

CURRICULUM VITAE

Judy S. Liu MD/PhD

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I. CURRICULUM VITAE

1. NAME, POSITION, ACADEMIC DEPARTMENT CURRENT POSITIONS:

Judy Shih-Hwa Liu, MD/ PhD

Sidney A. Fox and Dorothea Doctors Fox Professor of Ophthalmology, Visual Science and Neuroscience

Associate Director Center for Translational Neuroscience

Associate Professor, Department of Molecular Biology, Cell Biology, and Biochemistry (Primary Appointment, with tenure, July 2022)

Associate Professor, Department of Neurology (Secondary Appointment)

Warren Alpert Medical School,

Brown University, Providence, Rhode Island, USA

70 Ship Street,

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2. EDUCATION:

1993 B.S. Molecular Biochemistry and Biophysics (MB&B), Yale University, New Haven, CT

2000 Ph.D. with Honors, Department of Pathology, Albert Einstein College of Medicine (AECOM), Bronx, NY,
Dissertation "Regulation of nitric oxide synthase II in primary human fetal astrocytes: a critical role for interleukin-1 and extracellular ATP" Advisors: Celia Brosnan, Ph.D. and Sunhee Lee M.D.

2000 M.D. Albert Einstein College of Medicine, Bronx, NY

2006 M.M.Sc. Clinical Investigator Training Program, Harvard Medical School/ Massachusetts Institute of Technology

2021 National Research Mentoring Network (NRMN) Culturally Aware Mentor (CAM):
Workshop: April 21 and April 26

Brown

Center for Improvement of Mentored Experiences in Research: Assessing Understanding and Fostering Independence. May 28, 2021

2021-22 HHMI Gilliam Mentorship Skills Development Training

3. PROFESSIONAL APPOINTMENTS:

a. Graduate and post-doctoral training:

1993-1995 Medical student (Year 1&2) Albert Einstein College of Medicine, Bronx, NY
 1995-1998 Graduate Student, Laboratory of Celia Brosnan, Department of Pathology, Albert Einstein College of Medicine, Bronx, NY
 1998-2000 Medical student (Year 3&4) Albert Einstein College of Medicine, Bronx, NY
 2000-2001 Intern, Internal Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School
 2001-2003 Resident, Neurology, Harvard Medical School/ Beth Israel Deaconess and Children's Hospital Training Program
 2003-2004 Academic/ Administrative Chief Resident in Neurology, Harvard Medical School/ Beth Israel Deaconess and Children's Hospital Training Program
 2004-2009 Post-doctoral fellow, Laboratory of Christopher A. Walsh, Department of Neurology, Harvard Medical School
 2005-2007 Trainee, Clinical Investigator Training Program, MIT-HST and Harvard Medical School, Boston, MA

b. Academic and Affiliated Appointments

2006-2009 Instructor in Neurology Harvard Medical School,
 2010-2017 Assistant Professor, Center for Neuroscience Research, Children's National Medical Center, Department of Pediatrics, Department of Pharmacology and Physiology, George Washington University Medical School Health Sciences, Washington, DC
 2013-2017 Assistant Professor, Department of Neurology George Washington University Medical School of Health Sciences Washington, DC
 2017-2019 Assistant Professor, Department of Neurology and Molecular Biology, Cell Biology, and Biochemistry, Brown University, Providence, RI
 2017-present Faculty, Carney Institute for Brain Science, Brown University, Providence, RI
 2018-present Sidney A. Fox and Dorothea Doctors Fox Professor of Ophthalmology, Visual Science and Neuroscience, Brown University, Providence, RI
 2019-2022 Associate Professor, Department of Neurology (primary) and Molecular Biology, Cell Biology, and Biochemistry (secondary), Brown University, Providence, RI
 2019-present Associate Director, Center for Translational Neuroscience, Brown University, Providence, RI
 2022-present Associate Professor, Molecular Biology, Cell Biology, and Biochemistry (primary with tenure) and Neurology (secondary), Brown University, Providence, RI

c. Hospital and Affiliated Appointments

2000-2001 Medical Intern, Beth Israel Deaconess Medical Center, Boston, MA
 2001-2003 Neurology Resident, Beth Israel Deaconess Medical Center, Boston, MA
 2001-2004 Neurology Resident, Boston Children's Hospital, Boston, MA
 2003-2004 Neurology Chief Resident, Beth Israel Deaconess Medical Center, Boston, MA
 2006-2009 Attending Neurologist, Beth Israel Deaconess Medical Center, Boston, MA (*1/2 day per week and up to 1 month of consult service 10% effort*)
 2013-2017 Attending Neurologist, George Washington University, Medical Faculty Associates Washington, DC (*2 full outpatient clinic days per week, up to 22 patients scheduled per day, 40% effort*)
 2017-present Attending Neurologist, Brown Neurology, Providence, RI (*1/2- 1 outpatient clinic days per week 10-20% effort*)
 2017-present Attending Neurologist, Rhode Island Hospital, Providence, RI, (*clinical privileges*)
 2021-present Bradley Hospital Medical Staff, Providence, RI (*research privileges*)

4. PUBLICATIONS

Corresponding author is marked with an asterisk (*).

Post-doctoral trainees of the Liu lab are underlined.

Pre-doctoral trainees of the Liu lab are highlighted.

a. Chapters in Books

Liu JS, Schubert CR, Walsh CA. Rare genetic causes of lissencephaly may implicate microtubule-based transport in the pathogenesis of cortical dysplasias. 2012. Review. PubMed PMID: 22787614. Jasper's Mechanisms of Epilepsy.

Fu X, Brown KJ, Rayavarapu S, Nagaraju K, **Liu JS***. The use of proteomic analysis to study trafficking defects in axons. *Methods Cell Biol.* 2016;131:151-62. doi: 10.1016/bs.mcb.2015.06.009. Epub 2015 Sep 2. PubMed PMID: 26794512.

b. Refereed Journal Articles

1. **Liu JS**, Zhao ML, Brosnan CF, Lee SC. Expression of type II nitric oxide synthase in primary human astrocytes and microglia: role of IL-1beta and IL-1 receptor antagonist. *J Immunol.* 1996 Oct 15;157(8):3569-76. PubMed PMID: 8871657.
2. Brosnan CF, Lee SC, **Liu JS**. Regulation of inducible nitric oxide synthase expression in human glia: implications for inflammatory central nervous system diseases. *Biochem Soc Trans.* 1997 May;25(2):679-83. doi: 10.1042/bst0250679. Review. PubMed PMID: 9191181.
3. Hua LL, **Liu JS**, Brosnan CF, Lee SC. Selective inhibition of human glial inducible nitric oxide synthase by interferon-beta: implications for multiple sclerosis. *Ann Neurol.* 1998 Mar;43(3):384-7. doi: 10.1002/ana.410430317. PubMed PMID: 9506556.
4. **Liu JS**, Amaral TD, Brosnan CF, Lee SC. IFNs are critical regulators of IL-1 receptor antagonist and IL-1 expression in human microglia. *J Immunol.* 1998 Aug 15;161(4):1989-96. PubMed PMID: 9712071.
5. Zhao ML, **Liu JS**, He D, Dickson DW, Lee SC. Inducible nitric oxide synthase expression is selectively induced in astrocytes isolated from adult human brain. *Brain Res.* 1998 Dec 7;813(2):402-5. doi: 10.1016/s0006-8993(98)01023-3. PubMed PMID: 9838203.
6. Wood JS, Koszelak M, **Liu JS**, Lawrence DS. A caged protein kinase inhibitor. *Journal of the American Chemical Society:* 1998 120. 7145-7146.
7. Sikora A, **Liu JS**, Brosnan C, Buell G, Chessel I, Bloom BR. Cutting edge: purinergic signaling regulates radical-mediated bacterial killing mechanisms in macrophages through a P2X7-independent mechanism. *J Immunol.* 1999 Jul 15;163(2):558-61. PubMed PMID: 10395640.
8. John GR, Scemes E, Suadicani SO, **Liu JS**, Charles PC, Lee SC, Spray DC, Brosnan CF. IL-1beta differentially regulates calcium wave propagation between primary human fetal astrocytes via pathways involving P2 receptors and gap junction channels. *Proc Natl Acad Sci U S A.* 1999 Sep 28;96(20):11613-8. doi: 10.1073/pnas.96.20.11613. PubMed PMID: 10500225; PubMed Central PMCID: PMC18082.
9. McManus CM, **Liu JS**, Hahn MT, Hua LL, Brosnan CF, Berman JW, Lee SC. Differential induction of chemokines in human microglia by type I and II interferons. *Glia.* 2000 Feb 1;29(3):273-80. PubMed PMID: 10642753.

