Message from the Director:

Good Afternoon!

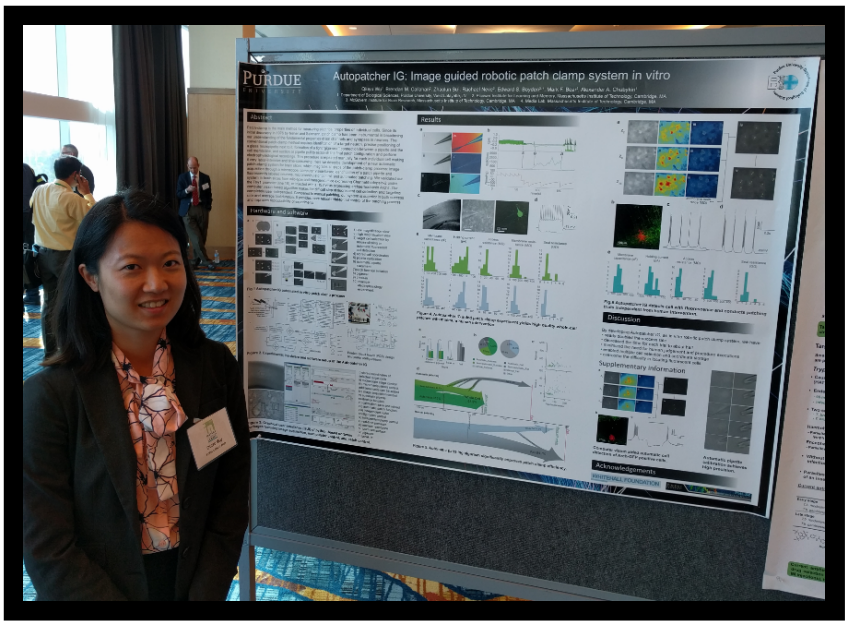
If we haven't met, I wanted to take a moment to introduce myself. My name is Chris Rochet, and I'm a professor in the Medicinal Chemistry and Molecular Pharmacology Department as well as a member of the Integrative Neuroscience Institute's Leadership team. I have recently been appointed as the Associate Director for PIIN, with the primary goal of my appointment being a focus on graduate education and training as it relates to Neuroscience. My expertise resides in the study of neurodegenerative disease -- specifically in disease models that reproduce key aspects of Parkinson's disease pathobiology. My lab's research is focused on identifying new genetic and chemical suppressors of neurodegeneration. Additionally, I am currently serving as a representative on the Steering Committee of the Stark Neuroscience Research Institute at the Indiana University School of Medicine (IUMS). I welcome your suggestions, feedback, and any questions on matters relating to our Institute or potential collaborations with IUMS.

Enough about me - below are a few updates from our Institute!

- Many thanks to those of you who came out to the Discovery Park Open House, and a special thanks to Dr. Tomas Diaz de la Rubia for putting on a fantastic event. Our own Dr. Donna Fekete gave a quick talk on the Neuroscience Institutes, and Dr. Pedro Irazoqui delivered a featured Voss talk highlighting his work in electroceuticals. To get a full recap, view the photos or the videos of featured talks, you an visit this site.

- A reminder that the Chromatin and Epienetics Symposium will be next Tuesday, October 11th in

Congratulations to Qiuya (Rachel) Wu on her poster (seen below), which was chosen as one of the top posters at the CTSI meeting last month. Here is Rachel presenting at the BioCrossroads Indiana Life Sciences Summit in Indianapolis on October 5th.



Two final comments - first and foremost, I want to thank Dr. Keith Kluender who served as Associate Director for the first year of our Institute and continues to bring his valuable experience to our leadership team. Second, please let us (the PIIN leadership team) know what you're up to. We want to know about your seminars, successes, students – everything about neuroscience-related activities on campus! We're here to provide support, encouragement, infrastructure, and a community environment that helps you succeed, but we're also relying on each of you to help take ownership of the Purdue Neuroscience community in this effort.

PURDUE INSTITUTE FOR INTEGRATIVE NEUROSCIENCE
Where science meets engineering

- Chris Rochet, Assocaite Director

Are you going to SfN this year? If so, please let us know! Email neuro@purdue.edu

if you plan on attending the conference in San Diego.

