

# BRENNAN JAMES SULLIVAN

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## EDUCATION

<b>Baylor College of Medicine</b> Ph.D. in Neuroscience	2021 - Present
<b>Rhodes College</b> B.S. in Neuroscience	2013 - 2017

## RESEARCH POSITIONS

<b>Graduate Student — Laboratory of Jeffrey C. Magee, Ph.D.</b> Howard Hughes Medical Institute Department of Neuroscience, Baylor College of Medicine Duncan Neurological Research Institute at Texas Children's Hospital <i>Mechanisms of neocortical learning and memory</i>	2022 - Present
<b>Research Assistant — Laboratory of Shilpa D. Kadam, Ph.D.</b> Department of Neurology, Johns Hopkins University School of Medicine Hugo W. Moser Research Institute at Kennedy Krieger Children's Hospital <i>Development of rationale therapeutic targets for pediatric epilepsy and intellectual disability</i>	2017 - 2021
<b>Rhodes Undergraduate Research Fellow — Laboratory of Kelly A. Dougherty, Ph.D.</b> Department of Biology, Rhodes College <i>Investigation of A-type <math>K^+</math> channel function and pharmacology</i>	2016 - 2017

## PUBLICATIONS

Articles [\* denotes equal contribution]

1. Thomas A.\*, Yang W.\*, Wang C., Tipparaju S.L., Chen G., **Sullivan B.J.**, Swiekatowski K., Tatam M., Gerfen C., Li N. (2023) Superior colliculus cell types bidirectionally modulate choice activity in frontal cortex. *Nature Communications* PMID:
2. **Sullivan B.J.**, Kipnis P.K., Carter B.M., and Kadam S.D. (2021) Targeting ischemia-induced KCC2 hypofunction rescues refractory neonatal seizures and mitigates epileptogenesis in a mouse model. *Science Signaling*. PMID: 34752143
3. **Sullivan B.J.**, Ammanuel S., Kipnis P.K., Araki Y., Hugarir R.L., and Kadam S.D. (2020) Low-dose Perampanel rescues cortical gamma dysregulation associated with parvalbumin interneuron GluA2 upregulation in epileptic Syngap1+/- mice. *Biological Psychiatry*. PMID: 32107006
4. Kipnis P.K.\*, **Sullivan B.J.\***, Carter B.M., and Kadam S.D. (2020) TrkB agonists prevent post-ischemic BDNF-TrkB mediated emergence of refractory neonatal seizures in CD-1 pups. *JCI Insight*. PMID: 32427585.
5. Kang J., Kadam S.D., Elmore J.S., **Sullivan B.J.\***, Valentine H.\*, Malla A.P., Grace A.A., Rahmim A., Loew L.M., Baumann M., Gjedde A., Boctor E.M., and Wong D.F. (2020) Transcranial photoacoustic imaging of NMDA-evoked focal circuit dynamics in rat forebrain. *Journal of Neural Engineering*. PMID: 32084654.
6. Carter B.M., **Sullivan B.J.**, Landers J.R., Kadam S.D. (2018) Dose-dependent reversal of KCC2 hypofunction and phenobarbital-resistant neonatal seizures by ANA12. *Scientific Reports*. PMID: 30097625

## Reviews

1. **Sullivan B.J.** and Kadam S.D. (2021) Brain Derived Neurotrophic Factor in Neonatal Seizures. *Pediatric Neurology*. PMID: 33773288
2. Kadam S.D., **Sullivan B.J.**, Goayal A., Blue M.E., and Smith-Hicks C. (2020) Rett Syndrome and CDKL5 Deficiency Disorder: From Bench to Clinic. *International Journal of Molecular Sciences*. PMID: 31618813
3. Kipnis P.K., **Sullivan B.J.**, and Kadam S.D. (2019) Sex Dependent Signaling Pathways Underlying Seizure Susceptibility and the Role of Chloride Cotransporters. *Cells*. PMID: 31085988

## Chapters

1. **Sullivan B.J.** and Kadam S.D. (2021) Protocol for Drug Screening with Quantitative Video Electroencephalography in a Translational Model of Refractory Neonatal Seizures. In *Experimental and Translational Models to Screen Drugs Effective Against Seizures and Epilepsy*. D. Vohora, Ed. Springer, New York
2. **Sullivan B.J.** and Kadam S.D. (2020) The involvement of neuronal chloride transporter deficiencies in epilepsy. In *Neuronal Chloride Transporters in Health and Disease*. X. Tang, Ed. Elsevier, Amsterdam, Netherlands.