10. Morgan AC, Chang HY, **Liu JS**, Hua LL, Lee SC. High extracellular potassium modulates nitric oxide synthase expression in human astrocytes. *J Neurochem*. 2000 May;74(5):1903-12. doi: 10.1046/j.1471-4159.2000.0741903.x. PubMed PMID: 10800933.
11. **Liu JS**, John GR, Sikora A, Lee SC, Brosnan CF. Modulation of interleukin-1beta and tumor necrosis factor alpha signaling by P2 purinergic receptors in human fetal astrocytes. *J Neurosci*. 2000 Jul 15;20(14):5292-9. PubMed PMID: 10884313; PubMed Central PMCID: PMC6772323.
12. **Liu JS**, Zhao ML, Brosnan CF, Lee SC. Expression of inducible nitric oxide synthase and nitrotyrosine in multiple sclerosis lesions. *Am J Pathol*. 2001 Jun;158(6):2057-66. doi: 10.1016/S0002-9440(10)64677-9. PubMed PMID: 11395383; PubMed Central PMCID: PMC1891989.
13. Deuel TA, **Liu JS**, Corbo JC, Yoo SY, Rorke-Adams LB, Walsh CA. Genetic interactions between doublecortin and doublecortin-like kinase in neuronal migration and axon outgrowth. *Neuron*. 2006 Jan 5;49(1):41-53. doi: 10.1016/j.neuron.2005.10.038. PubMed PMID: 16387638.
14. **Liu is Co-first author; [Featured in preview by Weimer, JM and Anton, ES. Neuron (2006) 49(1):3-4].**
15. Friocourt G, **Liu JS**, Antypa M, Rakic S, Walsh CA, Parnavelas JG. Both doublecortin and doublecortin-like kinase play a role in cortical interneuron migration. *J Neurosci*. 2007 Apr 4;27(14):3875-83. doi: 10.1523/JNEUROSCI.4530-06.2007. PubMed PMID: 17409252; PubMed Central PMCID: PMC6672408.
16. Zhang Y, Ryan JA, Di Cesare PE, **Liu JS**, Walsh CA, You Z. Doublecortin is expressed in articular chondrocytes. *Biochem Biophys Res Commun*. 2007 Nov 23;363(3):694-700. doi: 10.1016/j.bbrc.2007.09.030. Epub 2007 Sep 19. PubMed PMID: 17897623.
17. Sepp KJ, Hong P, Lizarraga SB, **Liu JS**, Mejia LA, Walsh CA, Perrimon N. Identification of neural outgrowth genes using genome-wide RNAi. *PLoS Genet*. 2008 Jul 4;4(7):e1000111. doi: 10.1371/journal.pgen.1000111. PubMed PMID: 18604272; PubMed Central PMCID: PMC2435276.

[Publications below are since Appointment to Assistant Professor in 2009]

Corresponding author is marked with an asterisk (*).

Post-doctoral trainees of the Liu lab are underlined.

Pre-doctoral trainees of the Liu lab are **highlighted**.

1. **Liu JS***. Molecular genetics of neuronal migration disorders. *Curr Neurol Neurosci Rep*. 2011 Apr;11(2):171-8. doi: 10.1007/s11910-010-0176-5. Review. PubMed PMID: 21222180.
2. Yap CC, Vakulenko M, Kruczek K, Motamedi B, Digilio L, **Liu JS**, Winckler B. Doublecortin (DCX) mediates endocytosis of neurofascin independently of microtubule binding. *J Neurosci*. 2012 May 30;32(22):7439-53. doi: 10.1523/JNEUROSCI.5318-11.2012. PubMed PMID: 22649224; PubMed Central PMCID: PMC3372911.
3. **Liu JS***, Schubert CR, Fu X, Fourniol FJ, Jaiswal JK, Houdusse A, Stultz CM, Moores CA, Walsh CA. Molecular basis for specific regulation of neuronal kinesin-3 motors by doublecortin family proteins. *Mol Cell*. 2012 Sep 14;47(5):707-21. doi: 10.1016/j.molcel.2012.06.025. Epub 2012 Aug 1. PubMed PMID: 22857951; PubMed Central PMCID: PMC3549492.
4. Fu X, Brown KJ, Yap CC, Winckler B, Jaiswal JK, **Liu JS***. Doublecortin (Dcx) family proteins regulate filamentous actin structure in developing neurons. *J Neurosci*. 2013 Jan 9;33(2):709-21. doi: 10.1523/JNEUROSCI.4603-12.2013. PubMed PMID: 23303949; PubMed Central PMCID:

5. Falnikar A, Tole S, Liu M, **Liu JS**, Baas PW. Polarity in migrating neurons is related to a mechanism analogous to cytokinesis. *Curr Biol*. 2013 Jul 8;23(13):1215-20. doi: 10.1016/j.cub.2013.05.027. Epub 2013 Jun 20. PubMed PMID: 23791725; PubMed Central PMCID: PMC3710514
6. Pescosolido MF, Stein DM, Schmidt M, El Achkar CM, Sabbagh M, Rogg JM, Tantravahi U, McLean RL, **Liu JS**, Poduri A, Morrow EM. Genetic and phenotypic diversity of NHE6 mutations in Christianson syndrome. *Ann Neurol*. 2014 Oct;76(4):581-93. doi: 10.1002/ana.24225. Epub 2014 Sep 19. PubMed PMID: 25044251; PubMed Central PMCID: PMC4304796.
7. Nawabi H, Belin S, Cartoni R, Williams PR, Wang C, Latremolière A, Wang X, Zhu J, Taub DG, Fu X, Yu B, Gu X, Woolf CJ, **Liu JS**, Gabel CV, Steen JA, He Z. Doublecortin-Like Kinases Promote Neuronal Survival and Induce Growth Cone Reformation via Distinct Mechanisms. *Neuron*. 2015 Nov 18;88(4):704-19. doi: 10.1016/j.neuron.2015.10.005. Epub 2015 Oct 29. PubMed PMID: 26526391; NIHMSID:NIHMS729688.
8. Kruse CA, Pardo CA, Hartman AL, Jallo G, Vining EP, Voros J, Gaillard WD, **Liu JS**, Oluigbo C, Malone S, Bleasel AF, Dexter M, Micati A, Velasco TR, Machado HR, Martino AM, Huang A, Wheatley BM, Grant GA, Granata T, Freri E, Garbelli R, Koh S, Nordli DR, Campos AR, O'Neill B, Handler MH, Chapman KE, Wilfong AA, Curry DJ, Yaun A, Madsen JR, Smyth MD, Mercer D, Bingaman W, Harvey AS, Leventer RJ, Lockhart PJ, Gillies G, Pope K, Giller CA, Park YD, Rojiani AM, Sharma SJ, Jenkins P, Tung S, Huynh MN, Chirwa TW, Cepeda C, Levine MS, Chang JW, Owens GC, Vinters HV, Mathern GW. Rasmussen encephalitis tissue transfer program. *Epilepsia*. 2016 Jun;57(6):1005-7. doi: 10.1111/epi.13383. PubMed PMID: 27286752.
9. Chakraborti S, Natarajan K, Curiel J, Janke C, **Liu JS***. The emerging role of the tubulin code: From the tubulin molecule to neuronal function and disease. *Cytoskeleton (Hoboken)*. 2016 Oct;73(10):521-550. doi: 10.1002/cm.21290. Epub 2016 May 9. Review. PubMed PMID: 26934450.
10. Lischinsky JE, Sokolowski K, Li P, Esumi S, Kamal Y, Goodrich M, Oboti L, Hammond TR, Krishnamoorthy M, Feldman D, Huntsman M, **Liu JS**, Corbin JG. Embryonic transcription factor expression in mice predicts medial amygdala neuronal identity and sex-specific responses to innate behavioral cues. *Elife*. 2017 Mar 13;6. doi: 10.7554/eLife.21012. PubMed PMID: 28244870; PubMed Central PMCID: PMC5384829.
11. Son AI, Fu X, Suto F, **Liu JS**, Hashimoto-Torii K, Torii M. Proteome dynamics during postnatal mouse corpus callosum development. *Sci Rep*. 2017 Mar 28;7:45359. doi: 10.1038/srep45359. PubMed PMID: 28349996; PubMed Central PMCID: PMC5368975.
12. Ho CY, Ames HM, Tipton A, Vezina G, **Liu JS**, Scafidi J, Torii M, Rodriguez FJ, du Plessis A, DeBiasi RL. Differential neuronal susceptibility and apoptosis in congenital Zika virus infection. *Ann Neurol*. 2017 Jul;82(1):121-127. doi: 10.1002/ana.24968. PubMed PMID: 28556287.

