Message from the Director:

I had the privilege to attend the 2016 Gill Symposium and Award Ceremony held last week in Bloomington. At the Gill Symposium, the scientific achievements of Dr. Ben Barres from Stanford University in glial cell biology were recognized. We enjoyed many outstanding talks from scientists who were trained by Dr. Barres. The symposium brought together multidisciplinary teams of world-class faculty interested in biomolecular measurements to understand complex biological processes in neuroscience. I highly recommend attending next years Gill Symposium. To consider something a bit closer to home, the Indiana Chapter of the Society for Neuroscience is planning their spring meeting in Indianapolis for Friday, March 31st, 2017 - please mark the date in your calendars.

Lastly, please join us this afternoon for the **Discovery Park Open House from noon to 5:30**. Throughout the afternoon, Discovery Park Center directors and researchers will discuss opportunities for research collaborations addressing global grand challenge areas. The day will be filled with presentations, posters, building tours, demonstrations, food and more. I hope that you'll join us today as our very own Dr. Pedro Irazoqui will kick off the Voss talks at 12:40 in Burton Morgan 121, and continue to spend the afternoon by learning about the Institutes of Excellence in the Life Sciences through presentations by myself, Dr.Richard Kuhn (Purdue Institute for Inflammation, Immunology, and Infectious Disease) and Dr. Karson Putt (Drug Discovery) in the Bindley Conference Room (3-4pm).

Donna Fekete, Inaugural Director

PURDUE INSTITUTE FOR INTEGRATIVE NEUROSCIENCE
Where science meets engineering

Featured Faculty Member:

Val J. Watts earned his Bachelors of Science degree in Pharmacy from Ohio Northern University in 1990. He then earned his Ph.D. in Pharmacology at the University of North Carolina at Chapel Hill in 1994. His dissertation studies were aimed at examining the molecular determinants for dopamine receptor activation. Dr. Watts completed his postdoctoral training in molecular pharmacology under the direction of Dr. Kim Neve at Oregon Health and Science University where he began his studies on understanding heterologous sensitization of adenylyl cyclase. Dr. Watts is currently a Professor and Associate Head in the Department of Medicinal Chemistry and Molecular Pharmacology.

The research in the Watts laboratory is designed to use a multi-disciplinary approach, combining molecular biology, biochemistry, and pharmacology to study the signaling mechanisms of G protein-coupled receptors (GPCRs) and regulation of endogenous and recombinant adenylyl cyclase. The fact that GPCRs are the ultimate target of approximately 40% of today's clinically used drugs emphasizes further the importance of these studies. Much of the work in his lab has focused on members of the dopamine, cannabinoid, serotonin, and adenosine receptor families. Studies have examined the pharmacology of these receptors including the characterization of novel ligands that activate these receptors as well as investigating their ability to modulate the activity of their primary effector, the enzyme adenylyl cyclase. A second area of focus has included examining the effects of persistent $G\alpha_{i/o}$-coupled receptor activation *in vitro* in order to understand and identify molecular changes following chronic drug exposure that may occur *in vivo*. Much of this work has focused on elucidating the mechanisms for D_2 dopamine receptor-induced heterologous sensitization of adenylyl cyclase. Other exciting studies have also provided evidence that prolonged receptor activation can modulate receptor oligomerization. These investigations used bimolecular fluorescence complementation (BiFC) as a tool to study directly receptor homodimer and heterodimer formation in

fragments of fluorescent proteins that are fused to two interacting proteins. More recent efforts have been focused on the development and execution of screening endeavors relevant to drug discovery and AC signaling. We have developed a number of new HTS assays for human GPCRs as well as individual AC isoforms for exploring small molecules and siRNA libraries

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Resurrection of 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. Please note the application deadlines below:

- **Courses to be offered in the spring of 2017: September 30, 2016 (full application)**
- **Courses to be offered in the fall of 2017: September 30, 2016 (letter of intent); October 31, 2016 (full application**

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

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/

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

	Award	

NIH BRAIN Initiative: Non-Invasive Neuromodulation – New Tools and Techniques for Spatiotemporal Precision (RO1)	Varies	November 23, 2016
NIH Impact of Aging in Human Cell Models of Alzheimer's Disease (R01)	Varies	September 28, 2016
NIH Development and Application of PET and SPECT Imaging Ligands as Biomarkers for Drug Discovery and for Pathophysiological Studies of CNS Disorders (R01)	Varies	October 5, 2016
NIH Novel Approaches to Diagnosing Alzheimer's Disease and Predicting Progression (R01)	Varies	October 5, 2016
NIH-NICHD Laboratory of Developmental Biology (R24)	Varies	October 27, 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 Big Data to Knowledge (BD2K) Community-Based Data and Metadata Standards Efforts (R24)	Varies	October 19, 2016
NIH-NLM Express Research Grants in Biomedical Informatics (R01)	Varies	October 5, 2016
NIH-NHLBI Program Project Applications (PO1)	Varies	September 25, 2016
NIH BRAIN Initiative: Development and Validation of Novel Tools to Analyze Cell-Specific and Circuit-Specific Processes in the Brain (R01)	Varies	November 2, 2016
HHS-AHRQ Large Research Projects for Combating Antibiotic-		

NSF/NIH Smart and Connected Health (SCH)	500,000	December 8, 2016
NIH/BARDA Antimicrobial Resistance Diagnostic Challenge	Varies	January 9, 2017
HHS-AHRQ Developing Measures of Shared Decision Making (R01)	500,000	February 5, 2017
NIH T Cell Reagent Research for the Study of Allergic Diseases (U19)	600,000	October 3, 2016