



KIRBY CENTER NEWS & UPDATES

Takao Hensch, PhD, honored by the Emperor of Japan

On November 3rd, the Government of Japan announced that **Takao Hensch, PhD**, Professor of Molecular and Cellular Biology at Harvard University and Professor of Neurology at Harvard Medical School received the Order of the Rising Sun, Gold Rays with Neck Ribbon.



Dr. Hensch has served at Harvard University since 2006 and was also lab head and Critical Period Mechanisms Research Group Director at RIKEN Brain Science Institute

from 1996 to 2010, making significant contributions to research on critical periods in brain development.

As a member of the Edwin O. Reischauer Institute of Japanese Studies at Harvard University, Dr. Hensch has contributed to promoting the exchanges of international science students and interns in collaboration with various Japanese universities and research institutions. He has also continued to lead an active collaboration between the University of Tokyo and Boston Children's Hospital, where he has had a lab since 2006.

Congratulations to Dr. Hensch on this amazing honor!

Welcome to Eliot Shearer, MD, PhD, Kirby Affiliate Faculty

Dr. Shearer completed his MD, PhD, and residency in Otolaryngology--Head & Neck Surgery at the University of Iowa Hospitals & Clinics. He then completed a fellowship in Pediatric Otolaryngology at Boston Children's Hospital where he was recruited to stay on as faculty with an appointment at Harvard



Medical School. Dr. Shearer's lab studies the genomics of hearing loss in children. They work to improve diagnostics using new DNA sequencing techniques, and use mouse models to better understand the molecular physiology of hearing loss. The Shearer lab works closely with the Koehler lab to develop inner ear organoids from patients with hearing loss and with the Holt/Géléoc lab to speed the development of gene therapies.

Wei-Chung Allen Lee, PhD, received a 2024 Gill Institute Transformative Investigator Award

In September, **Wei-Chung Allen Lee** received a 2024 Gill Institute Transformative Investigator Award.

The award was given at the **Gill Institute Symposium**, which invites prominent neuroscientists to the Indiana University, Bloomington campus for lectures and meetings with trainees and faculty.



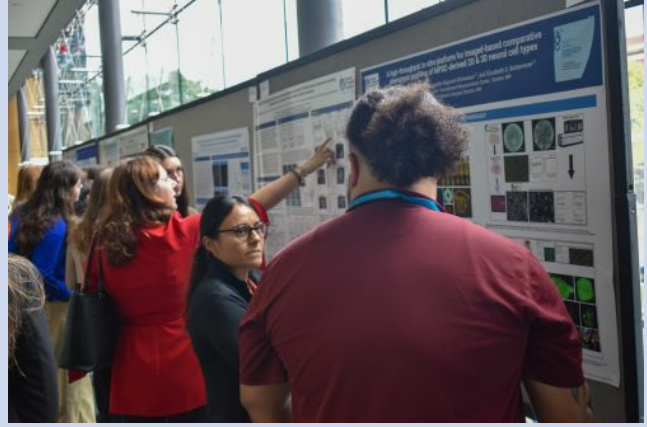
The Transformative Investigator Award is presented to individuals whose scientific contributions to date have made a remarkable impact on their field.

Congrats, Dr. Lee!



RSZ-TNC hosts Symposium

On September 23, the **Rosamund Stone Zander Translational Neuroscience Center** held their symposium titled, "Paving the Path: Therapeutic Development Readiness for Rare Neurogenetic Disorders." The symposium opened with remarks by RSZ-TNC Director **Mustafa Sahin, MD, PhD**, and included presentations that ranged from basic research to translational research to clinical application to better understand the connections and growth in these areas as well as to bridge connections to patient advocacy groups. Among the roster of presenters were **Jeffrey Holt, PhD**, and **Elizabeth Engle, MD**. Many Kirby Center members and affiliates participated in the poster session during lunch.



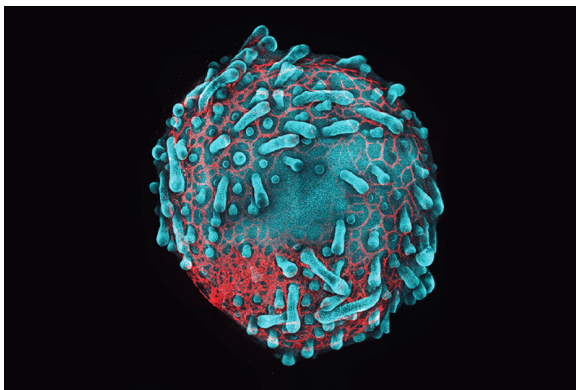
Blue Sky Day 2024

In honor of Rett Syndrome Awareness Month, patients, families, and staff from Boston Children's gathered October 19th for the 14th Annual Blue Sky Day. Sponsored by **Rett Syndrome Angels**, Blue Sky Day honors children and adults with Rett Syndrome – a rare genetic disorder that causes a loss of spoken language and motor skills, as well as behavioral and neurological problems. During Blue Sky Day, families were recognized and celebrated as they ascended the steps on the Quad of Harvard Medical School! The event was organized in part by **Michela Fagiolini, PhD**, and her lab, as well as by the **BCH Rett Syndrome Clinic**. A special thanks to Katie Rogers for her excellent help organizing and running the event.





