

**UCDAVIS**  
**HEALTH**

Department of  
Neurological Surgery

*2020 Year in Review*



**Letter from the Chair**  
**Griffith R. Harsh IV, M.D., M.A., M.B.A.**  
**Professor & Julian R. Youmans Endowed**  
**Chair**

Though 2020 and COVID-19 brought considerable challenges I am pleased the department continues to grow and evolve its clinical programs.

We welcomed several new faculty members early in the year, cerebrovascular neurosurgeon Dr. Branden Cord, spine neurosurgeon, Dr. Allan Martin, neurocritical care specialist, Dr. Jeffrey Vitt and neuro-oncologist Dr. Orwa Aboud. Each of these new faculty members has had considerable effect in their respective areas and we are pleased to see their contributions making an impact in teaching and patient care.

The COVID-19 pandemic became reality in March and we quickly adapted to working remotely. Stacy Miller, our Chief Administrative Officer did an outstanding job of transitioning staff to remote work and their efforts to keep things running smoothly have contributed to maintaining a high level of productivity in spite of massive change. We moved our standing meetings to virtual platforms, and I am proud of our entire staff for how they handled and responded to this challenge.

The residency program continues to thrive under the direction of Dr. Kia Shahlaie. In June we celebrated the graduation of Dr. Seun Omofoye with a virtual ceremony simultaneously broadcast on Facebook Live. With the help of resident physicians Drs. Dylan Goodrich and Tejas Karnati, we created a program video to highlight the strengths of our program and the role we have in our community. In December we completed two full days of resident applicant interviews which took significant planning and effort by both Dr. Shahlaie and Staci Leitner. I appreciate their willingness to embrace change and their creative approach to problem solving.

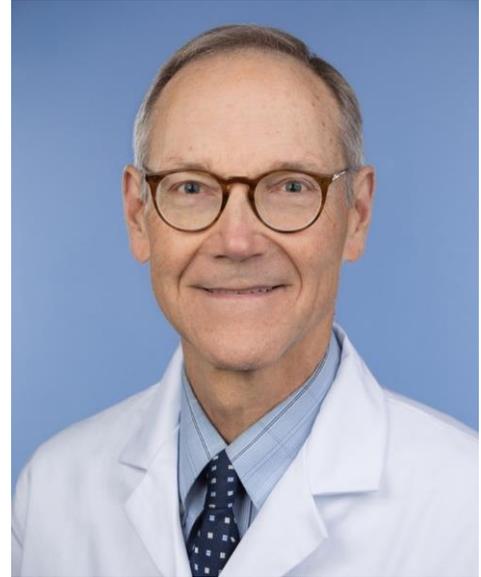
Our Advanced Practice Providers moved to a 1:1 model this year which has been positively received. Their contributions to providing outstanding patient care and throughput have improved communication and patient satisfaction and we value their efforts.

We welcomed Dr. Amy Brooks-Kayal in October as she moved into her role as Professor and Chair and the Andrew John Gabor, M.D., Ph.D., Presidential Endowed Chair of the Department of Neurology. I look forward to the continued collaboration and partnership between both departments.

In January of 2021, Patrick Fuller, Ph.D. will join our research program as a professor and the vice-chair of research. Dr. Fuller brings a wealth of research experience, mentorship and leadership, and we look forward to his contributions to our research program.

I thank each member of the department for your willingness to adapt and the flexibility you have demonstrated throughout 2020. Despite much change, we continue to thrive, and it is through our teamwork, collaboration, mutual respect and coordinated efforts to prioritize patient care and education, that we are able to overcome the most pressing of challenges.

I look forward to our continued departmental growth and excellence in 2021.



## Faculty Recruitment

We were pleased to add four new faculty members to the Department of Neurological Surgery in 2020.



**Allan Martin, M.D., Ph.D.**  
Spine

Dr. Martin earned his Medical Degree in 2011 at the University of Toronto and completed his Ph.D. in 2017 at the University of Toronto, Institute of Medical Sciences Surgeon Scientist Training Program. He graduated from the neurological surgery residency program at the University of Toronto in 2019 and completed a spinal fellowship in June of 2020. Dr. Martin works closely with Drs. Kee Kim and Julius Ebinu in the Comprehensive Spine Center.



**Branden Cord, M.D., Ph.D.**  
Cerebrovascular

Dr. Cord completed a neurovascular fellowship in 2020 at Yale-New Haven Hospital in New Haven, Connecticut. He earned his Medical Degree and Doctor of Philosophy in Medical Science in 2012 at Stanford University. Dr. Cord graduated from the Neurological Surgery Residency Program at Yale-New Haven Hospital in 2019 and completed an enrolled neurointerventional fellowship in 2017. Dr. Cord joins Dr. Ben Waldau in providing cerebrovascular neurosurgical services here at UC Davis.



**Jeffrey Vitt, M.D.**  
Neurocritical Care

Dr. Vitt earned his Doctor of Medicine at the Georgetown University School of Medicine in Washington, DC in 2014. He graduated from the Neurology Residency Program at the University of California, San Francisco in 2018 and completed his Clinical Fellowship in Neurocritical Care also at the University of California, San Francisco in June of 2020. Dr. Vitt works closely with Drs. Martin and Zimmermann on the neurocritical care service.



