

Carnegie Mellon University

Open Post-doctoral Position Auditory Cognitive Neuroscience

We are seeking a creative and energetic postdoctoral auditory cognitive (neuro)scientist to join our research team.

The position will be supported by a new NIH-supported research project, *Dimension-based auditory attention*. The project wedges the joint expertise of Drs. Lori Holt and Barbara Shinn-Cunningham (Carnegie Mellon University) and Drs. Frederic Dick and Adam Tierney (Birkbeck College, University of London) to advance our understanding of how human adults selectively attend to specific dimensions of complex sound.

Human communication and other listening behaviors often take place in acoustically complex, or noisy environments like schools, restaurants, and workplaces. Much of daily life requires us to select behaviorally-relevant auditory dimensions, and potentially suppress irrelevant dimensions, so that the information conveyed can be remembered and responded to appropriately. Unfortunately, this vital everyday ability is affected by many neurological conditions that result in marked decreases in quality of life. Despite the importance of auditory selective attention, its cognitive and neural mechanisms are poorly understood. For example, although auditory selective attention is widely presumed to involve both a selective enhancement of behaviorally relevant auditory dimensions, and suppression of dimensions outside this attentional focus, evidence for suppression is scant. The long-term goal of the research is to arrive at a mechanistic understanding of auditory selective attention to specific acoustic dimensions.

This postdoctoral position will involve carrying out the research program described above using psychophysics, behavioral training studies, and scalp electrophysiology. A functional magnetic resonance imaging arm of the project may intersect with this position in a collaborative manner.

The position also will involve many opportunities for professional development and cross-lab training. The candidate will join a growing and highly interactive Pittsburgh Cognitive Auditory Neuroscience (PCAN) collective, a research grouping committed to understanding human auditory behavior and its psychological and biological bases. Carnegie Mellon University's strengths are complemented by those of the immediately adjacent University of Pittsburgh. Together, the two institutions boast research strengths in human and nonhuman animal as well as clinical approaches to understanding auditory behavior. The successful candidate will be welcomed into a thriving, interdisciplinary intellectual community. Researchers in this highly supportive environment seek to span disciplines and employ multiple methodologies in their research. Facilities include a state-of-the-art MRI facility, EEG, NIRS, and MEG systems, and large-scale, high-performance computing clusters situated in a highly collaborative environment.

Pittsburgh, home to Carnegie Mellon University, is consistently rated among the most livable cities in America. With low cost-of-living, a thriving restaurant scene, a wealth of outdoor activities, and an accessible and diverse artistic and cultural landscape, there are ample opportunities to cultivate good work-life balance while advancing your scientific goals.

Qualifications:

- A PhD in neuroscience, psychology, engineering, or related fields
- One or more years of expertise in auditory cognitive (neuro)science; prior experience with human electrophysiology and psychophysics is highly desirable

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- Broad experience with neuroscience or psychology literature; previous expertise with auditory cognitive neuroscience is advantageous
- One or more years of experience with coding, data analysis, or computational modeling
- Fundamental curiosity about how the brain coordinates auditory behavior, and a willingness to engage in collaborative research in a workplace that values intellectual playfulness
- Statistical and programming skills (e.g., Matlab, Python, R)
- Enjoyment of working with and teaching others; willingness to play a role in mentoring more junior researchers in the group
- Fluency in speaking and writing in English
- Demonstrated ability to write results for publication in the scientific literature
- Flexibility, and an ability to learn quickly
- The ability to work independently as well as part of a scientific team is very welcome.

Compensation will be aligned to the National Institutes of Health salary pay scale, according to experience. The initial appointment will be one year, with further funding possible for additional years upon satisfactory performance.

**We believe that equity and diversity make for better science.
We especially encourage candidates from diverse backgrounds to apply.**

Please apply with a cover letter expressing your research expertise, qualifications, interests, and research/career goals. Please also include a CV and the names of at least two references in an email to Christi Gomez (cladams@andrew.cmu.edu). You may direct questions and/or applications to Professor Lori Holt (loriholt@cmu.edu). The position is open immediately and candidates will be sought until the position is filled.

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