com/>).

Every year the Brain Tumor Companion community supports advancements in research to better serve the brain tumor patient population and this year they are raising money for the USC Brain Tumor Center.



On a beautiful morning in west Los Angeles, The USC Brain Tumor Center gave a presentation to some of the “Companions” of what we do at the USC Brain Tumor Center, the research advancements, clinical trials and what we foresee in the future of the brain tumor world.

It was wonderful to have the opportunity to meet with them and personally thank them for everything they have done to raise over \$20,000 for our Center.

Thank you for your incredible support and Heal On!

USC is a Gold Sponsor at the American Brain Tumor Association National Conference

This year marked the **50th anniversary** of the **American Brain Tumor Association!** The 30th annual national conference, held September 8-9 in Chicago, was well attended by patients, caregivers, and survivors. The USC Brain Tumor Center table was visited by many enthusiastic attendees, sharing their stories or the journey of loved ones. Several expressed interest in attending the upcoming Southern California Brain Tumor Conference!

We saw strangers bond, sharing tears and laughter during the two day conference. The sessions were a mix of education and humor, including the keynote address by Bryan Bishop, a 14-year brain tumor survivor and author of *Shrinkage: Manhood, Marriage, and the Tumor That Tried to Kill Me*.

The atmosphere was truly uplifting.



The USC Brain Tumor Center shows up in great form to the American Brain Tumor Association BT5K

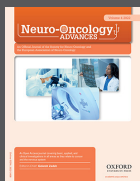
On Saturday October 14th, 2023, a beautiful sunny morning in Santa Monica, our USC Brain Tumor Center Team and our families came together to run/walk the **American Brain Tumor Association BT5K (ABTA)** and we even got to watch a Solar Eclipse. The USC Brain Tumor Center was a Silver Sponsor for the **American Brain Tumor Association Annual Breakthrough for Brain Tumors BT5K- Los Angeles**.

Dr. Gabriel Zada, Co- Director of the USC BTC and **Dr. Josh Neman**, Scientific Director of the USC BTC, were part of the Host Committee. The funds raised by this event support the ABTA's mission of providing critical funding for brain tumor research and patient support services.

We look forward to sponsoring the ABTA again next year and we hope that you can join us in supporting this wonderful organization.



SELECTED PUBLICATIONS

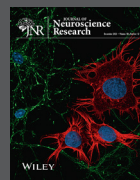


Modulating glioblastoma chemotherapy response: Evaluating long non-coding RNA effects on DNA damage response, glioma stem cell function, and hypoxic processes. Yuan E, Liu K, Lee J, Tsung K,

Chow F, Attenello FJ. *Neurooncol Adv.* 2022 Aug 10;4(1):vdac119. doi: 10.1093/naoinj/vdac119. PMID: 36105389; PMCID: PMC9466271.

■ Current treatments for glioblastoma GBM include chemotherapy, surgical resection, radiation therapy, and antiangiogenic therapy. However, despite the various therapeutic options, the 5-year survival rate remains at a dismal 5%. Temozolomide (TMZ) is the first-line chemotherapy drug for GBM; however, poor TMZ response is one of the main contributors to the dismal prognosis. Long non-coding RNAs (lncRNAs) are nonprotein coding transcripts greater than 200 nucleotides that have been implicated to mediate various GBM pathologies, including chemoresistance.

In this review, we aim to frame the TMZ response in GBM via exploration of the lncRNAs mediating three major mechanisms of TMZ resistance: (1) regulation of the DNA damage response, (2) maintenance of glioma stem cell identity, and (3) exploitation of hypoxia-associated responses.



Breast-to-brain metastasis is exacerbated with chemotherapy through blood-cerebrospinal fluid barrier and induces Alzheimer's-like pathology. Saatian B, Deshpande K, Herrera R, Sedighi S,

Eisenbarth R, Iyer M, Das D, Julian A, Martirosian V, Lowman A, LaViolette P, Remsik J, Boire A, Sankey E, Fecci PE, Shiroishi MS, Chow F, Hurth K, Neman J. *J Neurosci Res.* 2023 Dec;101(12):1900-1913. doi: 10.1002/jnr.25249. Epub 2023 Oct 3. PMID: 37787045.

