



PURDUE INSTITUTE FOR **INTEGRATIVE NEUROSCIENCE**

Where science meets engineering

Message from the John & Donna Krenicki Director of Integrative Neuroscience:

In this week's Brain and Spinal Cord Injury Seminar Series, **Dr. Riya Shi** discussed a rat model and approach for mechanistically interrogating all stages of blast-induced traumatic brain injury. Please join us on October 3rd for our next installment.

We are pleased to offer congratulations to several research groups and PIIN members who received funding this month. Congratulations to **Dr. Alex Chubykin**, Assistant Professor of Biological Sciences who recently received an R01 from the National Institute of Mental Health entitled "**Neural Mechanisms of Predictive Impairments in Autism.**" The project aims to understand, at the circuit and systems level, how impairments of circuit connectivity may lead to changes in perception and learning in autism. Congratulations to **Dr. Richard Van Rijn**, Assistant Professor of Medicinal Chemistry and Molecular Pharmacology who in collaboration with Drs. Julia Chester, Associate Professor of Psychological Sciences and Alexander Chubykin, also received an R01 from the National Institute on Alcohol Abuse and Alcoholism. The project aims to study "**G-protein, beta-arrestin, and ERK signaling in alcohol use and anxiety disorders.**" Congratulations to **Dr. Donna Fekete**, Professor of Biological Sciences and Director of PIIN who received an R21 from the National Institute of Deafness and Other Communication Disorders to study "**Zika Virus Cell Tropism and Pathogenesis in the Developing Inner Ear**". And last but not least, congratulations to **Dr. Alex French**, post-doctoral fellow in Dr. Mathew Tantama's lab who received an F32 fellowship award from National Institute of Mental Health. The project aims to **develop high-resolution tools to study dysfunctions in neuropeptide signaling that are implicated in neurological disorders**, including depression and drug addiction. Congratulations to all and Boiler Up!

- Cinthia E. Sanchez Ph.D., Operations Manager

PURDUE INSTITUTE FOR INTEGRATIVE NEUROSCIENCE

Brain and Spinal Cord Injury Seminar Series

- Oct. 3rd "A critical examination of neurocognitive testing after sports related concussion"
Dr. Thomas Redick - Assistant Professor of Cognitive Psychology
- Oct. 17th "Clinical animal models of trauma to the brain and spinal cord"
Dr. R. Tim Bentley - Associate Professor of Neurology & Neurosurgery
- Oct. 31st "Assistive technology in post-SCI rehabilitation"
Dr. Bradley Duerstock - Associate Professor of Engineering Practice
- Nov. 14th "Alcohol induced pain-role of aldehyde and TRPA1"
Dr. Richard van Rijn - Assistant Professor of Medicinal Chemistry & Molecular Pharmacology
- Nov. 28th "Comorbidity of osteoarthritis and TBI"
Dr. Dianne Little - Assistant Professor of Basic Medical Sciences
- Dec. 12th "Mechanism and novel treatment of Neuropathic pain"
Val Watts - Associate Dean for research/College of Pharmacy, Professor of Medicinal
Chemistry & Molecular Pharmacology





MobileMedTek Demo

Please join us Monday, September 25th from 12:30-1:20 PM in LYLE 1150 for the the demonstration of the ElectroTek.

ElectroTek is a streamlined 32-channel EEG system with expanded capabilities that may be of interest to researchers at Purdue. Key features of our product include:

- Clinical-grade mobile system
- Cloud-enabled
- Real-time remote review
- Intuitive setup and user interface (Approximately 5 minute setup time from power-on)

Seminar Speaker

Please join us for the following seminar:

Wednesday, October 11th

11:30am-12:30pm,

WALC 3090

Dr. Rebecca Shansky, Dept of Psychology, Northeastern University, Boston

Title: A neural basis for sexually divergent fear expression

Post-doc Position Available

Applications are sought for a full-time, NIH-funded postdoctoral scholar position at Indiana University, Bloomington studying novel approaches to preventing neurodegeneration. The successful candidate will work with in a team of interdisciplinary researchers in the laboratory of Dr. Hui-Chen Lu in the Gill Center

