

UCDAVIS
HEALTH

Department of
Neurological Surgery

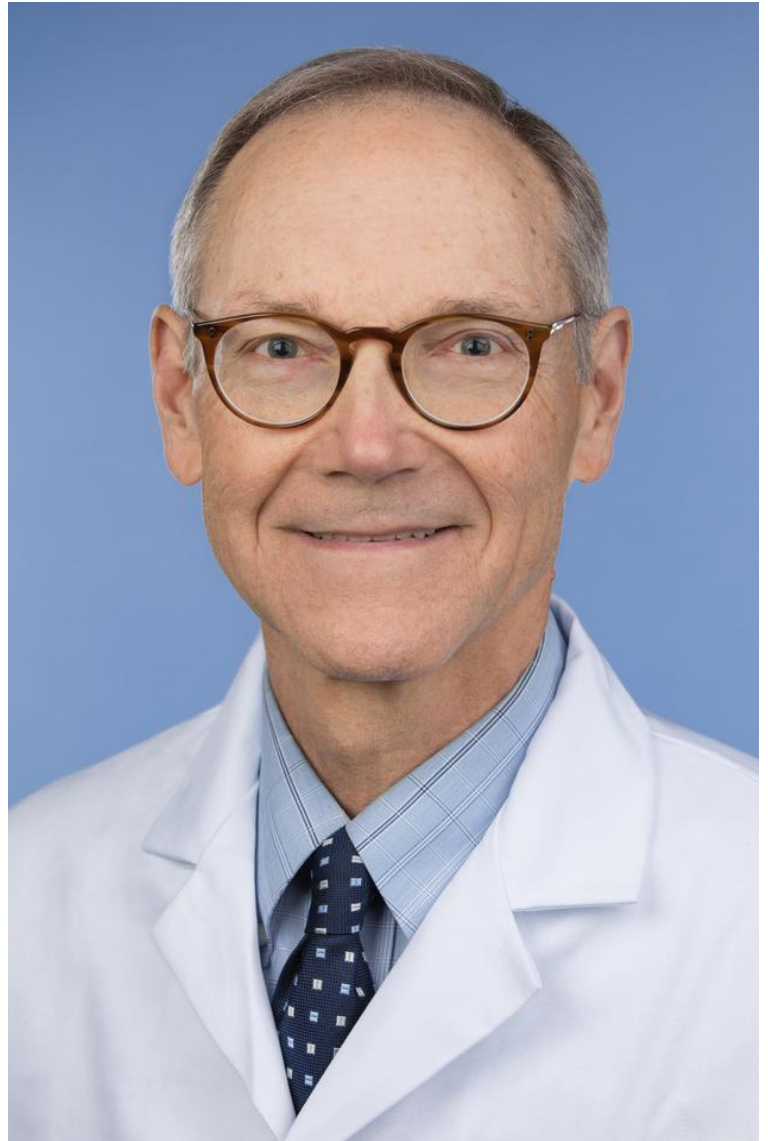
2018 Year In Review



Griffith R. Harsh IV, M.D., M.A., M.B.A.

Professor and Julian R. Youmans Endowed Chair

UC Davis Department of Neurological Surgery welcomes Dr. Griff Harsh as Professor and the Julian R. Youmans Endowed Chair. Dr. Harsh joined the department July 1, 2018. Previously at Stanford University, Dr. Harsh served as vice chair of the Department of Neurosurgery, chief of neurosurgical oncology, director of the Brain Tumor Center, co-director of the Pituitary Center, and neurosurgery residency director. He is excited to join and lead a team that is home to internationally recognized experts, a full range of neurosurgical technologies, and robust clinical and basic-science research. Our goal is to provide patients with the most current and effective treatments for the entire spectrum of neurological disease.



"UC Davis' neurological surgery faculty has an outstanding track record of treating the full breadth of challenging brain and spine conditions," Harsh said, "and the department collaborates closely with the university's NCI-designated Comprehensive Cancer Center, Level I Trauma Center, Center for Neuroscience and Stroke Program to ensure patients have access to advanced, multidisciplinary, patient-focused care. I look forward to leading this remarkable, resourceful and dedicated team."

Congratulations to our 2018 Residency Program Graduate!

Dr. Jared Ament graduated from the Department of Neurological Surgery Residency Program in June. Dr. Ament earned his M.D. from the Medical School for International Health, a combined program between Ben-Gurion University, Israel and Columbia University, NY. He completed a surgical internship at University of Massachusetts, a post-doctoral fellowship in surgical outcomes at Harvard University and an enrolled fellowship in complex and minimally invasive spine procedures at Cedars Sinai Medical Center under Dr. J. Patrick Johnson. Dr. Ament has joined the Sierra Neuroscience Institute in Los Angeles as the Director of Spine Neurosurgery and is President and Founder of Neuronomics.



