

NIMH-funded Training Program in Cognitive Psychophysiology

University of Illinois at Urbana-Champaign

Are you interested in studying the role of the brain to understand cognition, emotion, mental illness, aging, or cognitive enhancement?

Our NIMH-funded program trains students in cognitive psychophysiology / cognitive neuroscience. We have funding for both predoctoral and postdoctoral students and are very interested in recruiting students coming from diverse backgrounds.



We train individuals who come from a range of disciplines in psychology, neuroscience, bioengineering, political science, human factors, and related areas to achieve expertise in state-of-the-art methods.

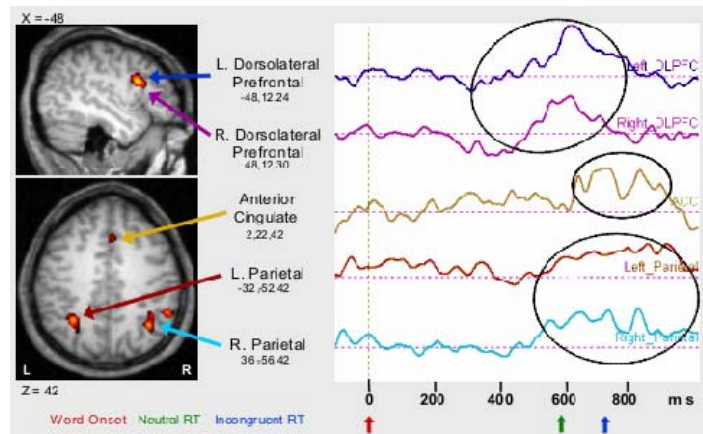


We prepare young scientists to apply this expertise to a wide range of substantive questions in basic cognition, mental health, and mental illness and to adapt to new issues and new technologies as their careers advance.

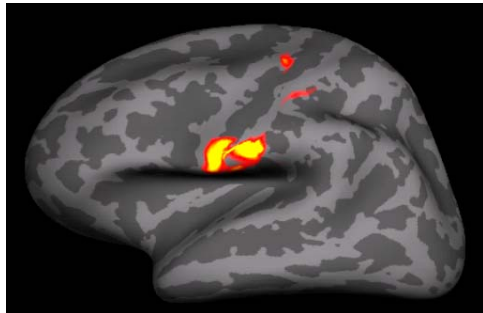
Reflecting our commitment to diversity in science, we have had an unusually high proportion of trainees and core faculty of color (11 of our last 35

trainees, 5 of our 14 core faculty), and 18 of our last 35 trainees and 7 of our 14 core faculty are women.

We have productive faculty providing depth in each several methods and integration among them, based in the Departments of Psychology, Bioengineering, Statistics, and Electrical and Computer Engineering.



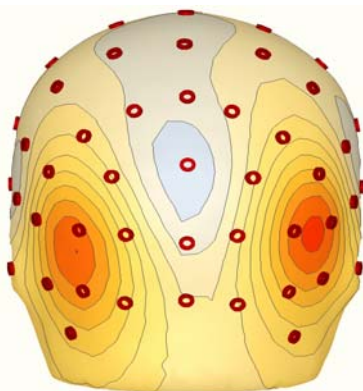
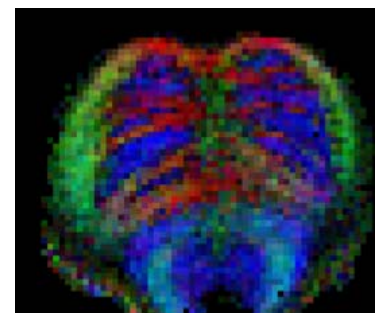
We use advanced methods for identifying normal and abnormal cognitive processes that inform our understanding of psychopathology and emotional dysregulation. Our studies range from laboratory-based experimentation to randomized clinical (intervention) trials.



We have excellent human neuroimaging resources, including two research-dedicated 3T MRI scanners, several high-density optical and EEG setups, TMS facilities, and eye-tracking equipment. Several of our core faculty complement their human imaging work with non-human animal imaging work.

Because research questions and techniques in our fields will continue to evolve beyond anything foreseeable, our goal is to ensure that our trainees are prepared to learn, adapt, and push the limits of technologies yet to come.

Most of the training grant's core faculty have offices in the extraordinary Beckman Institute (www.beckman.illinois.edu), where the campus Cognitive Neuroscience Group (www.beckman.illinois.edu/biointel/cns.aspx) is based and where many of the labs of the Brain & Cognition Division and the Neuroscience Program (www.psych.illinois.edu/divisions/braincognition.php, <http://neuroscience.illinois.edu/>) are housed.



Our training program draws on first-rate Psychology (www.psych.illinois.edu) and Electrical and Computer Engineering (www.ece.illinois.edu/) departments and one of the largest MD/PhD programs in the country (www.med.illinois.edu/mdphd/).

Our basic and clinical studies recruit from a population base of about 700,000 people within an hour's drive of campus.

