FNIRS Data Analysis Workshop 2024
June 19-21st, 2024
University of Pittsburgh

* All times are Eastern Standard Time (UTC -5)

Location information
Benedum Hall (Swanson School of Engineering).
3700 O'Hara street
Pittsburgh PA 15261, USA

Day 1. Wednesday June 19th
Room 102 Benedum Hall

Start time	End time	Topic	Remarks
9:00 am	9:30 am	Registration Coffee & breakfast pastries	
9:30 am	10:00 am	Introduction to workshop	
10:00 am	11:15 am	Overview of NIRS toolbox and structures	
11:15	11:30	Coffee break	
11:30	12:00	Data organization and BIDS format	
11:30	12:00	Small group help on installing toolbox	Alternative break out session
12:00	12:30	Data preprocessing, motion correction, and filtering	
12:30	1:30	Lunch on own	
1:30	2:30	First-level general linear model (theory)	
2:30	2:45	Coffee break	
2:45	3:30	GLM analysis in NIRS toolbox	
3:30	4:30	Hands-on analysis (session 1) First level GLM statistics	Small group session
4:30	5:00	Day-1 wrap up	

Day 2. Thursday June 20th
Room 102 Benedum Hall

9:00 am	9:30 am	Coffee & breakfast pastries	
9:30 am	10:00 am	Discussion of experimental designs	

10:00 am	11:15 am	Second-level (Group) statistical models (theory)	
11:15	11:30	Coffee break	
11:30	12:00	Mixed effects analysis in NIRS toolbox	
11:30	12:30	Hands-on analysis (session 2) Second level modeling	Small group session
12:30	1:30	Lunch on own	
1:30	2:30	Functional Connectivity and Hyperscanning	
2:30	2:45	Coffee break	
2:45	3:30	Probe registration, ROI analysis, and atlas models	
3:30	4:00	Image reconstruction methods	
4:00	5:00	Hands-on analysis (session 3) Advanced analysis tools	Small group session

Day 3. Friday June 21th
Room 102 Benedum Hall

9:00 am	9:30 am	Coffee & breakfast pastries	
9:30 am	10:15 am	Advanced topics #1 – TBD [? Multimodal analysis ?]	
10:15 am	11:00 am	Advanced topics #2 – TBD [? Real-time fNIRS?]	
11:00	11:15	Coffee break	
11:15	12:30	Open discussion of topics	
12:30	1:00	Closing remarks.	
1:30	5:00	Fun with data. Dr Huppert and lab will be available to work with you on your own data and to answer additional questions. This will be an open session/discussion that anyone is welcome to join.	Optional

Additional information
Although all the theory/methods discussed are general to fNIRS analysis, the hands-on demonstrations and examples we will discuss will be presented in the context of our Brain AnalyzIR toolbox. This is an open-source Matlab analysis tool. Prior to the workshop, it is advisable to download the toolbox. https://github.com/huppertt/nirs-toolbox

We will have computers with the toolbox installed for the hands-on demonstrations, but you are encouraged to use your own computers.

<u>FNIRS '24 (Birmingham, UK)</u>. We are planning on doing a 90min (?) introduction course focused on helping people setup and use the toolbox for basic analysis and a separate advanced course covering some of the theory (particularly around the GLM model). Obviously, in this 3-day workshop, we will cover these topics in much more depth than the version we can present as part of the fNIRS Society meeting. Taking this 3-day workshop will cover all the material (and a whole lot more).