January 24, 2022

Neurotransmitter

***Visit CNUP online*: http://cnup.pitt.edu**

Neurotransmitter Schedule

The next ***Neurotransmitter*** will be published and mailed electronically on **Monday, February 7, 2022.** All seminar announcements and notices must be submitted to Lucas Grasha via email (CNUP@pitt.edu) **no later than 12:00 noon on Thursday, February 3, 2022.**

Notices

Fri., 2/4
12:00-
1:15 p.m.

Distinguished Scientist Lecture
Transcranial Magnetic Stimulation Therapy in Psychiatry: What Will the Future Bring?

Via Zoom

Linda Carpenter, MD
Professor of Psychiatry and Human Behavior
Brown University

Virtual link:
https://pitt.zoom.us/j/96769307547
Meeting ID: 967 6930 7547
Passcode: 262608

(Sponsored by Pitt Psychiatry)

Tues., 2/18
12:00-
1:15 p.m.

Meet the PI Lecture
Explore or Exploit? Neuro-computational Mechanisms and Alterations in Psychopathology

Via Zoom

Alexandre Dombrovski, MD
Associate Professor of Psychiatry
University of Pittsburgh School of Medicine

Virtual link:
https://pitt.zoom.us/j/92670571013
Meeting ID: 926 7057 1013
Passcode: 878756

(Sponsored by Pitt Psychiatry)

Fri., 3/4
12:00-
1:15 p.m.

Distinguished Scientist Lecture
Translating the Acute and Sustained Mechanistic Effects of Ketamine into Efficacious and Safer Rapid Acting Antidepressants

Via Zoom

Carlos Zarate, Jr, MD
Chief, Section on the Neurobiology and Treatment of Mood Disorders
National Institute of Mental Health

Virtual link:
https://pitt.zoom.us/j/97044500848
Meeting ID: 970 4450 0848
Passcode: 571049

(Sponsored by Pitt Psychiatry)

Fri., 3/18
12:00-
1:15 p.m.

Meet the PI Lecture
Bio-Behavioral Treatments for Depression and Anxiety: Leveraging Neuroplasticity

Via Zoom

Rebecca Price, PhD
Associate Professor of Psychiatry and Psychology
University of Pittsburgh School of Medicine

Virtual link:
https://pitt.zoom.us/j/97555299453
Meeting ID: 975 5529 9453
Passcode: 717554

(Sponsored by Pitt Psychiatry)

Fri., 4/8
12:00-
1:15 p.m.

Special Guest Lecture
Exploiting Individual Differences in Cue-motivated Behavior to Identify the Neural Processes that Underlie Psychiatric Symptomatology

Via Zoom

Shelly Flagel, PhD
Associate Professor of Psychiatry
University of Michigan

Virtual link:
https://pitt.zoom.us/j/92839402234
Meeting ID: 928 3940 2234
Passcode: 310178

(Sponsored by Pitt Psychiatry)

Fri., 5/6
12:00-
1:15 p.m.

Special Guest Lecture
The Role of Gamma Oscillations in Cognition and Schizophrenia-Associated Cognitive Deficits

Via Zoom

Vikaas Sohal, MD, PhD
Associate Professor of Psychiatry
University of California / San Francisco
School of Medicine

Virtual link:
https://pitt.zoom.us/j/96020063995
Meeting ID: 960 2006 3995
Passcode: 100441

(Sponsored by Pitt Psychiatry)

NIH-FUNDED RESEARCH POSITIONS in Pediatric Neurointensive Care and Resuscitation Research

