Cognitive Psychology
at The Ohio State University

Doctoral Program Brochure
2007 Edition
Doctoral Program in Cognitive Psychology at Ohio State University

Program Orientation

The Cognitive Psychology Program trains scholars who can make substantive contributions to basic knowledge in cognitive and experimental psychology. Graduate students develop research and analytical skills while learning to coordinate basic research with theory development and application. You will participate with faculty members in joint research projects investigating such questions as: How do people perform skilled movements? How do they perceive and classify objects and events? How do they process language, attend and remember? Answers may be pursued in experimental research and in theoretical modeling. Answers are pursued in class, in laboratory research, and in brown bag discussions and seminars. You will be encouraged to present findings at professional meetings and to publish papers in professional journals. Developing a sense of professional identity and commitment is a key component of study, and is fostered through participation in research seminars, conventions, and in interactions with visiting research scientists.

Program of Study

An individualized study program allows you to complete the master’s degree requirements, including the master’s thesis, during the first two years of study. At the end of the third year, after passing the Candidacy Examination, you are admitted to Ph.D. candidacy. Questions for the Candidacy Examination are based on a reading list that is prepared with the help of the four faculty members who serve on your examination committee. You are expected to spend an additional one to two years completing the Ph.D. dissertation.

Candidacy Examination, you are admitted to Ph.D. candidacy. Questions for the Candidacy Examination are based on a reading list that is prepared with the help of the four faculty members who serve on your examination committee. You are expected to spend an additional one to two years completing the Ph.D. dissertation.

The Center for Cognitive Science at Ohio State is a lively and well-developed center which connects the departments of psychology, philosophy, computer science, linguistics, optometry, industrial and systems engineering, and speech and hearing sciences, among others. The Cognitive Area plays an active and important role in this flourishing center. Our students and faculty benefit from its interdisciplinary courses, seminars, and opportunities for research collaboration. GradCog is a student-led organization that meets regularly to talk about current issues in the field, plans speaker series, and organizes the annual...
Cogfest, an afternoon-long mini conference with speakers and poster presentations.

The “Oval” at The Ohio State University campus.

Areas of Interest

The Cognitive Area encompasses four broad areas and emphasizes both laboratory research and cognitive modeling in each:

**Memory and Cognition**

Memory and cognition covers core areas in cognition psychology and cognitive neuroscience including memory, learning, attention, categorization, decision making, implicit memory, neural network modeling, aging, and various impairments in memory. One primary focus is the use of quantitative models to understand processing and representation in memory. In addition, along with some faculty in the quantitative area, there is a focus on modeling the time course of processing.

**Perception**

You will pursue courses and participate in research on a variety of aspects of visual and auditory perception and attention. Topics range from psychophysics, information processing, attention, and ecological perception, to those concerned with speech and music perception.

**Language and Speech**

Language and speech covers core areas such as speech perception and production, reading, sentence processing, syntax, spoken and visual word recognition, memory for text and discourse, corpus analysis as well as computational modeling of several of these domains. This area has close ties to excellent programs in several other departments: linguistics including computational linguistics, computer science, and speech and hearing.

**Human Performance**

Human performance incorporates aspects of the other subareas from a perspective grounded in engineering psychology. You will encounter the newest research on topics in perceptual-motor coordination, human decision-making, attention and visual performance. If your career interests include human factors engineering, your training can be coordinated with the Department of Industrial and Systems Engineering.

**Cognitive Modeling**

This is a concentration that allows bridging between the cognitive area and other areas that focus on modeling. The aim is to provide flexibility for a student to design their own program of study that develops both quantitative skills and basic knowledge in the content area of interest. Quantitative skills are broadly defined and can include any of the topics covered in the quantitative program in the Psychology department or in other departments (e.g., mathematics,
computer science, statistics, linguistics, physics, and so on).

