



PURDUE INSTITUTE FOR
**INTEGRATIVE
NEUROSCIENCE**

Where science meets engineering

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

We kicked off our Brain and Spinal Cord Injury Seminar Series this week with Dr. Amy Brewster who discussed neuron-immune interactions following seizures. Please join us on September 19th for our next installment, and request a poster advertising this seminar series at neuro@purdue.edu.

We are pleased to offer congratulations to PIIN members Dr. Jeffrey Mark Siskind, Dr. Ronnie Wilbur and visiting scholar Dr. Evguenia Malaia for a \$1.0M award from the National Science Foundation entitled "Neuroimaging to advance computer vision, NLP, and AI". The project aims to understand the mechanisms by which predicates and arguments are identified, linked, and used for reasoning by the human brain. Boiler Up!

Finally, two friendly reminders: (1) please include your PIIN affiliation, along with your unit affiliation, when submitting grant applications through Purdue; and (2) we prepare monthly reports for the President's office where we hope to highlight one important research story emerging from a PIIN-affiliated lab. We may also include other achievements, awards, presentations, and research. If you have something exciting, please share it with us at neuro@purdue.edu.

- Donna M. Fekete, Director

PURDUE INSTITUTE FOR INTEGRATIVE NEUROSCIENCE
Brain and Spinal Cord Injury
Seminar Series

- Sept. 19th "From tissue deformation to behavioral deficits: a multidisciplinary investigation of traumatic brain injury"
Dr. Riyi Shi - Professor of Neuroscience & Biomedical Engineering
- 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
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Images of the Brain and Spinal Cord Injury Seminar (below)



Featured Faculty Member: Dr. Yang Yang

[Dr. Yang](#) obtained a PhD degree from Georgia State University in 2011. Dr. Yang did a postdoctoral training at Yale University School of Medicine for three years and then was promoted to Associate Research Scientist in 2014. Dr. Yang joined the faculty of Purdue University College of Pharmacy as an Assistant Professor in 2017. Dr. Yang is the first principal investigator recruited to Purdue whose lab (Y-lab) will occupy the newly-renovated space of Purdue Institute for Integrative Neuroscience (PIIN).

The focus of the research in Y-lab is on channelopathies of the nervous system. Channelopathies are diseases related to the dysfunction of ion channels, which are pore-forming membrane proteins that allow ions to pass through the cell membrane, controlling many indispensable functions of cells, including the generation of action potentials in neurons. Channelopathies, often resulting from inherited or *de novo* mutations, are responsible for a variety of human neurological diseases including chronic pain, epilepsy and autism.



Using state-of-the-art technologies (structural modeling, patch-clamp recordings, multi-electrode array recordings, live cell imaging, induced pluripotent stem cells, CRISPR-mediated genome-editing, and transgenic rodent models), Y-lab aims to understand how dysfunctions of ion channels contribute to neurological diseases, and to develop novel pharmacogenomic approaches targeting ion channels for disease intervention.

The Michael J. Fox Foundation is accepting pre-proposals for Spring 2018 Parkinson's research funding.

[Apply Now >](#)

Deadline is Wednesday, September 27, 2017.

We are currently accepting pre-proposals from both academic and industry researchers for our three core funding programs and one targeted grant opportunity:

- [Target Advancement](#): build robust evidence to rationalize biological pathways and targets for further translation into new Parkinson's treatments
- [Therapeutic Development](#): pre-clinically or clinically test therapies with potential for altering Parkinson's disease course and/or improving treatment of symptoms beyond current standards of care
- [Biomarker and Outcome Measure Validation](#): develop and/or validate Parkinson's biomarker tools and clinical outcome measures to assist in trial design, and execution and interpretation of results

- [Mitochondrial Biomarkers](#): discover or develop mitochondrial biomarkers to inform Parkinson's disease diagnosis or progression, patient stratification or pharmacodynamic readouts

Deadline for pre-proposal submissions is Wednesday, September 27. [Download application templates through our website.](#)

[Sign up for our webinar](#) on Thursday, September 7 to learn more about MJFF funding opportunities.

Target Advancement and Therapeutic Development are part of the Edmond J. Safra Core Programs for PD Research.

The Indiana Alzheimer Disease Center (IADC) 2017 Fall Research Symposium

The Indiana Alzheimer Disease Center (IADC) 2017 Fall Research Symposium will be held Thursday, October 5, 2017 from 8:00 to 4:30 pm at the IU Health Neuroscience Center, Goodman Hall Auditorium, 355 West 16th Street, Indianapolis, Indiana.

Registration is now open at the IADC website: iadc.medicine.iu.edu.