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CHEERS TO

50 YEARS



HONORING

Franklin Wagner, Jr, M.D., earned his Medical Degree from Bowman Gray School of Medicine, Wake Forest University in 1966. He completed his neurological surgery residency at Northwestern University in 1972. From 1972 to 1982, Dr. Wagner served as a member of the neurosurgical faculty of Yale University. He was appointed as the Chair of Neurological Surgery at UC Davis from 1982 to 1999. Dr. Wagner specialized in the treatment and research of spinal cord injuries and had a substantial impact in resident education. We honor his many contributions to the department and specialty.

The School of Medicine Turns 50!

We celebrated 50 years of the School of Medicine by hosting the inaugural **Franklin Wagner Endowed Lectureship and Symposium: Innovations in Spine Surgery** on September 15, 2018. Bringing neurological surgeons, alumni, fellows and other healthcare providers together, this event highlighted recent technological advances in all neurosurgical subspecialties, with particular emphasis on the results of clinical trials of innovative robotic surgery, instrumentation and biologics in NeuroSpine disorders. The evening culminated in a Gala reception and dinner in the Capitol Ballroom at the Hyatt Regency Hotel in Sacramento.



Franklin Wagner Jr., M.D.
Professor and Chair
1982-1989

New Arrivals

In addition to Dr. Harsh we welcomed one new faculty this year and successfully recruited two others.

Ignacio Saez, Ph.D., joined the Department in September.



The Saez Lab focuses on the combination of computational models of decision making. He was awarded a K01 grant from the NIH to study the electrocorticography of human prefrontal cortex during value-based decision making and is a Co-Investigator on an NIH R21 grant examining cortical oscillatory dynamics and human decision-making.

Dr. Orin Bloch joined the department in March 2019. A highly respected surgical neuro-oncologist, he specializes in the treatment of patients brain and spinal cord tumors. Supported by an NIH R01 grant, Orin's laboratory develops novel immunotherapy approaches for brain tumor patients. In collaboration with medical neuro-oncologists, he will expand current and initiate new clinical trials at UC Davis.



Dr. Michael Edwards joined the department in April 2019.

He specializes in the treatment of pediatric neurosurgical disorders. Widely recognized as the leading academic pediatric neurosurgeon in Northern California for the last three decades, Mike will bring renowned surgical skill, unparalleled commitment to patient care, superb teaching, and regional outreach to the department.

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Patient Care

Challenging Glioblastoma

Drs. Kia Shahlaie, Gene Gurkoff, and Amir Goodarzi are developing novel treatments for glioblastoma. Their work was featured in the Fall 2018 issue of Synthesis. Read more about their strategies by following the link.

<https://health.ucdavis.edu/synthesis/issues/fall2018/glioblastoma.html>

Baby Gets Life Saving Help From Neurosurgery

Dr. Marike Zwienenberg was recently featured on the UC Davis Patient Stories blog for her treatment of intraventricular hemorrhage of a pediatric patient, Tikhon. Read about his amazing journey following the link provided below. Kudos to Dr. Zwienenberg and the entire care team.



<https://blog.ucdmc.ucdavis.edu/patientstories/index.php/2018/11/21/baby-gets-life-saving-help-from-neurosurgery/>



Associate Professor Dr. Marike Zwienenberg is the lead neurosurgeon on the fetal surgery team performing closure of spina bifida defects in utero to improve the chance that these babies will lead a normal life. UC Davis established the first comprehensive multidisciplinary fetal diagnosis and therapy center in inland Northern California, led by Dr. Shin Hirose.

Over the past year the program has grown significantly. The fetal team has successfully treated a number of babies and both mothers and babies have thrived following treatment. The clinical expertise at UC Davis is supported by a robust research program led by one of the pioneers in fetal surgery. This places UC Davis in a unique position to research and optimize future treatment strategies for improving the long term outcome of babies with spina bifida.

