

Message from the Director:

Happy New Year! I do hope you all had an opportunity to step away from work and reset. Now that we have resumed our regularly scheduled events, I'd like to highlight a few upcoming items from Institute.

- The Special Lectures in Neuroscience Course this semester (being led by Drs. Alex Chubykin and Estuardo Robles) is underway! The schedule of our Guest Lectures can be found below. If you would like to be involved with their visit to campus, please reach out and let us know.
- There is also a call out announcement below for proposals of the Special Lectures in Neuroscience Course for the next academic year (Fall 2017-Spring 2018). We would welcome your participation. The deadline is January 31st.
- Once again we will be offering a travel grant for our graduate students and postdocs.
 Additional information is below.

A special congratulations to Glen Acosta, a graduate student in Dr. Riyi Shi's, lab for being a recipient of the Eli Lilly and Stark Neurosciences Research Institute Fellowships in Neurodegeneration. These pre- and post-doctoral fellowships were supported by a generous donation from Eli Lilly to the CTSI at IU School of Medicine to support translational research focused on neurodegeneration. Glen, a student in the College of Veterinary Medicine, was awarded a pre-doctoral fellowship for his proposal "Critical Intervention Target to Reduce Parkinson's Disease Susceptibility in Rat Post-Traumatic Brain Injury".

We look forward to continuing our growth in the coming year, and as always, welcome your input.

- Donna Fekete, Director



Featured Faculty Member:

Riyi Shi is a medical scientist specializing in uncovering the mechanisms of central nervous system trauma and diseases and instituting new treatments through innovative experimentation and pioneering new strategies in the field. His research contributions includes originating the use of double sucrose gap technique for recording action potential conduction, establishing the methods of neuronal membrane

resealing by polyethelyne glycol (PEG), and identifying acrolein as a key pathological factor in spinal cord injury and multiple sclerosis. His research interests also include using elivery to nervous tissue and incorporating biomedical engineering rair and diagnosis. This includes designing innovative scaffolds to a using bioadhesives for neuronal tissue repair. Visit Dr. Shi's website for additional information.



Special Lectures in Neuroscience Course

Optogenetics: Illuminating Neural Circuit Function in the Visual System
BIOL 69500 number and the crn # is 20852,
Fridays 11:30am-2:20pm, LILY 2102.

The following speakers' seminars will be at different times, mostly on Wednesdays or Thursdays.

Stefan Herlitze - 2/9-2/10

Thomas Knopfel - 3/22-3/23

Andreas Burkhalter - 3/29-3/30

Zhuo-Hua Pan - 4/19-4/20

Travel Grant Opportunity

PIIN is accepting applications for the *Neuroscience Research Travel Award* to support graduate

student travel to scientific meetings or workshops held February – June 2017. There will be

another call for applications in late Spring for meetings that are held after July 2017.

The awards will have a \$500 limit. Eligible graduate students must have a major professor

who is affiliated with PIIN. You must be a student in good standing in a Purdue University

(West Lafayette) Ph.D. program. To apply, submit a single pdf file containing items 1-3 to

<u>neuro@purdue.edu</u>. Please ask one referee to submit a confidential letter of recommendation

on your behalf (see item 4 below for details). Each application should contain the following

information:

1) A cover letter from the student that includes a url link to the meeting or conference to be

attended, the approximate costs for the meeting (registration, travel, accommodation), and

the type of presentation that you will make (poster, platform talk, etc.), if any. Please <u>briefly</u>

explain the relevance of the conference and/or your work to the field of neuroscience, and

why attending this particular meeting will be beneficial to your professional development.

Please confirm that if you are selected as an award winner, you will be willing to assist in one

Neuroscience Center activity within one year of receipt of the travel grant. Example activities

include, but are not limited to, conducting outreach activities to the community at SpringFest

or in local schools; graduate recruitment such as manning a booth at the Society for

Neuroscience meeting; helping to organize graduate student activities at a yearly retreat.

2) A copy of the abstract of your presentation, if applicable. If no abstract is to be included,

please indicate why not in your cover letter.

