August 3, 2020

Neurotransmitter

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Neurotransmitter Schedule

The next ***Neurotransmitter*** will be published and mailed electronically on **Monday, August 17, 2020.** All seminar announcements and notices must be submitted to Natalee Bright via email (CNUP@pitt.edu) **no later than 12:00 noon on Thursday, August 13, 2020.**

Notices

Mon., 8/3
2:00 p.m.

PhD Dissertation Defense
The Role of Slc1a1 in OCD-Relevant Behavior and Associated Neural Activity

Via Zoom

Jared M. Kopelman, BS
Center for Neuroscience
School of Medicine/Neurobiology

Virtual Link:
https://pitt.zoom.us/j/92740053667

(Sponsored by the Center for Neuroscience)

Tues., 8/4
2:00 p.m.

Exploring the Mechanisms Underlying Tourette Syndrome and OCD Using Pathophysiological Modeling in the Mouse

Via Zoom

Christopher Pittenger, MD, PhD
Associate Professor of Psychiatry
Yale University

Virtual Link:
https://pitt.zoom.us/j/93436342648

(Sponsored by the Department of Neurobiology)

Postdoctoral Position in Neurophysiology and Neuroimaging

The laboratory of Dr. Ferrarelli at the University of Pittsburgh has an opening for a postdoctoral researcher. The goal of the research is to investigate the neurobiology of psychiatric disorders, and especially schizophrenia and related disorders, employing neurophysiological and neuroimaging techniques. These techniques include high-density (hd)-EEG, Transcranial Magnetic Stimulation (TMS), fMRI, and 7T Magnetic Resonance Spectroscopy Imaging (MRSI), applied both during wakefulness and sleep.

Our lab recently utilized some of these techniques to identify several putative biomarkers in patients with chronic schizophrenia, and you will be involved in novel studies assessing these biomarkers in early course psychosis and individuals at clinical high risk for schizophrenia and related disorders. Some of these biomarkers have been associated to memory, plasticity, and general cognitive ability, and tend to predict post-learning performance improvement in healthy individuals. Thus, by collecting these measures in adolescents and young adults, our studies could not only significantly contribute to an early detection and assessment of the level of risk for psychosis, but could also contribute to elucidate some of the neural circuits and mechanisms underlying learning and memory in the normally developing brain.

This position is therefore ideal for candidates who are interested in employing a multi-modal imaging approach to characterize brain circuits implicated in risk for psychosis and related cognitive dysfunctions during a critical phase of brain maturation. It will also provide the opportunity to spend time in Pittsburgh, one of the most livable and vibrant cities in the country, and to work in the Department of Psychiatry, a unique environment for young researchers to foster collaboration, be productive, and develop an independent program of research.

Applicants should send a CV and a statement of interest to the PI (ferrarellif@upmc.edu).

Candidate Profile:

1) Ph.D. in neuroscience, psychology, biology, physics, mathematics or other neuroscience-related disciplines
2) Preferred experience in one or more of the above-mentioned techniques
3) One or more first-author publications in an international, peer-reviewed neuroscience journal
4) Strong data-analysis and programming skills (MATLAB, C, R, MNE-Python, or related programming languages)
5) Proficient in spoken and written English

Postdoctoral Position in Population Neuroscience of Aging

A postdoctoral position is available for a highly-motivated individual to study the problems of brain aging by applying neuroscience and epidemiological methods.

The fellow will work with our eBRAIN research group, led by Dr. Caterina Rosano, at the University of Pittsburgh. eBRAIN applies cutting-edge brain imaging methods and longitudinal trajectories of risk factors to understand brain aging effects on cognitive and physical function. The anticipated research project involves collection and analysis of DTI and PET imaging of the dopaminergic system, as well as analyses and data collection of ultra- high field images at 7 Tesla. The fellow will be exposed to a highly interactive and inter-disciplinary group of neuroscientists, neuroepidemiologists, neuroimagers, and psychiatrists. Candidates must have a doctoral degree in neuroscience, epidemiology or related fields with strong quantitative skills. Technical expertise in neuroimaging techniques and the ability to learn and develop new skills are required. A strong fundamental understanding of study design is highly desirable. The successful candidate should have an excellent publication record, solid written/verbal English communication skills, strong organizational skills, and the ability to work independently.