UC DAVIS
HEALTH

CHILDREN'S
HOSPITAL



Department of Neurological Surgery

Neurocritical Care

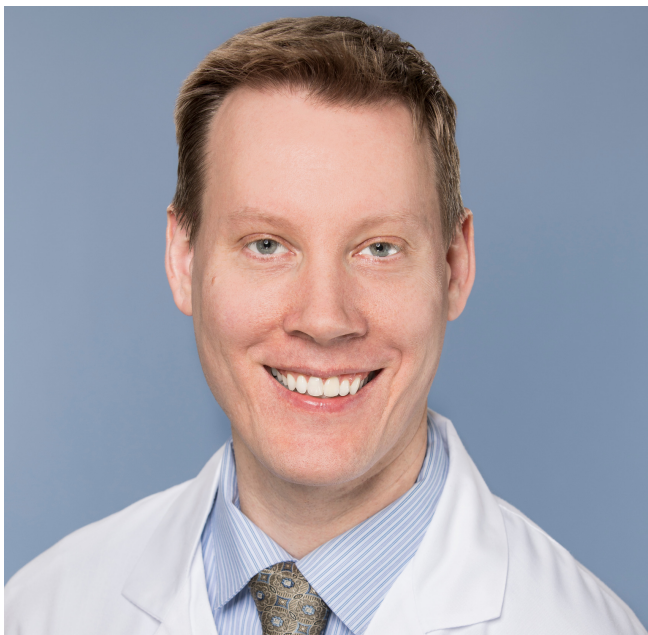
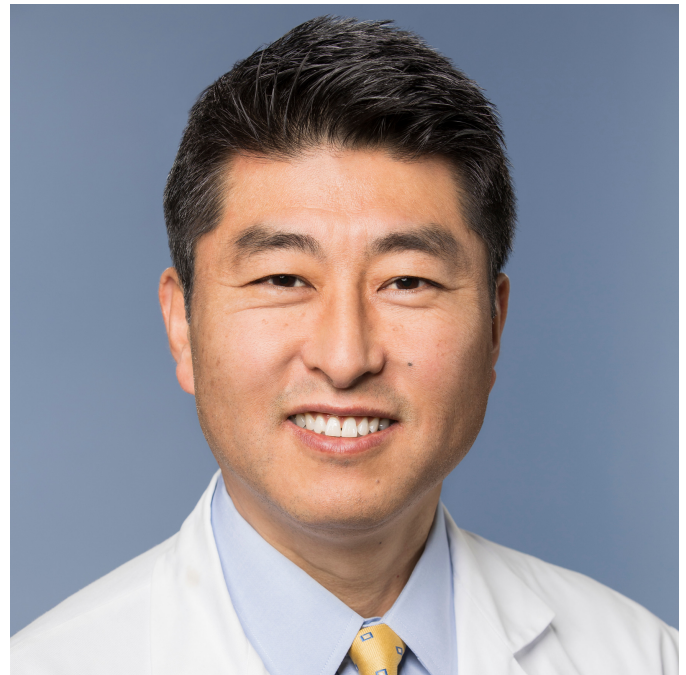
Severe traumatic brain injuries are devastating. Early interventions and a collaborative multidisciplinary approach is key to improving patient outcomes.

Faculty members and Co-directors of the Neurocritical Care Service, Drs., Lara Zimmermann and Ryan Martin were recently featured for their efforts in treating a patient who suffered a two story fall from the roof of his home onto concrete. Their efforts to stop seizures, control brain swelling and prevent further injury made a substantial impact on the patient's recovery. You can read more about their work at https://health.ucdavis.edu/welcome/features/2017-2018/05/20180518_tbi_story.html



Faculty Highlights

Dr. Kee Kim, Professor and Co-director of the UC Davis Spine Center, is the primary investigator for a multicenter double blind randomized clinical trial to evaluate a nonsurgical treatment for lumbar herniated disc. Currently, UC Davis Health is one of only three sites in California where this novel treatment is available. For more info:
<https://health.ucdavis.edu/publish/news/newsroom/13212>



Associate Professor Dr. Ben Waldau, specializes in cerebrovascular and endovascular neurosurgery. In April 2018 he was awarded an NIH K08 award to study the "Mechanism of memory decline after intraventricular hemorrhage." In July he was awarded a MAS Cellular Therapy Grant "Generation of a human cerebral organoid blood brain barrier." We are proud of his exciting accomplishments.

Congratulations to **Assistant Professor Gene Gurkoff, Ph.D.** on being awarded the 2018 Outstanding Graduate Mentor in Neuroscience and the Outstanding Service Award by the UC Davis Neuroscience Graduate Group.

**UC DAVIS
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Chief Resident, Tamar Binyamin, M.D., will graduate in June of 2019. Dr. Binyamin obtained her M.D. degree from Virginia Commonwealth University School of Medicine in 2012. She has been a superb Chief Resident, adroitly managing a very busy inpatient service of as many as 50 patients while leading a resident corps of 10. Tamar has accepted a prestigious fellowship in cerebrovascular neurosurgery at the University of Texas, Southwestern, in Dallas beginning in July 2019.



Congratulations to **Bart Thaci, M.D., PGY-4** for his selection as resident representative to the Council of State Neurological Societies Socioeconomic panel. Bart will work on the panel to improve educational resources for residents such as the CNS Nexus project and the CNS Case of the Month publications. Bart will also begin the first year of a CNS resident cerebrovascular enrolled fellowship, at the University of Alabama, Birmingham, in July of 2019.

Wellness

Each quarter, our residents participate in a wellness event. This fall, they participated in the 1st Annual West Coast Neurosurgery Games hosted by UCLA. This event brought together eight west coast neurosurgery programs for friendly beach game competition and networking with colleagues.