[Publications below are since Brown University Appointment]

Manuscripts on which I am the corresponding author are marked with an asterisk (*)

13. Li P, Fu X, Smith NA, Ziobro J, Curiel J, Tenga MJ, Martin B, Freedman S, Cea-Del Rio CA, Oboti L, Tsuchida TN, Oluigbo C, Yaun A, Magge SN, O'Neill B, Kao A, Zelleke TG, Depositario-Cabacar DT, Ghimbovschi S, Knoblach S, Ho CY, Corbin JG, Goodkin HP, Vicini S, Huntsman MM, Gaillard WD, Valdez G, **Liu JS***. Loss of CLOCK Results in Dysfunction of Brain Circuits Underlying Focal Epilepsy. *Neuron*. 2017 Oct 11;96(2):387-401.e6. doi: 10.1016/j.neuron.2017.09.044. PubMed PMID: 29024662; PubMed Central PMCID: PMC6233318.
featured in Science Translational Medicine (2017): Vol. 9, Issue 416, eaaq1237;
featured in Epilepsy Currents (2018):Vol. 18, #2, pp123-4;

featured by the Scientist (2018) <https://www.the-scientist.com/daily-news/circadian-gene-linked-to-severe-epilepsy-in-children-30763>

14. Hamilton EMC, Bertini E, Kalaydjieva L, Morar B, Dojčáková D, **Liu JS**, Vanderver A, Curiel J, Persoon CM, Diodato D, Pinelli L, van der Meij NL, Plecko B, Blaser S, Wolf NI, Waisfisz Q, Abbink TEM, van der Knaap MS. UFM1 founder mutation in the Roma population causes recessive variant of H-ABC. *Neurology*. 2017 Oct 24;89(17):1821-1828. doi: 10.1212/WNL.0000000000004578. Epub 2017 Sep 20. PubMed PMID: 28931644; PubMed Central PMCID: PMC5664304.
15. Curiel J, Rodríguez Bey G, Takanohashi A, Bugiani M, Fu X, Wolf NI, Nmezi B, Schiffmann R, Bugaighis M, Pierson T, Helman G, Simons C, van der Knaap MS, **Liu JS**, Padiath Q, Vanderver A. TUBB4A mutations result in specific neuronal and oligodendrocytic defects that closely match clinically distinct phenotypes. *Hum Mol Genet*. 2017 Nov 15;26(22):4506-4518. doi: 10.1093/hmg/ddx338. PubMed PMID: 28973395; PubMed Central PMCID: PMC7462055.
16. Son AI, Opfermann JD, McCue C, Ziobro J, Abrahams JH 3rd, Jones K, Morton PD, Ishii S, Oluigbo C, Krieger A, **Liu JS**, Hashimoto-Torii K, Torii M. An Implantable Micro-Caged Device for Direct Local Delivery of Agents. *Sci Rep*. 2017 Dec 15;7(1):17624. doi: 10.1038/s41598-017-17912-y. PubMed PMID: 29247175; PubMed Central PMCID: PMC5732160.
17. Yap CC, Digilio L, Kruczek K, Roszkowska M, Fu X, **Liu JS**, Winckler B. A dominant dendrite phenotype caused by the disease-associated G253D mutation in doublecortin (DCX) is not due to its endocytosis defect. *J Biol Chem*. 2018 Dec 7;293(49):18890-18902. doi: 10.1074/jbc.RA118.004462. Epub 2018 Oct 5. PubMed PMID: 30291144; PubMed Central PMCID: PMC6295730.
18. Pescosolido MF, Kavanaugh BC, Pochet N, Schmidt M, Jerskey BA, Rogg JM, De Jager PL, Young-Pearse TL, **Liu JS**, Morrow EM. Complex Neurological Phenotype in Female Carriers of NHE6 Mutations. *Mol Neuropsychiatry*. 2019 Apr;5(2):98-108. doi: 10.1159/000496341. Epub 2019 Mar 6. PubMed PMID: 31192222; PubMed Central PMCID: PMC6528080.
19. Ouyang Q, Kavanaugh BC, Joesch-Cohen L, Dubois B, Wu Q, Schmidt M, Baytas O, Pastore SF, Harripaul R, Mishra S, Hussain A, Kim KH, Holler-Managan YF, Ayub M, Mir A, Vincent JB, **Liu JS**, Morrow EM. GPT2 mutations in autosomal recessive developmental disability: extending the clinical phenotype and population prevalence estimates. *Hum Genet*. 2019 Oct;138(10):1183-1200. doi: 10.1007/s00439-019-02057-x. Epub 2019 Aug 30. PubMed PMID: 31471722; PubMed Central PMCID: PMC6748651.
20. Kavanaugh BC, Warren EB, Baytas O, Schmidt M, Merck D, Buch K, **Liu JS**, Phornphutkul C, Caruso P, Morrow EM. Longitudinal MRI findings in patient with SLC25A12 pathogenic variants inform disease progression and classification. *Am J Med Genet A*. 2019 Nov;179(11):2284-2291. doi: 10.1002/ajmg.a.61322. Epub 2019 Aug 12. PubMed PMID: 31403263; PubMed Central PMCID: PMC6788951.
21. Mohammad S, Page SJ, Wang L, Ishii S, Li P, Sasaki T, Basha A, Salzberg A, Quezado Z, Imamura F, Nishi H, Isaka K, Corbin JG, **Liu JS**, Kawasawa YI, Torii M, Hashimoto-Torii K. Kcnn2 blockade reverses learning deficits in a mouse model of fetal alcohol spectrum disorders. *Nat Neurosci*. 2020 Apr;23(4):533-543. doi: 10.1038/s41593-020-0592-z. Epub 2020 Mar 16. PubMed PMID: 32203497; PubMed Central PMCID: PMC7131887.
22. Sase S, Almad AA, Boecker CA, Guedes-Dias P, Li JJ, Takanohashi A, Patel A, McCaffrey T, Patel H, Sirdeshpande D, Curiel J, **Liu JS**, Padiath Q, Holzbaur EL, Scherer SS, Vanderver A. TUBB4A mutations result in both glial and neuronal degeneration in an H-ABC leukodystrophy mouse model. *Elife*. 2020 May 28;9. doi: 10.7554/eLife.52986. PubMed PMID: 32463361; PubMed Central PMCID: PMC7255805.