RESEARCH IN THE NEWS & MEDIA



Koehler Lab featured in BCH Answers Blog

In November, the BCH Answers blog turned a focus on the lab of **Karl Koehler, PhD**, and their work on skin organoids. These organoids complete with hair, hair follicles, and blood vessels — are revealing what's needed to grow healthy skin. Organoids have many applications — from wound healing to regenerating hair after hair loss. Most immediately, they could help us find treatments for genetic hair and skin disorders, particularly epidermolysis bullosa, a painful condition that makes skin fragile and prone to blistering and tearing.

[Read the full article here](#)

Dr. Woolf Perspectives piece in *Nature Outlook*

Clifford Woolf, MB, BCh, PhD, shared a perspectives piece about what scientists can learn from the opioid crisis as they develop new pain treatments. The piece is part of a special Nature Outlook edition on pain. He shares his perspective on what we can learn from the opioid crisis and potential strategies for the future of pain management. [Read the complete article here.](#)

Olumide featured as BCH Rising Star

Following the announcement of Olumide Fagboyegun's Gilliam Fellowship, Boston



Children's wrote about this Stevens lab graduate student as a Rising Star. The piece focuses on his search for community and his ongoing work with glial cells, multi-functional cells that intermingle with the brain's neurons.

[Read the full Answers Blog here](#)



The Kirby Center is now on LinkedIn

[Be sure to follow our page to stay up-to-date on all the Kirby news!](#)

EVENTS

Kirby Center hosted Collection for Family Food Connections

September is Hunger Action Month, a nationwide effort to raise awareness about hunger in America and inspire action. In honor of this campaign, the Kirby Center hosted a collection for **Family Food Connections**. This BCH-run food pantry, located in Jamaica Plain, serves many patient families, as well as the surrounding community. We donated essential pantry items (such as olive oil, condiments, and spices), healthy snacks and breakfast items, and activities for children.

Annual Kirby Center Pumpkin Carving Competition

For Halloween, we hosted our annual neuro-inspired pumpkin carving contest. The pumpkins were displayed and voted on during the Halloween celebration. The winners were the Human Neuron Core and the Umemori lab! Check out all the creative work done by our labs.



Neurodiversity in the Workplace

Amy Weinberg, MHP and **Michela Fagiolini, PhD** were invited to serve on a panel at the 2024 Northeast Regional Higher Education Neurodiversity Coalition Conference, whose goal is to improve educational and professional outcomes for neurodivergent students. The two representatives from the Kirby Center were there to discuss our work with **Neurodiversity in the Workplace**, an organization that connects highly qualified neurodivergent talent to career opportunities with inclusive employers.

TRAINEE & LAB NEWS

Synaptogenesis Research Assistant (RA) Symposium

HMS hosted their annual Synaptogenesis RA Symposium on September 24th. The goal of this event is to foster the creation of "new connections" among research assistants/technicians and the broader Harvard neuroscience community by providing a platform for RAs to present their research. Over 20 research assistants from the Kirby Center presented their work at the afternoon poster session. Camila Perea of the Koehler lab won the "Dazzling Design" award for her poster.



Woolf Lab at the Pain Symposium



Many members of the Woolf lab participated in and presented at the 2nd Northeast Pain Research Conference at the end of October. **Clifford Woolf, MD, PhD**, gave an opening seminar to kick off the conference, and he moderated a panel. **Aakanksha Jain, PhD, Rasheen Powell, PhD, George Kimourtzis, PhD, and Daniel Taub, PhD**, served on panels over the two-day conference hosted by Boston University.

Philippe Morquette, PhD, (Do lab) was a featured speaker at the Lefler Symposium of Harvard Medical School in October.

Karl Koehler, PhD, gave keynote addresses at the BaCell Symposium in Basel, Switzerland and at the Stark Neuroscience Research Symposium in Indianapolis, IN.

Support for Fellows Entering the Job Market

If you are entering the market and would like assistance preparing to do so, please email [SJ Cunningham](#) and [Mike Do](#) well in advance of your first deadline. If you communicate your particular needs/research interests (e.g., "I am a biophysicist with

neuroethological leanings for whom English is a second language"), we will convene a Practice 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.

AWARDS & PUBLICATIONS

Recent Awards

Michael Crickmore, PhD received a BTREC Pilot grant from Boston Children's for his project, "Inducing and reverting anovulation in flies and mice."