(<http://www.lulaboratory.com> and <http://www.indiana.edu/~gillctr/index.shtml>). Proper brain function requires an active maintenance program to sustain neuronal health. When neuroprotective mechanisms are weakened, environmental stressors detrimentally impact the nervous system, predisposing it to neuronal dysfunction and degeneration. Our previous studies have identified NMNAT2 (nicotinamide mononucleotide adenylyl transferase 2) as a neuroprotective protein, key to maintaining neuronal integrity throughout life. NMNAT2 abundance is significantly reduced in Alzheimer's Disease brains, and increasing NMNAT2 expression in neurodegenerative animal models reduces neurodegeneration. Ongoing studies are elucidating how NMNAT2 provides neuroprotection against pathological insults. These studies use multiple disciplinary approaches, including electrophysiology, in vivo multi-photon imaging, viral vectors, and molecular and biochemical techniques.

Candidates should have a Ph.D. within a biology-related discipline and a strong track record. The successful candidate will join a dynamic, diverse, and collaborative center of excellence and will be provided the support to develop into an independent investigator. The quality of life in Bloomington, Indiana is outstanding. The combination of a large, major research university in a diverse, safe, family-oriented community makes Bloomington an excellent environment for ideal work-life balance.

Applications should include a cover letter, curriculum vitae, and email addresses and phone numbers of three references. Salary will follow NIH guidelines.

E-mail: hclu@indiana.edu

Announcement from the Bill and Melinda Gates Foundation

Grand Challenges Explorations Round 20 is now open for proposals. All three of the GCE projects are health-related, as described below:

Submission deadline: Wednesday, November 8, 2017, 11:30 am U.S. Pacific Daylight Time
(2:30 p.m. Eastern)

Amount: Up to \$100,000

More details can be found here: <https://gcgh.grandchallenges.org/grant-opportunities>

- [Novel Approaches for Improving Timeliness of Routine Immunization Birthdose and Healthcare Worker Skill in Low-Resource Settings;](#)
- [Healthy Minds for Adolescent Mothers: Achieving Healthy Outcomes for the Family;](#)
- [Innovations for Integrated Diagnostics Systems](#)

Please feel free to contact [Mary Nauman](#) with any questions or if you'd like any assistance with the proposal.

In Search of Multiple Junior Faculty

BU BME is looking for multiple junior faculty. We are particularly interested in neural engineers and quantitative neuroscientists. Please encourage your best postdocs and junior colleagues to apply.

We are a remarkably strong department, with excellent students and facilities. Our junior faculty are thriving, as indicated by three current NIH New Innovators and two PECASE awardees.

See also <http://www.bu.edu/eng/departments/bme/available-positions/>

BIRS Center Short Course: Investigator Initiated Trials (IITs)

I would like to inform you of an opportunity that the BIRS Center is presenting. We are holding our first "Workshop for Regulatory Intelligence" of the semester. It will be held next Tuesday, September 26th at 8:30AM in Burton Morgan, room 212. The focus of this workshop will be Investigator Initiated Trials (IITs). Please pass the attached flyer along to anyone you think would be interested in attending. Individuals who would like to attend should contact me by email (lterruso@purdue.edu).

2018 Indiana Traumatic Spinal Cord and Brain Injury research Conference

Save the Date

Wednesday, April 18, 2018

IU Health Neuroscience Center
355 W. 16th Street

Conference Center Auditorium, Floor 1

Indianapolis, IN 46202

8 a.m. - 1:30 p.m.

Get notified when registration opens! Send your contact information to indianatrauma@isdh.in.gov.