Children's Hospital of Pittsburgh and the Safar Center for Resuscitation Research, University of Pittsburgh School of Medicine. Two-year research fellowship positions focused on career development in the area of pediatric neurointensive care are anticipated for physicians who have completed at least two years of clinical fellowship training in pediatric critical care medicine. Applicants who have completed clinical residency training in child neurology, neurological surgery, physical medicine and rehabilitation, emergency medicine or neonatology are also eligible. Research projects are focused in the areas of traumatic brain injury, cardiac arrest, shock, and cerebral resuscitation and include investigation into cell and molecular biology, developmental neurology, physiology, novel therapies, rehabilitation, outcomes, informatics, and artificial intelligence, among others. Projects are available in both laboratory and clinical settings. Some clinical responsibility within the trainers' respective area is incorporated into the program where appropriate. The goal of the program is to prepare fellows for careers as leading clinician-scientists in pediatric neurointensive care and resuscitation medicine. We also consider select PhD postdoctoral fellows who have a strong interest in research germane to the field of pediatric Neurointensive care and resuscitation. Two-year research fellowship positions are anticipated for July 1, 2022, through June 30, 2024. Fellows are generally interviewed and selected by the end of February in the year that they join the program.

This program is run in conjunction with ACGME accredited training programs in Pediatric Critical Care Medicine, Neurological Surgery and Physical Medicine and Rehabilitation, at Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center. Applicants must be citizens or permanent resident aliens of the United States. The University of Pittsburgh is an EO/AA employer.

If interested, please email a letter of intent with Curriculum Vitae to:

Patrick M. Kochanek, MD, MCCM
Director, Safar Center for Resuscitation Research
John G. Rangos Sr. Research Center
UPMC Children's Hospital of Pittsburgh
Pittsburgh, PA 15224
412-692-7985
kochanekpm@pitt.edu

Post-doctoral fellowship

Applicants are sought for an NIH-funded post-doctoral fellowship in the Center for Aphasia Research and Rehabilitation (CARR) at Georgetown University Medical Center in Washington, D.C. (Rhonda Friedman, Director). The fellow will join a group of investigators investigating cognitive treatments for word-finding impairments in persons with Primary Progressive Aphasia or early Alzheimer's Disease. Interaction with and testing of persons with dementia may be a part of

this position. Structural imaging data are available for analysis for those who are interested.

The successful candidate will have a doctoral degree in neuroscience, neuropsychology, cognitive science, psychology, communication disorders, or a related scientific area. A clear interest in behavioral neuroscience research should be demonstrated. Experience working with neurologically-impaired participants is desired.

Applicants must be US Citizens or permanent residents.

To apply, please email a cover letter and CV, and arrange for three letters of reference to be sent to: aphasiaresearch@georgetown.edu

Postdoctoral Position to study activity-dependent local translation in health and disease

We are seeking a talented, highly motivated candidate with interests in integrated light and *in situ* cryo-electron tomography approaches for a fully-funded postdoctoral position to study activity-dependent mechanisms of local translation and plasticity in the Freyberg laboratory at the University of Pittsburgh.

The Freyberg lab uses innovative live imaging approaches including live-cell STED, widefield, and TIRF to study mechanisms of local translation in secretory cells, using neurons. We have also integrated these imaging approaches with *in situ* cryo-electron tomography to capture dynamic processes critical for cell secretion across scales from the whole cell to individual molecules. These studies have led us to recently discover a new form of the endoplasmic reticulum (ER) termed Ribosome-Associated Vesicles (RAVs). RAVs are highly dynamic and move to sites of local activity to initiate activity-dependent translation – a key mechanism of synaptic plasticity. We are now translating our findings to define the fundamental mechanisms of activity-dependent local translation and to models of Alzheimer's disease.

Some of our recent publications include:
Ribosome-Associated Vesicles: a dynamic vesicular endoplasmic reticulum in secretory cells. Science Advances (2020). https://advances.sciencemag.org/content/6/14/eaay9572

Three-dimensional analysis of mitochondrial crista ultrastructure in a Leigh Syndrome patient by *in situ* cryo-electron tomography. iScience (2018). https://www.sciencedirect.com/science/article/pii/S2589004218301020

Our lab seeks motivated, creative researchers to study these pathways using complementary pharmacology, molecular cell biology, and imaging approaches. We invite candidates with experience in any of but not limited to any of the following areas: (1) cell biology/trafficking, (2) 2D and 3D live-cell imaging, and/or (3) cryo-EM/cryo-ET. Successful candidates will work in a highly collaborative interdisciplinary research program that integrates neurobiology, and cutting-edge light and EM imaging and translates it to neurobiology in health and disease.

