Psychology 618
(a.k.a. lab meeting)

Cognitive Neuroscience of Working Memory

Fall 2007

In this course we emphasize the critical evaluation of topical issues and data in working memory research. Toward this end, we also emphasize the methods of neuroimaging, neuropsychology, repetitive transcranial magnetic stimulation (rTMS), and experimental psychology.

**Format:** Each week we discuss (at least) one article from the recent literature. These discussions are organized as informal presentations that will give us an opportunity to discuss and assess in detail the theory, methods, results, and interpretation associated with that particular paper. On occasion, these discussions are supplemented with, or supplanted by, an informal presentation of the design and/or results from an experiment being conducted in the Postle laboratory (see section on "3 credits", below). Following the discussion of a particular paper or project, we end the meeting with an attempt to integrate what we've learned from this specific information into the perspective of contemporary cognitive neuroscience inquiry.

**Levels of participation:** The class may be taken for 1, 2, or 3 credits. The requirements for 1-credit registrants are simply to come to class having read the assigned paper, and prepared to participate in the discussion. The additional requirements for 2-credit registrants are to lead one of the weekly discussions, and to write a 3-5 page paper that 1) summarizes the paper; 2) summarizes the question that it was intended to address; and 3) proposes either a) a better way to test this question, or b) a hypothesis that captures an important "next question" that can now be addressed and an experimental design that would effect this hypothesis test. The additional requirements for 3-credit registrants are to participate in a research project in the Postle laboratory that entails at least 10 hr./wk. of research time during two consecutive semesters, either Fall 2006/Spring 2007 or Spring 2007/Fall 2007. The Fall-semester version of the course is Psychology 618, the Spring semester version is Psychology 697. The in-class presentations of 3-crediter's typically focus on their own experiments.

**Grading:**

1-credit: in-class participation

2-credit: in-class participation and the paper.

3-credit: in-class participation, paper, and research
**Instructor:** Brad Postle, 515 Psychology, 262-4330, postle@wisc.edu.

**Office hours:** by appointment.

*With the exception of time-sensitive emergencies, email is the most effective and preferred way for you to contact me.*

*All readings are either available for download at http://psych.wisc.edu/postlab, or in hardcopy in room 165 (The Lab) during the week prior to class.*

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**Background readings**


**September 7**


**September 14**


**September 21**


**September 28**

No class, BP traveling

**October 5**

**October 12**

No class, BP hosting Eliz. Murray (talk on 10/11, 3:45 pm) and Steve Wise (talk on 10/12 at noon). You are STRONGLY encouraged to attend these two talks.

**October 19**


**October 26**


**November 2**


**November 9**

Zhou et al. (2007). Distributed and associative working memory. *Cerebral Cortex, 17*, i77-i87.

**November 16**

Watanabe & Funahashi (2007). Prefrontal delay-period activity reflects the decision process of a saccade direction during a free-choice ODR task. *Cerebral Cortex, 17*, i88-i100.

**November 23**

Woodman et al. (2007). The role of working memory representations in the control of attention. *Cerebral Cortex, 17*, i88-i100.

**November 30**

December 7

Meyer et al. (2007). Persistent discharges in the prefrontal cortex of monkeys naïve to working memory tasks. *Cerebral Cortex, 17*, i70-i76.

December 14


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**Where to take complaints about a Teaching Assistant or Course Instructor:**

Occasionally a student may have a complaint about a T.A. or course instructor. If that happens, you should feel free to discuss the matter directly with the T.A. or instructor. If the complaint is about the T.A. and you do not feel comfortable discussing it with him/her, you should discuss it with the course instructor. If you do not feel the instructor has resolved the matter to your satisfaction, then you should speak to the Psychology Undergraduate Advisor, Ms. Stephanie Saegar (Room 428 Psychology) or the Department Chair, Professor Joseph Newman (Room 238 Psychology). You should also speak to either of these individuals if the complaint is about the instructor and you do not feel comfortable discussing it directly with him/her.

If you believe the T.A. or course instructor has discriminated against you because of your religion, race, gender, sexual orientation, or ethnic background, you also may take your complaint to the Affirmative Action Office (Room 175 Bascom Hall). If your complaint has to do with sexual harassment, you may also take your complaint to Ms. Jill Cohen Kolb, the Psychology Department sexual harassment contact person.