23. Chan F, **Liu JS***. Molecular regulation of brain metabolism underlying circadian epilepsy. *Epilepsia*. 2021 Feb;62 Suppl 1:S32-S48. doi: 10.1111/epi.16796. Epub 2021 Jan 4. Review. PubMed PMID: 33395505; PubMed Central PMCID: PMC8744084.
24. Li P, Li L, Yu B, Wang X, Wang Q, Lin J, Zheng Y, Zhu J, He M, Xia Z, Tu M, **Liu JS**, Lin Z, Fu X. Doublecortin facilitates the elongation of the somatic Golgi apparatus into proximal dendrites. *Mol Biol Cell*. 2021 Mar 1;32(5):422-434. doi: 10.1091/mbc.E19-09-0530. Epub 2021 Jan 6. PubMed PMID: 33405953; PubMed Central PMCID: PMC8098852.
25. Cheon S, Culver AM, Bagnell AM, Ritchie FD, Vacharasin JM, McCord MM, **Papendorp CM**, Chukwurah E, Smith AJ, Cowen MH, Moreland TA, Ghate PS, Davis SW, **Liu JS**, Lizarraga SB. Counteracting epigenetic mechanisms regulate the structural development of neuronal circuitry in human neurons. *Mol Psychiatry*. 2022 Feb 24;. doi: 10.1038/s41380-022-01474-1. [Epub ahead of print] PubMed PMID: 35210569; NIHMSID:NIHMS1777239.
26. Goodspeed K, **Liu JS**, Nye K, Prasad S, Sadhu C, Tavvakoli F, Bilder D, Minassian B, Bailey R, SLC13A5-Deficiency Disorder: From Genetics to Gene Therapy. *Genes*. 13(9), 1655; 2022 Sept 15; doi.org/10.3390/genes13091655.
27. Fu X, Rao L, Li P, Son A, Torii M, Gennerich A, **Liu JS** Doublecortin and JIP3 are neural-specific counteracting regulators of dynein-mediated retrograde trafficking", *eLife*: 12-07-2022-RA-eLife-82218 <https://doi.org/10.7554/eLife.82218>

c. Editorials, Essays, Commentaries, Workshop Reports

***Goicouria L**, **Liu JS**. E-I E-I Woe: Mossy Cell Regulation of Granule Cell Activity in Temporal Lobe Epilepsy. *Epilepsy Curr*. 2020 May-Jun;20(3):173-174. doi: 10.1177/1535759720920828. eCollection 2020 May-Jun. PubMed PMID: 32550841; PubMed Central PMCID: PMC7281904.

Quigg M, Bazil CW, Boly M, St Louis EK, **Liu JS**, Ptacek L, Maganti R, Kalume F, Gluckman BJ, Pathmanathan J, Pavlova MK, Buchanan GF. Proceedings of the Sleep and Epilepsy Workshop: Section 1 Decreasing Seizures-Improving Sleep and Seizures, Themes for Future Research. *Epilepsy Curr*. 2021 Mar 31;:15357597211004566. doi: 10.1177/15357597211004566. [Epub ahead of print] PubMed PMID: 33787387; PubMed Central PMCID: PMC8609596.

Fu X, **Liu JS**, Li P. Stopping the Clock on Seizures!. *Trends Neurosci*. 2021 Jun;44(6):422-423. doi: 10.1016/j.tins.2021.04.002. Epub 2021 May 6. PubMed PMID: 33965214.

d. Reviewed citable Pre-print

new eLife policy: <https://elifesciences.org/inside-elifesciences/54d63486/elifesciences-s-new-model-changing-the-way-you-share-your-research>)

e. Poster Abstracts (selected)

Fu X, Walsh CA, **Liu JS**, "Golgi Localization is Impaired in *Dcx*-/- or *Dclk* -/- Deficient Neurons" (poster) American Society for Cell Biology Annual Meeting, Philadelphia, PA, December 12, 2010

Lamba N, Fu X, **Liu JS** "The Effect of Alpha Tubulin (TUBA1A) mutations on neuronal morphology and migration" (poster) American Society for Cell Biology Annual Meeting, Philadelphia, PA, December 13, 2010

Yap C, M. Vakulenko M, **Liu JS**, Winckler B, "Neurotrophin and doublecortin (DCX) promote neurofascin accumulation at the axonal initial segment"(poster) Society for Neuroscience, Washington DC, November 15, 2010

Liu JS, Schubert C, Fu X, Jaiswal JK, Walsh CA, “Doublecortin regulates neuronal kinesin-3 motors” (poster) Society for Neuroscience, New Orleans, October 14, 2012

Fu X, Brown KJ, Jaiswal J, **Liu JS**, “Changes in molecular motors in doublecortin deficient mice” (poster) Society for Neuroscience, San Diego, CA, November 12, 2013

Fu X, **Liu JS**, Doublecortin family proteins regulate dynein motors and retrograde transport through JIP3 (poster) Society for Neuroscience, Washington DC, November 16, 2014

Fu X, Li P, Smith N, Tenga M, Martin B, Tsuchida T, Yaun A, Magge S, Kao A, Oluigbo C, Despositario-Cabacar D, Zellyke T, Ghimbovich S, Knoblach S, Ho C, Gaillard W, Huntsman M, Valdez G, **Liu JS**,” (poster) Altered circadian gene expression in epileptogenic tissue may cause neuronal simplification” American Epilepsy Society Meeting, Seattle, WA, December 5-9, 2014

Fu X, Son A, Torii M, **Liu JS**, “Doublecortin family proteins are neuronal-specific regulator of dynein motor activity” (poster) American Society for Cell Biology Annual Meeting, San Diego, CA, December 12-16, 2015

Fu X, Li P, Smith N, Tenga M, Martin B, Tsuchida T, Yaun A, Magge S, Oluigbo C, Kao A, Ghimbovich S, Knoblach S, Ho C, Gaillard W, Huntsman M, Valdez G, **Liu JS**, “Loss of Clock results in dysfunction of brain circuits that underlie pediatric focal epilepsy” (poster) Mechanisms of Epilepsy and Neuronal Synchronization, Gordon Research Conference, Barcelona, Spain, August 21-26, 2016

Li P, Fu X, **Liu JS**, Targeting the circadian molecular clock as a therapeutic strategy for refractory epilepsy (poster) Mechanisms of Epilepsy and Neuronal Synchronization Gordon Research Conference, Mount Snow, NH, August 19-24, 2018

Chan, F and **Liu JS**, The Contribution of Pyridoxine Metabolism towards Astrocyte Mitochondrial Respiration in the CLOCK Model of Focal Epilepsy (poster) Park City Epilepsy Meeting held on October 6th to 8th, 2019.

Chan F, Bartolini L, Wu Q, Evans S, Chan B, Usai E, Lewis C, Dilber E, Neretti N, Oluigbo C, Gaillard W, **Liu JS**, Integrated transcriptomics-metabolomics analysis implicates dysfunction in lysine metabolism in tuberous sclerosis complex, F Chan was the Young Investigator Awardee from American Epilepsy Society 2020 (AES 2020) Postdoctoral Fellowship

f. Presentations

1) Symposia

Presidential Symposium for American Society for Neurochemistry: March 22, 2017 “Emerging concepts in tubulinopathies from animal modeling”, organizer and chair with sponsorship obtained from Cytoskeleton Inc.