**Orwa Aboud, M.D., Ph.D.**  
Neuro-Oncology

Dr. Aboud earned his medical degree at Damascus University in 2007. He completed his Ph.D. in neurobiology and neurosciences in 2013, and his residency training in neurology in 2017 at the University of Arkansas for Medical Sciences. Dr. Aboud has completed a three-year program in clinical and research neuro-oncology training at the joint National Cancer Institute and Johns Hopkins University. His research includes designing clinical trials for glioblastoma patients. Dr. Aboud joined the department in August and works closely with Dr. Bloch in our Brain Tumor Program.



**Patrick M. Fuller, Ph.D.**, joins the faculty in January of 2021. Dr. Fuller is a UC Davis graduate. He earned his M.S. in Exercise Physiology in 2001 and his Ph.D. in Molecular, Cellular and Integrative Physiology in 2004, both at UC Davis. Dr. Fuller completed a neuroscience fellowship in the Department of Neurology at Beth Israel Deaconess Medical Center in 2007 and has been working in the Division of Sleep Medicine as an Associate Professor of Neurology at Harvard Medical School and Beth Israel Deaconess Medical Center.

Dr. Fuller was recruited to the Department of Neurological Surgery as a Target of Excellence recruitment. He has garnered significant extramural funding as the Principal Investigator for (3) R01 grants and Co-Principal Investigator on two additional R01's. His investigative efforts focus on the cellular and synaptic basis by which the brain regulates sleep, wakeful consciousness and circadian rhythms, aligning with evidence that suggests sleep and biological clocks impact neurological function. Using transgenic mouse models and optogenetics, Dr. Fuller has made meaningful contributions to understanding how the specific neural circuits and brain regions regulating sleep onset and timing are controlled. Dr. Fullers work will compliment current department research efforts in electrophysiological approaches to TBI, epilepsy and cognition.

## Open Faculty Recruitments

The Department of Neurological Surgery is currently engaged in the following active faculty searches:

- Functional Neurosurgeon
- Pediatric Neurosurgeon
- Part-time Spinal Neurosurgeon
- Neuroprosthetics Researcher

Faculty recruitment listings can be located on <https://www.recruit.ucdavis.edu>



## SACRAMENTO CONJOINED TWINS SEPARATED

*Michael S. B. Edwards, M.D.**Kia Shahlaie, M.D., Ph.D.**Marike Zwieneberg, M.D.*

# Craniopagus Twins

The separation surgery for Abigail and Micaela Bachinskiy began on October 24<sup>th</sup> and lasted 25 hours. It took months of planning meetings, and virtual simulation sessions and an incredible amount of organization and teamwork for this surgery to be a success. We appreciate the contributions of everyone who participated in this extremely rare opportunity to separate the twins; however, we are especially proud of our faculty members, **Dr. Michael Edwards**, **Dr. Kia Shahlaie** and **Dr. Marike Zwieneberg**. The entire team was comprised of over 30 people and included surgeons, anesthesiologists, nurses and key surgical staff and the surgery took place in the UC Davis Children's Surgery Center in an operating room specifically built for complex cases such as this. The girls went home in late December and have made remarkable progress.

Read the article: [Rare set of conjoined twins successfully separated in 24-hour surgery at UC Davis Children's Hospital](#) and watch the 5 part video series: [Conjoined Twins Separation](#).

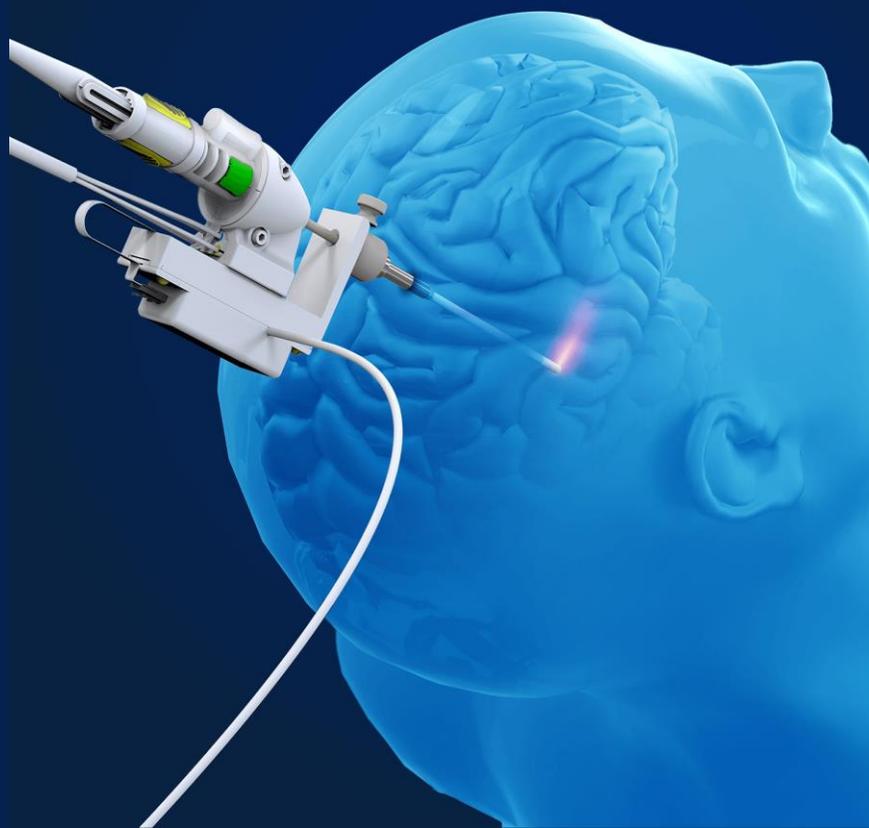
We appreciate all of the effort that went into planning and preparing for this complex surgery and applaud Drs. Edwards, Shahlaie and Zwienenberg, and the entire team on this outstanding achievement.