Referring a Patient



Department of
Neurological Surgery

Patient Referrals, Transfers and Phone Consults:

Thank you for choosing UC Davis Health and for referring your patient to us. We appreciate the opportunity to partner with you in your patient's care.

To see one of our specialists call our Physician Referral Center at 800-4-UCDAVIS (800-482-3284), option #3.

You may also go to: <https://health.ucdavis.edu/referrals/>

Additional contacts: 916-734-6513, Kally Turner, Chair's Analyst
916-731-1987, Floreece Murphy, R.N., Clinic Manager



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. Membership is free. The group meets the first Wednesday of every month from 6:30 to 8:00 p.m. Suite 3015B, Ellison Ambulatory Care Center.

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., at the UC Davis ACC. 4860 Y Street RM 3015, 3rd Floor, Sacramento, CA 95817 For more information about the aneurysm or tumor support groups, contact Breana Sanchez at 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 you learn more about living with a stimulator



and Parkinson's. Meeting days and locations for the Deep Brain Stimulator Support Group alternate between the three clinic sites. For more information, contact Karla Lindstrom at 916-734-6282 or klindstrom@ucdavis.edu.



Achrol AS, Rennert RC, Anders C, Soffiotti R, Ahluwalia MS, Nayak L, Peters S, Arvold ND, **Harsh GR**, Steeg PS, Chang SD. [Brain Metastases](#).

Nature Reviews: Disease Primer, 5(5): 1-26.

Ajlan A, Almufawez KA, Albakr A, Katznelson L, **Harsh IV G**.

[Adrenal axis insufficiency after endoscopic transsphenoidal resection of pituitary adenomas](#).

World Neurosurgery, 112: e869-e875.

Ajlan AM, Abdulqader SB, Achrol AS, Aljamaan Y, Feroze AH, Katznelson L, **Harsh GR**.

[Diabetes insipidus following endoscopic transsphenoidal surgery for pituitary adenoma](#).

J Neurol Surg B Skull Base, 79(2): 117-122.

Ahmadpour A, Goodarzi A, Lee DJ, Panchal R, **Kim KD**.

[Cervical spine fractures in osteoporosis: a case report and review of the literature](#).

Journal of Biomedical Research, 32 (1) 68-76.

Ament JD, Karnati T, Kulubya E, **Kim KD**, Johnson JP.

[Treatment of cervical radiculopathy: a review of the evolution and economics](#). Surgical Neurology International, 9(35).

Ament JD, Yang Z, Khatchadourian V, Strong EB, **Shahlaie K**.

[Cost-effectiveness of endoscopic versus microscopic transsphenoidal surgery for pituitary adenoma](#).

World Neurosurgery, 110: e496-e503.

Ament J, Yang Z, Thaci B, Kulubya E, Hsu W, Bouma G, **Kim KD**.

[Cost-effectiveness of a bone-anchored annular closure device versus conventional lumbar discectomy in treating lumbar disc herniations](#).

Spine, 1;44(1):5-16.

Arocho-Quinones EV, Kolimas A, LaViolette PS, Kaufman BA, Foy AB, **Zwienenberg M**, Lew SM.

[Split laminotomy versus conventional laminotomy: postoperative outcomes in pediatric patients](#).

Journal of Neurosurgery. Pediatrics, 21(6) 615-625.

Bae IS, Chun HJ, Bak KH, Yi HJ, Choi KS, **Kim KD**.

[Medial branch block versus vertebroplasty for one-level osteoporotic vertebral compression fracture: 2-year retrospective study](#).

World Neurosurgery doi.org/10.1016/j.wneu.2018.11.14228.

Bauman M, **Berman R**, Chiang A, Ku K, Chang C, Taylor SL, Careaga M, Van de Water J.

[Variability in PolyIC induced immune response: Implications for preclinical maternal immune activation models](#).

Journal of Neuroimmunology, 323: 87-93.

Berg EL, Copping NA, Rivera JK, Pride MC, Careaga M, Bauman MD, **Berman RF**, Lein PJ, Harony-Nicolas H, Buxbaum JD, Ellegood J, Lerch JP, Wöhr M, Silverman JL. [Developmental social communication deficits in the Shank3 rat model of phelan-mcdermid syndrome and autism spectrum disorder](#).

Autism Research, 11(4): 687-601.

Cadena G, Duong HT, Liu JJ, **Kim KD**.

[Atlantoaxial fixation using C1 posterior arch screws: feasibility study, morphometric data, and biomechanical analysis](#). Journal of Neurosurgery: Spine doi.org/10.3171/2018.8.SPINE18160.

Escobedo-Wu ELG, Dhebar F, **Harsh G**, Steinberg G, Vyas A, Katznelson L, Ho AL, Pendharkar AV, Sussman ES, Rohatgi N. [Nurse telephonic triage service for after-hour patient calls in neurosurgery](#). Annals of Surgery, 267(4): e67-e68.