The eBRAIN research group is situated within the Department of Epidemiology at the Graduate School of Public Health, located in the heart of the Oakland Campus, in Pittsburgh, Pennsylvania. The University of Pittsburgh is an integrated global health enterprise and one of the leading health care systems in the United States. Diverse and inclusive, University of Pittsburgh educates medical students, scientists, health care professionals and the public; conducts biomedical research; and provides patient-centered medicine to prevent, diagnose and treat human illness.

Interested and qualified applicants are encouraged to consult http://www.publichealth.pitt.edu/home/directory/caterina-rosano
https://www.facebook.com/e.brain.pitt

Applications must include:
1) a cover letter outlining research accomplishments and career goals,
2) curriculum vitae, and
3) a list of three references with contact information (including mailing address, phone number and e-mail address) to:

Caterina Rosano, MD, MPH
Professor of Epidemiology
Graduate School of Public Health
University of Pittsburgh,
130 De Soto Street,
South Parran Hall, 5139
Pittsburgh PA, 15261
(412)-383-1294 or (412)-759-3572
http://www.publichealth.pitt.edu/home/directory/caterina-rosano
https://www.facebook.com/e.brain.pitt
http://www.caph.pitt.edu/researchprog.html

Newly Funded T32 in Population Neuroscience

The Graduate School of Public Health and the Department of Psychiatry at the University of Pittsburgh are pleased to announce a **new pre- and postdoctoral training program** in **Population Neuroscience of Aging & Alzheimer's Disease**. The program is co-directed by Drs. C. Rosano and M. Ganguli, with positions available immediately.

The PNA program trains highly talented individuals to pursue successful independent research in the etiology of Alzheimer's Disease and other age-related dementia (ADRD). Eligible applicants must have backgrounds in either contemporary neuroscience or population/data science. For example: PhD graduates or candidates in Epidemiology, Neuroscience, Information Science, Biostatistics, Biomedical informatics and MD/DO graduates with training in Neurology, Psychiatry, Geriatric medicine, and related disciplines. Please contact stc15@pitt.edu with questions.

Postdoctoral Associate Positions in Systems Neuroscience

Postdoctoral positions are available in the Runyan lab in the Department of Neuroscience at the University of Pittsburgh. Our research involves dissecting inhibitory and neuromodulatory circuits across the cortical hierarchy. Our goal is to understand how changes in behavioral context and brain state shift local information processing and the transmission of information between cortical networks. We use two-photon imaging of population activity and optogenetics in head-fixed mice performing perceptual decision-making tasks. See carolinerunyan.org for more information about our work.

We are seeking individuals with experience in two-photon imaging, large-scale electrophysiology, optogenetics, and/or mouse behavior. As we build our laboratory and our own approach to understanding the brain, the ideal candidates should have strongly driven scientific curiosity and problem-solving skills, as well as excellent interpersonal skills. This position offers the opportunity to participate in building a new research program, and to work in the highly collaborative, collegial environment at the University of Pittsburgh and Carnegie Mellon University. See cnbc.cmu.edu and https://www.cnup.pitt.edu/ for more details.

Interested candidates should send a CV, statement of research interests, and contact information for two references to runyan@pitt.edu.