Training Program Core Faculty

Diane Beck (Assistant Professor in Brain & Cognition and Neuroscience) studies visual perception, attention and awareness using behavioral experiments, fMRI and TMS.

www.psych.illinois.edu/people/showprofile.php?id=538

www.beckman.illinois.edu/directory/dmbeck

Neal J. Cohen (Professor in Brain & Cognition and Neuroscience) studies memory systems of the brain, and the dependence on memory of perceptual and cognitive processes, in both patients and non-patients, using neuropsychological, eye movement monitoring, fMRI, and ERP approaches, and computational modeling.

www.psych.illinois.edu/people/showprofile.php?id=47

www.beckman.illinois.edu/directory/njc

Florin Dolcos (Assistant Professor in Brain & Cognition and Neuroscience – 2010+) investigates the neural correlates of affective-cognitive interactions in healthy and clinical populations, using brain imaging methods (e.g., fMRI, ERP) in conjunction with behavioral, psychophysiological, and neuropsychological assessments.

<http://www.psych.uiuc.edu/people/showprofile.php?id=989>

Monica Fabiani (Professor in Brain & Cognition and Neuroscience) studies human memory and aging and develops tools for the non-invasive mapping of human brain function using behavioral responses, neuropsychological tests, ERPs, sMRI and fMRI, and optical imaging.

www.psych.illinois.edu/people/showprofile.php?id=45

www.beckman.illinois.edu/directory/mfabiani

Kara Federmeier (Associate Professor in Brain & Cognition, Cognitive Psychology, and Neuroscience) studies language comprehension and semantic memory in younger and older adults using ERPs as a primary method, along with fMRI, MEG, EROS, and eyetracking.

www.psych.illinois.edu/people/showprofile.php?id=37

www.beckman.illinois.edu/directory/kfederme

Susan Garnsey (Associate Professor in Brain & Cognition, Cognitive Psychology, Neuroscience, and Linguistics) studies language comprehension using primarily event-related brain potentials and behavioral methods and has recently added optical imaging to the mix.

www.psych.illinois.edu/people/showprofile.php?id=58

www.beckman.illinois.edu/directory/garnsey

Brian Gonsalves (Assistant Professor in Brain & Cognition and Neuroscience) studies various aspects of long-term memory using ERPs and fMRI.

www.psych.illinois.edu/people/showprofile.php?id=541

memory.beckman.illinois.edu/

Gabriele Gratton (Professor in Brain & Cognition and Neuroscience) studies executive function, working memory, and attention using a combination of optical imaging, Event-Related Brain Potentials and structural and functional MRI measures. A significant component of our lab research is dedicated to the development of new imaging methods.

www.psych.illinois.edu/people/showprofile.php?id=23

www.beckman.illinois.edu/directory/grattong

Wendy Heller (Professor in Clinical/Community Psychology and Neuroscience) studies failures of cognitive control and emotion regulation in depression and anxiety using fMRI and EEG methods

www.psych.illinois.edu/people/showprofile.php?id=59

www.beckman.illinois.edu/directory/w-heller

Arthur F. Kramer (Professor in Brain & Cognition, Visual Cognition and Human Performance, and Neuroscience) studies brain and cognitive plasticity with both patients and non-patients, and individuals from children to older adults, through randomized intervention studies using eye tracking, MRI, fMRI, ERPs and virtual reality systems such as the Beckman CAVE and CUBE as well as a driving simulator.

www.psych.illinois.edu/people/showprofile.php?id=5

hpp.beckman.illinois.edu/

Zhi-Pei Liang (Professor in Electrical and Computer Engineering) develops novel MRI methods for high-speed and high-resolution metabolic and diffusion imaging.

<http://www.ece.illinois.edu/people/profile.asp?z-liang>

<http://mri.beckman.illinois.edu/>

Gregory A. Miller (Professor in Clinical/Community Psychology, Psychiatry, and Neuroscience; training program director) studies disruption of cognitive control and emotion regulation in depression and anxiety and disruption of sensory processing in schizophrenia using fMRI, EEG,

www.psych.illinois.edu/people/showprofile.php?facLastName=miller&facFirstInitial=g

www.beckman.illinois.edu/directory/gamiller

Brad P. Sutton (Assistant Professor in Bioengineering) develops neuroimaging methods using magnetic resonance imaging to study brain physiology and function.

mrfil.bioen.illinois.edu

www.beckman.illinois.edu/directory/bsutton

Edelyn Verona (Associate Professor in Clinical/Community Psychology) studies emotional and cognitive processes in antisocial behavior, aggression, and psychopathic personality with EEG and startle reflex methods.

www.psych.illinois.edu/people/showprofile.php?id=18

Michelle Wang (Assistant Professor in Quantitative Methods, Statistics, and Bioengineering) studies structural and functional brain image analysis, modeling and measurement using statistical inference and mathematical approaches, as well as multi-modal integration of neuroimaging data.

www.psych.illinois.edu/people/showprofile.php?id=63

www.stat.illinois.edu/~ymw/wang.html