NYU SHANGHAI NEURAL SCIENCE

Founded in 2012, NYU Shanghai is China's first Sino-US research university and the third degree-granting campus of the NYU Global Network. The university seeks to cultivate globally-minded graduates through innovative teaching, world-class research, and a commitment to public service.

Neural science (NS) is a collection of disciplines unified by a concern for the function of the brain. Experimental approaches in neural science vary from analyses of molecular and cellular mechanisms in nerve cells and groups of nerve cells to behavioral and psychological studies of whole organisms. We attract students who are interested in understanding the brain's command of all its diverse functions including but not limited to the following questions: How do we perceive and interact with the world? How do neural systems enable us to read and speak? How do we think, remember, despair, or make decisions? What are possible causes of devastating disorders of the brain and body, as well as ways to prevent or cure them?

The missions of NYU Shanghai's Neural Science Program are to conduct cutting-edge research in computational, behavioral, cognitive and system neural science, educate students in undergraduate, graduate and postdoctoral levels, promote scientific exchange and interdisciplinary research, and contribute to the understanding and improvement of human behavior and conditions.

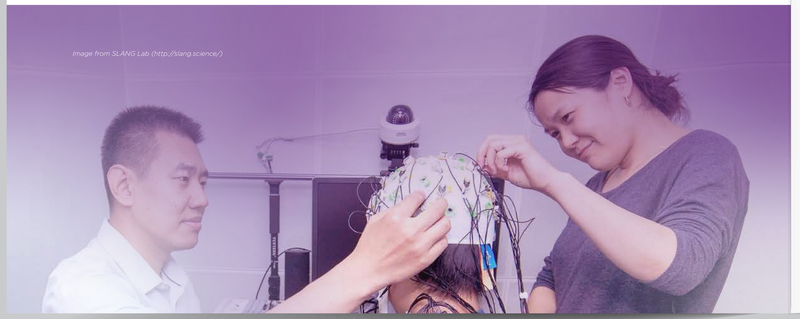

Image from SLANG Lab (http://slang.science/)

EDUCATION & TRAINING

Undergraduate Studies

NYU Shanghai Degree Undergraduate Studies

NYU Shanghai students earn a Bachelor of Arts or Bachelor of Science degree conferred by New York University—the same degree awarded at our New York campus—as well as a Chinese diploma recognized by the Chinese government, qualifying graduates for opportunities both in China and around the world.

Graduate Training

NYU Shanghai offers the following graduate programs in Neural Science.

Ph.D. Program Neural Science PhD Program | NYU Shanghai

NYU Shanghai, in partnership with the NYU Graduate School of Arts and Science and the NYU Center for Neural Science, invites applications from exceptional students for PhD study and research in Neural Science.
Participating students are enrolled in the NYU GSAS Neural Science PhD program, complete their coursework at the NYU Center for Neural Science in New York, and then transition to full-time residence at NYU Shanghai where they undertake their doctoral research under the supervision of NYU Shanghai faculty.

Highlights of the Program:

- NYU degree upon graduation
- Graduate coursework at the NYU Center for Neural Science in New York
- Research opportunities with and close mentorship by NYU Shanghai faculty
- Access to the vast intellectual resources of NYU GSAS and NYU Center for Neural Science
- Cutting-edge research environment at NYU Shanghai, including the Institute of Brain and Cognitive Science, activities such as a regular program of seminars and visiting academics, a thriving community of PhD students, post-doctoral fellows, and research associates, and links with other universities within and outside China
- Financial aid through the NYU Shanghai Doctoral Fellowship, including tuition, fees, and an annual stipend
- Additional benefits exclusive to the NYU Shanghai program, including international health insurance, housing assistance in New York, and travel funds

Graduate Training

Ph.D. Program: The N.E.T. Cognitive Neuroscience PhD Program | ECNU

The NYU Shanghai-ECNU Joint Graduate Training Program (N.E.T.) is a program in which NYU Shanghai faculty, through collaborative arrangements with affiliated departments at ECNU, advise and incorporate ECNU graduate students into their research teams. In partnership with School of Psychology and Cognitive Science at East China Normal University (ECNU), NYU Shanghai Neural Science faculty invites applications from exceptional students for PhD study and research in Cognitive Neuroscience. Participating students will undertake their doctoral research under the supervision of NYU Shanghai faculty.

Highlights of the Program:

- Devoted group of faculty advisers who are engaged in cutting-edge research.
- Collaboration with renowned scholars at the NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai.
- Access to the education and educational resources of East China Normal University, New York University, and NYU Shanghai.
- Upon successful completion of the program, students are awarded an ECNU PhD degree.
- Funding through the ECNU Doctoral Fellowship

Master's Program: The N.E.T. Cognitive Neuroscience Master Program | ECNU

In addition to the N.E.T. Ph.D. track, NYU Shanghai Neural Science faculty also invites applications from students for the Master's programs in Cognitive Neuroscience.

Student Internship Opportunities (SURP)

The NYU Shanghai Summer Undergraduate Research Experience Program (SURP) in Neuroscience is designed to foster entry into a neuroscience research-centered career for undergraduates with a strong interest in neuroscience.

Students apply for positions in a 10-week summer program with flexible starting dates. During the program, they will actively participate in research projects in the laboratories of NYU Shanghai neuroscience faculty.

Successful applicants will receive financial support from NYU Shanghai.