Postdoctoral Research Fellow in the Neuroimaging Laboratory

The Neuroimaging Laboratory at the University of Pittsburgh has a postdoctoral research fellow position open immediately. The candidate should possess a Ph.D. degree in biomedical engineering, neuroscience, or a related field, and have published scholarly articles in peer-reviewed scientific journals. The candidate should have a strong research background in brain imaging, systems neuroscience, neurophysiology (electrophysiology, neuro-metabolism and/or blood flow regulation), computation, neural engineering, and/or data analysis (signal/image processing).
Experience with rodent experimentation, advanced biological imaging (two-photon or optical microscopy or fMRI), neural tissue histology, and data analysis in MATLAB/Python are essential. The candidate will work on longitudinal imaging of rodent brain dynamics in health and disease. The candidate may also be involved in projects related to early detection of Alzheimer's disease and neural engineering depending on interests. The candidate will be working with an interdisciplinary team of radiologists, neurologists, neural engineers, material scientists and biophysicists. Candidates with experience in calcium imaging or MRI/fMRI (especially in animals) are strongly encouraged to apply.

Interested candidates should submit curriculum vitae, the names of three references, a statement of research experience, and date of availability to Alberto L. Vazquez (alv15@pitt.edu). Information on the Neuroimaging Laboratory can be found on this website (http://neuroimaginglab.pitt.edu).
The Department of Radiology is strongly committed to a diverse academic environment and places high priority on attracting female and underrepresented minority candidates. We strongly encourage candidates from these groups to apply for the position.

The University affirms and actively promotes the rights of all individuals to equal opportunity in education and employment without regard to race, color, sex, national origin, age, religion, marital status, disability, veteran status, sexual orientation, gender identity, gender expression, or any other protected class.

Two Post-Doc/Senior Scientist Positions in Auditory Neuroscience

The Teichert lab at the University of Pittsburgh has openings for two postdoctoral researchers or senior scientists to study auditory function in the macaque monkey (www.teichert.pitt.edu). Scientifically, the lab is focused on identifying the neural substrate of auditory short-term memory (Teichert & Gurnsey, 2019, J Neurophys) to better understand how it can be affected in conditions such as schizophrenia. Methodologically, the lab is focused on bridging the gap between single-cells and macroscopic EEG by concurrently recording from a 1,000-channel 3-dimensional grid of LFP contacts that covers the entire volume of one hemisphere. The positions are funded by a new R01 MH120117 "Echoic memory function and physiology in the rhesus macaque" and an ongoing BRAIN Initiative RF1 MH114223 "Understanding the synaptic, cellular and circuit events in of MEG & EEG using a vertically translational cross-species approach".

The post-docs will be part of the lively and growing auditory neuroscience community at Pitt/CMU, and will benefit from the multi-disciplinary environment of the BRAIN Initiative grant led by PIs Teichert, Doiron and Salisbury as well as collaborators Chamanzar, Kass, Ghuman, Sweet, and Gonzales-Burgos. Successful applicants will likely have a strong background in one or more of the following: auditory neuroscience, non-human primate electrophysiology, or EEG/MEG source-reconstruction techniques. Applicants should send a CV and a statement of interest to Dr Teichert (teichert@pitt.edu).

Postdoctoral Fellow/Staff Scientist/Research Associate Position: Translational Neuroscience, University of Pittsburgh

The Torregrossa Laboratory in the Department of Psychiatry's Translational Neuroscience Program at the University of Pittsburgh is in search of a qualified post-doctoral fellows or research technicians. The position is supported by a newly funded, collaborative R01 from NIAAA
(https://projectreporter.nih.gov/project_info_description.cfm?aid=9912917&icde=47306435&ddparam=&ddvalue=&ddsub=&cr=1&csb=default&cs=ASC&pball=)
to investigate the interactions between alcohol exposure and sleep at a neurophysiological level in the labs of Drs. Mary Torregrossa and Yanhua Huang. The project involves the use of many advanced techniques including EEG recordings, sleep analysis, slice electrophysiology, sleep manipulations, and alcohol drinking behavior. Opportunities will also be available to work on related projects that include the use of DREADDs, optogenetics, in vivo calcium imaging and fiber photometry.
The ideal candidate will have prior experience in some of the techniques described above, with experience in slice physiology highly desired.

