

Message from the Director:

In 1995, a professor by the name of Massimo Grattarola at the University of Genova in Italy, created an undergraduate/graduate program of neurobioengineering. While Dr. Grattarola was a pioneer in the field, he is perhaps most remembered for the enthusiasm and ingenuity which he conveyed to his students. The same year as Dr. Grattarola's program originated, a limited set of universities across the US and Canada began offerings in neuroengineering and a new iteration of biomedical engineering began. We are now two decades into this discipline and have made some remarkable advancements: from advances in brain imaging to the development of the bionic DEKA arm (better, stronger, faster is a worthy theme after all). The Neuroscience Institute allows us to improve yet again through this iterative process. By incorporating neuroengineering as a focus area in our Institute, we hope to provide a platform for engineering to easily integrate with the other life science disciplines in the Institute. Dr. Pedro Irazoqui currently sits on the Neuro Leadership Team to represent the Neuroengineering program area, and I would welcome any discussions to integrate more of our engineering colleagues, in the spirit of Grattarola, with enthusiasm, and hopefully ingenuity.

- Donna Fekete, Director





Neuroscience Grad Student December Social Marshmallow Challenge

Congratulations to our Marshmallow Challenge Winners from the December 1st Neuroscience Social.

Pictured left to right are: Sayan Dutta (Medicinal Chem/Molecular Pharmacology), Ka Ng

(Psychological Science), Doungkamol Alongkronrusmee (Medicinal Chem/Molecular Pharmacology),

and Zahra Sajedinia (Psychological Science).

Featured Faculty Member:

Dr. Jennifer L. Freeman is an Associate Professor of Toxicology in the School of Health Sciences at Purdue University. She received her doctorate in Environmental Toxicology and Molecular Cytogenetics from the University of Illinois at Urbana-Champaign in 2005 and was a postdoctoral fellow at Harvard Medical School and Brigham and Women's Hospital, Boston from 2005-2007. The interests of the Freeman laboratory are to define the underlying genetic and epigenetic mechanisms of toxicity of environmental stressors with a current focus on pesticides, metals, radiation, and emerging chemical contaminants. Projects are defining the immediate adverse health impacts of a developmental exposure, the lasting adverse health impacts of this developmental exposure throughout the lifespan, and the analysis of subsequent generations linking genetic, epigenetic, and phenotypic assessments. These studies are investigating the developmental origin of health and disease pathogenesis

with a specific focus on neurological disorders, reproductive dysfunction, and cancer with a goal of understanding the role of exposure to the environmental stressors in these adverse health outcomes. All projects are currently utilizing the zebrafish vertebrate model system as a tool to investigate toxicity. She has received grant support from NIH/NIEHS, Indiana Clinical and Translational Sciences Institute, Purdue University Center for Cancer Research, among other entities. Dr. Freeman currently has over 50 publications including articles in *Nature*, *PNAS*, *Environmental Health Perspectives*, and *Toxicological Sciences*. She received the Society of Toxicology Colgate Palmolive Award for Alternative Research in 2012, the Exceptional Early Career Teaching Award from Purdue University in 2014, the Early Career Research Achievement Award from the College of Health and Human Sciences, Purdue University in 2014, and is a Purdue University Teaching Academy Fellow. Dr. Freeman currently serves on the NIH Environmental Health Sciences Review Committee and



the Society of Toxicology Scientific Program Committee and as an Associate Editor for BMC Genetics and Frontiers in Genetics.

Indiana CTSI - Purdue Retreat December 13, 2016

The Indiana CTSI-Purdue Retreat is being held at Purdue on Tuesday, December 13 in the Discovery Learning Research Center. We have a very exciting program featuring new investments in the life sciences at Purdue and Notre Dame, with presentations by Donna Fekete, Richard Kuhn and Paul Bohn. We will also highlight cancer prevention research at Purdue, the Indiana University School of Medicine and at IU-Bloomington with speakers Jim Fleet, Roberto Pili and James Klaunig. Afternoon breakout sessions have been organized into highly interactive meetings that are geared to maximize investigator connections to stimulate collaborations.

Please see the attached agenda for further details and forward this invitation to other colleagues that may be interested in participating. If you plan to attend, please register by Friday, December 2 at the following link http://j.mp/2d5xGuW. We look forward to seeing you there.

International Research Collaborations on the Rise

Find out why by selecting the following link.

International research collaborations on the rise

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 <u>dsyoung@purdue.edu</u>.

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.

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/

Funding Opportunities

	Award	
Opportunity	Amount	Deadline
NSF Cultivating Cultures for Ethical STEM (CCE STEM)	400,000- 600,000	December 5, 2016
NSF/NIH Smart and Connected Health (SCH)	500,000	December 8, 2016
Indiana Spinal Cord & Traumatic Brain Injury Research Fund	160,000	December 9, 2016
**NSF Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)	300,000	December 12, 2016
American Federation for Aging Research Grants for Junior Faculty	Varies	December 15, 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
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
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
**NIH High Impact Neuroscience Research Resource Grants (R24)	Varies	February 14, 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
**Simons Foundation Autism Research (SFARI) Initiative 2017 Pilot and Research Awards	70,000- 275,000	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

**Newly Added







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