RESEARCH

NYU-ECNU
Institute of Brain and Cognitive Science
at NYU Shanghai

NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai

The NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai is a research institute dedicated to advancing the study of mind and brain. Leveraging the strong research programs at both NYU and ECNU, the Institute promotes and conducts interdisciplinary research in cognitive science and neuroscience. Our goal is to acquire scientific knowledge for the improvement of the human conditions and educate the next generation of scientists in brain and cognitive science.

Members of the Institute focus on basic and transformative research in auditory and visual perception, speech and language, learning and memory, and decision making, using behavioral, neuroscience, brain imaging, and computational modeling approaches.

The Institute has formed an ecosystem for training talented undergraduate and graduate students as well as postdocs. The intense and immersive summer schools, high profile international conferences and colloquium series exemplify the high-level cross-disciplinary scientific research and training environment at the core of our mission.

FACULTY ADVISORS

Zhong-Lin Lu Zhonglin Lu | Research NYU Shanghai
Co-Director, NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai
Chief Scientist and Associate Provost for Sciences, NYU Shanghai
Professor of Neural Science and Psychology, NYU Shanghai
Global Network Professor, Professor of Neural Science and Psychology, New York University
Email: zhonglin@nyu.edu
Recent Publications: Publications – Zhong-Lin Lu

Professor Lu's research is driven by a desire to develop computational brain models for perception and cognition and a desire to translate scientific discoveries and technologies developed in the laboratory to the clinic. With a rich set of experimental and theoretical approaches, including psychophysical experimentation, physiological investigation, clinical testing, and computational modeling, my research spans a wide range of topics covering (1) visual and auditory perception, attention, and perceptual learning, (2) vision testing, (3) sensory and attentional processes, second language learning, memory, and human decision making, (4) visual deficits in myopia, dyslexia, amblyopia & Alzheimer's disease, and (5) brain imaging technologies, data analytics and cognitive neuroscience.
Research Interests: Visual Perception, Psychophysics, Attention, Perceptual Learning, Brain Imaging
Education: 1992 Ph.D., Physics, New York University.

Xinying Cai Xinying Cai | Research NYU Shanghai
Assistant Professor of Neural and Cognitive Sciences, NYU Shanghai
Global Network Assistant Professor, NYU
Email: xinying.cai@nyu.edu
Lab Website: www.cailab-neuroeconomics.org

Research in our lab aims to understand how the brain gives rise to higher cognitive functions. We investigate how our brain makes economic choice, which is the behavior observed when individuals make choices based on subjective preferences. Under this economic framework, we study neural circuits that generate and respond to various aspects of our subjective mental processes involving rewards, preferences, and decisions. Building upon this line of work, we postulate that neuronal representation of value and preference may be one scenario of knowledge-based cognition, in which relational knowledge of preference is embedded in a structured neuronal network. In this bigger context, we also study how relational knowledge and hidden states are represented and updated in knowledge-based cognition.
Research Interests: Value-based decisions, Working memory, Knowledge-based cognition
Education: 2007 Ph.D., Bioengineering, Arizona State University.

Image from Perception and Action Lab (https://wp.nyu.edu/perception_action_lab/)

FACULTY ADVISORS

Li Li Li Li | Research NYU Shanghai
Professor of Neural Science and Psychology, NYU Shanghai
Global Network Professor, NYU
Email: ll114@nyu.edu
Lab Website: wp.nyu.edu/perception_action_lab

Professor Li's lab conducts basic and applied research in vision science. Li's team uses interdisciplinary approaches drawing from psychophysics, neuroscience, computer science, and engineering to examine visual perception, the perception and control of self-motion, the integration of perception with motor control, and the related neural mechanisms.
Research Interests: Visual perception, Visuomotor control, Eye-hand coordination, Virtual reality
Education: 1999 Ph.D., Cognitive Science, Brown University

Sukbin Lim Sukbin Lim | Research NYU Shanghai
Assistant Professor of Neural Science, NYU Shanghai
Email: sukbin.lim@nyu.edu
Faculty Website: shanghai.nyu.edu/academics/faculty/directory/sukbin-lim

Utilizing a broad spectrum of dynamical systems theory, the theory of stochastic processes, and information and control theories, Professor Lim develops and analyzes neural network models and synaptic plasticity rules for learning and memory. It accompanies the analysis of neural data and collaboration with experimentalists to provide and test biologically plausible models.
Research Interests: Computational neuroscience, Learning and memory, Network interactions, Dynamical systems
Education: 2009 Ph.D., Mathematics, New York University

Xing Tian Xing Tian | Research NYU Shanghai
Associate Professor of Neural and Cognitive Sciences, NYU Shanghai
Global Network Associate Professor, NYU
Email: xing.tian@nyu.edu
Lab Website: http://slang.science/

Using speech and language as a model, Professor Tian investigates neural representations and computations that mediate human cognitive functions with electrophysiological (MEG/EEG/iEEG), neuroimaging (fMRI) techniques, and behavioral, computational approaches. Specifically, he interests in the relation between motor and sensory systems, and how the dynamics within a system as well as the interaction between systems enable us to produce speech, comprehend language, and mediate higher-level cognitive functions such as attention and memory. He also extends these cognitive neuroscience theories into the research domains of learning and plasticity as well as probing the underlying mechanisms for symptoms in clinical populations.
Research Interests: Cognitive neuroscience, Action and perception, Speech and language, Learning and memory, Mental imagery
Education: 2008 Ph.D., Neuroscience and Cognitive Science, University of Maryland

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