**Cognitive Development**

Several of the cognitive area faculty are jointly appointed in the developmental area. Students can enroll in the cognitive program with their primary research focus in cognitive development, including development of language, numerosity, categorization, memory, and development of concepts.

### Course Requirements

The major guiding principle in the Cognitive Area graduate training program is to involve students in the tasks that are performed professionally by cognitive/experimental psychologists – theoretical analysis, research design, data analysis, scholarly writing, teaching, editorial reviewing, and oral presentation of research. These experiences are provided starting from the beginning of the first year of graduate work. The course of training is designed to enable students to complete the Candidacy Examination before the start of their fourth year of graduate work.

1. Statistics Sequence
2. At least two courses from each of the following topic areas: Perception and Psychophysics; Human Performance; Learning, Memory, and Cognition: Foundations; High-level Cognitive Processes

### Faculty

**SIMON DENNIS:** Associate Professor; Ph.D., University of Queensland, Australia, 1993 – Interests: Human memory and learning, natural language processing, connectionist models of cognition, information retrieval
Email: dennis.210@osu.edu


**RICHARD J. JAGACINSKI:** Professor; Ph.D., University of Michigan, 1973 – Interests: Engineering Psychology; Behavioral applications of control theory; Decision making in guiding dynamic systems; Aging; Environmental and social effects of technology. (Jointly with Industrial, Welding, and Systems Engineering.)
Email: jagacinski.1@osu.edu


**NEAL F. JOHNSON:** Emeritus Professor; Ph.D., University of Minnesota, 1962 –
Interests: Human learning and memory; Psycholinguistics; Reading; Psychological implications of language structure; The nature of the decision units used in the production of behavior.

Email: johnson.64@osu.edu


**MARI R. JONES:** Emeritus Professor; Ph.D., University of Massachusetts, 1967 – Interests: Sequence learning and perception; Attention, perception, and serial learning of dynamic visual and auditory patterns; Affiliated theoretical work on dynamic aspects of attention to temporal events (e.g. music).

Lab: www.psy.ohio-state.edu/roar/

Email: jones.80@osu.edu


**GAIL MCKOON:** Professor; Ph.D., University of Colorado, 1975 – Interests: Psycholinguistics; Reading; Memory; Aging. Current research focus: Testing the psychological reality of lexical semantic representations of verbs with comprehension time and corpus data.

Email: mckoon.1@osu.edu


**JOHN E. OPFER:** Assistant Professor; Ph.D., University of Michigan, 2000 – Interests: Conceptual development; Representation of knowledge; Naïve biology; Numerical cognition.

Email: opfer.7@osu.edu

www.cog.ohio-state.edu/opfer


ALEXANDER A. PETROV: Assistant Professor; Ph.D., New Bulgarian University, 1998 – Interests: Perceptual learning, reinforcement learning, connectionist models of relational structure, memory-based models, analogy, computational cognitive neuroscience, cognitive architectures, spatial vision. http://alexpetrov.com/teach Email: petrov.11@osu.edu


MARK A. PITT: Professor; Ph.D., Yale University, 1989 – Interests: Psycholinguistics; Spoken word recognition, Mathematical Modeling. Current focus: How listeners cope with the pronunciation variation found in everyday speech, and developing methods to understand and compare mathematical models of cognition. Lab: http://lpl.psy.ohio-state.edu/ See also: http://www.buckeyecorpus.osu.edu Email: pitt.2@osu.edu


ROGER RATCLIFF: Professor; Ph.D., University of Auckland, New Zealand, 1974 – Interests: Mathematical modeling of cognitive processes; Simple decisions and reaction time; Memory models; Implicit memory; Methodology; Aging and reaction time; Neural modeling including single cell recording; Text processing. Email: ratcliff.22@osu.edu


HARVEY G. SHULMAN: Associate Professor; Ph.D., University of Michigan, 1969 – Interests: Memory; Attention; Human performance and human factors; Attention and cognition; Memory and emotion; Divided attention. Email: shulman.1@osu.edu