Sixth Annual Shriners/Temple Symposium on Neural Repair: June 11, 2021” Molecular and Functional Analysis of Focal Cortical Dysplasia”.

Annual TESS Foundation SLC13A5 Research Meeting: November 14, 2021 “Characterization of Mouse Experimental Systems of the Plasma Membrane Transporter, SLC13A5”

2022 American College of Toxicology Symposium: Identifying and Understanding Seizure Liability in Drug Development (accepted as a continuing education session for the 2022 annual meeting) “Clinical Description and Mechanisms of Seizures”

2) International platform presentations at meetings

1. International Society for Neurochemistry/ American Society for Neurochemistry Joint Meeting, Cancun, Mexico: April 22, 2013 “Doublecortin family proteins regulate axon guidance”
2. EMBO Workshop: Emerging Concepts of the Neuronal Cytoskeleton: March 24, 2015, Puerto Varas, Chile “Doublecortin regulation of molecular motors in early brain development”
3. International League Against Epilepsy, 33rd International Epilepsy Congress: “Loss of CLOCK underlies focal epilepsies” in the session titled “Biological rhythms that modulate the risk of seizures”: Bangkok, Thailand. June 23, 2019.
4. TESS foundation International Research Conference: September 8, 2022 “Knock-in and knockout rodent models of epilepsy” Institute of Science and Technology, Austria

3) National platform presentation at meetings/ workshops

1. Federation of American Societies for Experimental Biology (FASEB) American Society of Investigative Pathology Annual Meeting: platform presentation April 8, 1997 “Regulation of inducible nitric oxide synthase expression in human glia: implications for inflammatory central nervous system diseases”
2. Gordon Conference: Cell biology of the Neuron: platform presentation June 19, 2006 “Doublecortin in Neuronal Migration and Axon Outgrowth”
3. Cold Spring Harbor Conference: Synapses from Molecules to Circuits and Behavior: April 14, 2009: Doublecortin (Dxc) and Doublecortin-like kinase (Dclk1) mediate neuronal morphology via kinesin 1a (Kif1a)-mediated vesicle transport
4. American Society for Cell Biology, eposter presentation: December 16, 2013 “Doublecortin Differentially Regulates Molecular Motors in Developing Neurons”.
5. American Epilepsy Society Annual Meeting: December 7, 2015: Loss of Clock Results in Dysfunction of Brain Circuits Underlying Focal Epilepsy” highlighted in an AES in a press release
6. American Society for Neurochemistry: March 19, 2016: “Loss of Clock Results in Dysfunction of Brain Circuits Underlying Focal Epilepsy”
7. American Epilepsy Society Sleep and Epilepsy Workshop: May 31, 2019: Speaker on "Circadian Dysregulation and Seizures"
8. American Epilepsy Society Annual Meeting 2020: Investigator Workshop: Can Study of the 'Seizure Focus' from Therapeutic Resections can Lead to Novel Insights in Epilepsy? Session Organizer and Moderator.
9. American Epilepsy Society Annual Meeting 2020: Investigator Workshop: Sleep and Circadian Rhythms in SUDEP: disentangling night time contributors to seizure-associated death. Speaker, Talk title: Molecular mechanisms for circadian regulation of seizures and epilepsy
10. American Epilepsy Society Annual Meeting 2022: Investigator Workshop: Metabolic Mechanisms of Epilepsy and related Neurodevelopmental Disorders (moderator) Talk title: Introduction to metabolism and epilepsy, Nashville TN
11. American College of Toxicology Annual Meeting 2022: Identifying and Understanding Seizure Liability in Pharmaceutical Development Continuing Education Course: Talk title: “Clinical Description and Mechanisms of Seizures”: Denver, CO: November 13, 2022

4) Regional presentations (Since Appointment as Assistant Professor)

1. George Washington University Neurology Grand Rounds: Feb 26, 2014 "Disorders of Cortical Development".
2. George Washington University Neurology Grand Rounds: May 26, 2015 "How to Combine Research and Medicine"
3. Ammon's Horn Society meeting: January 27, 2015 "Molecular and Functional Analysis of Focal Epilepsy"
4. Boston Children's Hospital Symposium Honoring Christopher A. Walsh: July 6, 2017 "Stopping the Clock on Epilepsy"
5. Brown University: MCB Graduate Seminar Series: October 4, 2017 "Molecular, Cellular, and Circuit mechanisms of Cortical Malformations"
6. BIBS Center for Cells and Circuits: Faculty Chalk talk series "Imaging the dynamic cytoskeleton in neural development" November 29, 2017
7. Brown University Neurology Department Grand Rounds: "Molecular and Functional Analysis of Focal Epilepsy" January 3, 2018
8. BIBS Lunch talk: "Mechanisms and Consequences of Cortical Malformations": April 19, 2018
9. Brown Neuroscience Graduate Program: Bench to Bedside "Living with Epilepsy around the Clock": February 6, 2020
10. University of Rhode Island: "Structural and Functional Analysis of Epilepsy" October 20, 2021
11. Carney Institute: Center for Cells and Circuits: Faculty Chalk talk series "Metabolism and Epilepsy in a Rare Genetic Disorder" April 12, 2022
12. Brown Neurology/ Rhode Island Hospital Neurology Grand Rounds: February 22, 2023 "Molecular and Functional Analysis of Epilepsy"

5) Invited Research Seminars

1. Yale Neurobiology: January 8, 2008 "Up, down and out: migration and differentiation in the cerebral cortex"
2. Vanderbilt Biochemistry Department: January 24, 2008 "Up, down and out: migration and differentiation in the cerebral cortex"
3. Children's National Medical Center IDDRC: March 26, 2009 "Regulation of vesicle trafficking during neural development"
4. SUNY Stonybrook Department of Neuroscience: May 4, 2009 "Regulation of vesicle trafficking during neural development"

5. University of Virginia, Department of Neuroscience: June 10, 2009 Regulation of vesicle trafficking during neural development
6. George Washington University, Department of Anatomy: February 4, 2010. "Vesicle Trafficking in Neuronal Migration"
7. Albert Einstein College of Medicine, Department of Pathology: May 3, 2011 "Vesicle Trafficking in Neuronal Migration"
8. George Washington University Institute for Neuroscience Symposium: May 3, 2013 "Molecular motors at the crossroads of neural development"
9. Carnegie Institute/ Johns Hopkins University: November 11, 2013 "Filling the gaps: the role of doublecortin in axon guidance"
10. Uniformed Services University of the Health Services: April 24, 2014 "The Role of Molecular Motors and the Cytoskeleton in a Neurodevelopmental Disorder"
11. Virginia Tech Carillion Research Institute: February 12, 2015 "How are motors regulated in early neuronal development?"
12. University of Colorado: March 22, 2016 "Non-circadian functions of Clock in focal epilepsy"
13. University of Virginia: August 18, 2016 "Stopping the Clock on Epilepsy"
14. Children's Hospital Philadelphia: October 18, 2016 "Functional study of tubulin mutations: developmental and degenerative phenotypes"
15. Cleveland Clinic Epilepsy Grand Rounds: March 14, 2017 "Molecular and Functional Analysis of Focal Epilepsy"
16. Virginia Tech Carillion Research Institute: August 26, 2017 "Cortical Malformations: Truth and Consequences"
17. Keynote speaker Appalachian Regional Cell Conference: April 13, 2019, Morgantown, WV "Causes and Consequences of Cortical Malformations"
18. Yale Epilepsy Research Conference: June 15, 2020 (cancelled COVID-19) "Stopping the Clock on Epilepsy"
19. Harvard Brain Science Initiative- Chronobiology and the Brain: May 12, 2020 (cancelled COVID-19) "Circadian rhythms and epilepsy"
20. University of South Carolina, Department of Biological Sciences: November 18, 2019 "Causes and Consequences of Cortical Malformations"
21. University of California, San Diego Grand Rounds: November 20, 2020 "Molecular and Functional Characterization of Focal Cortical Dysplasia"
22. Harvard Medical School, Sleep Medicine Grand Rounds: February 1, 2021 "Focal epilepsy, sleep, and the circadian molecular clock"
23. University of Texas South Western, Department of Neurology special seminar: October 22, 2021 "Functional analysis of transcriptional mechanisms in epilepsy"