Our lab is well-funded by NIH, DoD, and foundation grants and equipped with state-of-the-art equipment. We are in one of the most vibrant communities of scientists in the country, based both at the University of Pittsburgh and the neighboring Carnegie Mellon University. Being in a large academic medical center, the laboratory has an established network of collaborators working in both basic biology and translational research. The laboratory also benefits from being centrally located in Pittsburgh, one of the fastest growing, affordable cities in the United States.

To apply, interested applicants should send their cover letter including research interests, CV and 2-3 reference letters to freyberg@pitt.edu

The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, as fully explained in Policy 07-01-03, the University prohibits and will not engage in discrimination or harassment based on race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity and expression, genetic information, disability, or status as a veteran. The University also prohibits and will not engage in retaliation against any person who makes a claim of discrimination or harassment or who provides information in such an investigation. The University will continue to take affirmative steps to support and advance these values consistent with the University's mission. This policy applies to admissions, employment, access to and treatment in University programs and

activities. This is a commitment made by the University in accordance with federal, state, and/or local laws and regulations.

Postdoctoral position to study roles of dopamine signaling in regulation of pancreatic insulin and glucagon secretion and their roles in antipsychotic drug-induced diabetes

Description: An NIH R01-funded postdoctoral position is available immediately to study dopamine signaling in modulating pancreatic hormone secretion and its roles in antipsychotic drug-induced diabetes.

The Freyberg laboratory studies the roles of dopamine signaling in central nervous system and the periphery in metabolism. We recently showed that dopamine plays a key role in modulating hormone release from pancreatic alpha- and beta-cells. We also find that dopamine receptors in alpha-cells and beta-cells are the primary molecular targets of antipsychotic drugs, some of the most prescribed psychiatric medications today. Importantly, these medications often produce insulin resistance and ultimately can lead to type 2 diabetes. Until recently, there was no clear mechanism for antipsychotic drug-induced dysglycemia. Recently, however, we discovered that these drugs act outside of the brain and that blockade of pancreatic dopamine receptors by antipsychotic medications leads to the profound disturbances in hormone release observed clinically. Together, our work suggests that these peripheral pancreatic dopamine receptors play critical roles in the development of antipsychotic drug-induced metabolic disturbances that culminate in insulin resistance and diabetes. To further examine these phenomena, we have developed new mouse models of pancreatic dopamine function as well as new high-throughput assays to measure dopamine receptors' effects on insulin and glucagon secretion from mouse and human pancreatic islets. The goal of our work will be to define how dopamine signaling modulates alpha-cell and beta-cell hormone secretion and the molecular mechanisms by which dopaminergic regulation of islet function is disrupted by antipsychotic drugs.

Our laboratory seeks a highly motivated, creative, and independent researcher to study these pathways using complementary pharmacology, molecular cell biology, and imaging approaches.

We are committed to the career development of postdoctoral fellows. Candidates benefit from both the outstanding environment in the laboratory and the highly collaborative University of Pittsburgh community. The candidate will be given opportunities to present their research work at national and international scientific meetings, work on translational and basic research projects, will be encouraged to apply to prestigious postdoctoral fellowships and grants and network with members of academia and industry to facilitate a pathway to independence.
The candidate will be offered highly competitive salary and fringe benefits as par University of Pittsburgh policy.

Our laboratory is well-funded by NIH, DoD, and foundation grants and is equipped with state-of-the-art equipment. We are in one of the most vibrant communities of basic scientists in the country, based both at the University of Pittsburgh and the neighboring Carnegie Mellon University. Being in a large academic medical center, the laboratory has an established network of collaborators working in both basic biology and translational research. The laboratory also benefits from being centrally located in Pittsburgh, one of the fastest growing, culturally rich yet affordable cities in the United States.

Interested candidates should send their CV, a one-page summary of their past research and future research interests, and the contact information for 2-3 references directly to Dr. Freyberg: Zachary Freyberg M.D., Ph.D., email: freyberg@pitt.edu

Qualifications: Candidates must have Ph.D. and/or M.D. degrees. Previous experience with molecular biology, mammalian cell and pancreatic islet culture, fluorescence microscopy is also preferred but not required, although candidates with experience in these skills are strongly encouraged to apply. Training in more advanced techniques is a key aim of the postdoctoral position; the biggest requirement is the enthusiasm and ambition of the candidate to make important contributions to our understanding of dopamine actions in metabolism.