JAMES T. TODD: Professor; Ph.D., University of Connecticut, 1977 – Interests: Visual perception and cognition; Perceptual-motor coordination; Computational
modeling of sensory processes; Computer graphics.
Lab: www2.psy.ohio-state.edu/visionlab/
Email: todd.44@osu.edu


LAURA WAGNER: Assistant Professor; Ph.D., University of Pennsylvania, 1998 – Interests: Language Acquisition; Event Representation; Pre-Linguistic Concepts; Connections between Linguistic and Conceptual Development.
http://faculty.psy.ohio-state.edu/wagner
Email:wagner.602@osu.edu


Admission to the Cognitive program is selective. Only students who intend to pursue the Ph.D. are admitted. You need not have an undergraduate psychology degree.

In considering your application for admission, we will pay close attention to the following: your undergraduate transcript (we normally require at least a 3.2 average for admission); GRE scores in the verbal, quantitative, and analytical sections; three letters of recommendation; autobiographical statement and resume.
Fellowship and other stipend decisions are made in early Winter quarter for students who will begin graduate study the following Autumn quarter. If you wish to be considered for an award, your application must be on file with us on or before December 31 for Domestic applicants and November 30 for International applicants.

Additional Information

Cognitive Psychology Area:
http://cog.psy.ohio-state.edu/

Department of Psychology:
www.psy.ohio-state.edu/

Ohio State University:
www.osu.edu

Psychology Graduate Program Coordinator
Telephone: (614) 292-4112
Fax: (614) 292-4537
Email: psygrad@osu.edu
http://psy.ohio-state.edu/graduate

Ohio State Graduate Admissions Office
Telephone: (614) 292-9444
Email: domestic.grad@osu.edu (United States applicants)
Email: international.grad@osu.edu (International applicants)
http://www-afa.adm.ohio-state.edu
Application Checklist for the Doctoral Program in Cognitive Psychology

- Complete the Department of Psychology Application found at: www.psy.ohio-state.edu/graduate/html/application.htm
- Information on all Psychology courses taken (Course, Instructor, Grade, Credit Hours)
- Autobiographical Statement: This statement is very important. It should not exceed 600 words (about two typed and double spaced pages). Please describe why you wish to pursue graduate study, why you chose psychology as your major field of graduate study, and why you are interested in attending Ohio State. **Also indicate if you are interested in the cognitive modeling program.**
- Vitae/Resume (no more than TWO pages): required of all applicants who wish to be considered for a Graduate School Fellowship. This can be sent as an attachment to the following email address: psygrad@osu.edu
- References: The names of three people writing your letters of recommendation. Reference forms can be downloaded from the following web site: http://www-afa.adm.ohio-state.edu/apps/pdfs/refer.pdf Letters should then be sent to Graduate Program Coordinator, Department of Psychology, The Ohio State University, 211 Psychology Building, 1835 Neil Avenue, Columbus, OH 43210-1287
- Complete the Ohio State University Graduate School Application found at: http://gradadmissions.osu.edu/ A credit card is required (Fee: $40 domestic, $50 international)
- Send two OFFICIAL Transcripts from EACH school attended.
  - Send one to:
    - Domestic Applicants: Graduate Admissions Office, The Ohio State University, P.O. Box 182004, Columbus, OH 43218-2004
    - International Applicants*: International Graduate Admissions Office, The Ohio State University, P.O. Box 182083, Columbus, OH 43218-2083
- Domestic and International Applicants* send one to:
  - Graduate Program Coordinator, Department of Psychology, The Ohio State University, 211 Psychology Building, 1835 Neil Avenue, Columbus, OH 43210-1287

*International students also MUST submit OFFICIAL TOEFL Scores if they have not graduated from an accredited U.S. University or college.

- Send Official General GRE Scores
  - Send one to Ohio State (1592)
  - Send one to Department of Psychology (2016)