■ Control of breast-to-brain metastasis remains an urgent unmet clinical need. While

chemotherapies are essential in reducing systemic tumor burden, they have been shown to promote non-brain metastatic invasiveness and drug-driven neurocognitive deficits through the formation of neurofibrillary tangles (NFT). In this study, we investigated the effect of chemotherapy on brain metastatic progression and promoting tumor-mediated NFT. Results show chemotherapies increase brain-barrier permeability and facilitate enhanced tumor infiltration, particularly through the blood-cerebrospinal fluid barrier (BCSFB). Increased MMP9 activity in the choroid epithelium following chemotherapy results in cleavage and release of Tau from breast cancer cells. This cleaved Tau forms tumor-derived NFT that further destabilize the BCSFB. Our results underline for the first time the importance of the BCSFB as a vulnerable point of entry for brain-seeking tumor cells post-chemotherapy and indicate that tumor cells themselves contribute to Alzheimer's-like tauopathy.

**CLINICAL TRIALS:
Now Enrolling at the USC Brain
Tumor Center**

Have you or someone you know recently been diagnosed with a brain tumor? Choosing the right treatment can be challenging. To find out more about our breakthrough treatments, contact our specialized brain tumor team at **(844) 33-BRAIN (844-332-7246)** or email frances.chow@med.usc.edu.

A Phase 1/2 Trial of Selinexor and Temozolomide in Recurrent Glioblastoma

Selinexor is a novel first-in-class XPO1 inhibitor with potent anti-tumor activity. Preclinical studies demonstrate that selinexor blocks nuclear export, impairs DNA repair, and triggers tumor cell death. Through the National Cancer Institute's (NCI) Cancer Therapy Evaluation Program, Dr. Frances Chow led a team of cancer biologists, pharmacists, and translational scientists to develop a clinical trial to evaluate the safety and efficacy of temozolomide in combination with selinexor in recurrent glioblastoma.

This study is supported by the National Institutes of Health (NIH) and is currently enrolling at USC and across the Experimental Therapeutics Clinical Trials Network (ETCTN).

Trial	Interventions	Phase
Brain Metastasis		
1 Stereotactic Radiosurgery (SRS) Compared with Collagen Tile Brachytherapy	<ul style="list-style-type: none"> • GammaTile • Stereotactic radiosurgery 	Phase 1
Glioblastoma		
2 A Phase 1/2 Study of Selinexor and Temozolomide in Recurrent Glioblastoma	<ul style="list-style-type: none"> • Selinexor + Temozolomide • Temozolomide 	Phase 1/2
3 An Open-Label, Phase 1/2A Dose Escalation Study of Safety and Efficacy of NEO100 in Recurrent Grade IV Glioma	<ul style="list-style-type: none"> • Perillyl alcohol (inhaled) 	Phase 1/2A
4 A Phase 2, Open-Label, Single-Arm, Multicenter Study to Evaluate the Efficacy and Safety of Pemigatinib in Participants With Previously Treated Glioblastoma or Other Primary Central Nervous System Tumors Harboring Activating FGFR 1-3 Alterations (FIGHT-209).	<ul style="list-style-type: none"> • Pemigatinib 	Phase 2
5 Testing the Addition of the Immune Therapy Drugs, Tocilizumab and Atezolizumab, to Radiation Therapy for Recurrent Glioblastoma (BN010)	<ul style="list-style-type: none"> • Radiation + Tocilizumab + Atezolizumab • Radiation + Tocilizumab 	Phase 2
6 Enzastaurin Plus Temozolomide During and Following Radiation Therapy in Patients with Newly Diagnosed Glioblastoma with or Without the Novel Genomic Biomarker, DGM1	<ul style="list-style-type: none"> • Enzastaurin + Standard therapy • Standard therapy 	Phase 3
7 GammaTile and Stupp in Newly Diagnosed GBM (GESTALT)	<ul style="list-style-type: none"> • GammaTile + Standard therapy • Standard therapy 	Phase 4
8 Pivotal, Randomized, Open-label Study of Optune® Concomitant with RT & TMZ for the Treatment of Newly Diagnosed GBM (EF-32)	<ul style="list-style-type: none"> • Optune + Standard therapy • Standard therapy 	N/A
Meningioma		
9 An Open-Label, Phase 2 Study of NEO100 in Participants with Residual, Progressive or Recurrent High-grade Meningioma	<ul style="list-style-type: none"> • Perillyl alcohol (inhaled) 	Phase 2
10 Observation or Radiation Therapy in Patients with Newly Diagnosed Grade II Meningioma That Has Been Completely Removed by Surgery (NRG-BN003)	<ul style="list-style-type: none"> • Radiation • Standard therapy 	Phase 3

'23

1ST ANNUAL SOUTHERN CALIFORNIA BRAIN TUMOR CONFERENCE

Hosted by
Keck Medicine of **USC**

SAVE *the* DATE

CONFERENCE AGENDA

SESSION I: SURGICAL NEURO-ONCOLOGY

- **Advances in Surgical Resection of Brain Tumors:** Gabriel Zada, MD, MS
- **Genomics and Epigenomics in Gliomas:** Frank Attenello, MD, MS
- **CAR T Cell Therapy (Clinical Research):** Behnam Badie, MD
- **The role of 3D modeling in surgical training for skull-base tumors:** Garni Barkhoudarian, MD