Michael Do, PhD was awarded an R01 from the NIH for his project titled "Neurophysiology of Melanopsin Photoreceptors."

Michael Do, PhD received a diversity supplement from the NIH on his project, "Downstream Actions of Biophysical Mechanisms in the Visual System."

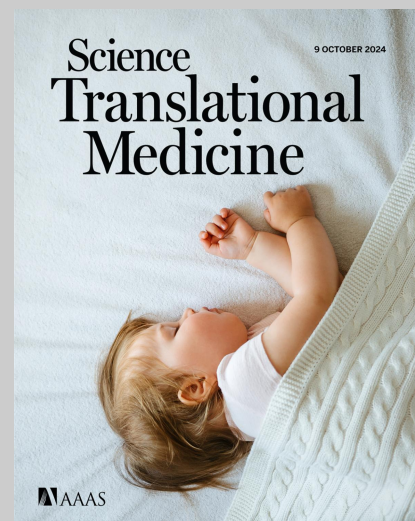
Michela Fagiolini, PhD was awarded funding from the Israel Binational Science Foundation for her project, "Delineating the pathophysiological pathways of corticospinal neurodegeneration."

Darius Ebrahimi-Fakhari, MD, PhD received funding from Neurocrine Biosciences to support the work ongoing in his lab.

Darius Ebrahimi-Fakhari, MD, PhD was awarded grants from the Cure SPG4 Foundation and the Lilly and Balir Foundation for his project, "Clinical Trial Readiness for Hereditary Spastic Paraplegia Type 4 (SPG4)."

Jordan Farrell, PhD received the CURE Epilepsy Award for his project. "Endocannabinoid metabolism as a multifaceted epilepsy target."

Recent Featured Publications



Poduri Lab. Zebrafish models of candidate human epilepsy-associated genes provide evidence of hyperexcitability. *iScience*. June 2024.

Engle Lab. Expanding the genetics and phenotypes of ocular congenital cranial dysinnervation disorders. *Genet Med*. July 2024.

Wolf Lab. Identification of novel

Gwenaelle Geleoc, PhD and Stephanie Mauriac, PhD were awarded a Rosamund Stone Zander Translational Neuroscience Center Pilot Grant for their project, "Development of Antisense Oligonucleotides to Durably Treat Usher Syndrome Type 1b."

Zhigang He, PhD, BM received funding from the Department of Defense for his project, "A Noninvasive Neurotrophic Factor Treatment to Repair the Injured Spinal Cord."

Zhigang He, PhD, BM, Emily Osterweil, PhD, and Alexander Rotenberg, MD, PhD were awarded a Rosamund Stone Zander Translational Neuroscience Center Pilot Grant for their project, "Identifying NDD mechanisms and treatments in human brain"

Jeffrey Holt, PhD received funding from the Matthew and Megan Sable Research Fund in support of his lab.

Mustafa Sahin, MD, PhD was awarded funding for "the Natural History Study of Individuals with Autism and Germline Heterozygous PTEN Mutations" from the PTEN Research Foundation.

Thomas Schwarz, PhD received a diversity supplement from the NIH on his project, "Axonal Transport of mRNA for Mitochondrial Proteins."

Elizabeth Buttermore, PhD (Human Neuron Core) received a junior fellowship at the CDKL5 Forum from the LouLou Foundation.

Anna Duncan, MD (Poduri Lab) was awarded a K08 (Mentored Clinical Scientist Development Award from the NIH.

Hing Cheong (Henry) Lee, MPhil, PhD (Sahin Lab) was awarded funding from Citizen's United for Research in Epilepsy for his project, "Minimizing seizure-associated adverse effects upon gene replacement therapy in slc6a1 epileptic encephalopathy."

Katharina Sarnow, PhD (Tang Lab) was awarded a European Association of Neuro-Oncology (EANO) travel award.

neuroprotectants against vincristine-induced neurotoxicity in iPSC-derived neurons. *Cell Mol Life Sci.* July 2024.

Crickmore Lab. Dopamine biases decisions by limiting temporal integration. *Nature.* August 2024.

Rotenberg Lab. A comparison of the antiepileptogenic efficacy of two rationally chosen multitargeted drug combinations in a rat model of posttraumatic epilepsy. *Exp Neurol.* September 2024.

Engle Lab. A cell type-aware framework for nominating non-coding variants in Mendelian regulatory disorders. *Nat Commun.* September 2024.

Hensch Lab. Sleep-sensitive dopamine receptor expression in male mice underlies attention deficits after a critical period of early adversity. *Sci Transl Med.* October 2024.

Human Neuron Core. A Hybrid 2D-to-3D in vitro Differentiation Platform Improves Outcomes of Cerebral Cortical Organoid Generation in hiPSCs. *Curr Protoc.* October 2024.

Poduri Lab. Genome Sequencing After Exome Sequencing in Pediatric Epilepsy. *JAMA Neurol.* October 2024.



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