



Boston Children's Hospital

F.M. Kirby Neurobiology Center

Kirby Center News & Updates

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Announcements



The Kirby Center is excited to host the first cohort of [Bunker Hill Community College \(BHCC\) interns](#) this semester: **Carla Dos Santos** (Stevens lab), **Ivan Feliciano** (Poduri lab), **Jawahir Noor** (Sahin lab), **Jason Saturno** (Steen lab), and **Kendra Morrison** (Do lab). Welcome, Carla, Ivan, Jawahir, Jason, and Kendra! (photo credit: [MASCC](#))

Congratulations to **Zhigang He**, PhD, BM, who was elected to the [National Academy of Medicine](#) "for his breakthrough discoveries regarding the mechanisms of axon regeneration and functional repair following central nervous system injuries, providing foundational knowledge and molecular targets for developing restorative therapies to treat spinal cord injury, stroke, glaucoma, and other neurodegenerative disorders." Read more at [Harvard Magazine](#).

Zhigang He was also invited to become a member of the Harvard Medical School [Biological and Biomedical Sciences \(BBS\)](#) faculty. Congratulations, Zhigang!

Guoli Zhao, PhD (Schwarz lab), was promoted to Instructor of Neurology, Harvard Medical School. Congratulations, Guoli!

Research in News & Media

The *Answers* article, [Diving deep on epilepsy genetics](#), highlights the work of **Annapurna Poduri**, MD, MPH. (photo credit: [Answers](#))

The work of **Beth Stevens**, PhD, is featured in *Harvard Magazine's* Autumn 2021 issue in an article that explores [Inflammation and Brain Health](#).

In a recent "Lab Talk" podcast by *The Scientist*, **Samuel Marsh**, PhD (Stevens lab), discusses [Understanding Microglial Response in Alzheimer's Disease](#).



Kirby EDI

Interested in joining the **Kirby Equity, Diversity, and Inclusion (EDI) group**? We welcome new members!

Please reach out to Sylvia.Lewinstein@childrens.harvard.edu for the group that includes faculty or Sable.Smith@childrens.harvard.edu for the group exclusive of faculty. You could also check out the [Kirby EDI website](#) for an overview of our work, as well as several subcommittees that exist.

Admin News

Marie Boyle, Research Administrator, recently achieved the inspiring milestone of 350 platelet donations to the [Boston Children's Hospital Blood Donor Center](#). Congratulations, Marie--and thank you!



Congratulations to **Sable Smith**, Program Coordinator, who was selected by the BCH Executive Review Committee to participate in The Partnership Fellows Leadership Development Program for 2022!

Postdoc News

Support for Fellows Entering the Job Market

If you are entering the market and would like assistance, please email [Sable Smith](#) and [Mike Do](#) well in advance of your first deadline. We will convene a committee of Kirby faculty members who are appropriate for your research. This committee will

1. Review a draft of your application.
2. Provide coaching on preliminary interviews.
3. Offer feedback on your job talk.
4. Take you through a mock chalk talk.
5. Provide advice on closing the deal.

When reaching out to us, please copy your advisor and ask them to give the green light for this process. We are most effective when your application, talk, and chalk talk are each at the fine-tuning stage.

Note that BCH offers a related service. Please choose one to avoid overburdening our faculty. I recommend ours because it is a fine way to strengthen ties within Kirby.

This assistance is meant to be highly individualized. If you communicate your particular needs (e.g., "I am a biophysicist with neuroethological leanings for whom English is a second language"), that would help us arrange the appropriate committee.

Kirby Center Awards & Publications

Recent Awards

Todd Anthony, PhD, received an award from Harvard Medical School to fund his project titled, Investigating lateral septum as a link between sensory and behavioral deficits in autism spectrum disorders.

- Dr. Anthony was awarded a Kirby Innovation Grant for his project titled, Neuronal basis of Comorbid Sensory, Social, and Emotional Deficits in Autism Spectrum Disorder.

Michela Fagiolini, PhD, received a grant from Harvard Medical School for her project titled, Probing the role of VIP interneurons in cell assemblies, brain rhythms and sensory processing.

- Dr. Fagiolini was awarded an ECRAC grant to purchase a Pinnacle Technologies Inc. Video EEG System.

Xi He, PhD, received a Kirby Innovation Grant for his project titled, A Novel Therapeutic Strategy for Atopic Dermatitis.

Zhigang He received funding from Boston Children's Hospital for his project titled, Developing a PET-based method to assess myelination-promoting treatments.

Recent Featured Publications



Kreiman lab. Mesoscopic physiological interactions in the human brain reveal small-world properties. *Cell Reports*. August 2021.