CALL FOR POSTERS: Attendees are invited to submit abstracts highlighting their research related to the symposium theme. Up to 20 abstracts will be selected for poster presentations during symposia. Posters are to be displayed for the full day; an author will be expected to be at their posters during the poster presentation time (to be announced later). Please submit a 250 word abstract to iadc@iu.edu by Friday, September 22nd.

Wednesday, October 11th, 2017

Annual Symposium October 11th, 2017

Institute for Drug Discovery

Join us on **Wednesday, October 11th, 2017** in the North Ballroom of the Purdue Memorial Union to hear about the latest exciting research from around the country and here at Purdue. Please [Register Here](#).

Due to the popularity of last year's short talks, once again our affiliated faculty will have the opportunity to present short talks in an effort to foster collaborations. Additionally, graduate students and post-docs will have the opportunity to present a poster during the poster session (limited to first 40 posters). Please forward this information on to members of your lab.

Symposium Agenda

8:30 a.m. Registration

9:00 a.m. –

12:00 p.m. Morning talks

12:00 –

1:00 p.m. Lunch

1:00 –

4:30 p.m. Afternoon talks

4:30 p.m. Poster Session/Cocktail hour

If you would like to give a short talk on your work or have any questions contact Karson Putt (puttk@purdue.edu).

Please [Register Here](#) to join us on October 11th, 2017 in the North Ballroom at the Memorial Union.

External speakers include:

Dr. Richard DiMarchi

Stanford H. Cox Distinguished Professor of Chemistry and Linda & Jack Gill Chair in Biomolecular Sciences, Indiana University

Dr. Michael Jensen, M.D.

Janet & Jim Sinegal Endowed Professor of Pediatrics, Adjunct Professor of Bioengineering, University of Washington School of Medicine
Director, Ben Towne Center for Childhood Cancer Research, Seattle Children's Research Institute
Scientific Co-Founder of Juno Therapeutics

Fourth Midwest Membrane Trafficking and Signaling Symposium

October 27th, 2017

Purdue University, West Lafayette IN

A one day symposium to bring together Midwestern experts in membrane biology, trafficking and signal transduction

Keynote Speaker: Dr. Peter Novick, University of California, San Diego

- Talks by researchers from the Midwest area
- Oral and Poster presentations by graduate students and postdocs
- Career discussion panel (academia, industry, science education and more!)

For enquires, contact: McKeith Pearson

Co-organized by: Purdue Biology Graduate Student Association.

- Poster abstract submission deadline – October 12th 2017
- General registration deadline – October 21st 2017

Register here- https://purdue.qualtrics.com/jfe/form/SV_8eL5kAnWzTr5N3N

Quick Links

- Slack has been "relaunched"! Sign up with your Purdue email. [Click here](#)
- Join Us for the 11th Annual Parkinson's Disease Therapeutics Conference. [Register now!](#)
- **Exceptional Scientist Wanted:** Together we look forward to your [application](#) for the new Sartorius & Science Prize for Regenerative Medicine & Cell Therapy.
- [Big Data Neuroscience Workshop 2017. September 8-9, 2017 Indiana University - Bloomington](#)
- [Eli Lilly/SNRI Fellowship Applications NOW OPEN](#)
- [Trask Innovation Fund DEADLINE is September 22, 2017](#)
- [Indiana Traumatic Spinal Cord and Brain Injury Research's Activity-Based Therapy Program deadline September 29, 2017](#)

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
DOD-CDMRP Peer Reviewed Alzheimer's Research Program (PRARP)	Varies	September 20, 2017
NIH Improvement of Animal Models for Stem Cell-Based Regenerative Medicine (R24)	Varies	September 25, 2017
NSF Research in the Formation of Engineers (RFE)	350,000	September 27, 2017

<u>NSF-Simons Research Centers for Mathematics of Complex Biological Systems (MathBioSys)</u>	15,000	September 29, 2017
<u>NIH Novel Cell Non-autonomous Mechanisms of Aging (R01)</u>	250,000	October 3, 2017
<u>NIH NLM Express Research Grants in Biomedical Informatics (R01)</u>	250,000	October 5, 2017
<u>NIH From Genomic Association to Causation: A Convergent Neuroscience Approach for Integrating Levels of Analysis to Delineate Brain Function in Neuropsychiatry</u> <ul style="list-style-type: none"> • <u>R01</u> • <u>Collaborative R01</u> 	Varies	October 5, 2017
<u>NIH Capturing Complexity in the Molecular and Cellular Mechanisms Involved in the Etiology of Alzheimer's Disease (R01)</u>	Varies	October 5, 2017
<u>NIH BRAIN Initiative: Development and Validation of Novel Tools to Analyze Cell-Specific and Circuit-Specific Processes in the Brain (R01)</u>	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>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>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:

Purdue Institute for Integrative Neuroscience

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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