**Rotation Objectives – Tetiana, winter trimester 2025**

1. Read literature on PC models: Zang2021, Cirtala2024
2. Watch lecture of Christian Hansel on the Cerebellum Youtube channel.
3. Basics of Neuron: tutorials + NRNIVMODL (mod files, pls focus particularly on calcium)
4. Learn how to run Aki’s codes for the human model.
5. Write rotation proposal (use Zang 2021, Cirtala2024 and Hansel as inspiration)
6. Understand calcium dynamics in Zang 2021 model.
7. Modify calcium pump expression such that the mini spikes disappear. Run simulations for different current injections.
8. F-I curve (insert different somatic currents and check the frequency)
9. Check how the different lengths of the trunk impact the firing.
10. Modify the different morphologies with different trunk lengths and run simulations
11. Write your end of rotation report
12. Prepare an end of rotation presentation

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **January** | | | | **February** | | | | **March** | | | | **April** | | | |
| Week1 | Week2 | Week3 | Week4 | Week1 | Week2 | Week3 | Week4 | Week1 | Week2 | Week3 | Week4 | Week1 | Week2 | Week3 | Week4 |
| 1,2,3 | 3,4 | 4,5,6 | 5,6,7 | 7,8 | | | | 7.8 | 7,8 | 7,8 | 9,10 | 9,10 | 9,10 | 10,11,12 | 10,11,12 |

**Deadlines:**

* 21st January – lab meeting –– make short presentation about the scope of your project and recent advances (max 10 minutes). Introduce yourself to the other lab members
* 24th January – rotation proposal (send it to me first).
* 28th January – send rotation proposal to Erik, after receiving my corrections.
* Every 2 weeks during lab meeting: prepare a few slides with the progress you made on the project

ll