

NEPR 208 Lecture I Readings

Before lecture read Holt & Koch, 1997

(sec. 3.2. of paper less important)

Useful background material:

Integrate & Fire Neurons – Sec. 4.1.1 of Gerstner & Kistler Online:

<http://icwww.epfl.ch/~gerstner/SPNM/node26.html>

Hodgkin Huxley model – Sec. 2.1.1 of Gerstner & Kistler Online:

<http://icwww.epfl.ch/~gerstner/SPNM/node14.html>

Before or after lecture background references:

Gain modulation

Chance, Abbott & Reyes, 2002

<http://www.ncbi.nlm.nih.gov/pubmed/12194875>

Firing rate homeostasis

LeMasson, Abbott, Marder 1993

<http://www.ncbi.nlm.nih.gov/pubmed/8456317>

Turrigiano, Abbott, Marder, 1994

<http://www.ncbi.nlm.nih.gov/pubmed/8178157>

Dendritic computation

Why have dendrites? A computational perspective, Mel, B

<https://pdfs.semanticscholar.org/550a/6c4f0aa1a5cca55bf27489bc451c1e3ffd86.pdf>

Useful links:

Mathtools course NBIO228 (many of you took this)

<http://web.stanford.edu/class/nbio228-01/>

Electrophysiology of the Neuron simulator by McCormick & Huguenard – MUCH more user friendly than NEURON

<http://eotn.stanford.edu>

Useful to look at the behavior of a single compartment, we will be using this for part of problem set 1.