

# Advanced Perception

NEURL UA 302.003

PSYCH UA 61

T/Th 11- 12:15

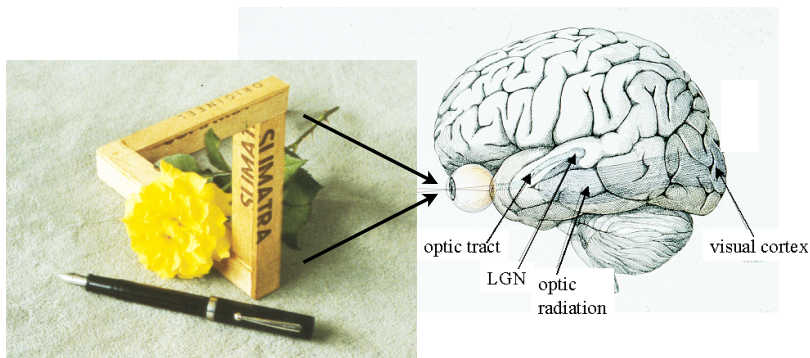
F 12:30-1:45

Meyer Hall, room 815

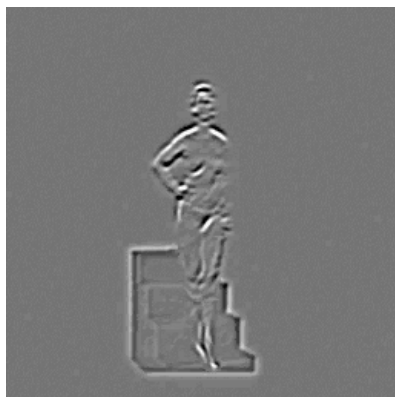
**Professor David J. Heeger**

Syllabus, lecture notes, readings, assignments, etc.  
available at: <http://www.cns.nyu.edu/~david>

## Vision is an unconscious inference

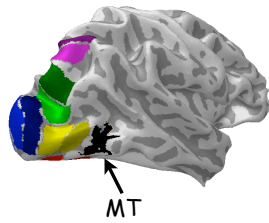


## Visual inference: motion perception

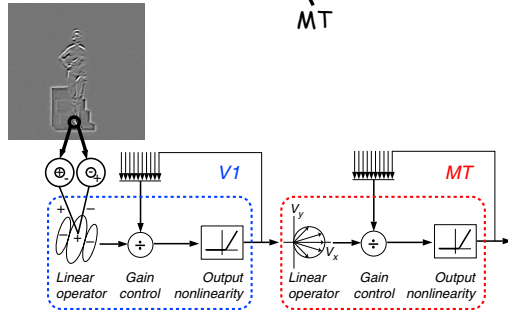


## Two guiding principles

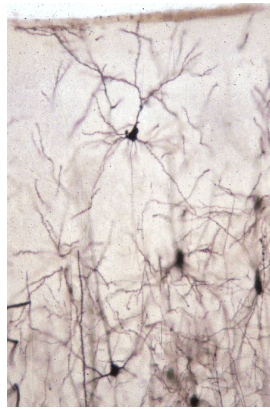
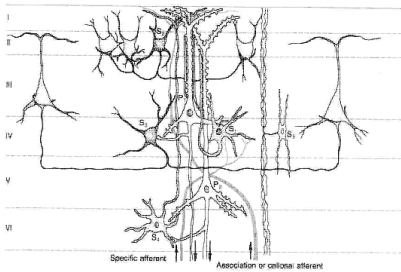
Functional specialization



Computational theory



## Neural circuits perform computations



- ~50,000 neurons per cubic mm
- ~6,000 synapses per neuron
- ~10 billion neurons & ~60 trillion synapses in cortex

## Computational theory: how do neurons compute motion?