# Confronting Brain Tumors

UC Davis Neurological Surgery is the first in the region to add **NeuroBlate's Laser Interstitial Thermal Therapy (LITT)** to its arsenal of tools for the treatment of brain tumors. In August of 2020, Dr. Orin Bloch, Director of the Brain Tumor Program, used LITT's minimally invasive laser technology to dissolve a patient's brain tumor and the patient was able to return home the following day. This technology will be particularly useful for treating patients with small or recurring tumors. LITT may also be used to treat Epilepsy in both adults and children. For additional information about NeuroBlate in the Sacramento region, patients and referring physicians can contact the UC Davis Health Brain Tumor Program at 916-731-1098.





Orin Bloch, M.D.  
Associate Professor & Director Brain Tumor Program

UC Davis Health Neurological Surgery is home to a robust multidisciplinary adult and pediatric brain tumor program which spans several departments. We are dedicated to providing the highest quality of care to our patient population and to conducting breakthrough research in immunotherapy and the discovery and application of novel brain tumor treatments.

We are the largest Brain Tumor Program in North Central California with a catchment that extends into Nevada and Oregon. We perform over 500 brain tumor procedures annually, treating gliomas, meningiomas, craniopharyngiomas, skull base tumors, head and neck malignancies, chordomas, pituitary tumors, acoustic neuromas, metastatic tumors, and more. We provide full disease management.

We utilize brain and motor mapping, intraoperative neuromonitoring and use both awake and asleep craniotomies for eloquent tumors.

In addition to LITT, we are approved for Brachytherapy treatment using GammaTile Therapy to treat gliomas and recurrent metastasis. The brain metastasis program utilizes both the IKON Gamma Knife and LINAC Stereotactic Radiosurgery and surgical resection.

We are fully equipped with BrainLab and Stealth Navigation systems and software for brain tumor and skull based resections.



# Augmenting Reality



UC Davis Neurological Surgery is using mixed reality goggles to help provide optimal patient care. Utilizing the MagicLeap Goggle system we are able to load MRI's and CT scans into a planning station and examine and manipulate virtual models to plan for highly complex procedures. In addition to surgical planning, this is an outstanding teaching tool, which helps us educate students, residents and families. This system is a remarkable advancement and helps us provide the very best clinical care for our patients.



# Advancing Clinical Research

UC Davis Neurological Surgery is continuously improving the ways in which we deliver outstanding neurological surgical care. From artificial discs and bone modeling studies to finding ways to measure intracranial pressure and brain tissue oxygenation in our traumatic brain injury patients, we are dedicated to working at the frontier of discovery and innovation. With a team of physician investigators and clinical research specialists we seek novel ways to impact change and create optimal outcomes for our patient population. The studies mentioned here are *open to enrollment*.

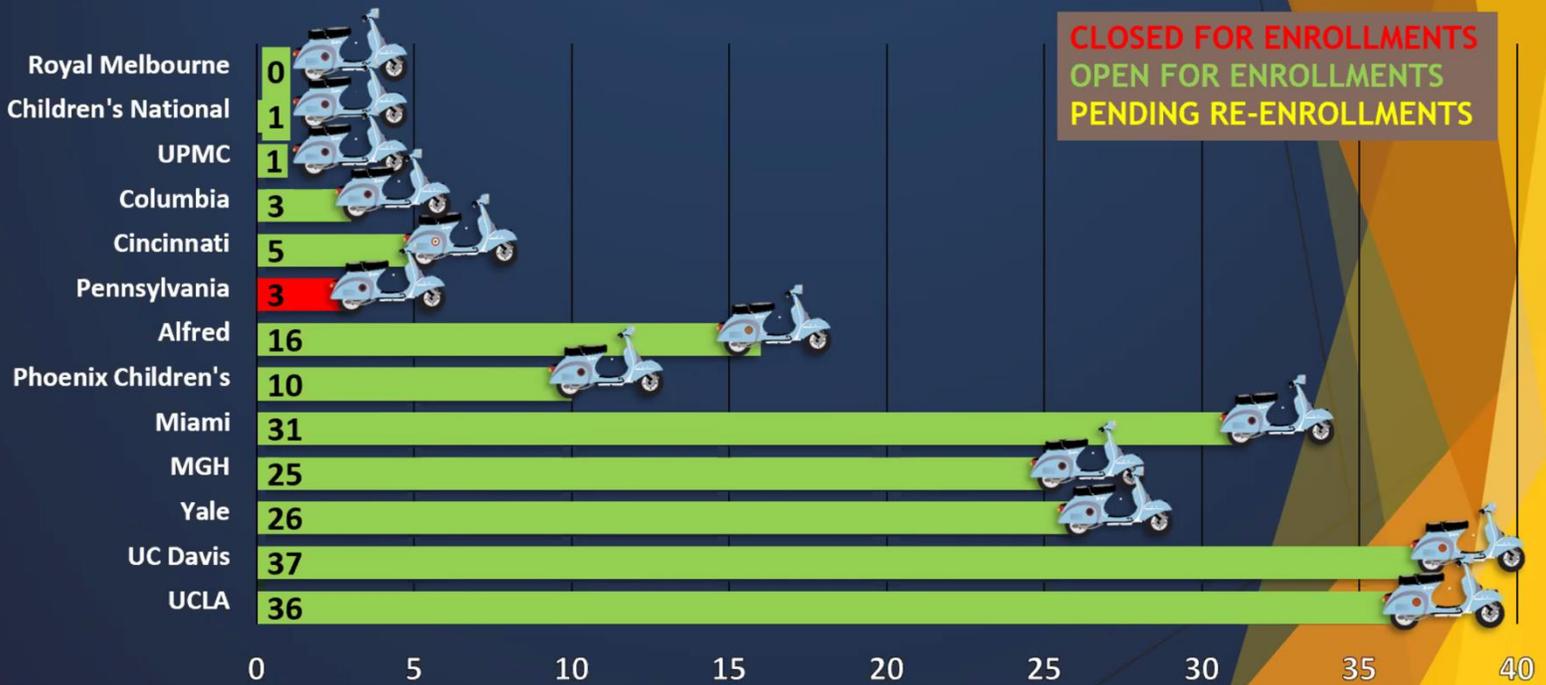
*Nancy Rudisill, N.P., Reva Vishwasrao and Dr. Ryan Martin gathering patient information in the Neurosurgical ICU.*