The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, as fully explained in Policy 07-01-03, the University prohibits and will not

engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity and expression, genetic information, disability, or status as a veteran. The University also prohibits and will not engage in retaliation against any person who makes a claim of discrimination or harassment or who provides information in such an investigation. Further, the University will continue to take affirmative steps to support and advance these values consistent with the University's mission. This policy applies to admissions, employment, access to and treatment in University programs and activities. This is a commitment made by the University and is in accordance with federal, state, and/or local laws and regulations.

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:
Ph.D. in neuroscience, psychology, biology, physics, mathematics, or other neuroscience-related disciplines
Preferred experience in one or more of the above-mentioned techniques
One or more first-author publications in an international, peer-reviewed neuroscience journal
Strong data-analysis and programming skills (MATLAB, C, R, MNE-Python, or related programming languages)
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 interdisciplinary 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.eduInformation 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 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.

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).

Postdoctoral 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.

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.

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.

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.

Postdoctoral Associate Position Opening

Research Topic: Molecular and Cellular Pathobiology of Neurodegenerative Disease

Start Date: Position available immediately

Description: The Donnelly Laboratory in the Department of Neurobiology at the University of Pittsburgh School of Medicine is searching for enthusiastic and creative postdoctoral associates to study the molecular and cellular neurobiology of Amyotrophic Lateral Sclerosis (ALS), Frontotemporal Degeneration (FTD), and related dementias. Researchers

will work in a collaborative environment within the LiveLikeLou Center for ALS Research at the University of Pittsburgh Brain Institute under the advisement of Christopher Donnelly. Postdoctoral associates will be expected to lead one of a few possible research projects investigating RNA binding protein biology, RNA metabolism, or intracellular transport in neurodegeneration. Successful candidates will be expected to carry out basic and translational research employing molecular/cellular biology, biochemistry, cutting-edge microscopy techniques, and induced pluripotent stem cell model systems.

Interested candidates should have a Ph.D. and a publication history in the biological sciences or related fields at their start date. Proficiency with molecular/biochemical methodologies, mammalian cell culture, and basic microscopy is required. Candidates with experience utilizing induced pluripotent stem cell cultures, protein biochemistry, liquid-liquid phase separation, nucleic acid cellular assays, or DNA/RNA sequencing and analyses are encouraged to apply. Postdoctoral NIH training grant opportunities are available.

Successful candidates will work closely with Dr. Donnelly to develop a high-impact research project that aligns with their interest as well as a detailed career plan catered to their long- term goals within academia, industry, or other fields.

Requirements: Ph.D. degree in biological sciences or relevant field at the time of start date. **Interested candidates should send their curriculum vitae to chrisdonnelly@pitt.edu.**

References will be requested for qualified candidates.

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

RESEARCH ASSISTANT POSITION AVAILABLE IN THE DEPARTMENT OF PSYCHIATRY AT THE UNIVERSITY OF PITTSBURGH.

A research technician position is available in the laboratory of Dr. Rui Peixoto in the Translational Neuroscience Program at the University of Pittsburgh. The Peixoto lab uses electrophysiology, optogenetics, behavioral analysis and 2-photon microscopy to study the development of cortical and striatal circuits and its implication in autism spectrum disorders. The ideal candidate will be able to work collaboratively and communicate effectively with an interactive and collegial research group. Specific job responsibilities include mouse colony maintenance (breeding and genotyping), performing mouse surgeries, running behavioral studies (including optogenetics) and histological analysis of brain sections. Previous experience handling rodents is an asset. Requirements: Bachelor's Degree in Biology, Neuroscience, or related field required. At least 1 year of experience working in a neuroscience or molecular biology research laboratory. Interested candidates should email CV/biosketch and a letter of interest to rup14@pitt.edu.

