NEW FUNDING: *Data-science infrastructure for precision auditory neuroscience*

As part of the Purdue Institute for Integrative Neuroscience (PIIN) Grand Challenges in Neuroscience funding initiative, Purdue’s auditory-neuroscience and audiology faculty have received $130k for their proposal “*Data-science infrastructure for precision auditory neuroscience.*” This project is being carried out in collaboration with Mohammad (Adib) Adibuzzaman, a Research Scientist in Purdue’s Regenstrief Center for Healthcare Engineering (RCHE).

Data-science infrastructure for precision auditory neuroscience

The short-term goal of this project is to establish infrastructure and protocols for the rapid accumulation of harmonized multidisciplinary cross-species data for precision auditory neuroscience. Three specific aims are proposed:

1. To harmonize multidisciplinary data from research labs and the Audiology Clinic to position us for big-data approaches to understanding and addressing individual variations in hearing health
2. To develop and use web-based technologies to scale up data collection and crowdsourcing understanding of individual and environmental variables
3. To homogenize and streamline basic audiological characterization of human subjects (and later animal models) through the establishment of a shared “**Audiology Research Diagnostics Core (ARDC)**” facility
The overarching goal is to leverage multidisciplinary and comparative data to develop predictive models of individual hearing ability across the continuum of normal and disordered hearing, and in turn to guide (re)habilitation.