



PURDUE INSTITUTE FOR  
**INTEGRATIVE  
NEUROSCIENCE**

*Where science meets engineering*

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

**Dr. Paschou Peristera**, a member of the Purdue Institute for Integrative Neuroscience and Associate Professor of Biological Sciences was the co-senior author of a large-scale collaborative study of Tourette Syndrome recently published in the scientific journal Neuron. Dr. Paschou was one of 57 researchers based in 11 nations who collaborated to identify the genetic connection using techniques that examine differences in entire genomes, and not just individual genes. Researchers identified genetic abnormalities that are the first definitive risk genes for the disorder. **Congratulations to Dr. Paschou on your achievements!**

Link to story: [Tourette Syndrome risk increases in people with genetic copy variations](#)

Link to publication: [Rare Copy Number Variants in NRXN1 and CNTN6 Increase Risk for Tourette Syndrome](#)

Link to NIH news: [Researchers uncover genetic gains and losses in Tourette syndrome](#)

A few additional announcements:

1. **Cell Engineering Core Facility Survey**- the link below provides a short survey with information about the PIIN Cell Engineering Core Facility services which include the differentiation of induced pluripotent stem cells (iPSCs) into different types of neuronal and glial cells, and additional questions around interest and usage of the facilities. Please complete the following survey by **Friday, July 14, 2017**: [Cell Engineering Core Facility Survey](#).
2. Please note that the **Softball Tournament** event has been **canceled** due to low response.

3. 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 30<sup>th</sup>**. More information below.
4. This week's NeuroNetworking seminar series focused on **Sensory Systems**. We want to thank our speakers **Dr. Francis and Dr. Prakash** for their support and for sharing their knowledge with the PIIN community. As we are close to the end of our seminar series we would like to encourage you to attend our two final events focused on Neural Circuitry.

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.

- Donna

Fekete

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## NeuroNetworking

Please join us for our next session where we will discuss **Neural Circuitry**.

**1160 LYLES**  
**Wednesday, July 12th**  
**4-6 PM**

**Estuardo Robles** (BIOL) "Parallel processing of luminance information in the zebrafish visual system"

**Fang Huang** (BME) "Revealing Subcellular Structures with Live-cell and 3D Fluorescence Nanoscopy"

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### **Featured Faculty Member: Joaquin Goni**

Assistant Professor at Purdue since 2015, [Joaquín](#)

[Goñi](https://engineering.purdue.edu/IE/people/ptProfile?resource_id=126302) ([https://engineering.purdue.edu/IE/people/ptProfile?resource\\_id=126302](https://engineering.purdue.edu/IE/people/ptProfile?resource_id=126302)) is a Computational Neuroscientist who works in the emergent research area of Brain Connectomics, at the crossroads of Neuroscience and Network Science. Dr Goñi has a joint appointment at the School of Industrial Engineering and the Weldon School of Biomedical Engineering, and is also a member of the Purdue Institute for Integrative Neuroscience. He is also the head of the CONNplexity lab

(<https://engineering.purdue.edu/ConnplexityLab>), currently including with 1 postdoc, 2 PhD students (another one starting in the Fall) and 2 undergraduate students.

Joaquín Goñi earned a PhD from the University of Navarra School of Sciences (Spain) in 2008 and completed a post-doctoral fellowship in the Functional Neuroimaging Laboratory in Center for Applied Medical Research (Spain). From 2011 to 2014, he was in Dr. Olaf Sporns' laboratory as a Research Associate in the Department of Psychological and Brain Sciences at Indiana University, Bloomington. After that period, he became an Associate Research Scientist at the Indiana University Network Science Institute (IUNI) and Adjunct Associate Research



Professor of Radiology and Imaging Sciences at the Indiana University School of Medicine, Indianapolis.