Research Specialist/Research Scientist Positions in Neurodegenerative Disease

An exciting new project on microglial biology in neurodegenerative disease has created two new positions in the Burton Lab in PIND. As a result, we are currently recruiting outstanding Research Specialists or Research Scientists with expertise in: (i) intravital imaging and image analysis; and (ii) testing experimental therapies in mouse models of neurodegeneration. As the project is funded by the US Department of Veterans Affairs, applicants must be eligible for VA employment (IPAs may be available, allowing current Pitt employees to retain their university position). Funding starts 1 October 2021, although an earlier start date may be possible. Salary is negotiable, commensurate with qualifications and experience. Fluent written and spoken English, commitment to scientific rigor and excellence, and the ability to work within a team are essential. Enquiries are welcome from all qualified candidates, including researchers from groups historically under-represented in science. Please contact Edward A. Burton MD, DPhil, FRCP (eab25@pitt.edu) to learn more about these opportunities informally. Further details can be found at: https://www.burtonlab.pitt.edu/opportunities/

Postdoctoral Position in Neuropathology

A postdoctoral position is available in the laboratory of Dr Julia Kofler in the Division of Neuropathology at the University of Pittsburgh. The position is supported by a newly funded R01 grant from NIA to study "Genetic and molecular correlates of white matter pathology in Alzheimer's disease". The project involves the use of many advanced techniques including whole slide imaging, digital image analysis, digital spatial profiling, RNA sequencing and genome-wide association studies. The lab is tightly integrated with the Neurodegenerative Brain Bank and affiliated with the Alzheimer's disease research center at the University of Pittsburgh. The major goals of the lab are to 1) identify and characterize genotype associations of AD pathology endophenotypes; 2) to define neuropathologic features of Chronic Traumatic Encephalopathy; and 3) to identify neurobiological processes underlying the development of psychosis in Alzheimer's disease.

The ideal candidate will have a PhD in neuroscience, genetics or a related discipline and have published scholarly articles in peer-reviewed articles. Prior experience with analysis of large omics datasets is highly desirable. The candidate will be working with an interdisciplinary team of neuropathologists, neuroscientists, geneticist and biostatisticians and is expected to have excellent oral and written communication skills.

Interested applicants should send a CV, letter of interest outlining experience and research goals, and the names and contact information of three references to koflerjk@upmc.edu.

Research Technician Position Available to Study Circuits Underlying Motor Control and Motor Learning

A research technician position is available in the Hooks lab at the University of Pittsburgh School of Medicine for either a highly motivated young researcher or a senior researcher interested in mapping neural circuitry of motor control and motor learning.

Our lab uses state-of-the-art methods for circuits mapping: cell-type specific mice to identify subtypes of neurons, stereotaxic surgery and viral vectors to target, label, excite, and manipulate selected neurons, and neurophysiological methods to map local and long-range circuits. An ideal candidate will have experience with animal husbandry, stereotaxic surgery, histology/immunostaining, and fluorescence microscopy. These techniques will be most crucial to on-the-job success. We can train exceptional candidates in these skills as well.

Scientific creativity, excellent verbal and written communication skills, and technical expertise are essential. Interested candidates should send a resume or curriculum vitae (CV), a cover letter stating research interests, and contact information for three references to **Bryan (Mac) Hooks** (**hooksm@pitt.edu**).

More information about the lab is available at: https://www.neurobio.pitt.edu/people/bryan-mac-hooks. The lab is funded by NINDS (NIH 1R01 NS103993), The Department of Defense (CDMRP Discovery Award), and the University of Pittsburgh. Positions are available immediately with competitive salary and benefits (NIH scale). The Department of Neurobiology has exceptional strength in motor systems and excellent resources for collaboration and career development. The Pittsburgh neuroscience community (including Neuroscience, Neurobiology, Biomedical Engineering, and Mathematics at Pitt and Carnegie Mellon) is extensive.

Post-doctoral Fellow – Restorative Neuroscience

Applications are invited for a highly motivated post-doctoral position to investigate the role of neurogenesis in bioscaffold-induced tissue regeneration in rodent models of stroke. The candidate is expected to be part of a multi-disciplinary effort that encompasses bioengineering, neuroscience and radiological approaches. Our laboratories main aim is to develop restorative approach to repair the damage caused by stroke in preclinical models. This encompasses the use of extracellular matrix as a bioscaffold, but also includes the use of neural stem cells and their formulation in pre-formed tissue constructs.