3) A 1-2 sentence statement from your major professor that he/she supports your

attendance to this meeting and indicating that sufficient lab funds exist to cover all costs over

\$500.

4) A letter of support from a member of your thesis committee (not your major professor); one page is sufficient. This should be submitted as a pdf directly to neuro@purdue.edu by the referee.

We will notify you when your application is complete. Applications review will begin February 1st . Future rounds will come with clear deadlines for receipt of the application.

Are you looking for "Stem Cell Biology" courses? It is now incorporated in ANSC55500 (Growth and Development). The recognized course focuses on stem cells and their roles in tissue development, growth and regeneration.

ANSC55500 - Animal Growth and Development Spring 2017

Class Hours: 10:30-11:45 AM

Class Dates: Tuesday and Thursdays

Class Location: LILY G401

Instructor: Dr. Shihuan Kuang

Contact Info: 494-8283 / SMITH 1748 / skuang@purdue.edu

Greetings from the Organizers of the Greater Indiana Society for Neuroscience Annual Meeting!

SAVE THE DATE - ANNUAL MEETING Friday, March 31st, 2017 8AM-6PM Goodman Hall - IU Health Neuroscience Center 355 W 16th St. Indianapolis, IN 46202



THREE OUTSTANDING KEYNOTE SPEAKERS!

Dr. Bruce Lamb, Executive Director of Stark Neurosciences Research Institute
Dr. Luis de Lecea "To sleep or not to sleep: optogenetic control of arousal circuits"
Dr. Clive Svendsen "Modeling and treating neurological diseases with stem cells"

FOOD AND DRINK

Breakfast, lunch and a Poster reception are provided

LET US KNOW IF YOU'RE COMING

We need estimates of attendees for catering, seating and meeting materials.

Please complete this doodle poll:

Website: http://doodle.com/poll/axyc9inkbxvgr8t5

ABSTRACTS - WHAT

Work presented at ANY scientific meeting is welcomed and encouraged! Travel awards!

ABSTRACTS - WHEN

Submission deadline: February 15th, 2017

More information and information for submission at: Website: http://greaterindianasfnc.wixsite.com/mysite

Also see

Facebook: https://www.facebook.com/GreaterIndianaSfN/

Twitter: https://twitter.com/GreaterIndySfN

Instagram: https://www.instagram.com/greaterindysfn/

More reminders and information will be coming soon...

We look forward to seeing you!

Warmest Regards,

Meeting Organizers

Philip L Johnson, Ph.D. Greater Indiana SfN Chapter Melissa Cyders, Ph.D. Greater Indiana SfN Chapter Jason Meyer, Ph.D. Greater Indiana SfN Chapter Jon Crystal, Ph.D. Bloomington SfN Chapter and Bloomington Representative Susan Sangha, Ph.D. Purdue SfN Chapter and Purdue Representative



Call for Special Lectures in Neuroscience courses!

This is a call for ideas for new one-semester Special Lectures in Neuroscience courses at the 600-level (3 credits). These are envisioned as topic-focused, team-taught courses (up to 3 faculty members) with participation by external Distinguished Lecturers in Neuroscience.

The Purdue Institute for Integrative Neuroscience seeks to resurrect a popular series of graduate seminar courses that support a campus visit by 2-3 distinguished lecturers in Neuroscience. Courses are designed so that graduate students read and present a series of papers from the lab of a distinguished neuroscientist, to be followed by a 2-day campus visit by this individual, with plenty of face-time for the students and the hosting faculty member. The visitor will be asked to present one public lecture aimed towards a general audience, and one course lecture aimed towards a more knowledgeable audience.

A typical course is 3 credits because of the time commitment required for registered students. The course will be held over a 15-week period and will meet once per week for 2 hours, with additional hours required of the students during the speaker visits that may include: travel to and from the airport, attendance at lunches and dinners with the speakers, arranging speaker schedules, and accompanying the visitor between faculty office visits. Each course is expected to attract 10-12 students.

