



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

If you did not join us this summer for the NeuroNetworking seminar series, you missed a chance to hear 13 faculty and one postdoc speaker present their work on Wednesday afternoons in June and July. We also devoted one session to graduate student break-out sessions, to hear your ideas for how to create and sustain an interactivity research community. With refreshments after the presentations, there were many opportunities to network with your peers from other units. In fact, over 100 PIIN members (74 students, 32 faculty) attended one or more of our summer seminars. Please encourage your lab members to attend next year—going forward, the most active participants in PIIN activities will be given priority for PIIN-sponsored research and travel opportunities. We will like to thank the Purdue SFN chapter for supporting the Neuronetworking seminars series this summer.

- Donna M. Fekete, Director

Special Announcements

1. We encourage faculty members to nominate eligible graduate students for the **Linda and Jack Gill Graduate Student Award** which recognizes an outstanding graduate student in the Life Sciences. The deadline for application submissions is **Wednesday, August the 30th**. More information below.
2. The **Purdue Institute of Integrative Neuroscience (PIIN) Cell Engineering Core Facility** was established to facilitate the stem cell related research at Purdue community by providing induced pluripotent stem cell lines and multiple differentiated cell types from human iPSC's. **Dr. Jungi-II Moon**, the facility coordinator, is offering free consultation sessions to those interested in using the services in the near future; please contact Jungil directly to schedule a meeting.
3. We are happy to inform you that we have created a dedicated **Slack** account for PIIN members. Slack is a messaging app where we can talk, share files, and work together. We want to use the best communication tools to improve collaboration between our members. [Click here](#) and sign up with your Purdue email.

You may be aware that we report monthly to the President's office. We want to highlight your experiences, achievements, presentations, and research. If you have something exciting, please share it with us.

Please remember to check **Discovery Park (PIIN)** when you submit grant applications through SPS, so we can be sure to capture all the work being conducted by our members. Your home department/college also gets full credit, so we all get to claim your efforts!

Featured Faculty Member: Perry Paschou

Dr Paschou studies human genetic variation around the world with a special focus on investigating the genetic etiology of neurodevelopmental disorders. She is the Co-Chair of the ENIGMA-Tourette Syndrome Working Group, aiming to bring together Tourette Syndrome neuroimaging and genetic datasets from around the world towards large scale studies on brain structure, neurophysiology and the molecular underpinnings of the disorder (<http://enigma.ini.usc.edu/ongoing/enigma-ts/>). She established the "Tourette Syndrome Genetics – Southern and Eastern European Initiative" (TSGeneSEE), a network of collaborators from seven countries creating a large biobank for TS and undertaking collaborative genetic studies. Supported by the European Union, she also established and chaired the "European Network for the Study of GTS", a multinational initiative with 23 participating countries (<http://tourette-eu.org>). She has served as Chair of the European Society for the Study of Tourette Syndrome and she was the Coordinator of the Marie Curie Initial Training Network TS-EUROTRAIN, a consortium of ten partners from academia and industry, aiming to train the next generation of experts in neurodevelopmental disorders (<http://ts-eurotrain.eu>). She is the leader of the genetics work package in the EU FP7-HEALTH project EMTICS, coordinating a large genomewide association and genomewide gene-expression study for Tourette Syndrome with the participation of 19 different clinical sites from around Europe (<http://emtics.eu>). Recently, together with Dr Scharf from Massachusetts General Hospital, Dr Mathews from the University of Florida and Dr Coppola from UCLA, she led an important large scale collaborative study following up on the first TS genomewide association study and published the largest

genomewide scan for Copy Number Variants for Tourette Syndrome to date (<https://www.purdue.edu/newsroom/releases/2017/Q2/tourette-syndrome-risk-increases-in-people-with-genetic-copy-variations.html>).



Featured Publication: Edward Bartlett and Riya Shi



Dr. Edward Bartlett and Dr. Riya Shi, members of the Purdue Institute for Integrative Neuroscience, and Associate Professor of the Biological and Biomedical Engineering Departments and Professor of Neuroscience and Biomedical Engineering respectively have recently published an article in the scientific Journal of Neurophysiology. This investigation compared the effects of acute blast and nonblast acoustic impulse trauma in adult male Sprague-Dawley rats.

Congratulations to Dr. Bartlette and Dr. Shi.

Link to publication: "[Differences in post-injury auditory system pathophysiology after mild blast and non-blast acute acoustic trauma](#)".