Quick Links

- **Join Us for the 11th Annual Parkinson's Disease Therapeutics Conference.** [Register now!](#)
 - [Eli Lilly/SNRI Fellowship Applications NOW OPEN](#)
 - [Indiana Traumatic Spinal Cord and Brain Injury Research's Activity-Based Therapy Program **deadline September 29, 2017**](#)
 - [Fourth Midwest Membrane Trafficking and Signaling Symposium](#)
 - [Wednesday, October 11th, 2017 - Annual Symposium October 11th, 2017 Institute for Drug Discovery](#)
 - [The Indiana Alzheimer Disease Center \(IADC\) 2017 Fall Research Symposium](#)
 - [The Michael J. Fox Foundation is accepting pre-proposals for Spring 2018 Parkinson's research funding.](#)
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Funding Opportunities

Opportunity	Award Amount	Deadline
NSF Dear Colleague Letter: Life STEM	Varies	Varies
NIH Notice to Encourage Eligible NIH BRAIN Initiative Awardees to Apply for PA-16-288 "Research Supplements to Promote Diversity in Health-Related Research"	Varies	Varies
NSF Research in the Formation of Engineers (RFE)	350,000	September 27, 2017
NSF-Simons Research Centers for Mathematics of Complex Biological Systems (MathBioSys)	15,000	September 29, 2017
NIH Novel Cell Non-autonomous Mechanisms of Aging (R01)	250,000	October 3, 2017
NIH NLM Express Research Grants in Biomedical Informatics (R01)	250,000	October 5, 2017
NIH From Genomic Association to Causation: A Convergent Neuroscience Approach for Integrating Levels of Analysis to Delineate Brain Function in Neuropsychiatry <ul style="list-style-type: none">• R01• Collaborative R01	Varies	October 5, 2017
NIH Capturing Complexity in the Molecular and Cellular Mechanisms Involved in the Etiology of Alzheimer's Disease (R01)	Varies	October 5, 2017
NIH BRAIN Initiative: Development and Validation of Novel Tools to Analyze Cell-Specific and Circuit-Specific Processes in the Brain (R01)	Varies	October 13, 2017

<u>NIH BRAIN Initiative: Foundations of Non-Invasive Functional Human Brain Imaging and Recording - Bridging Scales and Modalities (R01)</u>	Varies	October 13, 2017
<u>NIH Cellular and Molecular Biology of Complex Brain Disorders</u> <ul style="list-style-type: none"> • <u>R21</u> • <u>R01</u> 	Varies	October 16, 2017
<u>NIH BRAIN Initiative: New Concepts and Early - Stage Research for Large - Scale Recording and Modulation in the Nervous System (R21)</u>	300,000	October 26, 2017
<u>NIH Global Brain and Nervous System Disorders Research Across the Lifespan</u> <ul style="list-style-type: none"> • <u>R21</u> • <u>R01</u> 	125,000	November 7, 2017
<u>NIH Central Neural Mechanisms of Age-Related Hearing Loss (R01)</u>	500,000	November 8, 2017
<u>**NIH Centers Without Walls for Collaborative Research in the Epilepsies: Functional Evaluation of Human Genetic Variants (U54)</u>	1,500,000	November 15, 2017
<u>NSF Division of Molecular and Cellular Biosciences: Investigator-Initiated Research Projects</u>	754,000	November 20, 2017
<u>NIH Innovative Research in Cancer Nanotechnology (IRCN) (R01)</u>	450,000	November 21, 2017
<u>NIH Blueprint for Neuroscience Research: Dynamic Neuroimmune Interactions in the Transition from Normal CNS Function to Disorders (R01)</u>	400,000	December 7, 2017
<u>NIH BRAIN Initiative: Research on the Ethical Implications of Advancements in Neurotechnology and Brain Science (R01)</u>	Varies	December 7, 2017
<u>NIH BRAIN Initiative: Tools to Facilitate High-Throughput Microconnectivity Analysis (R01)</u>	Varies	December 7, 2017
<u>**Indiana Traumatic Spinal Cord & Brain Injury Research Grant (ITSCBIR)</u>	Varies	December 8, 2017
<u>**DOD-CDMRP Psychological Health/Traumatic Brain Injury Research Program (PH/TBIRP)</u>	Varies	December 27, 2017
<u>NSF Science of Learning (SL)</u>	Varies	January 17, 2018
<u>Understanding Alzheimer's Disease in the Context of the Aging Brain (R01)</u>	Varies	January 25, 2018

****Newly Added**

Our mailing address is:

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Hall for Discovery Learning - #399
207 South Martin Jischke Drive
West Lafayette, Indiana 47907

Phone: 765.494.0222

Email: neuro@purdue.edu

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