

# Neuropixel / OpenScope Workshop Agenda

## Day 1: Wednesday, July 9<sup>th</sup> – Foundations Workshop

| Time          | Topic                                             | Presenter                                |
|---------------|---------------------------------------------------|------------------------------------------|
| 8:30 – 9:00   | Arrival/Breakfast                                 |                                          |
| 9:00 – 9:30   | Welcome, Agenda, Split groups                     | Josh Siegle<br>Jérôme Lecoq              |
| 9:30 – 9:40   | <i>Transition Time</i>                            |                                          |
| 9:40 – 10:40  | <b>Rotating Lab Tour Station 1</b>                |                                          |
| 10:40 – 10:50 | <i>Transition Time</i>                            |                                          |
| 10:50 – 11:50 | <b>Rotating Lab Tour Station 2</b>                |                                          |
| 11:50 – 12:00 | <i>Transition Time</i>                            |                                          |
| 12:00 – 1:00  | Lunch w/ networking                               |                                          |
| 1:00 – 1:10   | <i>Transition Time</i>                            |                                          |
| 1:10 – 2:10   | <b>Rotating Lab Tour Station 3</b>                |                                          |
| 2:10 – 2:20   | <i>Transition Time</i>                            |                                          |
| 2:20 – 3:20   | <b>Rotating Lab Tour Station 4</b>                |                                          |
| 3:20 – 3:30   | <i>Transition Time</i>                            |                                          |
| 3:30 – 4:00   | <b>Engineering Overview</b>                       | Heston Smith<br>Alan Guthrie             |
| 4:00 – 5:00   | <b>Discussion Tables with Station Leads</b>       | Station leads, SciComp<br>internal staff |
| 5:00 – 7:00pm | Happy hour – SLU BRU (700 Dexter Ave N Suite 230) |                                          |

### List of rotating lab tour stations (order different for each group):

- **Surgery – Led by Ali Wiliford**
- **2Photon & Intrinsic Signal Imaging – Led by Shiella Caldejon**
- **Behavior & SmartSPIM Imaging – Led by Jackie Swapp and Mike Taormina**
- **Electrophysiology – Led by Josh Siegle and Severine Durand**

## Day 2: Thursday, July 10<sup>th</sup> – Foundations Workshop

| Time             | Topic                                                                         | Presenter                               |
|------------------|-------------------------------------------------------------------------------|-----------------------------------------|
| 8:30 – 9:00 am   | Breakfast                                                                     |                                         |
| 9:00 – 9:45 am   | <b>Bonsai + Harp</b><br>(45 min)                                              | Gonçalo Lopes (Virtual)                 |
| 9:45 - 10:15 am  | <b>Modular Behavior task software/hardware</b><br>(30 min)                    | Bruno Cruz                              |
| 10:15 – 10:45am  | <b>Trajectory Planning</b> (30 min)                                           | Dan Birman                              |
| 10:45 – 11:00 am | Break                                                                         |                                         |
| 11:00 – 11:45 am | <b>Neuropixels data acquisition</b><br>(45min)                                | Josh Siegle and Anjal Doshi             |
| 11:45 – 12:30 pm | <b>Kilosort + phy</b><br>(45min)                                              | Nick Steinmetz                          |
| 12:30 – 1:30 pm  | Lunch                                                                         |                                         |
| 1:30 – 2:00 pm   | <b>Chronic Neuropixels</b><br>(30 min)                                        | Yoh Isogai / João Couto (virtual)       |
| 2:00 – 2:30 pm   | <b>DataJoint for Neuropixels</b><br>(30 min)                                  | Dimitri Yatsenko                        |
| 2:30 – 3:00 pm   | <b>Code Ocean</b><br>(30 min)                                                 | David Feng and Saskia de Vries          |
| 3:00 – 3:15 pm   | Break                                                                         |                                         |
| 3:15 – 3:45 pm   | <b>Code Ocean Pipeline</b><br>(30 min)                                        | Arielle Leon, Dan Birman                |
| 3:45 – 4:15 pm   | <b>OpenScope intro: NWB, Databook</b><br>(30 min)                             | Jérôme Lecoq, Ahad Bawany, Carter Peene |
| 4:15 – 4:45 pm   | <b>OpenScope : Predictive Processing Community-Driven project</b><br>(30 min) | Jérôme Lecoq                            |
| 5:00 – 7:00 pm   | Happy Hour – at Allen Institute                                               |                                         |