24. Child Health Institute of NJ, Rutgers University June 6, 2022 “Molecular and Functional Analysis of Epilepsy”
25. Harvard Combined Adult and Child Neurology Grand Rounds: October 19, 2022 “Molecular and Functional Analysis of Epilepsy:
26. Boston Children’s Hospital, Rosamund Stone Zander Translational Neuroscience Center Seminar: January 10, 2023 “Mechanisms of Gene Expression in Pediatric Epilepsy and Neural Developmental Disorders”

5. FUNDING:

a. Current externally funded grants:

TESS foundation/ Chan-Zuckerberg Rare as One Awardee: “Natural History Study of SLC13A5”
01/01/2022-12/31/2024 (100,000)
(East-coast site PI at Rhode Island Hospital)

1R01MH127081-01A1: Ash1l-mediated transcriptional networks in autism spectrum disorders
04/01/2022-03/31/2027 (825,000)
(MPI, with Sofia Lizarraga as contact PI)

RO1 NS104428-01: The circadian molecular clock in refractory focal epilepsy
NIH/ NINDS 2/01/2019-1/31/2023 (1,08,000)
(PI) 20%

Administrative Supplement: 3R01NS104428-02S1 Alzheimer's Neurodegeneration: Can restoration of the circadian molecular clock ameliorate Alzheimer's pathology?
NIH/ NINDS 8/01/2019-7/31/2020 (250,000)
(PI) 10%

Diversity Supplement for Luis Goicouria, graduate student; 3R01NS104428-02S1
NIH/ NINDS 02/01/20-01/31/22

Diversity Supplement for Kelvin Deleon, graduate student; 3R01NS104428-03S2-
NIH/ NINDS 02/01/21-01/31/23

Diversity Supplement for Sean Feeney, post baccalaureate trainee; 3R01NS104428-03S3, post baccalaureate
NIH/ NINDS 06/01/21-05/31/22

b. Current internally funded grants

Carney Institute for Brain Science: Zimmerman Innovation Award: “Phenotypes and Mechanisms in epilepsy-associated SLC13A5 mutations” (100,000) (03/01/2022-02/28/2023)
(PI with co-PI Stephen Helfand)

OVPR Seed: Neural Metabolomics and infantile epilepsy associated with mutations in SLC13A5
01/15/2020- 12/31/2021, in NCE (100,000)
(PI, with co-PI Stephen Helfand)

c. Grant funding in the mentorship role:

Advance CTR Pilot Award: Epilepsy and Neurocognitive Function in Patients with Neurogenetic Disorders (2020- extension because of COVID)
(co-mentor for Luca Bartolini, Assistant Professor, Pediatric Neurology)

Howard Hughes Medical Institute, James Gilliam Jr. Fellowship for Advanced Study 2020-2023 (mentor for Alexis Toliver, graduate student, Neuroscience Graduate Program)

TS Alliance and Developmental Synaptopathies Consortium TSC Young Investigator Fellowship: Lysine metabolism in tuberous sclerosis complex (2021-2023, 220,000) (mentor for Felix Chan, post-doctoral fellow)

D-SPAN F99/K00: Epilepsy Mechanisms and the Path to Intervention; 09/15/2022- 08/31/2027
(mentor for Kelvin Deleon)

d. Pending Grants

R01: "Genetic and Functional Mechanisms in Citrate Transporter Disorder associated with SLC13A5".
NIH/NINDS (300,000)
(MPI, contact PI, with Helfand as co PI)

e. Grants pending resubmission

none

f. Completed Grants

Since appointment as Assistant Professor:

1. Brown Physician's INC. Academic Assessment grant: Minimally Invasive Nanoscale Transcriptomics in Epilepsy BPI 7/01/2019-6/30/2021 (50,000) (PI)
2. Brown Physician's INC. Academic Assessment grant: Using Machine Learning in order to Produce an Automated Platform for EEG Interpretation, BPI 7/01/2019-6/30/2020 (50,000) (mentor for Gina Deck/ Julie Roth/ Jason Richards, Neurology)
3. Carney Institute Innovation Awards: A Common Molecular Mechanism for Co-Morbid Epilepsy and Autism 10/01/2018-9/30/2019 (132,000)
 - a. (PI)
4. CURE Sleep and Epilepsy Award
 - a. Loss of function of the circadian molecular clock may underlie the sleep/epilepsy relationship
 - b. 10/01/2017-9/30/2019 (220,000)
 - c. PI (10%)
5. R56NS104428-01: The circadian molecular clock in pediatric refractory focal epilepsy
 - a. NIH/NINDS 02/01/18-1/31/2019 (263,000)
 - b. PI) 30%
6. Coordinating cytoskeletal dynamics and transport in axon guidance
 - a. Whitehall Foundation Award
 - b. 11/01/2013-10/31/2017 (275,000)
 - c. (PI) 20%

7. Pharmacological Protection of the CNS from Hyperammonemia
 - a. Million Dollar Bike Ride, University of Pennsylvania
 - b. 01/01/2016- 12/31/2016 (43,000)
 - c. (co I)
8. Developmental defects in axons underlying neuropsychiatric illness
 - a. NARSAD New Investigator Award
 - b. 01/01/2013- 12/31/2015 (60,000)
 - c. (PI) 5%
9. Translational Epilepsy Grant: Goldwin Foundation
 - a. 05/01/2014- 4/30/2015 (100,000)
 - b. (PI) 20%
10. The basis of epilepsy in the mouse model of X-linked lissencephaly:
 - a. Epilepsy Foundation Research Award 1/01/2011- 12/31/2011 (50,000)
 - b. (PI) 20%
11. Molecular and functional characterization of focal epilepsy
 - a. Intellectual Developmental Disabilities Research Core Pilot Project Award
 - b. 11/01/2014- 10/31/2015 (30,000)
 - c. (PI) 5% effort
12. Unraveling molecular substrates underlying focal refractory epilepsies
 - a. CNMC-CTSI, Pilot Project Award in collaboration with Virginia Tech
 - b. 03/01/13 – 02/28/14 (25,000)
 - c. (PI) 5%
13. Bear Cub Career Development Award, Children's Research Institute
 - a. 07/01/2013-6/30/14(100,000)
 - b. (PI) 70%
14. Molecular Profiling of Focal Refractory Epilepsies
 - a. CNMC-CTSI, Pilot Project Award
 - b. 11/01/12- 6/30/13 (39,000)
 - c. (PI) 20%
15. Animal model of focal epilepsy
 - a. Board of Visitors Pilot Study Award
 - b. 7/01/11- 6/30/12 (19,600)
 - c. (PI) 5%
16. R01 NS081674 Multifunctional roles for Doublecortin (Dcx) in Neural Development
 - a. NINDS
 - b. 2013-2018
 - c. (Judy Liu, subcontractor, Bettina Winckler, PI) (20,00K)

Previous Funding during Training Period

BIRCWH Scholar: NICHD K12 HD051959-01 (Institutional Training Grant) 2006-2008

Clinical Investigator Training Program Fellow: Harvard Medical School (HST) 2004-2006

Medical Scientist Training Program Fellow: Albert Einstein College of Medicine (1993-2000)

6. PATENTS:

Son AI, Hashimoto-Torii K, Torii M, Morton PD, Seiji I, Opfermann, J and **Liu, JS**. "Porous Implantable Devices," filed September 6, 2017, and assigned U.S. Patent Application No. 62/554,680.