Qualified applicants at the post-doctoral or staff scientist level are expected to hold a recent doctoral degree in a related field and to have a strong record of productivity. Research technicians will be considered with at least a Bachelor's degree in a biological science or bioengineering related discipline and prior lab experience. Candidates are expected to work collaboratively within a collegial team and have excellent oral and written communication skills.

The Department of Psychiatry and Center for Neuroscience at the University of Pittsburgh offers a highly collaborative, top-notch research and training environment. The successful candidate(s) will become part of a large, multidisciplinary neuroscience community, and will have ample opportunities for

collaboration. Training grant positions are available for competitive post-doctoral candidates who are interested in pursuing an independent academic position. Competitive salary and benefits are available.

Interested candidates should email their curriculum vitae/ biosketch, a letter of interest outlining experience and research goals, and the names and contact information of three references to torregro@pitt.edu.

Postdoctoral Position Available

A postdoctoral position investigating the organization and function of auditory corticofugal projection systems in behaving mice is available in the Williamson Laboratory at the University of Pittsburgh.

Details on the research focus and approaches of the laboratory can be found here:

https://www.williamsonlaboratory.com/research/

Applicants must have a PhD in Neuroscience or a relevant field and must be eligible for employment in the US. We are looking for individuals with an excellent record of research achievements and expertise at the intersection of two or more of the following areas: electrophysiology, two-photon imaging, quantitative behavior, and computational neuroscience. Applications will continue until the position is filled.

The Williamson Laboratory is the newest member of the Pittsburgh Hearing Research Center at the University of Pittsburgh. The lab is embedded within the Departments of Otolaryngology and Neurobiology, and affiliated with the Center for Neuroscience (CNUP) and the Center for the Neural Basis of Cognition (CNBC). Postdoctoral fellows will be part of a highly supportive and diverse research environment with excellent career development opportunities.

The University of Pittsburgh was ranked third in terms of total NIH funding received in 2018. The Global Livability Index (The Economist) recently ranked Pittsburgh as the second most livable city in America.

Interested candidates should email a brief statement of research interests, a CV, and the names and contact information of three references to Dr. Ross Williamson (rsw@pitt.edu).

Post-Doctoral Application

The Bio-Integrating Optoelectric Neural Interface Cybernetics Lab within the Department of Bioengineering at the University of Pittsburgh is seeking a post-doctoral associate. The position is funded through an active grant from the NIH to conduct leading-edge research at the frontier of neuroscience and neurobiology using novel engineered technologies to disentangle long-standing basic neurobiology questions at the interface of neurophysiology and engineering. The goals of the lab broadly fall into three categories: (1) Manipulating neuronal and non-neuronal cells to influence the function of neuronal networks, (2) Understanding the role of neuroimmune cells in neural circuit function, neuronal damage, and CNS regeneration, and (3) Improving long-term performance of implanted electrodes and integrating man-made (engineered) technology with the human brain for the purpose of studying normal and injured/diseased nervous systems in vivo at the cellular level, as well as restoring function to patients.

Applicants should hold a PhD in a related field including but not limited to Biomedical Engineering, Neurobiology, Neuroscience, Molecular/Cellular Biology, Biochemistry, Electrical Engineering, Computer Science, Mechanical Engineering, Chemical Engineering, Physics, Optics, Material Science, and Mathematics. Animal surgery experience is preferred. The candidate should have a strong research background in *in vivo* electrophysiology or *in vivo* two-photon microscopy. Expertise with *in vivo* two photon imaging, viral transduction in rodent brain, image processing (e.g. GCaMP) and head-fixed visual cortex experiments (V1) are desired. Experiences with electrical stimulation, optogenetics, transgenic animal models, histology, functional/evoked electrophysiology/imaging, advanced optical imaging, stroke, TBI, and neurodegenerative diseases is seen as advantages. He/she will be working with an interdisciplinary team of neural engineers, neuroscientists, neurosurgeon, biologists, and material scientists. The appointment is intended to be 2 years and may be renewable depending on availability of funds. It is expected that most candidates will lack experience in all the above areas; training will be provided to fill necessary proficiencies.