The position is ideal for a researcher interested in developing expertise in the emerging field of restorative neuroscience. The applicant will be encouraged and supported to pursue independent funding and advance their academic career. Collaborative projects with industry partners also provide an opportunity to explore

careers in the biotechnology and pharmaceutical sectors. This NIH-funded position will be for an initial appointment period of 2 years.

The post-doc fellow is expected to lead our effort to implant extracellular matrix-based bioscaffold into a rat model of stroke using MRI-guidance, followed by immunohistochemical analyses to evaluate its potential for the treatment of tissue damage caused by stroke. The main focus of this position will be on *in vivo* preclinical experiments and their histological analysis, but opportunities are available to extend this effort to include behavioral analyses and magnetic resonance imaging. As part of the candidates post-doctoral training, it is expected that they will contribute to manuscript and grant writing, as well as present their research effort at scientific conferences. The post-doc will also have the opportunity to co-supervise undergraduate and graduate researchers, as well as be an integral part of managing the day-to-day activities of the laboratory.

For more information:
http://www.radiology.pitt.edu/ril.html
https://www.frontiersin.org/articles/10.3389/fnins.2019.01156/full

Applications and further inquiries: This position is immediately available. Interested applicants should email **Dr Mike Modo** (mmm154@pitt.edu) with their CV, a cover letter outlining their interests and career plans, as well as the names for 3 references.

Benchspace- Hiring Platform Announcement

A small group of graduate students at Pitt created a science hiring platform called Benchspace, with the goal of making hiring easier and more effective for both students and PI's. When PI's post on the job board, we send them a personalized digital flyer which they can forward to their colleagues. The digital flyer has embedded links making it very easy for candidates to access the job post when they receive email forwards. Additionally, we send out monthly newsletters featuring recently submitted jobs. So far, we have a Neuroscience/Neurobiology newsletter, and Immunology Newsletter, a Cardiovascular newsletter, and a Biological Sciences Newsletter.

Here is our most recent neuroscience newsletter. These newsletters go out to departments at > 80 universities throughout the county. We think this offers students access to job opportunities they may have never heard about and the PI's job post reaches a much larger pool of applicants. Students looking for positions can find great opportunities at gotbenchspace.com. If any PI's at Pitt want to submit a post they can do so at https://gotbenchspace.com/jobs-list/ and if they use the coupon "Pitt" their post will be **Free!"**

Postdoctoral Position in Psychiatric Neuroimaging

The laboratory of Dr. Deepak Sarpal at the University of Pittsburgh has an immediate opening for a postdoctoral researcher.

The laboratory is focused understanding mechanisms that underlie psychiatric treatments with an overarching goal of advancing therapeutic approaches for chronic mental illness. The laboratory is interested in applying innovative and multimodal neuroimaging approaches to examine neurobiological systems that track patients across antipsychotic treatments. This includes high-field, 7-Tesla, neuroimaging-based fMRI, magnetic resonance spectroscopy imaging (MRSI), and proxy measures of dopamine functioning. The candidate will work across datasets with these and other neuroimaging measures to characterize treatment response/psychotic disorders while collaborating with researchers at the University of Pittsburgh and external collaborators. This position is ideal for candidates who are interested in innovation at the interface between real-world psychiatric treatment and neuroimaging. The position is in Pittsburgh, Pennsylvania, a vibrant city with a high 'livability' index and a robust academic community. The University of Pittsburgh Department of Psychiatry is a unique and renowned environment for junior researchers to build collaborations and develop as investigators.

Candidate Profile:
1) Ph.D. in neuroscience, biomedical engineering, psychology, statistics, or other related disciplines.
2) Neuroimaging experience is highly preferred.
3) One or more first-author publications in a peer-reviewed journal.
4) Strong data-analysis (e.g., R, Python, or MATLAB) and programming skills (e.g., UNIX/BASH, Python).
5) Proficiency in spoken/written English.

