



Jonathon James Parker

- Affiliate, Dean's Office Operations - Dean Other
- Resident in Neurosurgery

Bio

BIO

Dr. Parker is currently completing an in-folded fellowship in Adult and Pediatric Epilepsy Surgery at Stanford and Lucile Packard Children's Hospital under the mentorship of Dr. Gerald Grant, Dr. Casey Halpern, Dr. Jaimie Henderson, and Dr. Lawrence Shuer. As a resident at Stanford, he has focused his training and research on minimally invasive treatments for epilepsy and movement disorders. He has focused his training to develop clinical expertise in open microsurgical resection techniques, laser interstitial thermal therapy (LITT), focused ultrasound (MRgFUS), Deep Brain Stimulation (DBS), Responsive Neurostimulation (RNS), electrocorticography (ECoG), stereo-electro-encephalography (SEEG), and robotic-assisted surgery. At Stanford guided by his surgical mentors, Dr. Parker has utilized state of the art approaches to improve epilepsy surgery by combing SEEG, 3D models, whole brain tractography, and navigated operative exoscopes to guide safe surgical resections of epileptic foci.

Dr. Parker's research revolves around optimizing SEEG techniques for intracranial evaluation of epileptic foci and clinically-relevant brain mapping via understanding the role of white matter in seizure propagation. After residency, Dr. Parker plans to pursue fellowship training in Pediatric Neurosurgery.

CLINICAL FOCUS

- Adult and Pediatric Epilepsy
- Stereo-electro-encephalography (SEEG)
- Adult and Pediatric Movement Disorders
- Deep Brain Stimulation (DBS)
- Responsive Neurostimulation (RNS)
- Electrocorticography (ECoG)
- Brain Mapping (awake craniotomy)
- Microsurgical Resection (epileptic focus, temporal lobectomy, callosotomy, hemispehctomy, and disconnection procedures)
- Neuro-Oncology
- Tumor Associated Epilepsy
- Residency

HONORS AND AWARDS

- Henry Newman Award, Best Clinical Paper, San Francisco Neurological Society (2017)
- Alden Harken Basic Science Research Award, University of Colorado, Department of Surgery (2015)
- Inductee, Alpha Omega Alpha (2015)
- Christopher G Reed Biologist Award, Dartmouth College, Department of Biology (2008)

PROFESSIONAL EDUCATION

- AB, Dartmouth College , Biology with High Honors (2008)
- PhD, University of Colorado, Anschutz Medical Campus , Cancer Biology (2013)
- MD, University of Colorado, School of Medicine , Medicine (2015)

INTERNET LINKS

- Linked In: <https://www.linkedin.com/in/jonathonjparker/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Improving seizure network mapping to improve efficacy of epilepsy surgery

CURRENT CLINICAL INTERESTS

- Adult and Pediatric Epilepsy Surgery
- Adult and Pediatric Movement Disorders

RESEARCH PROJECTS

- Novel Methods of Stereo-Electro-Encephalography (SEEG) analysis for optimization of seizure onset zone localization - Stanford / Lucile Packard Children's Hospital (LPCH)
- Neocortical Responsive Neurostimulation (RNS) for Medically-Refractory Adult Epilepsy - Stanford / Neuro Pace
- Intratumoral Heterogeneity of Tumor Cell Invasion in Human Glioblastoma - University of Colorado / Inova Neuroscience Institute / Stanford University

Publications

PUBLICATIONS

- **Stereotactic laser ablation for completion corpus callosotomy.** *Journal of neurosurgery. Pediatrics*
Huang, Y., Yecies, D., Bruckert, L., Parker, J. J., Ho, A. L., Kim, L. H., Fornoff, L., Wintermark, M., Porter, B., Yeom, K. W., Halpern, C. H., Grant, G. A.
2019; 1–9
- **Intratumoral heterogeneity of endogenous tumor cell invasive behavior in human glioblastoma.** *Scientific reports*
Parker, J. J., Canoll, P., Niswander, L., Kleinschmidt-DeMasters, B. K., Foshay, K., Waziri, A.
2018; 8 (1): 18002
- **A Human Glioblastoma Organotypic Slice Culture Model for Study of Tumor Cell Migration and Patient-specific Effects of Anti-Invasive Drugs** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*
Parker, J. J., Lizarraga, M., Waziri, A., Foshay, K. M.
2017
- **Cost-effectiveness of focused ultrasound, radiosurgery, and DBS for essential tremor.** *Movement disorders*
Ravikumar, V. K., Parker, J. J., Hornbeck, T. S., Santini, V. E., Pauly, K. B., Wintermark, M., Ghanouni, P., Stein, S. C., Halpern, C. H.
2017
- **Frontal and occipital horn ratio is associated with multifocal intraparenchymal hemorrhages in neonatal shunted hydrocephalus.** *Journal of neurosurgery. Pediatrics*
Oushy, S., Parker, J. J., Campbell, K., Palmer, C., Wilkinson, C., Stence, N. V., Handler, M. H., Mirsky, D. M.
2017; 20 (5): 432–38
- **Vocal Tremor: Novel Therapeutic Target for Deep Brain Stimulation.** *Brain sciences*
Ravikumar, V. K., Ho, A. L., Parker, J. J., Erickson-DiRenzo, E., Halpern, C. H.
2016; 6 (4)
- **Gefitinib selectively inhibits tumor cell migration in EGFR-amplified human glioblastoma.** *Neuro-oncology*
Parker, J. J., Dionne, K. R., Massarwa, R., Klaassen, M., Foreman, N. K., Niswander, L., Canoll, P., Kleinschmidt-Demasters, B. K., Waziri, A.
2013; 15 (8): 1048–57
- **Preoperative evaluation of pineal tumors.** *Neurosurgery clinics of North America*
Parker, J. J., Waziri, A.
2011; 22 (3): 353–58, vii-viii

PRESENTATIONS

- FUS Likely Dominates DBS and Stereotactic Radiosurgery for Medically-Refractory ET - 6th International Symposium on Focused Ultrasound