To apply, please send a cover letter and curriculum vitae (CV) as a single pdf document to Takashi Kozai (tdk18@pitt.edu).
The Department of Bioengineering is strongly committed to a diverse academic environment and places high priority on attracting female and underrepresented minority candidates. We strongly encourage candidates from these groups to apply for the position.

The University affirms and actively promotes the rights of all individuals to equal opportunity in education and employment without regard to race, color, sex, national origin, age, religion, marital status, disability, veteran status, sexual orientation, gender identity, gender expression, or any other protected class.

Visit BIONICLAB.ORG for more information.

NIH NINDS T-32-Funded Postdoctoral Positions

The University of Pittsburgh seeks to fill a number of NIH NINDS T32-funded postdoctoral positions for training in the Neurobiology of Neurological Disease. A

primary goal of this training program is to provide a crucial clinical component to the education of postdoctoral fellows. A second major goal is to ensure that trainees are provided with mentored research training to create a pathway to independence.

This T32 program is administered by the Department of Neurobiology and directed by Dr. Peter Strick, PhD, but represents a community-wide training program that includes faculty from basic science and clinical departments throughout the University.

Prior to application, applicants must select and obtain acceptance from a research mentor chosen from the list of members of the Center for Neuroscience at the University of Pittsburgh (CNUP) who are engaged in NINDS-funded research. Mentors can be found here: https://www.cnup.pitt.edu/html/CNUP_Faculty_Members.html

Successful applicants must have a PhD in Neuroscience, Biology, Molecular Biology, Pharmacology, Physiology, Bioengineering, or a related field. A list of current and former T32 trainees can be found at: https://neurobio.pitt.edu/t32-trainees .

In order to be eligible for NIH NINDS T32 funding, applicants must be either US Citizens or Permanent Residents.

While preference will be given to junior postdoctoral applicants, more experienced postdoctoral researchers will also be considered, especially if they are: a) working on highly innovative projects; b) working on projects that require extended time and effort for completion; or c) training in new fields or specialties.

To apply for T32 support: https://www.neurobio.pitt.edu/applying-t32. Please email the following in PDF format to the Program Administrative Assistant, Melissa Lepore (melissa.lepore@pitt.edu):

1) Curriculum vitae.
2) A summary of your research accomplishments and a description of your research plans (2-3 pages).
3) A summary of your relevant coursework (1-2 pages).
4) A statement of your long-term career objectives (1-2 pages).
5) A statement describing the relevance of your background and training to Neurological Disease Research (1-2 pages).
6) A letter of nomination from the faculty sponsor which includes a brief statement of the proposed research project.
7) Three letters of recommendation.

Please contact Melissa Lepore (melissa.lepore@pitt.edu 412-648-9538) with any questions about the application process or for further details about the training program.

Application deadline: Sept 1, 2020. After initial review of applications, some applicants will be asked to schedule interviews with members of the T32 Executive Faculty Committee.

The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer and values equality of opportunity, human dignity and diversity, EOE, including disability/vets.

EEO/AA/M/F/Vets/Disabled.