With 3 faculty members involved, each instructor should assume responsibility for 5 weeks (1-credit) of course supervision, while also coordinating and complementing the material in the other parts of the course. Typically, each faculty member will present a lecture at the start of a given 1-credit section, and the remaining class periods can then be organized as student-led presentations of the papers to be discussed. We are seeking courses with both breadth and depth. This could be demonstrated by cross-fertilization of disciplines, or 'breadth by design' in the scale of analysis (molecular-systems-behavioral-cognitive). Disease-focused courses are particularly welcome as this can enrich our planned application for an Institutional Training Grant to NIH. A faculty panel will be convened to evaluate the proposals and select courses that will receive PIIN support.

PIIN will provide financial support for <u>one</u> Special Lectures Course to be held in the fall of 2017. Funds will be used to pay for the distinguished lecturers' travel and hotel accommodations, and for meals attended by students, faculty members, and the speakers during each visit. A generous honorarium of \$1,000 will be offered to each visiting lecturer (\$1,500 for a member of a National Academy).

Please note: if you are a faculty member approaching a promotion, this can be viewed as a special opportunity to promote your own research program to leaders in your field, who might then be good candidates to write a letter in support of your promotion!

Attached are two samples from previous Special Lectures in Neuroscience courses, each of which was co-taught by 2 faculty members. Please submit your proposed course description to neuro@purdue.edu that includes:

- Cover letter for the application, signed by each of the faculty members who would
 participate as instructors.
- One-paragraph course description.
- List of proposed distinguished lecturers (due to uncertainty in the schedules of such individuals, feel free to list alternative speakers to cover each sub-topic).
- Sample listing of a set of research papers that students would be expected to present (note: only one full syllabus is needed with the understanding that this could change if an alternative speaker was selected).

Application deadline: January 31, 2017

If you have any questions, please contact Dr. Chris Rochet (irochet@purdue.edu).

Purdue University Chorafas Foundation Awards

Purdue University Chorafas Foundation Awards

Deadline: February 3, 2017

Purdue University will nominate one young PhD graduate student researcher for the 2017 Chorafas Foundation Award. The \$5,000 award, made available by the Dimitris N. Chorafas Foundation, is intended as a prize for advanced studies and/or research during or shortly after graduation. The Dimitris N. Chorafas Foundation was founded in 1992 under the leadership of Prof. Dimitris N. Chorafas. Each year, the Foundation awards prizes to more than 20 universities, with the goal of stimulating promising young researchers.

Process:

- Selection of a Purdue nominee will be a two-phase process. Students are invited to submit
 pre-proposals for the Chorafas Foundation award by Friday, February 3, 2017. A
 maximum of 5 finalists will be selected to submit a full nomination package. The deadline
 for submitting full nomination packets is March 24, 2017.
- The requirements and criteria for pre-proposals and final proposals are provided on page 2.
- All pre-proposals should be sent to the attention of Donna Young, Office of Research, College of Engineering (ARMS 2000), or electronically as one PDF File to dsyoung@purdue.edu.

Subject Areas for the Chorafas Award:

Research projects in the following areas are eligible for the Chorafas prize:

- Research, Development and Applications in Advanced Technology
- Life sciences and Medicine
- · Physics, Chemistry, Sciences of the Very Small and the Very Large
- Formal sciences: Mathematics, Logic, Statistics and their Applications
- Hard Science Solutions to Millennium Problems
- Interdisciplinary Scientific Research

PULSe Computational and Systems Biology Training Group

It is our pleasure to inform you that PULSe is forming Computational and Systems Biology training group. The training group has been approved by the PULSe executive committee and as a final step in the process we need to finalize the membership of the group. We will be posting information on the PULSe website regarding the training group and membership. Prospective students will be informed regarding opportunities within this training group as they are recruited and admitted to the PULSe program starting this fall.

Please inform <u>Tony Hazburn</u>, Associate Professor, if you are interested in participating in the CSB training group and if you would like to be an administrative or a participatory member. Please note that we you can be an administrative member of one training group and be a participatory member of two training groups.