SESSION II: TRANSLATIONAL RESEARCH

- **GBM Heterogeneity – A Curse or a Blessing in Disguise:** David Tran, MD, MS
- **Immune Microenvironment in Breast Cancer Brain Metastasis:** Devon Lawson, PhD

- **Identifying and Validating Targeted Therapeutics Using Meta Atlases of Brain Tumor Single-Cell RNA Sequencing in Combination With Somatic Transgenic Brain Tumor Models:** Joshua Breunig, PhD

- **Drug Discovery and Development for Malignant Glioma:** David Nathanson, PhD

SESSION III: CLINICAL TRIALS

- **Landscape of Clinical Trials in Neuro-Oncology:** Frances Chow, MD
- **CSF liquid Biopsy in Pediatric CNS Tumors:** Katrina O'Halloran, MD
- **Experimental Therapy Options for Patient with Glioma:** Leia Nghiemphu, MD

- **The Hayden M. Gidan Compassionate Care Fund Presentation, Patient Caregivers:** Jinsy Rogers, LCSW, OSW-C

SESSION IV: BRAIN TUMOR IMAGING/ RADIATION

- **Radiation and Immunotherapy for Glioblastoma:** Lindsay Hwang, MD
- **Sterotactic: Radiosurgery for Multiple Brain Metastases: How Many is too Many:** Tania Kaprealian, MD, MBA
- **Glioma Reirradiation:** Savita Dandapani, MD, PhD
- **Adaptive Responses to Genome-Wide DNA Damage in Glioblastoma Result in Topologic Genome Reorganization:** Aram Modarek, MD, PhD

Friday, December 8, 2023 • 8:00 am - 5:30 pm

HSC Conference Center on the USC Health Sciences Campus

2200 Trojan Way, Los Angeles, CA 90033

Entrance on San Pablo St., North of Alcazar St.



Learn more about the **Southern California Brain**

Tumor Conference at:

<https://keckusc.cloud-cme.com/course/course-overview?P=o&EID=5767>



USC Brain Tumor Center

1441 Eastlake Avenue
Los Angeles, CA 90033

Patient referrals, (844) 33-BRAIN (844-332-7246)

At the USC Brain Tumor Center, our mission is to provide exceptional, comprehensive and innovative concierge-style treatment plans for adults and children with all types of brain tumors and related conditions. Giveto.USC.edu

We Are the USC Brain Tumor Center

NEUROSURGERY

Gabriel Zada, MD, MS
Thomas Chen, MD, PhD
Josh Neman, PhD
Frank Attenello, MD, MS
Steven Giannotta, MD
Cheng Yu, PhD
Oscar Aurelio, PhD
Camelia Danilov, PhD
Reza Ghodsi, PhD
Radu Minea, MD
Steve Swenson, PhD
Weijun Wang, MD

NEUROLOGY

Helena Chui, MD

NEURO-ONCOLOGY

David D. Tran, MD, PhD
Frances Chow, MD
James Hu, MD
Tania Vartanians, MS, PA-C

RADIATION ONCOLOGY

Shelly Bian, MD
Eric Chang, MD, FASTRO
Adam Garsa, MD
Lindsay Hwang, MD
Richard Jennelle, MD
Aram Modrek, MD, PhD
Jason Ye, MD

NEURO-RADIOLOGY

Paul Kim, MD
Priya Rajagopalan, MD
Mark Shiroishi, MD

NEURO-PATHOLOGY

Kyle Hurth, MD, PhD
Anna Mathew, MD
Michael Selsted, MD, PhD

NORRIS CANCER CENTER

Dennis Deapen, DPH
Caryn Lerman, PhD

NEURO-OPHTHALMOLOGY

Kimberly Gokoffski, MD, PhD

ADVANCED IMAGING (USC Laboratory of Neuro Imaging)

Vishal Patel, MD
Arthur Toga, PhD
Paul Thompson, PhD
Danny Wang, PhD

BIOINFORMATICS AND TRANSLATIONAL GENOMICS

John Carpten, PhD
David Craig, PhD
Bodour Salhia, PhD
Daniel Weisenberger, PhD

CLINICAL TRIALS

Trey Garrett
Sandy Leong, BSN, RN, CCRP
Aida Lozada, MA

MOLECULAR BIOLOGY AND TRANSLATIONAL RESEARCH

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