COGNITIVE SCIENCE COLLOQUIUM

Friday, March 25, 2016
12:00 – 1:30 p.m.
Speech, Language, and Hearing Sciences Building, Room 205

Cathleen Moore, Professor
Psychological and Brain Sciences
The University of Iowa

TITLE—Beyond parsing: Some functional consequences of perceptual organization in vision

ABSTRACT: Processes of perceptual organization, such as those that result in phenomena like grouping, surface completion, and figure-ground segregation, have been a central focus in vision research since at least the 19th century. One reason for this focus—besides the appeal of the phenomenology—is that perceptual organization is considered foundational; it parses the retinal image into the building blocks out of which more complex visual representations are built. Research has focused on understanding the rules of organization, such as “similarly colored items tend to be grouped together”, “aligned edges tend to be represented as continuous” and “surrounded regions tend to be represented as figure rather than ground.” In this talk rather than rules, I will consider some of the functional consequences of perceptual organization for downstream visual processing. Specifically, I will suggest that perceptual organization processes serve to establish changeable information “channels” that guide the updating of existing visual representations on the basis of newly sampled visual information. While not directly conflicting with more traditional treatments of perceptual organization, this view seeks to emphasize the functional role that perceptual organization plays in dynamic visual processing.