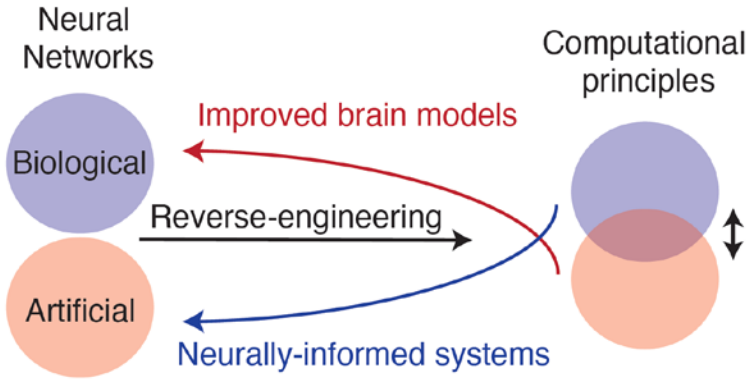
- Organizations:
  - Columbia University in the City of New York
  - University of Maryland College Park
- Lead Investigators:
  Prof. Nima Mesgarani & Shihab Shamma

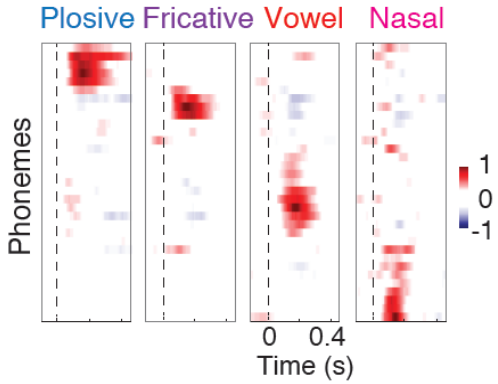
COLUMBIA UNIVERSITY

- Integrating computational principles of biological and artificial neural networks:



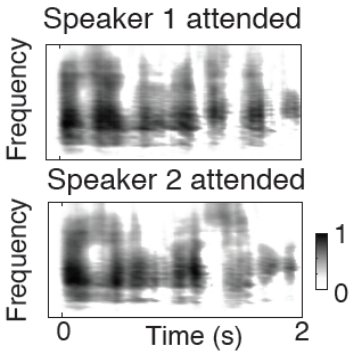
- Combining invasive human studies and computational modeling

I. Selective and specific



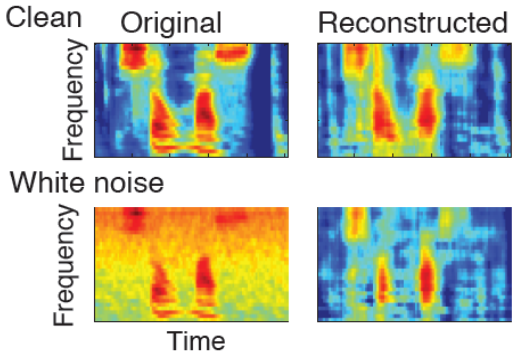
(Mesgarani et. al. *Science,* 2014)

II. Modulated by the attention:



(Mesgarani et. al. *Nature*, 2012)

III. Adaptively adjust to envinronment:



(Mesgarani et. al. *PNAS*, 2014)

- Expertise and qualifications:
  - Speech and audio signal processing
  - Computational modeling
  - Animal single neuron electrophysiology
  - Human invasive and noninvasive recording
- Successful record of biologically-informed models in speech processing applications (IARPA BEST, DARPA RATS)

- We seek to join groups with the following expertise:
  - Access to computational resources and large amount of training data
  - Expertise in systems integration and algorithm development

Contact Information

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