## INVITED TALKS

<b>Johns Hopkins University and Kennedy Krieger Institute, Baltimore, MD</b> Pediatric Neuroscience Collaboration Seminar, Virtual Live Content Event <i>Hitting a moving target: KCC2 and pharmacoresistant seizures in the developing brain.</i>	2022
<b>3rd International SYNGAP1 Conference</b> Young Investigator Workshop, Virtual Live Content Event <i>An early forecast for the SYNGAP1 storm.</i>	2021
<b>14th European Congress on Epileptology, Geneva, Switzerland</b> Platform session, Cancelled due to COVID-19 <i>The KCC2 functional enhancer CLP290 rescues phenobarbital-resistant neonatal seizures.</i>	2020
<b>The Scripps Research Institute, Jupiter, Florida</b> 2nd International SYNGAP1 Conference <i>Perampanel rescues behavioral state-dependent transitions on qEEG in Syngap1<sup>+/-</sup> mice.</i> Selected amongst the young investigators to present at the Main Symposium.	2018
<b>The Scripps Research Institute, Jupiter, Florida</b> Young Investigator Day at the 2nd International SYNGAP1 Conference <i>Perampanel rescues behavioral state-dependent transitions on qEEG in Syngap1<sup>+/-</sup> mice.</i>	2018
<b>Rhodes College, Memphis, TN</b> Summer Undergraduate Research Symposium <i>A hitchhikers guide to voltage-gated K<sup>+</sup> channels and dendritic integration.</i>	2016

## AWARDS

NINDS Curing the Epilepsies Conference Travel Award <i>CURE Epilepsy</i>	2021
14th European Congress on Epileptology Travel Award <i>International League Against Epilepsy</i>	2020
American Epilepsy Society Annual Meeting Travel Award <i>International League Against Epilepsy</i>	2019

Young Investigator Travel Award <i>Syngap1 Foundation</i>	2019
Undergraduate Research Fellowship <i>Rhodes College</i>	2016

## SERVICE & OUTREACH

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Ad-Hoc reviewer for <i>eLife</i> , <i>BRAIN</i> , <i>Molecular Psychiatry</i> , <i>Journal of Neural Engineering</i> , <i>Epilepsy Research</i> , and <i>Neuropharmacology</i>	
Skype a Scientist <i>Volunteer Scientist</i>	2018 - Present
Baylor College of Medicine Neuroscience Program Bootcamp <i>Volunteer Lecturer and Peer Mentor</i>	2022 - Present
NINDS-AES Young Investigators Virtual Seminar <i>Seminar Co-Organizer, Emerging neurotechnology to disrupt epilepsy</i>	2021
Johns Hopkins Internship in Brain Sciences <i>Mentor</i>	2018 - 2020
International League Against Epilepsy <i>Young Epilepsy Section Member, Research Task Force</i>	2018 - 2020
Kids Enjoy Exercise Now <i>Volunteer Coach</i>	2017 - 2020
Rhodes College Board of Trustees <i>Student Representative</i>	2016 - 2017
Rhodes College Student Government <i>Chair, Student Government Secondhand Smoke Committee</i>	2016 - 2017
Rhodes College Athletic Department <i>Board Member, Student-Athlete Advisory Committee</i> <i>Student Associate to the Athletic Director</i>	2014 - 2017

## LEADERSHIP EXPERIENCE

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Rhodes College Varsity Men's Basketball <i>Team Captain 2015, 2016, 2017</i> <i>SAA Conference Champion 2015, 2017</i> <i>All-Conference Selection 2015, 2016, 2017</i> <i>Rhodes College Fall Sports Top Men's Athlete 2016</i>	2013 - 2017
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