His research is focused on modeling and assessing the human brain as a complex network, both from the structural (white matter connections between gray matter regions) and from the functional (functional coupling of estimated neural activity as measured in gray matter regions) point of view. Modeling individual connectomes, i.e., structural and functional connectivity patterns of individual subjects, allows the use of a wide variety of techniques from Graph Theory, Network Science and Information theory to better understand the brain from a systemic point of view. The development of methods to improve accuracy and fingerprinting of individual connectomes, together with models that relate structure and function are very important topics for his lab. Through these techniques, Dr Goñi and his collaborators are identifying and assessing connectivity changes related to different conditions, such as levels of consciousness, cognitive decline, sedatives, viral infections, traumatic brain injury and neurological disorders. Dr Goñi is also very interested in theoretical foundations of Complex Systems.

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## RFP's for Alzheimer's

<http://www.alzdiscovery.org/research-and-grants/request-for-proposal>

**Request for Proposal: Accelerating Drug Discovery for Frontotemporal Degeneration**

[Alzheimer's Drug Discovery Foundation \(ADDF\)](#)

**Upper \$150,000 Lower \$100,000 - Awards provide 1 year of funding with the possibility of follow-on funding. Funding can range from \$100,000-\$150,000 per year for a preclinical project depending on the stage of research and must be justified based on the scientific work plan.**

**Individuals: Early Career and Emerging in Field**

**Individuals: Mid-Career to Established in Field**

**The Association for Frontotemporal Degeneration and the Alzheimer's Drug Discovery Foundation announce a Request for Proposals to support innovative preclinical studies that advance FTD drug discovery. Research investigating the pathologic mechanisms underlying frontotemporal degeneration (FTD) is advancing, creating new targets for drug discovery. As potential therapies move forward, the need for biomarkers for early diagnosis, to distinguish FTD subtypes, and to monitor disease progression is also critical. The Alzheimer's Drug Discovery Foundation (ADDF) and The Association for Frontotemporal Degeneration (AFTD) seek to accelerate and support innovative drug discovery programs and biomarker development for FTD through this Request for Proposals (RFP).**

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#### **PRIORITY AREAS**

- Development and testing of novel high throughput screening assays**
- Identification and in vitro testing of potentially disease modifying compounds or biologics, including medicinal chemistry refinement, ADME, toxicology, pharmacokinetics, and pharmacodynamics studies**
- Testing of novel lead compounds, biologics, or repurposed drug candidates in a relevant animal model for preclinical proof of concept**
- Development and/or characterization of new model organisms or cellular models to support drug discovery efforts.**

**Applications will be accepted from investigators at non-profit academic institutions and for-profit biotechnology companies, both public and private, worldwide. Such as:**

**Academic investigators seeking to create and support innovative translational programs in academic medical centers and universities.**

**Biotechnology companies with programs dedicated to Alzheimer's disease translational development. New biotechnology company spinouts or existing biotechnology companies that demonstrate a clear need for non-profit funding are eligible to apply. Funding is provided through program-related investments (PRIs) that require return on investment based upon scientific and/or business milestones.**

- 31 Jul 2017 - Letter of Intent**
- 08 Sep 2017 - Full Proposal**

## [Alzheimer's Drug Discovery Foundation \(ADDF\)](#)

### **Clinical Trials for Frontotemporal Degeneration RFP**

<http://www.alzdiscovery.org/research-and-grants/funding-opportunities>

**Upper \$2,000,000 Lower \$500,000** -Budgets can be flexible and in the range of \$500K to \$2M for trials ranging from 1 -3 years. Leveraging other sources of funding or other ongoing trials is encouraged.

Partnerships /co -funding with industry or other foundations is acceptable.