Applications must include: 1) a cover letter outlining research accomplishments and career goals; 2) a

curriculum vitae; and 3) a list of at least two references with contact information (phone number and email address). Candidates should send inquiries and applications to Deepak Sarpal (sarpaldk@upmc.edu).

Research Technician Position Available

The laboratory of Dr. Christopher Cunningham in the Department of Otolaryngology at the University of Pittsburgh School of Medicine is searching for an enthusiastic and highly motivated research technician. The Cunningham Lab is interested in understanding the molecular and cellular basis for sound processing in the cochlea of the mammalian auditory system. The lab aims to unravel the molecular and cellular machinery that is essential for hearing, and to identify novel therapeutic targets to address hearing loss. The lab uses cutting-edge mouse genetics, biochemistry, and microscopic imaging techniques to address their research questions.

The technician will be an integral part of the research team, helping to setup and maintain the lab and perform experiments. The technician will work closely with the PI to plan, execute, document and analyze experiments. These will include molecular biology, immunohistochemistry, western blotting/biochemistry, cell culture, and fluorescent imaging. The ideal candidate will be able to work collaboratively and contribute to a positive, dynamic, and team-oriented lab atmosphere. Prior experience with molecular biology, biochemistry and/or immunohistochemistry is highly desirable. Experience with cell culture or rodent models is also preferred.

Interested candidates should submit their application online to:
https://cfopitt.taleo.net/careersection/pitt_staff_external/jobdetail.ftl?job=21002602&tz=GMT-04:00&tzname=America/New_York
More information about the lab is available at:
http://phrc.pitt.edu/people/christopher-l-cunningham

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

NeuroNex Post-doctoral Position – University of Pittsburgh

A postdoctoral scientist position is currently available in the Translational Neuroscience Program, Department of Psychiatry, University of Pittsburgh School of Medicine. Highly motivated candidates with an interest in neocortical circuit function in the primate brain are encouraged to apply.

The position is primarily funded by the NeuroNex program of the National Science Foundation (NSF). Our NeuroNex project is part of a multidisciplinary international network of laboratories in Canada (Western University, London; University of Toronto, Toronto), Germany (Georg-August-Universität Göttingen) and the US (Yale University; New York University and University of Pittsburgh). Our network, **The Fabric of the Primate Neocortex and the Origin of Mental Representations** (https://www.nxwm.io/about-us/), is dedicated to studying the molecular, cellular, physiological and neural network bases of working memory in the primate brain.

The postdoctoral position in Pittsburgh is based in the laboratories of Drs. Guillermo Gonzalez Burgos and David A Lewis. Our labs are part of the group of laboratories, in our NeuroNex network, using patch clamp electrophysiology in acute brain slices to investigate the cellular physiology of neurons involved in the mechanisms of working memory. The candidate will join a dynamic and vibrant international group of researchers with frequent interactions and discussions. Our brain slice physiology project plans to study, in vitro, neurophysiological mechanisms that may contribute to activity patterns mediating working memory in the dorsolateral prefrontal cortex and other areas of the primate neocortex. In addition, we plan on using patch-seq methods to obtain gene expression data from the recorded neurons. The postdoctoral scientist would also participate in separate NIMH-funded studies of pyramidal neurons and interneurons in primate and mouse brain.

Candidates will investigate cellular/synaptic physiology in brain slices, therefore previous experience using video-microscopy patch clamp techniques in acute brain slices is absolutely required. Knowledge of MatLab and/or Python programming languages is preferred, but not strictly required. Candidates interested in this position should contact Guillermo Gonzalez Burgos

(gburgos@pitt.edu). Please send your curriculum vitae, a letter expressing your interest in our project, a summary of research experience and three references.

Postdoctoral Position Available

The Cunningham Laboratory at the University of Pittsburgh is actively recruiting postdoctoral fellows to work in the lab. The lab is interested in the neural and sensory biology of the auditory system, with a particular emphasis on the function of the mammalian cochlea. Our goals are to uncover molecular and cellular mechanisms of normal auditory processing, to elucidate the biological origins and pathophysiologies of hearing loss, and to contribute to the development of novel therapies for auditory disorders. The lab utilizes cutting-edge techniques including the generation and analysis of novel genetic mouse models combined with biochemistry, molecular biology, histology, viral vectors, and high-resolution fluorescent microscopic imaging. More information about the Cunningham Lab is located at thecunninghamlab.com.