7. SERVICE

a. Service to the Institution/ University

Children's National Medical Center

2010-2017 Member of the Institutional Biosafety Committee (IBC)
2011-2013 Member of the IACUC (animal care and use)
2010- 2014 Co-organizer for the Protein Trafficking Seminar Series
2011 Member of the Institute for Neuroscience Research Search Committee

George Washington University Institute for Neuroscience

2011 Member of the Search Committee for Biology
2011-12 Member of the Seminar Series Committee
2015-16 Member of the Seminar Series Committee

George Washington University Department of Neurology

2013-2016 Conducted Residency Interviews

Brown University

Search Committee Member:

2018 Brown University Neurodegeneration Search
2019 Carney Institute of Neuroscience Faculty Search
2020 BITS Director Search Committee
2021 Alzheimer's and Neurodegeneration Center Director Search

Departments:

2018 Neuroscience Graduate Program Admissions Committee
2018 MCB Graduate Program Retreat Vice Chair
2019 MCB Graduate Program Retreat Chair

Other

2018 Reviewer for Rhode Island Neuroscience Leadership New Frontiers Award
2018- Carney Institute of Neuroscience Executive Committee Member 2018-present
2019 Neurobiology of Cell and Circuits Microscopy Purchasing Committee
2019- Associate Director for Center for Translational Neuroscience
2021- Diversity and Inclusion Officer for Center for Translational Neuroscience
2021- MD/PhD Admissions Committee
2022- Member of the Center for the Neurobiology of Cell and Circuits (CNCC) steering committee

Brown Neurology:

Brown Physician's Inc. Research Committee member 2017-pres

Epilepsy Faculty Search Committee member 2019

Search Committee Member Director of Memory and Aging Program 2022

b. Service to the Profession

Service to Professional Society:

American Epilepsy Society, Investigators Workshop Committee

2017-19

member

Society for Neuroscience, Neuroscience Training Committee	2019- 2022
American Epilepsy Society, Investigators Workshop Committee	2020
Vice Chair for Clinical Research	
American Epilepsy Society, Investigators Workshop Committee	2021- 2023
Chair for Clinical Research	
American Epilepsy Society, Sleep and Epilepsy Work Group	2021-2022

Ad Hoc Grant Proposal Reviewer:

2011 India Alliance (partnership between The Wellcome Trust, UK and Government of India)
2015 U.S.-Israel Binational Science Foundation
2015, 2016 Austrian Science Fund

Foundations:

Charles Hood Foundation Scientific Review Committee 2018-2022
Served as mentor for awardee David Martinelli PhD, University of Connecticut, 2019
Served as mentor for awardee Nate Jewett, MD/ PhD, Massachusetts General Hospital, 2019

NIH Reviewer:

2018 Clinical Neuroplasticity and Neurotransmitters (CNNT) as an Early Career Reviewer (ECR)
2018 NINDS, ZNS1 SRB M (05) Reviewer for RFA-NS-18-001: Centers Without Walls for Collaborative Research in the Epilepsies: Functional Evaluation of Human Genetic Variants (U54)
2021, 2022 Clinical Neuroplasticity and Neurotransmitters (CNNT) ad hoc
2023-2028 Clinical Neuroplasticity and Neurotransmitters (CNNT) appointment as standing member

Contributing Editor:

Epilepsy Currents, Journal of the American Epilepsy Society 2020-

Other:

Abstract Reviewer, for 33rd International Epilepsy Congress Meeting, 2019
Evaluator for promotion to Associate Professor, Yale University 2019
Evaluator for promotion to Associate Professor (with tenure), University of Minnesota Medical School, 2020
Evaluator for promotion to Associate Professor, University of Virginia School of Medicine, 2021
Evaluator for promotion to Associate Professor, University of Rochester Medical School, 2022
Evaluator for promotion to Associate Professor, Michigan State University, 2022

Ad Hoc Journal Reviewer:

Neuron
Nature Communications
Cerebral Cortex
European Journal of Human Genetics
Developmental Neuroscience
Journal of Neuroscience
Stem Cell Research
Journal of Neurochemistry
Human Molecular Genetics
Science Reports
Pediatric Genetics
Trends in Neuroscience

c. Service to the Community

Designed a pandemic outreach program for high school students: Translational Neuroscience Outreach Program (TNOP) 2021- see teaching

Member of the Medical Advisory Board for CARE4ASH1L 2021

Rhode Island Brain Week: Panelist for Brainy Acts: A Night of (Virtual) Theater 2021, medical and scientific consultant for play "CROSSING THE THRESHOLD" by Gina Rodríguez-Drix & Marcel Mascaro.

8. ACADEMIC HONORS, FELLOWSHIPS, HONORARY SOCIETIES

a. Honors and Awards

- 1987-1988- Congress-Bundestag Scholarship for high school cultural exchange year to the Federal Republic of Germany (Bordesholm in Schleswig-Holstein)
- 1991- Bouchet fellowship for undergraduate research at Yale University
- 1997- American Society for Investigative Pathology, Experimental Pathologist-in Training Award, Excellence in Research, Graduate Student level
- 2000- Albert Einstein College of Medicine, Pathology Research Award
- 2003- Excellence in Teaching, Harvard Medical School: Human Nervous System and Behavior Course
- 2010- Epilepsy Foundation Grant Awardee
- 2013- NARSAD Young Investigator Grant Awardee
- 2013- Whitehall Foundation Grant Awardee
- 2017- CURE Sleep and Epilepsy Awardee

b. Professional Licenses and Certifications:

- 2001- Completed UMSLE part 3
- 2019- American Board of Psychiatry and Neurology Certification #54518 2009-present
- 2006- State of Massachusetts Medical License #230219 (inactive)
- 2010- District of Columbia Medical License #MD039003 (inactive)
- 2017- Rhode Island Medical License #MD16053

c. Society Memberships:

Society for Neuroscience
American Academy of Neurology
American Society for Cell Biology
American Society for Neurochemistry
American Epilepsy Society

9. TEACHING AND MENTORSHIP:

a. Teaching

1) Medical

Awards: Harvard Medical School, Human Nervous System and Behavior Course- Excellence in Teaching Award 2003,

Medical Students/ Residents/ Fellows:

1. Laboratory Instructor, Human Nervous System and Behavior Course, Harvard Medical School (2003, 2004)
2. Second Year Medical School Course for GWU Medical School of Health Sciences
3. Lecture "Ancillary Testing in Clinical Neurology" (2014, 2015)
4. Sunrise Rounds for Pediatric and Neurology Residents, and Medical Students

5. Lecture: "Disorders of Cortical Development" (2012, 2013, 2014)
6. Children's National Medical Center
7. Sunrise Rounds for Pediatric and Neurology Residents, and Medical Students
8. Lecture: "Disorders of Cortical Development" (2012, 2013, 2014)
9. Children's National Medical Center
10. Neurology Clerkship Preceptor, GWU Medical School for Health Sciences (2013-2017).
11. Alpert Medical School, First year Cell Biology Course Lecturer for Cytoskeleton (2018, 2019)
12. Alpert Medical School, First year Cell Biology Course Lecturer for Nucleus and Mitosis (2018, 2019)
13. Alpert Medical School, Brown University Brain Sciences, Small Group Leader (2018)
14. Medical Impact of Translational and Basic Sciences (MITBS) Journal Club Pre-Clinical Elective, guest lecturer 2019

2) University

George Washington University Graduate Course Participation

Scale: Students rated each lecture in two categories: informative and well organized, on a scale of 1 [excellent] to 5 [poor].