The Alzheimer's Drug Discovery Foundation (ADDF) and The Association for Frontotemporal Degeneration (AFTD) have launched the Treat Frontotemporal Degeneration (FTD) Fund to support clinical trials testing novel or repurposed drugs for FTD and related disorders (bvFTD, PPA, PSP, CBD, FTD/ALS). The Treat FTD Fund will build on recent successes of both foundations in early-stage drug discovery and biomarker development and leverages new ongoing efforts under development by AFTD such as the recently launched FTD Disorders Registry and a \$5M FTD Biomarker Initiative. Running clinical trials in FTD patients will help investigators learn how best to target this unique patient population and will employ advances in biomarkers as they develop. This RFP is agnostic to drug target, open to both symptomatic and disease modifying approaches and includes both novel and repurposed therapies. Behavioral and social interventions, as well as lifestyle modifications, will not be considered.

- 18 Aug 2017 Letter of Intent
- 08 Sep 2017 Full Proposal
- 17 Nov 2017 Letter of Intent
- 08 Dec 2017 Full Proposal

## [CART Fund \(Coins for Alzheimer's Research Trust\)](#)

CART Grants - <http://www.cartfund.org/cart/applying-for-a-grant/>

**Upper \$250,000** - Applications may encompass a project period of up to two years with a combined budget for the direct cost up to \$250,000. No indirect costs are allowed. At least one award up to \$250,000 will be made each year.

Individuals: Early Career and Emerging in Field / Mid-Career to Established in Field

The purpose of the fund is to collect and provide dollars for leading edge research for the cure/prevention of Alzheimer's disease (AD). The goal of the fund is to encourage exploratory and developmental AD research projects within the United States. This is accomplished by providing financial support for the early and conceptual plans of those projects that may not yet be supported by extensive preliminary data but have the potential to substantially advance biomedical research. These projects should be distinct from those designed to increase knowledge in a well-established area unless they intend to extend previous discoveries toward new directions or applications. This is for new projects only.

Eligible applications may come from full-time faculty (or equivalent status) at U.S.-based public and private institutions, such as universities, colleges, hospitals, and laboratories. Applications will be

deemed ineligible from for-profit organizations and those outside of the USA, as well as those already supported by regular or program grants.

- 01 Dec 2017 Letter of Intent
- 22 Feb 2018 Application

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## Gill Symposium

At this year's Gill Symposium, we will once again be presenting the "Linda and Jack Gill Graduate Student Award" to recognize an exceptional graduate student in the Life Sciences from IUB, IUPUI or Purdue. The details of the award and the nomination process are described in a letter that can be found at <http://www.indiana.edu/~gillctr/grAward.php>

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## 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>

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**BioCrossroads Business Plan Competition Winners Garner \$26.5 Million in Funding: *Indiana life sciences companies* New Venture Competition**

## ***now accepting submissions for early-stage***

**INDIANAPOLIS, Ind., June 29, 2017**— The BioCrossroads New Venture Competition, an early stage business competition designed to encourage entrepreneurial activity of Indiana life sciences and health information technology companies, is now accepting applications at [www.biocrossroads.com](http://www.biocrossroads.com). Since 2012, the competition has awarded more than \$300,000 to 20 start-up companies, which have been able to secure over \$26.5 million in follow-on funding.

Early-stage biotechnology, pharmaceutical, medical device, diagnostic, ag-biotech and health information technology companies developing innovative products and platforms based in Indiana are eligible to apply for the New Venture Competition.

The winner receives a cash prize of \$25,000 and access to the Indiana Seed Fund staff and the fund's network of resources that provide business planning and early-stage strategic support. They will also have the opportunity to make a presentation to the Indiana Seed Fund investment committee, which has committed funding to several previous finalists.

The winner will be announced at the Indiana Life Sciences Summit on October 9, 2017. Second and third place companies will be awarded cash prizes of \$15,000 and \$10,000, respectively.

Applications are available at [www.biocrossroads.com](http://www.biocrossroads.com) and must be submitted by **August 14, 2017**.

Finalists will present to a panel of expert judges before the Indiana Life Sciences Summit on Monday, October 9. Additional details are available at [www.biocrossroads.com](http://www.biocrossroads.com)

Previous winners are making their mark in the life sciences community. For example, Curvo Labs, which has raised \$2.2 million to date, intends to use the funds to further innovate its sourcing platform, as well as accelerate the expansion of sales and customer support resources. In addition, Allinaire Therapeutics, formerly Emphymab Biotech, continues to advance the development of therapeutics for the treatment of AAT deficiency, COPD and other respiratory disorders, including acute lung injury.