Applicants must have a Ph.D. in Neuroscience, Cell Biology, Biochemistry, or a relevant field and must be eligible for employment in the United States. The ideal candidate will have a strong record of research achievement, be committed to working collaboratively and will strive to contribute to a positive, dynamic, and team-oriented lab atmosphere. Applications will continue until the position is filled.
The Cunningham Laboratory is a member of the Pittsburgh Hearing Research Center at the University of Pittsburgh, which brings together basic and clinical auditory researchers with the aim of understanding auditory function and developing new therapies. The lab is in the Department of Otolaryngology and the Pittsburgh Institute for Neurodegenerative Diseases (PIND) and has access to excellent shared and core facilities.

The University of Pittsburgh has a strong and vibrant research environment and is consistently in the top 10 in the United States in NIH funding. Neurobiology and Auditory research are strengths at the University, and postdoctoral fellows have many opportunities for collaboration, networking, training, and career development.

Pittsburgh is frequently listed as one of the best places to live in the United States, with numerous cultural and outdoor opportunities in addition to reasonable cost of living.

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

Postdoctoral Fellowship in Pediatric Traumatic Brain Injury Research

The Department of Physical Medicine & Rehabilitation in the University of Pittsburgh School of Medicine, affiliated with the UPMC Children's Hospital of Pittsburgh, is recruiting candidates for a Postdoctoral Fellowship in Pediatric Traumatic Brain Injury Research. Candidates are invited to apply for a 2-year postdoctoral fellowship position working with Principal Investigator, Dr. Amery Treble-Barna, PhD, with a start date in Summer or Fall 2022. The goal of the position is to train the fellow in the conduct of rigorous clinical and translational research in pediatric TBI, with foci in any of the following areas:

- Influences of social determinants of health on neurobehavioral recovery
- Health inequity/disparities in neurobehavioral recovery and rehabilitation utilization
- Development and validation of a caregiver-report measure of rehabilitation utilization
- Biomarkers of neurobehavioral recovery, including genetic, epigenetic, and protein biomarkers

Fellows will have the opportunity to:

1) Publish manuscripts from multiple pre-existing datasets
2) Contribute to and ultimately publish from data being collected for multiple NIH-funded studies 3) Collaborate on multi-institutional research projects, facilitating networking within the field
4) Pursue intra- and extra-mural grant funding with mentorship from the PI
5) Participate in fellowship didactic seminars and workshops focused on career development and preparing for faculty positions

Supervised clinical neuropsychology training hours and didactics are negotiable for candidates pursuing psychologist licensure.

Research Program: Dr. Treble-Barna's research aims to account for unexplained heterogeneity in outcomes following pediatric TBI with the long-term goal of moving the field towards precision medicine to improve individual prognostication, predict response to rehabilitation, and identify novel targets for treatment development. Her research program tackles this unexplained heterogeneity problem from several angles by investigating environmental (e.g. psychosocial adversity), genetic, epigenetic, and rehabilitation factors influencing neurobehavioral recovery.

Environment: The fellow will have the opportunity to interact and receive mentorship from multidisciplinary faculty from psychology and neuropsychology, physiatry, critical care medicine, pediatrics, epidemiology, genetics and epigenetics, and biostatistics. Formal postdoctoral seminars and workshops are provided across the PM&R Department and the School of Medicine, with the goal of preparing fellows for the next steps of their career. Intramural funding opportunities are available to support fellow research projects. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer and values equality of opportunity, human dignity, and diversity.

To Apply: Candidates must have obtained their doctoral degree by the start date. Candidates with doctoral degrees in Psychology/Neuropsychology, Neuroscience, Rehabilitation Science, Epidemiology, Statistics, or related fields are encouraged to apply. Salary is commensurate with NIH guidelines, and benefits are competitive. Interested candidates are invited to submit a cover letter and CV to amery.treble-barna@pitt.edu.