Dr. Matthew Kercher, PGY-2 prepares to place a brain tissue oxygen monitoring device (PbtO<sub>2</sub>) in a traumatic brain injury patient as part of the Brain Oxygen Optimization in Severe TBI (BOOST3) study. BOOST3 is a multi-center trial led by Dr. Lara Zimmermann here at UC Davis.

# UC DAVIS HEALTH

# EpiBioS4Rx Site Enrollments



## Epilepsy Research

Understanding the connection between traumatic brain injuries and the development of epilepsy is one of our highest priorities. Our clinical investigators take a collaborative approach and work with investigators and researchers from other institutions to collect and analyze data in the pre-clinical phase and translational research phases to help us find effective treatments.



Lara Zimmermann, M.D.  
Assistant Professor



Ryan Martin, M.D.  
Assistant Professor



Jeffrey Vitt, M.D.  
Assistant Professor

### EpiBioS4Rx

UC Davis Health is ahead in the race to enroll subjects in the Epilepsy Bioinformatics Study for Antiepileptogenic Therapy (EpiBioS4Rx). This large, multicenter study is designed to increase collaborative research efforts across multidisciplinary teams of basic and clinical neuroscientists with access to extensive patient populations. UC Davis is one of 13 TBI Centers that will follow patients for two years.

### Imaging of Glial Activation and Risk for Post Traumatic Epilepsy

Dr. Ryan Martin is the Principal Investigator on this Department of Defense Congressionally Directed Award designed to better understand epilepsy in patients with acute TBI. We are enrolling 30 patients for this study.

### UC Davis – David Grant Medical Center TBI Neural Network-Precision Medicine Paradigm for Complex Trauma

Dr. Ryan Martin and Dr. Tina Palmieri are co-PI's on this grant.



## Spine Studies

The Department of Neurological Surgery at UC Davis Health is advancing spinal health by evaluating new treatments such as stem cell use for disc regeneration and bony healing, dural sealants, and disc replacement technologies. Led by Dr. Kee Kim, Co-Director of the Spine Clinic, we are enrolling subjects in multiple investigations.



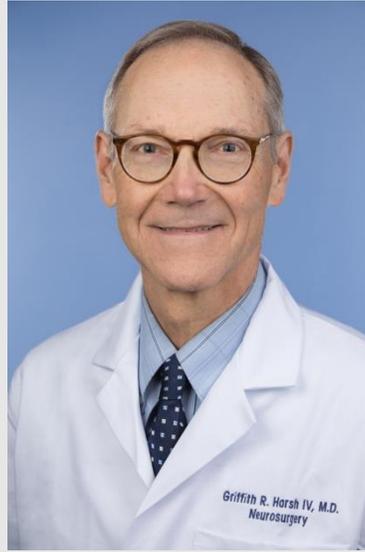
**Below: Dr. Allan Martin and Chief Resident Dr. Amir Goodarzi** participate in a pivotal clinical trial evaluating the safety and effectiveness of Adherus™ AutoSpray and Adherus™ Autospray ET dural sealant when used as a dural sealant in spinal procedures. Primary Investigator: Kee D. Kim, M.D.

The purpose of the study is to demonstrate that Adherus Dural Sealant is safe and effective at achieving water-tight closure when used as an adjunct to standard methods of dural repair for spinal procedures as compared to DuraSeal Exact.



# SACRAMENTO MAGAZINE 2020 TOP DOCTORS

Four faculty members of the Department of Neurological Surgery were honored by Sacramento Magazine for being among the region's Top Doctors. Two hundred and forty UC Davis Health physicians were listed in more than 61 specialty areas. Dr. Zwienenberg was honored in both the adult and pediatric medicine. The list is compiled by Professional Research Services, LLC a third-party firm and is based on peer-review surveys.