Taft, 16 Tech, Metazoa Brewing Co., and Halo Capital Partners are sponsors of the BioCrossroads New Venture Competition.

### **About BioCrossroads**

BioCrossroads ([www.biocrossroads.com](http://www.biocrossroads.com)) is Indiana's initiative to grow, advance and invest in the life sciences, a public-private collaboration that supports the region's existing research and corporate strengths while encouraging new business development. BioCrossroads provides money and support to life sciences businesses, launches new life sciences enterprises ([Indiana Biosciences Research Institute](#), [Indiana Health Information Exchange](#), [Fairbanks Institute for Healthy Communities](#), [BioCrossroadsLINX](#), [OrthoWorx](#) and [Datalys Center](#)), expands collaboration and partnerships among Indiana's life science institutions, promotes science education and markets Indiana's life sciences industry.

## Funding Opportunities

Opportunity	Award Amount	Deadline
<a href="#"><u>**NSF Advancing Informal STEM Learning (AISL)</u></a>	Varies	July 31, 2017
<a href="#"><u>Michael J. Fox Foundation for Parkinson's Research Inflammation Biomarkers for Parkinson's Disease</u></a>	Up to 300,000	August 4, 2017
NIH Role of Myeloid Cells in Persistence and Eradication of HIV-1 Reservoirs from the Brain  <ul style="list-style-type: none"> <li>• <a href="#"><u>R21</u></a></li> <li>• <a href="#"><u>R01</u></a></li> </ul>	Varies	August 7, 2017
<a href="#"><u>DOD-CDMRP Neurofibromatosis Research Program (NFRP)</u></a>	Varies	August 9, 2017
<a href="#"><u>American Hearing Research Foundation Research Program</u></a>	25,000	August 15, 2017
<a href="#"><u>NIH Pre-application for a Biomedical Technology Research Resource (X02)</u></a>	Varies	August 15, 2017
<a href="#"><u>DOD-CDMRP Parkinson's Research Program (PRP)</u></a>	Varies	August 31, 2017
<a href="#"><u>**NIH Improvement of Animal Models for Stem Cell-Based Regenerative Medicine (R24)</u></a>	Varies	September 25, 2017
<a href="#"><u>NSF Research in the Formation of Engineers (RFE)</u></a>	350,000	September 27, 2017
<a href="#"><u>NSF-Simons Research Centers for Mathematics of Complex Biological Systems (MathBioSys)</u></a>	15,000	September 29, 2017
<a href="#"><u>NIH Novel Cell Non-autonomous Mechanisms of Aging (R01)</u></a>	250,000	October 3, 2017
NIH From Genomic Association to Causation: A Convergent Neuroscience Approach for Integrating Levels of Analysis to Delineate Brain Function in Neuropsychiatry  <ul style="list-style-type: none"> <li>• <a href="#"><u>R01</u></a></li> <li>• <a href="#"><u>Collaborative R01</u></a></li> </ul>	Varies	October 5, 2017
NIH Cellular and Molecular Biology of Complex Brain Disorders  <ul style="list-style-type: none"> <li>• <a href="#"><u>R21</u></a></li> <li>• <a href="#"><u>R01</u></a></li> </ul>	Varies	October 16, 2017
NIH Global Brain and Nervous System Disorders Research Across the Lifespan  <ul style="list-style-type: none"> <li>• <a href="#"><u>R21</u></a></li> <li>• <a href="#"><u>R01</u></a></li> </ul>	125,000	November 7, 2017
<a href="#"><u>NIH Innovative Research in Cancer Nanotechnology (IRCN) (R01)</u></a>	450,000	November 21, 2017

\*\*Newly Added



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