Postdoctoral Positions Available

The Department of Anesthesiology and Perioperative Medicine at the University of Pittsburgh is seeking to fill two postdoctoral research positions in chronic pain and drug dependence. Our NIH-funded research laboratory discovers, visualizes and manipulates pathological changes in CNS circuits that develop in the setting of neuronal injury, inflammation, diabetes, and multiple sclerosis. For example, we discovered new mechanisms by which tissue or nerve injury establishes opposing systems of persistent pain sensitization (latent neuronal sensitization) and analgesia (constitutive activity of *Gi*-protein coupled receptors) (e.g. Solway et al, PNAS; Corder et al, Science. We also validate new protein and cellular targets for the development of new non-opioid pharmacotherapies and analgesic drugs for chronic pain. Please see our laboratory web pages https://www.taylorlab.anes.pitt.edu/

Within the Pittsburgh Center for Pain Research, we provide a dynamic research environment with exceptional resources for training in basic and translational neuroscience, including scientific mentorship and collaboration within the PCPR, and access to state-of-the-art core facilities at Pitt. Together, we will design experiments that incorporate your existing and emerging strengths in an environment that values hard work, intellectual curiosity, innovative thinking, and teamwork. For more details on training opportunities in pain research such as journal clubs, courses, and seminars, please see our PCPR website http://pcpr.pitt.edu/

Applicants must have a PhD in neuroscience, physiology, pharmacology or equivalent and have demonstrable achievement, interest and preparation to address important questions in neuroscience, including multiple first-authored research articles in well-known international journals. This includes publications with one or more of the following methods: behavioral pharmacology in *cre*-transgenic mice, *in vivo* GCaMP calcium imaging / optogenetics / chemogenetics, fluorescence in situ hybridization, single-cell RNA sequencing, or drug vapor self-administration in mice. Current graduate students with US citizenship or permanent residence (green card) in strong training programs are encouraged to apply and will be fully supported in their submission of early-career NIH

grants. Advanced fellows with a proven track record of high quality first-author publications in strong journals will also be considered. *Please send a Cover Letter that briefly details career goals and prior research experience, CV, and list of three references to Dr. Bradley Taylor via email BKT@pitt.edu*

MSNBIO 2070: Human Physiology, Fall Semester 2020

M, W: 5:30-5:45 PM, F: 3:00-5:00 PM

During the Fall Semester, Dr. Bill Yates (byates@pitt.edu) will teach MSNBIO 2070, Human Physiology. This advanced survey course covers the integrative physiology of all of the major organ systems, including the cardiovascular system, respiratory system, renal system, immune system, gastrointestinal system, and reproductive system.

Lectures are coupled with problem based learning exercises to provide a comprehensive and detailed background regarding physiological processes.

This course is ideal for graduate students who desire a comprehensive yet thorough course in human physiology in preparation for advanced coursework or as background for research projects.

Undergraduate students who previously took a physiology course, but who would like an advanced treatment of the material to prepare for medical or graduate school, are also welcome to enroll in this class.

Questions about the course can be directed to Dr. Bill Yates (email: byates@pitt.edu).

Interested students may also refer to the course website for information: http://honorshumanphysiology.com.

NROSCI 1014/ MSNBIO 2014: Speaking of Science, Fall Semester 2020

MW 11:00-12:15 p.m. Crawford Hall room 241

During the Fall Semester, Dr. Judy Cameron (jcameron@pitt.edu) and Dr. Carol Colby (ccolby@cnbc.cmu.edu) will teach NroSci 1014/2014, Speaking of Science. This course teaches strategies for giving presentations about science to both a scientific audience and a public audience.

Topics covered include (1) how to engage your audience, (2) the art of breaking down your message, (3) tips for how to make clear, interesting slides, and (4) pointers on presentation style. Communication skills, including knowing your audience and why they are interested in the information you are speaking about, how to translate scientific jargon into understandable concepts for the public, and how to keep the audience engaged will be discussed. Students give a total of 5 presentations and receive individualized feedback on all presentations. The course is offered to both undergraduate and graduate students. It is particularly useful to students who will present a formal scientific presentation at a meeting, a public talk, or defend their thesis in the coming year. Questions about the course and requests to view the course syllabus can be directed to Dr. Judy Cameron (email: jcameron@pitt.edu).