*Griffith Harsh, M.D., M.B.A.  
Professor and Chair  
Department of Neurological Surgery*



*Kee D. Kim, M.D.  
Professor and Co-Director  
UC Davis Spine Center*



*Kiarash Shahlaie, M.D., Ph.D.  
Professor and Program Director  
Department of Neurological Surgery*



*Marike Zwienenberg, M.D.  
Associate Professor  
Department of Neurological Surgery*



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## Congratulations to our 2020 Residency Program Graduate!

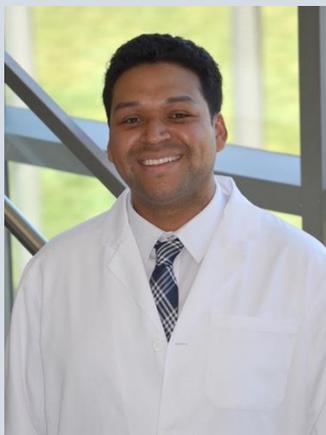
**Oluwaseun Omofoye, M.D.** was our 2020 Residency Program Graduate. Dr. Omofoye earned an M.S. in mechanical engineering in 2007 from Columbia University. He completed his Medical Degree and first 5 years of neurosurgery residency at the University of North Carolina. He completed a clinical neurosurgery fellowship at Boston Medical Center and joined the UC Davis Neurological Surgery Residency Program in 2018. He exhibited phenomenal clinical growth and academic productivity. He is a superb physician, excellent surgeon and he has been an outstanding Chief Resident, who was admired for demonstrating calm, capable leadership and adroitly managing an extremely busy service. By the end of his residency, Dr. Omofoye had amassed an impressive publication and presentation record and was the selected recipient of the 2019-2020 James E. Boggan Resident Scholar Award. We wish him the very best as he transitions into his yearlong fellowship in neurosurgical oncology at Cedars-Sinai in 2021 and into his neurosurgery career. We hope to bring Dr. Omofoye back to UC Davis in 2021 for an in-person graduation ceremony.





## Residency Program News

The Department of Neurological Surgery welcomed two new interns on July 1, 2020, Jose Castillo, M.D. who graduated from Virginia Commonwealth University and Irene Falk, M.D., who graduated from the Medical College of Augusta University.



*Jose Castillo, M.D.*



*Irene Falk, M.D.*

Catherine (Kate) Peterson, M.D. and Dylan Jake Goodrich, M.D. joined the department in March. Dr. Peterson graduated from Indiana University and is a PGY-6 and Dr. Goodrich graduated from St. George's University and is a PGY-4.



*Kate Peterson, M.D.*



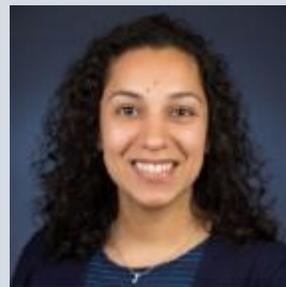
*Dylan Jake Goodrich*

## Chief Residents

Resident physicians **Amir Goodarzi, M.D.**, and **Joti Thind, M.D.**, took the helm as co-chief residents in July and will serve until June 30<sup>th</sup> of 2021. Together, they do an excellent job of managing all scheduling assignments and disseminating important information to our residents.



*Amir Goodarzi, M.D.*



*Joti Thind, M.D.*

## Residency Program News

**Dr. Bart Thaci** returned to UC Davis after a yearlong enfolded endovascular neurosurgery fellowship at the University of Alabama in Birmingham. His abstract, "Outcomes after thrombectomy for proximal and distal M1 occlusions," Thaci B, Chagoya G, Elsayed G, Salehani A, Pope B, Bernstock J and M Harrigan, was accepted at the 2020 AANS Annual Scientific Meeting.



**Edwin Kulubya, M.D.**, was honored by the nursing staff of the Midtown Neurosurgery Clinic for his outstanding contributions. Clinic Manager, Florecee Johnson remarked that, "As a neurosurgery resident, Edwin has gone above and beyond in teaching nursing staff. He is always willing to answer questions and discuss rationale behind clinical decisions. Recently, he took the time to present a case review to the nursing staff on skull base fractures while being on-call. His presentation was engaging and thoughtful. His dedication to the nursing staff is greatly appreciated." Dr. Shahlaie presented Dr. Kulubya with a certificate and a pin.

The **Neurological Surgery Resident Workroom** has undergone a much needed redesign and is now a more functional workspace. With additional workstations, computers, storage cubbies, backpack hooks and a closet to store lab coats, we hope this brings more functionality to the space.



A special note of thanks goes to **Dr. Tejas Karnati** and **Dr. Dylan Goodrich** for their hard work in developing our department's residency applicant video featured on the [applicant page](#) on our resident website. They did a fantastic job of renting special video equipment to facilitate faculty interviews and then editing the video, adhering to the requirements set by UCDH Graduate Medical Education. We appreciate all the hard work that went into making the video. Here they are recording Dr. Ben Waldau.



