



## Yale SCHOOL OF MEDICINE

DEPARTMENT OF CELLULAR & MOLECULAR PHYSIOLOGY  
DEPARTMENT OF NEUROSCIENCE

Rui Chang, Ph.D.  
Assistant Professor of Neuroscience and of C&M Physiology  
[rui.chang@yale.edu](mailto:rui.chang@yale.edu)

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### Postdoctoral Fellow Recruitment for the Chang lab at Yale School of Medicine

The Chang lab is seeking highly motivated postdoctoral researches to join us in the Department of Neuroscience and the Department of Cellular and Molecular Physiology at Yale School of Medicine. We use state-of-the-art technologies to explore the exciting body-to-brain axis, including the sensory mechanisms and neural circuits our brain use to sense internal changes and control body organ functions.

As the principle investigator, I received extensive training in molecular and cellular biology, genetics, and neuroscience. I obtained my B.S. in Biological Sciences and Biotechnology from Tsinghua University, and my Ph.D. in Neuroscience at the University of Southern California. After graduation with the Harrison Kurtz PhD Student Award, I continued my postdoctoral training with Stephen Liberles at Harvard to understand how body sensory signals control autonomic physiology and behavior. In Steve's lab, I pioneered the development of cutting-edge genetic and optogenetic technologies in the peripheral nervous system, revealed how respiratory and digestive functions are regulated by distinct vagal sensory neuron subtypes (**Chang\*** and Strochlic\* et al., **Cell**, 2015; Williams\*, **Chang\***, and Strochlic\* et al., **Cell**, 2016), and elucidated, for the first time, the molecular mechanism for pulmonary stretch detection (Nonomura\*, Woo\*, **Chang\*** et al., **Nature**, 2017). These studies expanded our understanding of internal state homeostasis, and may provide novel therapeutic targets for airway and metabolic diseases. I was an American Heart Association Postdoctoral Fellow and received several awards including the Outstanding Postdoctoral Fellow Award at Harvard Medical School and the NIH-NIDDK K01 Mentored Research Scientist Development Award.

The Chang lab is broadly interested in how body signals shape our daily life. One of our current focus is the neural pathways that control cardiovascular physiology. Cardiovascular disorders are the leading cause of death globally. Neural pathways that control cardiovascular physiology provide excellent pharmaceutical targets, however, the neuronal-cardiovascular interaction is only beginning to be elucidated at the molecular and cellular level. We aim to (1) understand the sensory mechanisms by which the brain detects changes in the heart and vessels, (2) chart the neural circuits for varies cardiovascular reflexes, and (3) develop neuronal-based therapies for the intervention of cardiovascular disorders such as hypertension. The approaches we use include virus-guided anatomical tracing, *in vivo* imaging, optogenetics, chemogenetics, gene expression profiling, genome editing, and other molecular and cellular techniques. Our long-term research vision is to advance our understanding of the link between the nervous system and body organs in health and disease. More information about us can be found at <http://campuspress.yale.edu/changlab/>.

If you are interested in joining us to better understand yourself from the inside, please send your application including (1) a cover letter that describes your research accomplishment and interest, (2) your CV, and (3) a list of 2-3 references to Rui Chang at [rui.chang@yale.edu](mailto:rui.chang@yale.edu). Thank you very much for your attention! We look forward to hearing from you.

Sincerely,

Rui Chang