Featured Neuroscience Member:
Vidhya Munnamalai, Postdoctoral Research Associate

Vidhya Munnamalai earned her Bachelors of Arts degree from Rutgers University in 2004. She is a Purdue alum who graduated in 2009 from the PULSe program and the Department of Biological Sciences. She studied ROS signaling in *Aplysia* neuronal growth cones in the laboratory of Dr. Daniel Suter. For her first postdoc, she moved to the University of Washington in Seattle to study inner ear development under the leadership of Dr. Olivia Bermingham-McDonogh. She learned to culture E12.5 mouse cochlea cultures. At this early age, the progenitors have not yet begun to differentiate into mechanosensory hair cells that are required for hearing. With this method she found that Notch and Fgf20 are required for specifying cochlear prosensory precursors, which differentiate into hair cells. After 2.5 years, she returned to Purdue to pursue a second postdoc in the laboratory of Dr. Donna Fekete, where she is currently investigating the requirement of Wnts in cochlear development.

While others have demonstrated that Wnts stimulate proliferation and mitotic hair cell formation, Vidhya and Donna were the first to show that Wnts influence cochlear patterning across the radial axis. While the longitudinal axis confers frequency selectivity, the radial axis confers neural processing by afferents that signal to the brain from inner hair cells and efferents that signal from the brain to the outer hair cells. The precise arrangement of 1 row of inner hair cells to three rows of outer hair cells is critical for normal hearing. Her research showed that Wnt, Notch and Bmp4 have complex interactions to successfully pattern the mammalian cochlea. Wnts and Bmp4 behave antagonistically to each other across the radial axis. Wnts are required for inner hair cell specification, while Bmp4 is required for outer hair cell specification. This two-author study was recently published in the journal, *Development*. Vidhya's future work will focus on the molecular mechanisms underlying Wnt and Bmp4 crosstalk to pattern the cochlea.

Seminar - Dr. Ken Mackie

Please join us for the seminar by Dr. Ken Mackie, Professor in Psychological and Brain Science from IU

Where: RHPH 164

Time: 4:00-5:00 PM

The seminar will largely involve pharmacology and cannabinoid receptors.

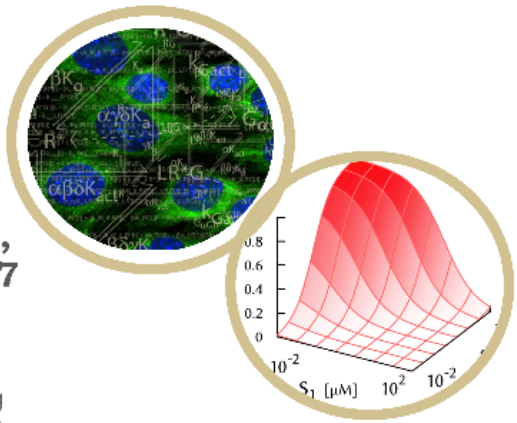
4TH SEMI-ANNUAL

MIDWEST QUANTITATIVE BIOLOGY SYMPOSIUM

MIDQBIO

22nd October, 2016
PURDUE UNIVERSITY

MJIS Room 1001
206 S Martin Jischke Dr,
West Lafayette, IN 47907



A semiannual event to bring together research groups from around the midwest, who have a shared interest in quantitative biophysics, featuring invited seminars, lightning talks by graduate students and postdocs, and science inspired art.

Registration is free and breakfast and lunch are provided.

A limited number of travel awards for graduate students and postdocs are available; inquire at registration.

INVITED SPEAKERS:

- Erik Andersen, Northwestern U
- Alexandra Jilkine, U Notre Dame
- Kristen Naegle, Washington U
- Steve Presse, IUPUI
- Elias Puchner, U Minnesota
- David Umulis, Purdue U
- Kevin Wood, U Michigan
- Jeremiah Zartman, U Notre Dame

More information and FREE registration at:
http://iyerbiswas.com/outreach/midqbio16/