## The Program Director's Corner

**Kia Shahlaie, M.D., Ph.D.**



2020 was a year of many firsts for the UC Davis Department of Neurological Surgery. We held our first virtual graduation to honor Chief Resident and graduate, Dr. Seun Omofoye, a talented surgeon, fantastic doctor and highly effective leader and chief resident.

Due to our program's phenomenal growth over the past two and a half years, we now have two co-chief residents who took over Dr. Omofoye's responsibilities on July 1 of 2020. Co-chief residents, Drs. Joti Thind and Amir Goodarzi have done an excellent job coordinating their shared scheduling and management responsibilities and we value their efforts to keep our team up to date and running smoothly.

We held our first virtual resident applicant interviews using Zoom in December. I want to commend Staci Leitner for the time and effort that went into ensuring the interviews were a success. We held two fully scheduled interview days and are excited to see the

outcome of the 2020-21 residency match. There were many outstanding applicants and come July of 2021, we will be at our full complement of 14 neurological surgery residents, another first.

Due to the pandemic, we restructured our training program, and quickly began delivering lectures, training and even morning rounds on virtual platforms to facilitate social distancing. We have remained flexible and adaptable in dealing with the challenges brought by COVID-19 throughout the year.

In December, our residents were among the first in the country to receive the Pfizer COVID-19 vaccine and they recently received their second dose. We faced some remarkable challenges in 2020 and met those with creative problem solving and resilience. We look forward to a restoration of more normalized operations in 2021 and will integrate some of what we learned about the use of virtual platforms to continue to extend our educational reach. We are excited and looking forward to 2021!



## 2020 Resident Academic Productivity

### Journal Manuscripts

Chagoya G, Salehani A, Tabibian BE, Laskay NMB, Fox BM, Omar NB, **Thaci B**, Bernstock JD, Elsayed GA, Harrigan MR. [Rapid evolution and rupture of an incidental aneurysm during hyperdynamic therapy for cerebral vasospasm](#). World Neurosurg. 2020 Sep 18;145:205-209. doi: 10.1016/j.wneu.2020.09.078. Epub ahead of print. PMID: 32956882.

**Goodarzi A, Clouse J**, Capizzano T, Kim KD, Panchal R. [The Optimal Surgical Approach to Intradural Spinal Tumors: Laminectomy or Hemilaminectomy?](#) Cureus. 2020 Feb 23;12(2):e7084. doi: 10.7759/cureus.7084.PMID:32226685

Haider G, **Omofoye OA**, Holsapple, JW. [Intracranial Hypertension Following Gunshot Wound to the Torcula: Case Report and Literature review](#). World Neurosurgery. 2020 May;137:94-97. doi: 10.1016/j.wneu.2020.01.170. Epub 2020 Jan 29. [PMID: 32006734]

**Karnati T, Kulubya E**, Kim KD. [Advances in the management of spinal durotomy](#). Med Res Archives. 2020 Sep 28; Volume 8, Issue 9.

**Peterson C**, Toll SA, Kolb B, Poulik JM, Reyes-Mugica M, Sood S, Haridas A, Wang ZJ, Marupudi NI. [A novel finding of copy number gains in GNAS and loss of 10q in a child with malignant transformation of neurocutaneous melanosis syndrome: A case report and review of the literature](#). JCO Precision Oncology

**Peterson C**, Waldau B. [Transradial access for thrombectomy in acute stroke: A systematic review and meta-analysis](#). Clin Neurol Neurosurg. 2020 Nov;198:106235. doi: 10.1016/j.clineuro.2020.106235. Epub 2020 Sep 18. PMID: 32979680.

Picinich C, Kennedy J, **Thind H**, Foreman C, Martin RM, Zimmermann L. [Continuous electroencephalographic training for neuroscience intensive care unit nurses: a feasibility study](#). J Neurosci Nurs. 2020 Oct; 52(5):245-250.

Riestenberg RA, **Omofoye OA**, Lee D, Shahlaie K. [Subarachnoid fat dissemination secondary to intrathecal pump](#). J Clin Neurosciences. 2020 Apr 30. pii: S0967-5868(20)30625-1. doi: 10.1016/j.jocn.2020.04.120. Epub ahead of print. [PMID: 32362469]

**Thaci B**, Nuño M, Varshneya K, **Gerndt CH**, **Kercher M**, Dahlin BC, Waldau B. [Three-dimensional aneurysm volume measurements show no correlation between coil packing density and recurrence](#). Heliyon. 2020 Oct 8;6(10):e05170. doi: 10.1016/j.heliyon.2020.e05170. PMID: 33083618; PMCID: PMC7551363.

Zarabi HH, **Omofoye OA**, Girgis F. [Salary Trends Across American Subspecialties in Academic Neurosurgery](#). World Neurosurgery. 2020 Apr;136:184-186. doi: 10.1016/j.wneu.2020.01.002. Epub 2020 Jan 7. [PMID: 31917313]

**Goodarzi A**, Toussi A, Garza N, Lechpammer M, Brodie H, Diaz RC, Shahlaie K. [Internal Acoustic Canal Stenosis due to Hyperostosis](#). J Neurol Surg B Skull Base. 2020 Jun;81(3):216-222.