- Dr. He was awarded an ECRAC grant to purchase a SW 32 Ti Swinging-Bucket Rotor Package.

Jeff Holt, PhD, was awarded a Rosamund Stone Zander Translational Neuroscience Center Pilot Grant for his project titled, Translational Gene Therapy for DFNB16 Hearing Loss Patients.

Jonathan Lipton, MD, PhD, received a Kirby Innovation Grant for his project titled, CLOCK and Nucleocytoplasmic transport: a target for the dissolution of circadian timing in Neurodegeneration.

Ann Poduri was awarded a grant from the Syngap Research Fund to support her project titled, Research Fellow for Genotype Phenotype Analysis of Syngap1 Ciitizen Database.

- Dr. Poduri received funding from the CACNA1A Foundation to support her project titled, CACNA1A Epilepsy: Phenotypic Landscape and Genotype-Phenotype Correlations.

Alexander Rotenberg, MD, PhD, was awarded an NIH, R21 for his project titled, Neurophysiologic investigation of somatosensory dysfunction in Autism Spectrum Disorders.

- Dr. Rotenberg, together with collaborators at the University of Tennessee, received funding from the American Epilepsy Society to support their project titled, Consortium for Standardizing TMS Language Mapping Protocols and Establishing Best Practice Guidelines for Using TMS in Presurgical Evaluation of Language in Children.

Mustafa Sahin, MD, PhD, received NIH funding to support his project titled, Purchase of a high-density electroencephalography (EEG) and neuromodulation system for use in an institutional core facility.

- Dr. Sahin was awarded a PTEN Research grant to support his project titled, PHTS iPSC line Generation.

Beth Stevens and **Hisashi Umemori**, MD, PhD, received an NIH RF1 for their project titled, Mechanisms of activity-dependent microglia-neuron interactions in development and disease.

Hisashi Umemori was awarded a Kirby Innovation Grant for his project titled, In vivo Imaging of the Determinants of Activity-Dependent Synapse Elimination.

- Dr. Umemori received funding from the PCDH19 Alliance for his project titled, PCDH19-Ncadherin Mismatch in PCDH19-Related Disorder.

Lindsay Berube (Engle lab), a Simmons University Work Study Student, was named "2020 Student Employee of the Year."

Darius Ebrahimi-Fakhari, MD, PhD (Sahin lab), received a grant from CURE AP-4, Inc., for his project titled, Registry and Natural History Study for AP-4 Associated Hereditary Spastic Paraplegia (AP-4-HSP).

Whitney Gibbs, PhD (Schwarz lab), was awarded a Lefler Fellowship for her project titled, Investigating the role of neuronal SYNJ2 in mRNA transport and mitochondrial function.

Kristina Teresa Johnson, PhD candidate (Sahin lab), received an RSZ TNC fellowship. Kristina's project will focus on the integrated analysis of multi-modal data stemming from the Rare Disease Clinical Research Network Developmental Synaptopathies Consortium.

Rotenberg lab. Biomarkers Obtained by Transcranial Magnetic Stimulation in Neurodevelopmental Disorders. Journal of Clinical Neurophysiology. August 2021.

Z. He lab. Utilizing mouse optic nerve crush to examine CNS remyelination. STAR Protocols. September 2021.

Poduri lab. Current neurologic treatment and emerging therapies in CDKL5 deficiency disorder. Journal of Neurodevelopmental Disorders. September 2021.

Benowitz lab. Retinal Ganglion Cell Axon Regeneration Requires Complement and Myeloid Cell Activity within the Optic Nerve. Journal of Neuroscience. October 2021.

Fagiolini and Sahin labs. Phenotypic characterization of Cdkl5-knockdown neurons establishes elongated cilia as a functional assay for CDKL5 Deficiency Disorder. Neuroscience Research. October 2021.

Schwarz lab. FHL2 anchors mitochondria to actin and adapts mitochondrial dynamics to glucose supply. Journal of Cell Biology. October 2021.

Woolf lab. Dissecting the precise nature of itch-evoked scratching. Neuron. October 2021.

Rosenberg lab. Psychedelics as Novel Therapeutics in Alzheimer's Disease: Rationale and Potential Mechanisms. Current Topics in Behavioral Neurosciences. November 2021. (photo credit: [Springer](#))

Holt and Géléoc lab. Sensory transduction is required for normal development and maturation of cochlear inner hair cell synapses. Elife. November 2021.

Engle lab. TUBB3 Arg262His causes a recognizable syndrome including CFEOM3, facial palsy, joint contractures, and early-onset peripheral neuropathy. Human Genetics. December 2021.

For a listing of additional recent Kirby Center publications, please visit PubMed:

- last name [A-K](#)
- last name [L-Z](#)



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