BME 595: Functional Neuroimaging (Spring 2017)

Time: MWF: 10:30-11:20 AM

Location: MJIS 1083

Instructor: Dr. Zhongming Liu

This course focuses on the principles and applications of various established and emerging technologies for imaging brain activity in vivo across a wide range of spatial and temporal scales. It covers functional magnetic resonance imaging, positron emission tomography, single-photon emission computed tomography, electroencephalography, magnetoencephalography, diffuse optical tomography, intrinsic signal optical imaging, voltage sensitive dye imaging, two-photo calcium imaging, functional ultrasound, and photoacoustic tomography, all in the context of brain functions. Special emphasis is on the pros and cons of individual modalities, and their integration toward more comprehensive understandings of how human sensation, behavior, and cognition emerge from complex network activity. The course will also introduce advanced topics, such as machine learning for functional imaging data, contrast-agent based cellular and molecular imaging in the brain, and portable devices for functional neuroimaging in realistic environments.

Prerequisites: Basic knowledge of biology, physiology, statistics, linear algebra, and signal/image processing, is useful, but not required.

Funding Opportunities

Opportunity	Award Amount	Deadline
Data Archives for the BRAIN Initiative (R24)	Varies	January 17, 2017
Integration and Analysis of BRAIN Initiative Data (R24)	Varies	January 19, 2017
NIH BRAIN Initiative: Development of Next Generation Human Brain Imaging Tools and Technologies (UO1)	Varies	January 20, 2017
NIH-NCI Program Project Applications (P01)	Varies	January 25, 2017
NIH Animal and Biological Material Resource Centers (P40)	Varies	January 25, 2017

NIH BRAIN Initiative: Research on the Ethical Implications of Advancements in Neurotechnology and Brain Science (RO1)	Varies	January 30, 2017
Burroughs Wellcome Fund Biomedical Sciences Collaborative Research Travel Grants	Varies	February 1, 2017
Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain (U01)	200,000	February 1, 2017
L'Oréal USA for Women in Science	Varies	February 3, 2017
HHS-AHRQ Developing Measures of Shared Decision Making (R01)	500,000	February 5, 2017
NIH Common Mechanisms and Interactions Among Neurodegenerative Diseases (R01)	Varies	February 5, 2017
NSF Integrative Strategies for Understanding Neural and Cognitive Systems (NSF-NCS)	10,000- 15,000	February 6, 2017
NIH Perinatal Stroke (R01)	324,000	February 7, 2017
**Early Stage Testing of Pharmacologic or Device-based Interventions for the Treatment of Mental Disorders (R61/R33)	Varies	February 15, 2017
**Development of Psychosocial Therapeutic and Preventive Interventions for Mental Disorders (R61/R33)	Varies	February 15, 2017
**Confirmatory Efficacy Clinical Trials of Non-Pharmacological Interventions for Mental Disorders (R01)	Varies	February 15, 2017
Comparative Biology of Neurodegeneration (R21)	275,000	February 16, 2017
HHS-CDC Development and Evaluation of Sports Concussion Prevention Strategies	550,000	February 16, 2017
Team-Research BRAIN Circuit Programs – TeamBCP (U19)	Varies	March 1, 2017

Exploratory Targeted BRAIN Circuits Projects – eTargetedBCP (R21)	Varies	March 8, 2017
Simons Foundation Autism Research (SFARI) Initiative 2017 Pilot and Research Awards	70,000- 275,000	March 22, 2017
**NSF Critical Techniques, Technologies and Methodologies for Advancing Foundations and Applications of Big Data Sciences and Engineering (BIGDATA)	200,000- 500,000	March 22, 2017
NIH BRAIN Initiative: Research Career Enhancement Award for Investigators to Build Skills in a Cross-Disciplinary Area (K18)	Varies	April 14, 2017
**NIH Eradication of HIV-1 from Central Nervous System Reservoirs (RO1)	Varies	May 7, 2017
http://www.grants.gov/searchgrants.html?agencyCode%3DDOD	Varies	Varies

**Newly Added







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