ORGANIZERS
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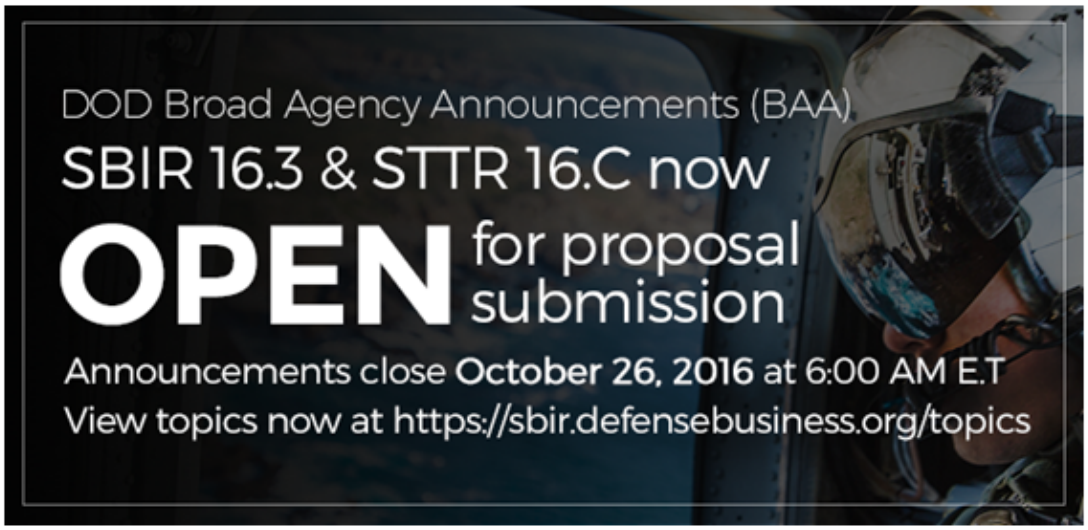
Colleges of Engineering and Science
Physics and Astronomy
Weldon School of Biomedical Engineering

ATTENTION GRADUATE STUDENTS

Human Motor Behavior Group is looking for motivated students to become team members in their labs. Please visit the following link for additional information.

https://www.purdue.edu/hhs/hk/Biomechanics-MotorBehavior/get-involved/



The DOD SBIR 16.3 & STTR 16.C Broad Agency Announcements are Open for Proposal Submission on September 26, 2016

Please visit their website to register and view topics.

NSF Graduate Research Fellowship Opportunities

The program recognizes and supports outstanding graduate students who are pursuing research-based master's and doctoral degrees in science, technology, engineering and mathematics or in STEM education. Please visit the following link for upcoming opportunities.

http://www.nsf.gov/pubs/2016/nsf16588/nsf16588.htm

Funding Opportunities

Opportunity	Award Amount	Deadline
NIH Big Data to Knowledge (BD2K) Community-Based Data and Metadata Standards Efforts (R24)	Varies	October 19, 2016
NIH-NICHD Laboratory of Developmental Biology (R24)	Varies	October 27, 2016
NIH BRAIN Initiative: Development and Validation of Novel		

Tools to Analyze Cell-Specific and Circuit-Specific Processes	Varies	November 2, 2016
Parkinson's Focused Idea Award	Varies	November 9, 2016
Parkinson's Impact Award	Varies	November 9, 2016
NIH BRAIN Initiative: Foundations of Non-Invasive Functional Human Brain Imaging and Recording – Bridging Scales and Modalities (R01	Varies	November 23, 2016
NIH BRAIN Initiative: Non-Invasive Neuromodulation – New Tools and Techniques for Spatiotemporal Precision (RO1)	Varies	November 23, 2016
NSF/NIH Smart and Connected Health (SCH)	500,000	December 8, 2016
New Technologies and Novel Approaches for Large-Scale Recording and Modulation in the Nervous System (U01)	Varies	December 21, 2016
NIH/BARDA Antimicrobial Resistance Diagnostic Challenge	Varies	January 9, 2017
Standards to Define Experiments Related to the BRAIN Initiative (R24)	Varies	January 10, 2017
Data Archives for the BRAIN Initiative (R24)	Varies	January 17, 2017
Integration and Analysis of BRAIN Initiative Data (R24)	Varies	January 19, 2017
HHS-AHRQ Large Research Projects for Combating Antibiotic-Resistant Bacteria (CARB) (R01)	Varies	February 5, 2017
HHS-AHRQ Developing Measures of Shared Decision Making (R01)	500,000	February 5, 2017
NIH Perinatal Stroke (R01)	324,000	February 7, 2017
NIH High Impact Neuroscience Research Resource Grants (R24)	Varies	February 14, 2017
Simons Foundation Autism Research (SFARI) Initiative 2017 Pilot and Research Awards	70,000-275,000	March 22, 2017