Molecular mechanisms underlying LTP.
Sodium channels and refractory periods

Figure by MIT OpenCourseWare
Questions we ask ourselves when reading a paper

• What was the question?
• How did the authors try to answer it?
• Did they succeed in answering it? (necessary and sufficient).
• What are the implications of this work?
Today’s papers
Post synaptic density

Image courtesy of Mariana Ruiz (http://commons.wikimedia.org/)

synapses.clm.utexas.edu/
anatomy/chemical/psd.gif
LTP mechanics I

Figure by MIT OpenCourseWare
LTP mechanics II

Figure by MIT OpenCourseWare
Complicating the picture

- Calcium can enter the cell through other channels.

- Calcium entering the cell can do things other than LTP.
Non NMDA LTP

8 arm task

RM – reference memory – long term
WM – working memory – short term
Questions for next week

- Dudek and Bear – what are the characteristics shared by LTP and LTD?

- Borroni et al – in figure 5 – what is represented by the dark bars in panel A? and what in panel B?