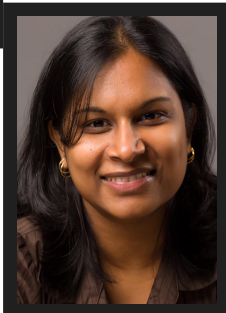
Link to video: [Detecting Post-blast Hearing Loss and Brain Injury](#)

Link to news: [Research suggests diagnostic approach for veterans suffering hearing impairment and related brain injury from mild blast trauma](#)

Featured Grants: Georgia Malandraki and Vidhya Munnamalai



Georgia Malandraki, Assistant Professor of Speech, Language and Hearing Sciences and member of the Purdue Institute for Integrative Neuroscience, has been awarded an R21 from the National Institute of Health entitled: "Neuroplastic adaptations of swallowing and speech in children with unilateral cerebral palsy". The project will identify the underlying neuroplastic mechanisms that trigger speech and swallowing functions and their inter-relationships in children with unilateral cerebral palsy. The total award is \$449,169. **Congratulations Dr. Malandraki.**



Vidhya Munnamalai, Postdoctoral Fellow in Dr. Donna Fekete and member of the Purdue Institute for Integrative Neuroscience, was recently been awarded an R21 from the National Institute on Deafness and Other Communication Disorders (NIDCD) titled: "Gene Networks in Cochlear Patterning". Understanding the genetic basis of cochlear development is an important health concern as hearing loss is projected to double by 2060. How is a cell's identity determined? When is it specified? How does this lead to a specific arrangement of cells in a sensory organ? How do several pathways integrate to organize this organ? To address these questions, Dr. Munnamalai's organ of study is the cochlea, the auditory organ, which is an exquisite example where fine-grained patterning is essential for function. This three-year grant is specifically designed to go downstream of these signals, and discover sub-circuits of a larger gene regulatory network regulating radial patterning of the developing mouse cochlea. The total award is \$465,000. **Congratulations Dr. Munnamalai.**

Link to the news: [Gene Networks in Cochlear Patterning](#)

Fall Course: BME 595 - Biomedical Signal Processing (Dr. Hari Bharadwaj)

The course will cover practical problems in biomedical signal processing, along with the necessary theoretical background. Students may use MATLAB or Python (their choice) for the exercises and projects. Although the signal processing concepts will be discussed generally, the examples used will prominently feature brain signals and neural engineering

applications. A detailed syllabus, along with a tentative schedule can be found [here](#). I am happy to provide any clarifications or further information via e-mail: hbharadwaj@purdue.edu



Join Us for the 11th Annual Parkinson's Disease Therapeutics Conference
Monday, October 30, 2017
Convene Midtown East, New York City

[Register Now >](#)

Early Bird Discounted Rate Expires August 11

The Michael J. Fox Foundation's (MJFF) annual [Parkinson's Disease Therapeutics Conference](#) is the only scientific conference in the world focused exclusively on Parkinson's drug development.

The PD Therapeutics Conference brings together 300 research and business development professionals from both academia and industry and showcases the most promising, innovative research from the MJFF portfolio. The event fosters new relationships and collaborations as leaders in Parkinson's research share updates from the field.

This year's conference will be **chaired by David Standaert, MD, PhD** of the University of Alabama at Birmingham.

Interested in sponsorship opportunities?

Contact Evelia Johnston at ejohnston@michaeljfox.org or visit [our website](#) for more information.

BioCrossroads New Venture Competition

Our New Venture Competition launched several weeks ago, and applications are due **August 14th**. Interested companies can find additional information and apply at the following link:

<http://www.biocrossroads.com/2017-biocrossroads-new-venture-competition/>

Exceptional Scientists Wanted

Present your work to the world. Are you a representative of the upcoming generation of thought leaders in your field? Together we look forward to your [application](#) for the new Sartorius & Science Prize for Regenerative Medicine & Cell Therapy.

What is the prize about?

The annual prize is geared towards researchers focused on basic or translational research that advances regenerative medicine and cell therapy. Established in 2017, it is awarded for outstanding research performed by the applicant and as a mutual endeavour to raise awareness for the field.

What is there to win?