### Book Chapters:

**Goodarzi A**, Nguyen K, Fragoso R, Harsh G. Sellar and Parasellar Tumors. Stereotactic Radiosurgery (SRS): Procedure, Results and Risks. ISBN: 978-1-53617-679-7

### Published Abstracts:

Alfonso-Garcia A, Noble S, Bec J, Bobinski M, Lechpammer M, **Omofoye O**, Bloch O, Marcu L. [Intraoperative FLIm on brain tumor margins](#). Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest (Optical Society of America, 2020), paper TW1B.1.

### Presentations:

Alfonso-Garcia A, Noble S, Bec J, Bobinski M, Lechpammer M, **Omofoye O**, Bloch O, Marcu L. Intraoperative FLIm on brain tumor margins. 2020 OSA Biophotonics Congress: Biomedical Optics (BioMed 2020), April 2020. Virtual Presentation.

**Omofoye O**, Harsh G IV. Pituitary Stalk Gangliogliomas. 30th Annual North American Skull Base Society Meeting, San Antonio, TX, February 2020. Poster Presentation.

**Omofoye O**, Lee D, Riestenberg R, Shahlaie K. Intracranial myeloid sarcomas: systematic review. 2020 California Association of Neurological Surgeons Annual Meeting, Sonoma, CA, January 2020. Oral Presentation.



## Advanced Practice Providers

Our advanced practice providers in the Department of Neurological Surgery added several new team members in 2020:

- ❖ Katherine Chirco, M.S.N., N.P.
- ❖ Anthony T. Nye, M.S.N., R.N.P.
- ❖ Megan Rye, M.S.N., N.P.

Congratulations to the 2020 UC Davis Health APP Fellowship Program Graduate, Nicole Gunadi, N.P. We are pleased that Nicole will be joining the department's APP team in January of 2021.

Under the leadership of Christine Picinich, N.P., the department's APP program continues to thrive in the one on one model (M.D. – Advanced Provider) which facilitates comprehensive patient care in that our APP's provide care for their patients throughout the course of their treatment.

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# Patient Support

The **Brain Tumor Support Group** was formed in 1990 to provide emotional support and educational programs to tumor patients and their families and friends. The group is open to all patients with benign or malignant brain tumor disease at any stage. Patients' family members are encouraged to participate and membership is free. The group meets the first Wednesday of every month from 6:30 to 8:00 p.m. on a virtual platform.

The **Brain Aneurysm Support Group** provides hospital visitation, telephone support and monthly meetings to help you connect with other people who are facing treatment, recovering, or supporting someone who has experienced aneurysm. The support group meets monthly and covers a variety of important topics for aneurysm patients and their families. Meetings are the fourth Saturday of every month, 3-5 p.m. on a virtual platform. For more information about participating in the aneurysm or tumor support groups, contact Breana Sanchez at [bnsanchez@ucdavis.edu](mailto:bnsanchez@ucdavis.edu).

The **Deep Brain Stimulator Support and Education Group** is open to patients, caregivers, and family who have or are considering a deep brain stimulator for a movement disorder such as Parkinson's disease, tremor or dystonia. Monthly topics and guest speakers will help participants learn more about living with a stimulator and Parkinson's Disease. Meeting days and locations for the Deep Brain Stimulator Support Group are currently virtual. For more information on how to participate, Laura Sperry at [lmsperry@ucdavis.edu](mailto:lmsperry@ucdavis.edu).



# Referring a Patient

Thank you for choosing UC Davis Health and the Department of Neurological Surgery for your patient referrals, transfers and phone consults.

## Referring Physicians:

- Acute care transfers, direct admissions, urgent pediatric telemedicine 1-800-482-3284 Option #1
- Phone consultations: 1-800-482-3284 Option #2
- Outpatient referrals, 1-800-482-3284, Option #3.

You may also submit an [Electronic Referral Form](#) or use the [Referral Request Kit \(pdf\)](#)

- Visit our [Physician Referral Website](#)

**Prospective Patients** are encouraged to visit our [Consumer Resource Center](#) or call 1-800-282-3284 for new patient and general information.



## With Gratitude:

The Department of Neurological Surgery is deeply grateful for the support our donors provide. Donor contributions can provide a wide variety of assistance to the department, from helping residents purchase much needed supplies, to helping us build programs, purchase equipment and recruit for faculty in emerging areas of neurosurgery and neuroscience that are poised to make a significant impact on how we deliver the best care possible to our patients.

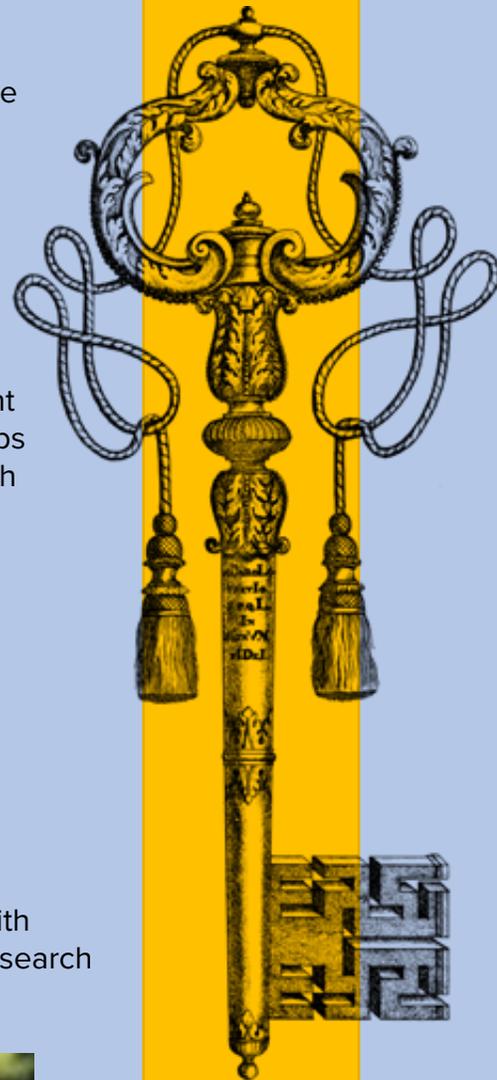
We are committed to providing the very best in neurological patient care and resident training Northern California. Donor support helps us achieve that vision. We hope to support the following areas with your future philanthropic gifts to the Department of Neurological Surgery:

- Resident Education
- Program Development for Epilepsy Treatment
- Recruitment of a Senior Scientist

## Make a gift:

Health Sciences Development and Alumni Relations is charged with building philanthropic support for UC Davis Health patient care, research and education programs. To make a gift please contact:

**Jennifer Marsteen, CFRE**  
Director of Development Health  
Sciences Development  
4900 Broadway, Suite 1830  
Sacramento, CA 95820 Phone:  
916-734-9448



## 2020 PUBLICATIONS

Abdul-Wahab R, Long MT, Ordaz R, **Lyeth BG**, Pfister BJ. [Outcome measures from experimental traumatic brain injury in male rats vary with the complete temporal biomechanical profile of the injury event.](#) J Neurosci Res. 2020 Oct; 98(10):2027-2044. Doi: 10.1002/jnr.24670

Alfonso-Garcia A, Bec J, Sridharan Weaver S, Hartl B, Unger J, Bobinski M, Lechpammer M, Girgis F, **Boggan J**, Marcu L. [Real-time augmented reality for delineation of surgical margins during neurosurgery using autofluorescence lifetime contrast.](#) J Biophotonics. 2020 Jan;13(1):e201900108. doi: 10.1002/jbio.201900108.

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Awards and Grants**

Astrocyte-synapse interactions in a rat model of Alexander disease

**Berman R**

NIH National Institute of Neurological Disorders and Stroke  
April 2019 to March 2020

B7H1 mediated immunosuppression in glioma

**Bloch O**

NIH National Cancer Institute z  
7R01CA16471414-07  
June 2019 to June 2020

Representation of spatiotemporal information in human episodic memory and navigation

Ekstrom A, **Gurkoff G, Shahlaie K**

National Institutes of Neurological Disorders and Stroke  
NIH R01 NS 076856  
July 2018 to June 2022

A concurrently controlled study of the LimiFlex Paraspinous Tension Band in the treatment of lumbar degenerative spondylolisthesis with spinal stenosis

**Kim K**

Empirical Spine, Inc.  
January 2018 to June 2027

Hyperbranch Med Spine Dura Sealant Study

**Kim K**

Hyperbranch Medical Technology, Inc.  
October 2019 to October 2020

A prospective, randomized, multi-center, open-label pilot study of infuse bone graft with mastergraft strip and posterior fixation for posterolateral fusion (PLF) treatment of multi-level

degenerative lumbosacral spinal conditions

**Kim K**

Medtronic Sofamor Danek USA, Inc.  
June 2017 to February 2020

Randomized, controlled, single-blind study of probable benefit of the Neuro-Spinal Scaffold™ for safety and neurologic recovery in subjects with complete thoracic AIA A spinal cord injury as compared to standard of care

**Kim, K**

In Vivo Therapeutics Corporation August 2018 to August 2020

A multicenter, randomized, doubleblind, sham-controlled, comparative study of SI-6603 in subjects with lumbar disc herniation (Phase 3)

**Kim K, Copenhagen D**

Seikagaku Corporation  
July 2018 to May 2021

Confirmatory clinical study to support the effectiveness and safety of Oxiplex®

for the reduction of pain and symptoms following lumbar surgery

**Kim K, Ebinu J**

Fziomed, Inc.,  
September 2018 to September 2021

Imaging of glial activation and risk for post-traumatic epilepsy

DoD Congressional Directed Medical Research Program

**Martin R, Zimmermann L, Gurkoff G,**

Badawi R, Harvey D  
August 2019 to August 2022

Electrocorticography of human prefrontal cortex during value-based decision-making

**Saez, I**

NIH National Institute of Mental Health  
5K01MH108815-03  
April 2019 to July 2020

Deep brain stimulation of the medial septal nucleus in epilepsy

**Shahlaie K**

UC Davis School of Medicine Dean's Grant 2018 to 2020

Functional vascularization of human brain organoids

**Waldau B**

Cellular Therapy Training Program, CIRM  
Alpha Stem Cell Clinics  
October 2018 to June 2020

Mechanism of memory decline after intraventricular hemorrhage

**Waldau B**

K08, National Institutes of Health April 2018 to March 2020

The epilepsy bioinformatics study for antiepileptogenic therapy

(EpiBioS4Rx) **Zimmermann L**

NINDS

January 2017 to November 2020



Thank you for inspiring us to accomplish more!

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