Fehlings MG, **Kim KD**, Arabi B, Rizzo M, Bond LM, McKerracher L, Vaccaro AR, Okonkwo DO.

[Rho inhibitor VX-210 in acute traumatic subaxial cervical spinal cord injury: design of the SPInal cord INjury Rho inhibition investigation \(spring\) clinical trial](#). Journal of Neurotrauma, 35: 1049-1056.

Fujimoto D, Von Eyben R, Gibbs IC, Chang SD, Li G, **Harsh GR**, Hancock S, Fischbein N, Soltys SG.

[Imaging changes over 18 months following stereotactic radiosurgery for brain metastases: both late radiation necrosis and tumor progression can occur](#). Journal of Neuro-Oncology, 136(1): 207-212.

Gao X, Yu H, **Saez I**, Blue PR, Zhu L, Hsu M, Zhou X.

[Distinguishing neural correlates of context-dependent advantageous and disadvantageous-inequity aversion](#). PNAS, 115 (33) E7680-E7689.

Girgis F, Lee D, Goodarzi A, Ditterich J.

[Towards a neuroscience of adult cognitive developmental theory](#). Front. Neurosci, 12(4): 1-10.

Girgis F, Miller JP.

[Implementation of a flipped classroom](#). Can J Neurol Sci.45(1):76-82

Goodarzi A, Ahmadpour A, Toussi A, **Shahlaie K**.

[A multilayered technique for repair of the suboccipital retrosigmoid craniotomy](#). Journal of Neurological Surgery Part B: Skull Base, 79(15): 508-514.

Gupta R, Moore JM, Adeeb N, Griessenauer CJ, Schneider AM, Gandhi CD, **Harsh GR**, Thomas AJ, Ogilvy CS. [Neurosurgical resident error: a survey of US neurosurgery residency training program directors' perceptions](#). World Neurosurgery, 109: e563-e570.

Hershewe G, Eckert A, Koci, T, Harsh G, Born D, Koci M.

[Sudden bilateral ptosis in a 61-year-old woman.](#)

J Neuroophthalmology, (38) 375-378.

Hirschi R, Hawryluk GWJ, Nielson JL, Huie JR, **Zimmermann LL**, Saigal R, Ding Q, Fergusson AR, Manly G.

[Analysis of high-frequency PbtO2 measures in traumatic brain injury: insights into the treatment threshold.](#)

J Neurosurgery. 1:1-11.

IV M, Samghabadi P, Holdsworth S, Gentles A, Rezaii P, **Harsh G**, Li G, Thomas R, Moseley M, Daldrop-Link HE, Vogel H, Wintermark M, Cheshier S, Yeom KW. [Quantification of macrophages in high-grade gliomas by using ferumoxytol-enhanced MRI: a pilot study.](#) Radiology, (290): 198-206.

Izadi A, Ondek K, Schedlbauer A, Keselman I, **Shahlaie K**, **Gurkoff GG**. [Clinically indicated electrical stimulation strategies to treat patients with medically refractory epilepsy.](#) Epilepsia Open, 3(s2):198–209.

Kim KD, Duong H, Muzumdar A, Hussain M, Moldavsky M, Bucklen B. [A novel technique for sacraopelvic fixation using image-guided sacroiliac screws: a case series and biomechanical study.](#) Journal of Biomedical Research doi.org/10.7555/JBR.32.20170077

Kim K, Ramanathan D, Provoast K. [Cervicogenic headache - review of pathogenesis and management.](#) Journal of Neurosurgery Imaging and Techniques, 3(2): 193-196

Kim KD, Ramanathan D, Highsmith J, Lavelle W, Gerszten P, Vale F, Wright, N. [DuraSeal Exact Is a safe adjunctive treatment for durotomy in spine: post approval study.](#) Global Spine Journal. doi.org/10.1177/2192568218791150.

Kolarik B, Ekstrom A, Yonelinas A, Shahlaie K, Baer T.

[Close but no cigar: Spatial precision deficits following medial temporal lobe lesions provide novel insight into theoretical models of navigation and memory.](#)

Hippocampus, 28(1): 31-41

Kwon SM, Chun HJ, Yi HJ, Kim YS, **Kim KD**. [Computed tomographic assessment of sagittal plane alignment of the thoracolumbar junction in a young adult Korean population.](#)

World Neurosurg., 121:e351-e357

Lee D, Kulubya E, Goldin P, Goodarzi A, **Girgis F**.

[Review of the Neural Oscillations Underlying Meditation.](#)

Front Syst Neurosci, 12(178).

Martin RM, **Zimmermann LL**, Huynh M, Polage CR.

[Diagnostic approach to health care- and device-associated central nervous system infections.](#)

Journal of Clinical Microbiology 56:11 e00861-18.

