PSY 407/507 F2011 – Sem Neuroscapes: Natural Scenes and the Brain

Instructor: Dr. Margaret Sereno  
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Office Hours: by appointment  
Time: Wed 1:30-2:50 in room 143 Straub  
CRN: PSY 507 (15591) & PSY 407 (15570)

In this seminar we explore how the structure of natural scenes is reflected in perception, art, and the brain. Topics covered will include the visual system’s response to fractals in nature and art, the representation of the structure of visual scenes in art, and the perception and representation of natural scenes in the human brain.

The course is offered for variable credit (1-4 credits). All participants taking the class for 1 or more credits are expected to come prepared with questions and comments on each week’s readings. Participants taking the course for 2 or more credits must also make a presentation and lead a discussion on one of the topics. Participants taking the course for 3 credits are also required to write a short 1-page single-spaced reaction essay describing their insights and opinions of the research covered in the seminar and possible directions for future research while those taking the course for 4 credits are also required to write a research proposal paper. Participant input is welcome regarding possible papers or topics for discussion not listed in the syllabus. The syllabus and all readings will be posted on the course website (http://blackboard.uoregon.edu).

Schedule and Topics

Week 1 (Sept 28): Introduction and Organizational Meeting  
Week 2 (Oct 5): Fractals and the Art of Jackson Pollack  
Week 3 (Oct 12): Fractals & Visual Preference  
Week 5 (Oct 26): Statistics of Natural Scenes & Perception  
Week 6 (Nov 2): Scene Perception and Representation I  
Week 7 (Nov 9): Scene Perception and Representation II  
Week 8 (Nov 16): No Class!! (Neuroscience Conference)  
Week 9 (Nov 23): Scene Perception and Representation III  
Week 10 (Nov 30): Scene Perception and Representation IV

Papers/Essays Due: 4:00 Friday December 2nd.
Reading List

1. Introduction and Organizational Meeting

2. Fractals and the Art of Jackson Pollack

3. Fractals & Visual Preference

4. Statistics, Visual Scenes, & Art

5. Statistics of Natural Scenes & Perception

6. Scene Perception and Representation I
58: 137-76.


7. Scene Perception and Representation II

8. No Class!! (Neuroscience Conference)

9. Scene Perception and Representation III

10. Scene Perception and Representation IV