### Day 3: Friday, July 11<sup>th</sup> - Advanced Neuropixels at UW

| Time                | Location                | Topic                                            | Presenter                        |
|---------------------|-------------------------|--------------------------------------------------|----------------------------------|
| 8:30 AM             | SOCC 316                | Breakfast                                        |                                  |
| 9:00 – 9:30 AM      | SOCC 316                | <b>CCF Registration</b>                          | Mayo Faulkner (virtual)          |
| 9:30 – 10:00 AM     | SOCC 316                | <b>SpikelInterface</b>                           | Chris Halcrow (virtual)          |
| 10:00 – 10:30 AM    | SOCC 316                | <b>Sorting Quality Metrics</b>                   | Nick Steinmetz                   |
| 10:30 – 10:45 AM    | SOCC 316                | Break                                            |                                  |
| 10:45 – 11:15 AM    | SOCC 316                | <b>Neuropixels 2.0 / Practicalities</b>          | Jordan Shaker                    |
| 11:15 – 11:45 AM    | SOCC 316                | <b>Neuropixels Ultra</b>                         | Andrew Shelton                   |
| 11:45 AM – 12:15 PM | SOCC 316                | <b>Neuropixels Opto</b>                          | Anna Lakunina                    |
| 12:15 - 1:30 PM     | SOCC 316                | Lunch                                            |                                  |
| 1:30 - 4:30 PM      |                         | Lab rotations                                    |                                  |
|                     | Steinmetz Lab           | <b>Station 1: NP (+ widefield) @ Rainier/IBL</b> | Kim Miller + Anna Li / Zhiwen Ye |
|                     | Steinmetz Lab           | <b>Station 2: Sharpening</b>                     | Jordan Shaker                    |
|                     | Health Sciences Library | <b>Station 3: Pinpoint / co-pilot</b>            | Dan Birman / Kenneth Yang        |
|                     | Health Sciences Library | <b>Station 4: Phy</b>                            | Josh Siegle                      |
|                     | Health Sciences Library | <b>Station 5: Phy</b>                            | Nick Steinmetz                   |
| 4:30 - 5 PM         | SOCC Terrace            | Course end / happy hour                          |                                  |

## Day 1: Lab Tour Groups

Below are your assignments for the group lab tours. You will move to each station with your group and for some stations, you will break into subgroups a and b. Your group assignment can also be found on your name tag.

| Group 1        |                      |
|----------------|----------------------|
| 1a             | 1                    |
| Zahra Amer     | Audrey Jordan        |
| Gokce Gurler   | Nate Jones           |
| Fernando Pena  | Mohammed Al-youzbaki |
| Jhulimar Doerl | Ahmed AbouShanab     |
| Zahra Alizadeh | Pankaj Gupta         |

| Group 2             |                     |
|---------------------|---------------------|
| 2a                  | 2b                  |
| Suraj Honnuraiah    | Harris Kaplan       |
| Nishtha Ranawat     | Sophie Yichen Qiu   |
| Roberto Lopez Ruiz  | Rose Hulsey-Vincent |
| Pramod KC           | Andrea Trevisiol    |
| Alessandro Armitano | Gustavo Balbinot    |
| Richard Drexler     |                     |

| Group 3           |                  |
|-------------------|------------------|
| 3a                | 3b               |
| Alex Wang         | Jessie Ma        |
| Dani Lemmon       | Ting Feng        |
| Christos Lisgaras | Cristina Alcacer |
| Pierre Platel     | Adi Kol Harpaz   |
| Jessie Jin        | Keith Skaggs     |

| Group 4                         |                   |
|---------------------------------|-------------------|
| 4a                              | 4b                |
| Mengping Jiang                  | Yilan Liang       |
| Esra Altun                      | Katherine Kaplan  |
| Kaiser Arndt                    | Alyssa Ash        |
| Garima Chauhan                  | Jonathan Ting     |
| Leonor Afrima                   | Serol Turkeyilmaz |
| Arnaldo Ferreira Gomes Da Silva |                   |

## Protocols.io

Part of Allen Institute for Neural Dynamic's effort toward open science is making our protocols available publicly on Protocols.io. Some of the stations you will visit on Day 1 have associated protocols that you can follow along with.

### **Surgery:**

General Set-up and Take Down



### **Behavior:**

Mouse Water Restriction



Mouse Habituation – Head Fixation on Disks



### **SmartSPIM Imaging:**

Imaging



Alignment



### **Electrophysiology:**

Plug Removal



Agarose



SHIELD Implant