Moore JM, Sala E, Amarin A, Martinez Jr H, Bhowmik AC, Chang SD, Soltys SG, **Harsh GR**, Katznelson L.

[CyberKnife radiosurgery in the multimodal management of patients with Cushing Disease.](#)

World Neurosurg, 112: e425-e430.

Liu X, **Zimmermann LL**, Ho N, Vespa P, Liao X, Hu X.

[Cerebral vascular changes during acute intracranial pressure drop.](#)

Neurocritical Care doi.org/10.1007/s12028-018-0651-4

Liu X, **Zimmermann LL**, Ho N, Vespa P, Liao X, Hu X.

[Evaluation of a new catheter for simultaneous intracranial pressure monitoring and cerebral spinal fluid drainage: a pilot study.](#)

Neurocritical Care doi.org/10.1007/s12028-018-0648-z

Nayak JV, Rathor A, Grayson JW, Bravo DT, Velasquez N, Noel J, Beswick DM, Riley KO, Patel ZM, Cho DY, Dodd RL, Thamboo A, Choby GW, Walgama E, **Harsh GR**, Hwang PH, Clemons L, Lowman D, Richman JS, Woodworth BA. [Porcine small intestine submucosal grafts improve remucosalization and progenitor cell recruitment to sites of upper airway tissue remodeling.](#)

International Forum of Allergy and Rhinology,(10) 1162-1168.

Noblett DA, Chang, J, **Shahlaie K**. [Prominent retroclival venous plexus, normal anatomic variant.](#)

Applied Radiology, 47(7): 42-44.

Panchal R, Denhaese R, Hill C, Strenge B, De Moura A, Passias P, Arnold P, Cappuccino A, Dennis MD, Kranenburg A, Ventimiglia B, Martin K, Ferry C, Martineck S, Moore C, **Kim K**.

[Anterior and lateral lumbar interbody fusion with supplemental interspinous process fixation: outcomes from a multicenter, prospective, randomized, controlled study.](#)

International Journal of Spine Surgery, 12(2): 172-184.

Pham MT, Pollock KM, Rose MD, Cary WA, Stewart HR, Zhou P, Nolte JA, **Waldau B**. [Generation of human vascularized brain organoids.](#) Neuroreport 29(7): 588-593.

Scangos KW, Carter CS, **Gurkoff G**, Zhang L, **Shahlaie K**.

[A pilot study of subthalamic theta frequency deep brain stimulation for cognitive dysfunction in Parkinson's disease.](#)

Brain Stimul. 11(2): 456-458.

Solk A, Griffin S, van der Meij R, Dewar C, **Saez I**, Lin JJ, Piantoni G, Schoffelen JM, Knight RT, Oostenveld R.

[Integrated analysis of anatomical and electrophysiological human intracranial data.](#)

Nature Protocols, 13:1699-1733.

Vespa PM, Shrestha V, Abend N, Agoston D, Au A, Bell MJ, Bleck TP, Blanco MB, Claassen J, Diaz-Arrastia R, Duncan D, Ellingson B, Foreman B, Gilmore EJ, Hirsch L, Hunn M, Kamnakhsh A, McArthur D, Morokoff A, O'Brien T, O'Phelan K, Robertson CL, Rosenthal E, Staba R, Toga A, Willyerd FA, **Zimmermann L**, Yam E, Martinez S, Real C, Engel J Jr.

[The epilepsy bioinformatics study for anti-epileptogenic therapy \(EpiBioS4Rx\) clinical biomarker: Study design and protocol.](#) Neurobiol Dis. 123: 110-114.

Wahby S, Sauro K, Atkinson M, Josephson C, **Girgis F**, Singh S, Patten S, Jette N, Sajobi T, Hader W.
[Patient Satisfaction with Epilepsy Surgery: What is important to patients?](#)
Epileptic Disorders, 20(5): 364-73.

Zwienenberg M, Marcin JP.
[Getting a head start: expediting neurosurgical intervention in children transported with intracranial hemorrhage with telemedicine.](#)
Pediatric Critical Care Medicine 19(11): 1084-1086.

Book Chapters

Madden LK, Ruiz MA, **Shahlaie K**.
[Management of Patients Undergoing Neurosurgical Procedures](#), J.V. Hickey, (ed), The clinical practice of neurological and neurosurgical nursing (8th ed.), Lippincott Williams and Wilkins., Philadelphia, PA. 300-324. *In Press*

