1 Literature

Contents

1.1 Papers to Read

- A Model of Spindle Rhythmicity in the Isolated Thalamic Reticular Nucleus
  - `https://www.fuw.edu.pl/~suffa/Modelowanie/Zaliczenie/Destexhe_Isolated_RE_JNeurophysiol_1994.pdf`
  - Model containing Ca2+ dependent channels
  - T-Type current: model similar to what I had in mind
  - Maybe they have similar publications on such models, but single neurons???
- Ionic Mechanisms for Intrinsic Slow Oscillations in Thalamic Relay Neurons
  - `https://www.cell.com/biophysj/pdf/S0006-3495(93)81190-1.pdf`
  - Bursting with Ca2+ dependent channels
  - Full Wang 1991 model for T-Type Ca2+ channels
- Synthesis of Models for Excitable Membranes, Synaptic Transmission and Neuromodulation Using a Common Kinetic Formalism
  - Interesting to read: different models for ion channels
  - Analytic expressions in Appendix
  - Reference to Rall 1967: Introduced alpha function
- Astroglial Calcium Signaling Encodes Sleep Need in Drosophila
  - `https://www.cell.com/current-biology/pdf/S0960-9822(20)31516-5.pdf`
  - Modulation of sleep need in R5 in Ca2+ dependent manner through astrocite and Toll receptors on R5 neurons
- Signal Propagation in Drosophila Central Neurons
  - https://pmc.ncbi.nlm.nih.gov/articles/PMC2709801/pdf/zns6239.pdf
  - May be important for parameters
- A biophysical exploration of the motion vision pathway in Drosophila
  - `https://edoc.ub.uni-muenchen.de/30141/1/Malis_Jonatan.pdf`
  - Interesting for an overview of Drosophila vision pathway
- Integration of sleep homeostasis and navigation in Drosophila
  - `https://pure.mpg.de/rest/items/item_3330717_6/component/file_3335935/content`

- IMPORTANT FOR YOU!!!!!!!

- Circadian- and Light-Dependent Regulation of Resting Membrane Potentialand Spontaneous Action Potential Firing of Drosophila CircadianPacemaker Neurons
  - `https://journals.physiology.org/doi/epdf/10.1152/jn.00930.2007`
  - Might be important!!!

- Fast Calcium Signals in Drosophila Motor Neuron Terminals
  - `https://journals.physiology.org/doi/epdf/10.1152/jn.00515.2002`
  - We provide an estimate for theresting intracellular calcium concentration
  - the first description of calciumkinetics for a single action potential (AP)

- Extracellular Ca2+ Modulates the Effects of Protons on Gating and Conduction Properties of the T-type Ca2+ Channel α1G (CaV3.1)
  - `https://rupress.org/jgp/article-abstract/121/6/511/44434/Extracellular-Ca2-Modulates-the-Effects-of-Protons?redirectedFrom=fulltext&utm_source=chatgpt.com`
  - Ca concentration outside and T-Type channel

- Permeation and Gating in Ca V3.1 (α1G) T-type Calcium Channels Effects of Ca 2+, Ba 2+, Mg 2+, and Na +
  - `https://rupress.org/jgp/article-pdf/132/2/223/1785870/jgp_200809986.pdf`
  -
  - Ca concentration outside and T-Type channel

- Single or multiple synchronization transitions in scale-free neuronal networks with electrical or chemical coupling
  - Model to connect HH neurons via synaptic input/gap junctions

- Model design for networks of heterogeneous Hodgkin–Huxley neurons
  - Model to connect HH neurons via synaptic input/gap junctions
  - `https://www.sciencedirect.com/science/article/pii/S0925231222005148?ref=pdf_download&fr=RR-2&rr=902dd1ee0c15e532`

- Recurrent Circuitry for Balancing Sleep Need and Sleep
  - [1]: "R2 neuron activity generates sleep pressure that is communicated to dFB neurons via currently unidentified synaptic connections or non-synaptic mechanisms".

- Sleep state switching: mutual inhibition between wake- and sleep-promoting inhibitory nuclei
  - [3, 4]

- Circadian Rhythms and Sleep in Drosophila melanogaster
  - [2]

1.2 Saved papers

- Ca(v)2 channels mediate low and high voltage-activated calcium currents in Drosophila motoneurons
  - https://pubmed.ncbi.nlm.nih.gov/22183725/
- Properties and possible function of a hyperpolarisation-activated chloride current in Drosophila
  - `https://cob.silverchair-cdn.com/cob/content_public/journal/jeb/210/14/10.1242_jeb.006361/3/2489.pdf?Expires=1739751548&Signature=KHX~uoNNKTFcg9bq0dkC2SXViuWXAT~hD~CuFoy54p4-jXcd65UDFvbpeBBWRIf1syQFm1mbfuwq55R0lcWyD50dysp-DIy2od7O-eRV8KgfDN4-ecenVLyf89PATOW54v3LwN96WV8dwN0x9ovbFCosBjMzgpwMoFnD6DGWCO7AVCdr9HGMt14zZQgNYlKB1XWZVlhlTy8kIDlDV6egOYwc-40UpcN870TXGEjTvFyUqxP5dmRlKt4-3PienpiR~u1flconu1Xs3seAEr8b5JFQd8sMCmGFaGEKRoqbmac6T8KVZtxZmxTEAFMQyoAJ~vVjivJWIMSJ4ORoeGJ2Qg__&Key-Pair-Id=APKAIE5G5CRDK6RD3PGA`

1.3 Notes on Papers

- **(Raccuglia et al (submitted)) (TODO: Add to references)). Network synchrony creates neural filters that switch brain state from navigation to sleep in Drosophila.**
  - Maniscript provided by Prof. Kempter
  - Sleep in Drosophila, R5 and Helicon cell activity during sleep/wakefullness, modulation of the activity and it's correlation to behavior, synchronization of neuronal networks
  - Results suggest that SWA could represent a neural filtering mechanism that regulates sensory processing and behavioral reponsiveness.
  - In the morning setting, the observed networks (dFSB-helicon-R5) act independent of each other, allowing gating of locomotion and updating of the head direction system (Fig. 6e). In the night setting, circadian and homeostatic regulation promote the entrainment of synchronized SWA between networks that opposingly regulate behavioral responses to visual stimuli.