George Washington University Medical School of Health Sciences (Graduate School)
BMSC 8210, Genes to Cells: (2012, 2013)
Lecture "How proteins make things move"
Two-year average: informative **1.58**, well-organized **1.57**

MolMed 8282 Neural Development and Neural Developmental Disorders Course,
Lecture "Disorders of Neurogenesis and Migration" and discussion of research paper (2011, 2012, 2013)
Lecture "Disorders of axon growth and guidance" and discussion of research paper (2014, 2016)
Lecture "Epilepsy" and discussion of research paper (2013)
Discussion of research paper on language deficits in development disorders (2011)
Five-year average: informative **1.49**, well-organized **1.81**

Molmed 8281 Molecular Pharmacology and Neurobiology of Excitable Tissues
Lecture "Neurobiology and Pharmacotherapy of Epilepsy" (2014, 2015, 2016, 2017)
Four-year average: informative **1.29**, well-organized **1.4**

George Washington University Undergraduate Course Participation
BISC232 Neural Circuits and Behavior Course,
George Washington University Biology Department
Lecture "Diseases of circuit dysfunction" 2013

Brown University Graduate/ Undergraduate Course Participation:

BIOL 2340 Neurogenetics and Disease, guest lecturer in epilepsy, 11/29/2017
Zika Virus: Biological and Public Health Perspective (GISP) 1/2018- 5/2018
NEURO2040 Molecular Neuroscience Graduate Course for the NSGP, guest lectures, epilepsy 2018-2021
NSGP 2nd Year writing workshop, faculty co-leader 2019
NEURO 2010- Bench to Bedside (organizer 2020-2023)

b. High School Student Research Supervision

1. Nayan Lamba, Thomas Jefferson High School of Science and Technology 2010, currently Radiation Oncology Resident, Harvard Medical School

2. Shawn Tsutsui, Thomas Jefferson High School of Science and Technology 2011, currently General Surgery Resident, Mount Sinai Hospital
3. Mona Bugaghis, Thomas Jefferson High School of Science and Technology 2013, currently enrolled in University of Virginia
4. Clare Tyler LaSalle Academy, Providence RI, 2018
5. Sophia Hall, Barrington HS, 2020-, matriculating at Dartmouth College in fall of 2022

Pandemic High School Outreach Program for Translational Neuroscience (TNOP) summer 2021, supported 10 students in total from all over the USA, 8 women and 2 men with 2 participants from underrepresented groups- see section III, teaching statement for details.

c. Undergraduate Research Supervision

College Students and post-baccalaureate trainees:

1. Devashish Ghimire, University of Maryland 2011
2. Matthew Perlstein, University of Maryland 2011
3. Jessie Hu, Washington University, St. Louis 2010, currently pediatric cardiologist
4. Julian Curiel, graduate of University of North Carolina at Chapel Hill 2014-16, currently pediatric resident, University of Pittsburgh
5. Mitchell McCallister, graduate of University of North Carolina at Chapel Hill, 2017-2019
6. Kristen Karpowicz, Middlebury College 2018
7. Sara Near, Amherst College, MA 2018
8. Saswan AlShaiba, Class of 2022
9. Omar Alani, Class of 2022 (supported by the UTRA mechanism, senior thesis)
10. Jenny Lee, Class of 2021(supported by the UTRA mechanism)
11. Natalie Ngyuen, Class of 2019, BIOL1950 Project
12. Abigail Dichter, Class of 2022,
13. Sean Feeney, Class of 2021
14. Deena Haque, Class of 2023 (supported by the Hassenfeld summer project)

d. Graduate Student Research Supervision

Master's Thesis Committee:

Bethany Stokes, George Washington University 2015

Master's Thesis Examiner

Lisa Okazaki, Biomedical Engineering (BME), Brown University 2022

Ph.D. Qualifying Exam and Thesis Committees (year of graduation):

1. Richard Hildreth, George Washington University 2011
2. Matthew Raymond, George Washington University 2012
3. Jonathan Ritter, Georgetown University, 2012
4. Alejandra Fernandez, George Washington University, 2017
5. Julietta Lischinsky, George Washington University, 2017
6. Adam Horn, George Washington University- 2018
7. Mansi Mehta, George Washington University- 2019
8. Uzma Javed, University of Maryland- 2020 (left the program without graduating)
9. Ozan Baytas, NSGP, Brown University- 2021
10. Kaitlyn Haidrovijc, NSGP, Brown University- current
11. Alexis Toliver, NSGP, Brown University- current
12. Paul Campbell, MCB Graduate Program, Brown University- current
13. Cosmo Pieplow, MCB Graduate Program, Brown University- current
14. Aurora Washington, Biotechnology Graduate Program, Brown University- current
15. Audrey Medeiros, NSGP, Brown University- current
16. Mor Alkaslasi, GPP, NIH Brown University- current

17. Molly McQuillan, NSGP, Brown University- current
18. Hasib Riaz MCB

Ph.D. Thesis Examiner:

Kristin Baxter, George Washington University 2010

(PhD) Graduate Rotational Students (GWU):

Adam Horn 2014

Alejandra Fernandez 2012

(PhD) Graduate Rotational Students (Brown University):

1. Alice Pieplow, MCB, 2018
2. Luis Goicouria, Neuroscience, 2018
3. Isabella Penido, Neuroscience, 2018
4. Brendan McCarthy Sinclair, MCB, 2018
5. Carin Papendorp, Neuroscience, MD/PhD program, 2019
6. Adam Friedberg, Neuroscience, MD/PhD program, 2020, Supported by BTR T35
7. Anna Vlachos, Neuroscience GPP student, 2022
8. Julia Duckhorn, Neuroscience 2022

PhD Thesis Mentor:

1. Luis Goicouria, Neuroscience, (NINDS diversity supplement) 2018-
2. Brendan McCarthy Sinclair, 2018-
3. Kelvin DeLeon, (NINDS diversity supplement) 2019-
4. Carin Papendorp, 2019-
5. Alexis Toliver (funded by Gilliam Fellowship) 2021-

e. Post-doctoral Research Supervision

Laboratory members

1. Xiaoqin Fu Ph.D. 2010-17, currently Assistant Professor, Wenzhou Medical University
2. Peijun Li Ph. D. 2014-17, currently Assistant Professor, Wenzhou Medical University
3. Nathan A. Smith Ph.D. 2015-17, currently Associate Professor, University of Rochester
4. Felix Chan 2018- current lab member, supported by TSC Alliance Grant
5. Haruki Higashimori 2018- current lab member

International Medical Fellow:

Saddiq Habbiballah M.D. 2015- 2016, currently pediatrics fellow, Boston Children's

Pediatric Neurology Fellow:

Julie Ziobro M.D./ Ph.D. 2017- currently Instructor in Pediatrics, University of Michigan

Junior faculty:

Luca Bartolini MD 2019- currently Assistant Professor Pediatrics, Division of Pediatric Neurology and Epilepsy

Duyu Nie MD/PhD- currently Assistant Professor Pediatrics, Division of Pediatric Neurology and Epilepsy

Monica Dhakar MD- currently Assistant Professor Neurology, Division of Epilepsy

Mentorship Committees:

Brian Theyel MD/PhD- K08 Advisory Committee 2020-2025. Assistant Professor, Department of Psychiatry and Human Behavior, and Department of Neuroscience, Brown University (Barry Connor's laboratory)

Adrian Thompson PhD- K99 Advisory Committee (pending) 2021, currently in Carlos Aizenman's laboratory