- US\$25,000 and a publication of your essay
- in *Science*
- Publishing of the Grand Prize essay and
- those of up to three runners-up
- on *ScienceOnline*
- 5-year AAAS membership and online
- subscription to *Science*
- Product packages from Sartorius

Tuesday, September 12, 2017
1:30-2:30 p.m.
Burton D. Morgan Center, Room 121

JIM McCLELLAND
Executive Director for Drug Prevention, Treatment, and Enforcement for the State of Indiana
(Reception at 2:30-3:30, Mann Hall First Floor Atrium)

[Please see flyer](#)

Foundation Grant Opportunity

American Society of Neuroradiology (ASNR)
The Foundation of the ASNR
Amount **\$250,000 USD**

The ASNR anticipates funding multiple awards under this program. Applicants may request up to two years and \$250,000 in total costs, inclusive of both direct and indirect costs. Exceptions for particularly unique projects will be considered, but requests that exceed \$100,000 must be well justified in the Budget Justification section of the application. Budgets that exceed \$100,000 require pre-approval by the Chairs of the Research committee prior to submission. Indirect costs may not exceed 10 percent of direct costs. For additional information please visit: <http://www.theaftd.org/research/funding-opportunities>

CALL FOR PARTICIPATION AND STUDENT SUPPORT APPLICATIONS

Big Data Neuroscience Workshop 2017

September 8-9, 2017 Indiana University Bloomington

Organized by the Advanced Neuroscience Network (ACNN) and funded by the National Science Foundation neurosciencenetwork.org/ACNN_Workshop_2017.html

KEYNOTE SPEAKERS

- **Randy L. Buckner** (Harvard University): *Deep Phenotyping of the Individual: Data Science Challenges and Opportunities.*
- **Vince Calhoun** (University of New Mexico): *The mind-research network: Large-scale analysis of multimodal medical images.*
- **Terry Jernigan** (University of California, SD): *The Adolescent Brain Cognitive Development (ABCD) Study.*
- **Brian A. Wandell** (Stanford University): *A project on scientific transparency.*

INVITED SPEAKERS

Olaf Sporns (Indiana University): *Network Neuroscience: Mapping and Modeling Complex Brain Networks.*

Melissa Cragin (Midwest Big Data Hub): *Accelerating the Big Data Innovation Ecosystem.*

Ivo Dinov (University of Michigan): *Predictive Big Brain Data Analytics.*

DK Panda (Ohio State University): *Exploiting High-Performance Computing (HPC) and Big Data to Accelerate Processing of Neuroscience Data.*

Satya Sahoo (Case Western University): *A Scalable Neuroinformatics Workflow for Deriving Functional Brain Networks using Electrophysiological Signal Data.*

Lei Wang (Northwestern University): *SchizConnect Work-in-Progress: Data Mediation, BIDSification and Pipelines for Neuroimaging Research in Schizophrenia*

Richard Gonzalez (University of Michigan): *Statistical methods for big data neuroscience.*

Franco Pestilli (Indiana University): *Multidimensional encoding of brain connectomes: Building biological networks with preserved edge anatomy.*

Andrew Saykin (Indiana University School of Medicine): *A systems perspective on Alzheimer's disease: Challenges and opportunities of multi-modality neuroimaging and -omics data.*

The workshop has several aims:

- Foster Big Data culture for Neuroscience.
- Build an active Midwest Neuroscience Network Community.
- Promote open-sharing of large-scale datasets, data-intensive resources, expertise, software, services, protocols, and learning modules.
- Facilitate discussions for multi-institutional grants, training opportunities, publications, and research.

CALL FOR ABSTRACTS (DUE AUGUST 14) The workshop will have opportunities for participants to present in three formats: posters, lightning talks (5 min), or parallel session talks (12 min). Submissions should be related to the workshop topics. To submit a 250-word (maximum) abstract for consideration, please use our submission system: <https://easychair.org/conferences/?conf=bdn2017>.

REGISTRATION LIMITED Space is limited, so there is a short registration form required to hold a spot. A fee of \$60 for faculty, \$45 for students, and \$25 for students covers all materials, and breakfast and lunch on the 8th and 9th. Registration closes Sept. 4, but we encourage early registration to ensure a place. neurosciencenetwork.org/ACNN_Workshop_2017.html#registration

STUDENT SUPPORT APPLICATIONS (DUE AUGUST 14) Over 50 student **NSF Scholarships** are available and will include the [registration fee](#), [housing](#) (shared hotel room), and up to [\\$200 in support for travel](#). <https://goo.gl/forms/UbyUm1euYk81S5A02> Please note that the NSF Scholarships can only support US residents. There may be a very limited number of scholarships available for international students, however, the maximum travel support available for transportation to the workshop would still be \$200.

ORGANIZERS Indiana University (*local host*): Franco Pestilli, Olaf Sporns, and Andrew Saykin

University of Michigan: Ivo Dinov, Richard Gonzalez, and George Alter

The Ohio State University: Dhabaleswar Panda, Xiaoyi Lu, and Hari Subramoni

Case Western Reserve University: Satya Sahoo

Washington University: Daniel Marcus

Northwestern University: Lei Wang

Eli Lilly/SNRI Fellowship Applications NOW OPEN

The Lilly/Stark pre and post doc RFA's have been posted to the Indiana CTSI website here: <https://www.indianactsi.org/funding/all-open-rfps/>.