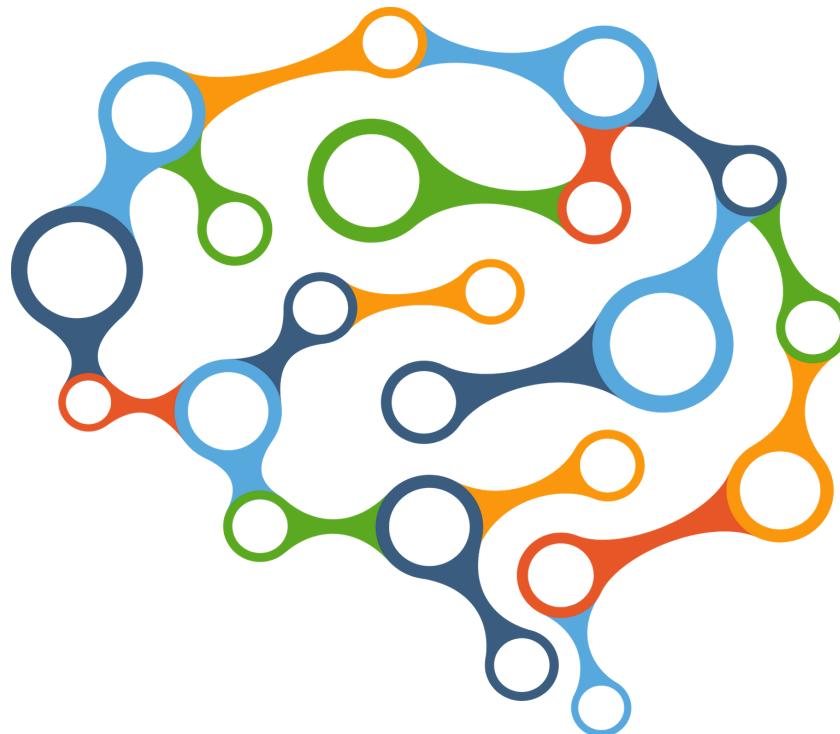
Martin R, Zimmerman L, Zwienenberg-Lee M, Kim KD, Shahlaie K.
[Cerebral metabolism and blood flow following traumatic brain Injury.](#)
In: Ashley SW, ed. Surgery [online]. Hamilton ON: Decker Medicine; August 2018. DOI: 10.2310/7800.2401 Available at <https://www.deckerip.com/decker/surgery/>

Martin R, Zimmerman L, Zwienenberg-Lee M, Kim KD, Shahlaie K.
[Severe traumatic brain injury.](#)
In: Ashley SW, ed. Surgery [online]. Hamilton ON: Decker Medicine; August 2018. DOI: 10.2310/7800.2403. Available at <https://www.deckerip.com/decker/surgery/>

Martin R, Zimmerman L, Zwienenberg-Lee M, Kim KD, Shahlaie K.
Traumatic spinal cord injury.
In: Ashley SW, ed. Surgery [online]. Hamilton ON: Decker Medicine; August 2018. DOI: 10.2310/7800.2402 Available at <https://www.deckerip.com/decker/surgery/>

Nayak JV, **Harsh GR**, Hwang PH.
[Endoscopic management of clival chordomas and chondrosarcomas.](#)
(Ch 30), Chiu AG, Palmer JN and ND Adappa, (ed), Atlas of Endoscopic Sinus and Skull Base Surgery, 2nd Edition, Elsevier, Philadelphia, PA. 269-297.

Ostergard T, **Girgis F**, Miller JP.
[Multiple subpial transections and multiple hippocampal transections for epilepsy in eloquent Brain Areas.](#)
Robert Gross and Nicholas Boulis, (ed), Neurosurgical Operative Atlas: Functional Neurosurgery, 3rd Edition, Thieme Medical Publishers, New York.



The behavioral, neuroanatomic, cellular, and molecular impact of maternal autoantibodies in a rat model of autism spectrum disorder

Van de Water J, **Berman RF**
Robert Landrith Family Fund
July 2018 to June 2019

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

Restoring functional connectivity following TBI

Gurkoff G, Ekstrom A, **Lyeth B, Shahlaie K, Berman R**
NIH 5 R01 NS 084026-05
February 2018 to January 2019

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

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

Kim K, Copenhaver 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

Acute SCI study

Kim K
Mitsubishi Tanabe Pharma Corp.
July 2018 to July 2019

Neuro-spinal scaffold

Kim, K
Invivo Therapeutics Corporation
XYA35490 August 2018 to August 2020

Traumatic injury clinical trial evaluating tranexamic acid in children

Kupperman N, Nishijima D, Holmes J, Galante J, **Zwienenberg M**, Gorges S, Barnhard S, Ghetti S
National Heart, Lung Blood Institute
NIH 5 R34 HL135214-02
January 2018 - December 2018

The role of Src family kinases in traumatic brain injury

Liu D, **Lyeth B**
National Institute of Neurological Disorders and Stroke
NIH R01 NS 089901-04

Tools and services for designing methodologically rigorous animal studies

Lyeth B
Stochastech Corporation
October 2018 to April 2019

The UCD-DGMC TBI precision medicine network for complex trauma

Palmiere T, Meyers F, **Martin R, Zimmermann LL**
Department of Defense
2018

Deep brain stimulation of the medial septal nucleus in epilepsy

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

Intracranial electrode implantation to deliver spherical tumor treatment fields therapy for management of glioblastoma multiforme

