Nemonic Workshop 2023

Designing and using advanced multiphoton imaging systems in neuroscience

February 21-23, 2023

We intend to have this workshop in person at UCSB, however in the event that the majority of attendees are not willing to meet in person we will have this workshop online.

Multiphoton excitation is a key technology in neuroscience for imaging and photostimulation. New tools and techniques are constantly being developed, enabling new and better neuroscience experiments. This workshop will provide instruction and hands-on training for advanced techniques in multiphoton imaging.

The workshop is hosted by SLAB (slslab.org), a neuroscience and neuroengineering lab located at The University of California, Santa Barbara (UCSB). Funding is provided by the NSF NeuroNex program.

Intended audience
- Graduate students, postdocs (others are welcome)
- Neurobiologists who have experiments that cannot be done with commercially available multiphoton imaging systems, or who want to know more about using or developing advanced optical systems for their experiments
- Neuroengineers who want to develop new technology for multiphoton imaging systems in neuroscience

Goals
- Neurobiologists and neuroengineers will learn a shared vocabulary for effective communication
- Neurobiologists should feel more confident in their ability to use, align, and modify their systems
- Neuroengineers should have a deeper understanding of the needs of neuroscience researchers
- All should learn about new technology and make new connections

Topics
- Large field-of-view multiphoton systems
- Adaptive Optics
- Software for multiphoton systems
- Analysis of functional connectivity and neural decoding
- Patterned (holographic) multiphoton stimulation
- Online calcium imaging analysis for closed-loop imaging-based experiments
…and related topics.

Format
- Talks
- Online demonstrations and experimentation
- Opportunities for 1-on-1 conversations with experts and fellow scientists

Please submit application by December 30th, 2022.

PI: Prof. Spencer LaVere Smith
Workshop Coordinator: Ryan McGreal

UC **SANTA BARBARA**

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Please send all applications (with CVs) and related material to **Nemonic.NeuroNex@gmail.com**. Questions can also be sent to the same email address.

You may fill out this document digitally or in hard copy. Be sure to also provide your CV.

Please let us know about any accommodations that might be needed (disabilities, childcare/family obligations, etc.) to allow your attendance. We intend to meet them to the best of our ability.

Please submit application by December 30ᵗʰ, 2022.

<u>Personal Details</u>

Name:

Title:

Phone:

Address:

Email:

Home institution:

Position / Lab head (if applicable):

Undergraduate and Graduate School(s) (include degrees granted and major):
Also attach your CV.

Do you plan on attending this workshop in person?

Current scientific work / motivation for attending the course:
Briefly explain your current experiments and why you'd like to attend the course. (Limit: 5 sentences)

References:

Give the names, titles, and email addresses of 2 people who are familiar with you and your work. Do not ask them to send letters.

For Reporting Purposes

Country of Citizenship:

    If not a US citizen, Permanent US Resident? (yes/no):

(optional) If you wish to identify as a member of any minority group (race, ethnicity, LGBT, etc.), please specify:

Workshop Fee: $350

In the event that the workshop must be moved to an online format, no fee will be charged. Financial assistance may be available, if you require funds please contact Nemonic.NeuroNex@gmail.com. Workshop fee covers hotel (Feb. 20-23) and some meals. Please do not purchase plane tickets until we confirm the workshop will be held in person.

Reminder: Attach your CV.

I hereby declare that all information provided by me on this application form is true to the best of my knowledge.

Signature of the Applicant _____ *(digital signatures are okay)*

Date: _____