June 22, 2020

Neurotransmitter

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Neurotransmitter Schedule

The next ***Neurotransmitter*** will be published and mailed electronically on **Monday, July 6, 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, July 2, 2020.**

Notices

Weds., 6/24
4:00 p.m.

The Black Experience in STEM: A Discussion with University of Pittsburgh Faculty including:

Via Zoom

Dr. Audrey J. Murrell
Acting Dean
Pitt Honors College

Dr. Tagbo H.R. Niepa
Assistant Professor
Department of Chemical & Petroleum Engineering

Dr. Waverly Duck
Associate Professor
Department of Sociology

Virtual Link:
https://pitt.zoom.us/j/94130681355

(Sponsored by University of Pittsburgh oSTEM)

Mon., 6/29
10:00 a.m.

Understanding Nociceptive Processing Using Optical Recording of Neuronal Activity in Vivo

Via Zoom

Stephen McMahon, PhD
Sherrington Professor of Physiology

Virtual Link:
https://pitt.zoom.us/j/98062023329

(Sponsored by Pittsburgh Center for Pain Research and University of Pittsburgh Brain Institute)

Weds., 7/15
1:00 p.m.

PhD Dissertation Defense
Aberrant Prelimbic Activity is Associated with Elevated Fear in SAPAP3 Knockout Mice

Via Zoom

Zoe LaPalombara, BS
Center for Neuroscience
School of Medicine/Neurobiology

Virtual Link:
https://pitt.zoom.us/s/95930071587
Password: 726131

(Sponsored by the Center for Neuroscience)

Postdoctoral Fellow/Staff Scientist Position

Translational Neuroscience/Electrophysiology
University of Pittsburgh

A postdoctoral fellow or staff-scientist position is available in the laboratory of Dr. Susanne Ahmari in the Translational Neuroscience Program at the University of Pittsburgh http://ahmarilab.pitt.edu/. This project will utilize multiple advanced techniques for the analysis and manipulation of cortico-striatal circuits in order to discover the cellular and circuit abnormalities underlying compulsive behaviors. This position is funded by an NIMH R01 (https://projectreporter.nih.gov/project_info_description.cfm?aid=9709695&icde=45654581), with potential additional support from a Burroughs Wellcome Fund Career Award for spin-off projects for a motivated candidate.

The ideal candidate will have expertise in *in vivo* electrophysiology in awake animals. They will also have the opportunity to learn and apply other techniques including optogenetics, *in vivo* calcium imaging, and viral tract tracing.

Qualified applicants are expected to hold a recent doctoral degree in neuroscience, biological sciences, bioengineering, or related disciplines, with a track record of productivity. Prior experience in electro-

physiology, computational analysis methods. rodent behavioral testing, and optogenetics is highly preferred. Candidates must be able 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 sahmari@pitt.edu.

Research Associate

RESEARCH ASSOCIATE POSITION AVAILABLE IN THE DEPARTMENT OF PSYCHIATRY AT THE UNIVERSITY OF PITTSBURGH MEDICAL CENTER

A research technician position is available in the laboratory of Dr. Susanne Ahmari in the Translational Neuroscience Program at the University of Pittsburgh. The Ahmari lab uses multiple advanced techniques for the analysis and manipulation of neural circuits in order to discover the molecular, cellular, and circuit abnormalities underlying Obsessive Compulsive Disorder and anxiety. The ideal candidate will be able to work collaboratively and effectively communicate with an interactive and collegial research group. Specific job responsibilities include mouse colony maintenance (including breeding and genotyping), performing mouse behavioral studies (including optogenetics), cryostat/ tissue mounting, immunohistochemistry, preparing reagents and solutions, and general lab duties such as autoclaving and dishwashing. Preference will be given to candidates with experience in stereotaxic surgery.

Requirements: Bachelor's Degree in Biology, Neuroscience, Psychology, Chemistry, or related field required. At least 1 year of experience working in a neuroscience or other biological science laboratory. At least 1 year of experience required with rodent experiments generally, with specific experience in the areas of rodent colony maintenance, genotyping, and behavioral experiments. Opportunities will also be available for motivated candidates to learn in vivo microscopy and in vivo electrophysiology.

Interested candidates should email their CV, a letter of interest outlining experience, and the names and contact information of three references to ahmarise@upmc.edu.

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).

Research Specialist

RESEARCH SPECIALIST POSITION AVAILABLE IN THE DEPARTMENT OF MEDICINE AT THE UNIVERSITY OF PITTSBURGH.

A research technician position is available in the laboratory of Dr. Jami Saloman in the Center for Pain Research at the University of Pittsburgh. The Saloman lab uses multiple anatomical, behavioral, optogenetic, calcium Imaging and cell/molecular techniques to study peripheral mechanisms of pain as well as neuroimmune interactions in the context of cancer.
The ideal candidate will be able to work collaboratively and effectively communicate with an interactive and collegial research group. Specific job responsibilities may include mouse colony maintenance (including breeding and genotyping), performing mouse surgeries, behavioral studies (including optogenetics) and common cellular/molecular techniques.

Experience with pain behavioral assays or immunology oncology models and assays is an asset.

Requirements: Bachelor's Degree in Biology, Neuroscience, Immunology, or related field required. At least 2 years of experience working in a neuroscience or immunology oncology research laboratory.

Interested candidates should email CV/biosketch and a letter of interest to jls354@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.

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).