Shahlaie K
UC Davis Comprehensive Cancer Center
July 2018 to June of 2019

Development of a lateral flow assay (LFA) for the rapid and cost-effective diagnosis of cerebrospinal fluid (CSF) fistulae

Steel T, Strong B, **Shahlaie K**
February 2018 to January 2019

Pilot funding for investigators in oncology **Shahlaie K**

CCSG Institutional Research Grant
UC Davis Comprehensive Cancer Center January 2018 to December 2019

Interferometric near-infrared spectroscopy for tissue flowmetry and oximetry

Srinivasan V, **Lyeth B**
National Institute of Neurological Disorders and Stroke
NIH 5 R21 NS105043-02
September 2018 to August 2019

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 2022

Brain tissue oxygen optimization in severe traumatic brain injury (BOOST-III)

Zimmermann LL, Martin R
National Institutes of Health
2018

Epilepsy Bioinformatic Study for Post-Traumatic Epilepsy (EpiBioS4-PTE)

Zimmermann LL, Martin R
DOD (CDMRP)
2018

Honoring James E. Boggan, M.D.

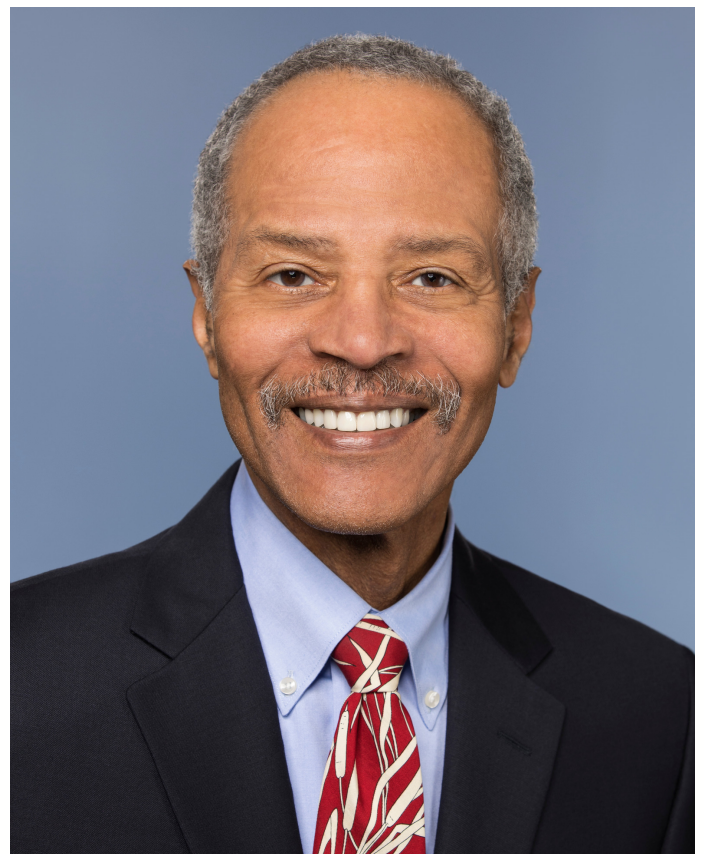
Professor Emeritus

Chair 2014-2018



We recognize the extraordinary contributions of **Dr. James E. Boggan** to the UC Davis Department of Neurological Surgery. Dr. Boggan joined the department in 1985 as an Assistant Professor. He was promoted to Associate Professor in 1987 and full Professor in 1993. Dr. Boggan served as the Associate Director, Center for Skull Base Surgery from 1990 to 2017 and was an Acting Chair of the department from 1994 to 1996. He was a Co-Director for the UCDavis Gamma Knife Radiosurgery Program from 2003 to 2017.

Dr. Boggan was appointed as the department chair in 2014. We deeply value the leadership, commitment and tireless dedication to patient care, research and resident education that Dr. Boggan has manifest over the many years of service to UC. We appreciate the wealth of guidance, mentorship and support he has provided to students, residents, fellows, researchers, junior faculty and staff and we wish him the very best as he moves into the next phase of his career.



With Gratitude:

The UC Davis Department of Neurological Surgery

expresses our deep appreciation and gratitude to those of you who so generously donated to our program in 2018, especially those who supported our inaugural **Julian R. Youmans and Franklin C. Wagner Jr., Neurological Surgery Fund**. We are committed to providing the very best in neurological patient care and resident training in Northern California and your philanthropic support helps us achieve that vision.

Honoring our Donors

Robert Berman, Ph.D.

Radmila Bogdanich

James Boggan, M.D.

B. Barry Chehrazi, M.D.

Julius O. Ebinu, M.D., Ph.D.

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