Below is the link to each RFA on the CTSI website, and attached are the specific documents for each as well. PRE Doc RFA: <https://www.indianactsi.org/funding/all-open-rfps#LSPRE201709>

Eli Lilly-Stark Neurosciences Pre-Doctoral Research Fellowship in Neurodegeneration

Letter of Intent (LOI) Deadline: August 31st 2017

Full Submission Deadline: September 18th 2017

The Stark Neurosciences Research Institute and the Indiana Clinical and Translational Sciences Institute (CTSI) are seeking applicants for special pre-doctoral training fellowships in translational neurodegenerative disease research. We seek applicants whose research is focused on age-related neurodegeneration, including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, chronic traumatic encephalopathy, among others. Translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translational research fosters the multidirectional integration of basic research, patient-oriented research, and population-based research, with the long-term aim of improving the health of the public. Translation can involve everything from basic science discoveries in the lab that directly focus on human disease states, through animal studies and drug development to the development of clinical trials and studies in humans. The program offers a tuition allowance of \$5,000, an annual stipend (plus applicable health insurance) aligned with current NIH recommendations, and an annual supplement of \$7,500 to be used for travel, computers, and general supplies. Initial funding duration is for one (1) year, and is renewable for one (1) additional year pending review and demonstration of satisfactory progress.

Contact Information: icreate@iu.edu / 317-278-2822

POST Doc RFA: <https://www.indianactsi.org/funding/all-open-rfps#LSPOST201709>

Eli Lilly-Stark Neurosciences Post Doctoral Research Fellowship in Neurodegeneration

Full Submission Deadline: September 18th 2017

Letter of Intent (LOI) Deadline: August 31st 2017

The Stark Neurosciences Research Institute and the Indiana Clinical and Translational Sciences Institute (CTSI) are seeking applicants for special post-doctoral training fellowships in translational neurodegenerative disease research. We seek applicants whose research is focused on age-related neurodegeneration, including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, chronic traumatic encephalopathy, among others. Translational research refers to what is popularly termed as "bench to bedside"; the process by which research in the lab translates into patient treatment. Translational research fosters the multidirectional integration of basic research, patient-oriented research, and population-based research, with the long-term aim of improving the health of the public. Translation can involve everything from basic science discoveries in the lab that directly focus on human disease states, through animal studies and drug development to the development of clinical trials and studies in humans.

Annual stipend (plus applicable health insurance) is aligned with current NIH recommendations. Annual supplement of \$7,500 to be used for travel, computers, and general supplies. Initial funding duration is for one (1) year, and is renewable for one (1) additional year pending review and demonstration of satisfactory progress.

Contact Information: icreate@iu.edu / 317-278-2822

***Note:** Since these RFAs will now be run through the new grants management system, please note on each RFA that applicants will want to allow themselves a little more time to be familiar with possibly a new process. Our website also includes a step-by-step guide for using the system, too.

Apply Now!

Funding Opportunities

Opportunity	Award Amount	Deadline
NSF Cognitive Neuroscience (CogNeuro)	175,000	August 14, 2017
American Hearing Research Foundation Research Program	25,000	August 15, 2017
NIH Pre-application for a Biomedical Technology Research Resource (X02)	Varies	August 15, 2017
DOD-CDMRP Parkinson's Research Program (PRP)	Varies	August 31, 2017
**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
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	Varies	October 5, 2017
<ul style="list-style-type: none"> R01 Collaborative R01 		
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
NIH BRAIN Initiative: Foundations of Non-Invasive Functional Human Brain Imaging and Recording - Bridging Scales and Modalities (R01)	Varies	October 13, 2017
NIH Cellular and Molecular Biology of Complex Brain Disorders	Varies	October 16, 2017
<ul style="list-style-type: none"> R21 R01 		
NIH BRAIN Initiative: New Concepts and Early - Stage Research for Large - Scale Recording and Modulation in the Nervous System (R21)	300,000	October 26, 2017
NIH Global Brain and Nervous System Disorders Research Across the Lifespan	125,000	November 7, 2017
<ul style="list-style-type: none"> R21 R01 		
NIH Central Neural Mechanisms of Age-Related Hearing Loss (R01)	500,000	November 8, 2017
NIH Innovative Research in Cancer Nanotechnology (IRC/N) (R01)	450,000	November 21, 2017
NSF Science of Learning (SL)	Varies	January 17, 2018
Understanding Alzheimer's Disease in the Context of the Aging Brain (R01)	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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