

Structural and Functional Connectivity via MRI

Mon-Fri October 23 - 27, 2023 [Each day 9:00 - 18:00, (EDT GMT -4)]

All classes will be hybrid, combining live, in-person classes with zoom access
In general, the live+zoom class room will be started one hour beforehand, at 8:00am, and at least one faculty member will be there.
Slides and other material are available at the Thinkific site for this course for registered participants.

Day 1

8:00 - 9:00	<i>Informal Faculty Time</i>	Robert Savoy and/or Other Faculty
9:00 - 9:30	Welcome and Overview	Robert Savoy
9:45 - 11:00	Multivariate Analysis and Connectivity	Robert Savoy
11:15 - 12:30	Quick Review of Basics of NMR and MRI; Sources of Signal and Contrasts: BOLD Contrast, Diffusion Imaging Contrast; Safety, HRC/IRB Considerations	Robert Savoy
12:30 - 1:00	Participant Introductions	Program Participants
1:00 - 2:00	<i>Lunch</i>	
2:00 - 3:00	White Matter Anatomy	Anastasia Yendiki
3:00 - 5:00	Clinical Applications of Resting State Functional Connectivity MRI (Part 1)	Michael Fox
5:00 - 6:00	Overview of Relevant Software Packages	Robert Savoy or Other Faculty

Day 2

8:00 - 9:00	<i>Informal Faculty Time</i>	Robert Savoy and/or Other Faculty
9:00 - 12:00	Diffusion MRI & Tractography*	Anastasia Yendiki
12:00 - 1:00	<i>Lunch</i>	
1:00 - 2:00	Demonstration of Diffusion and Tractography Software*	Anastasia Yendiki
2:15 - 3:15	Validation for Diffusion Tractography and Clinical Applications	Anastasia Yendiki
3:30 - 5:30	Clinical Applications Resting State Functional Connectivity MRI (Part 2)	Susan Whitfield-Gabrieli
5:30 - 6:00	Related Topic(s), to be determined	Faculty

Day 3

8:00 - 9:00	<i>Informal Faculty Time</i>	Robert Savoy and/or Other Faculty
9:00 - 12:00	The Many Methods for Analyzing Resting State and Related fMRI data	Alfonso Nieto-Castañón
12:00 - 1:00	<i>Lunch</i>	
1:00 - 2:00	Demonstration of the “conn” Toolbox.**	Alfonso Nieto-Castañón
2:00 - 3:30	Clinical Applications (Part 3): Neurodegenerative Diseases	Bradford Dickerson
3:45 - 6:00	Related Topic(s), to be determined	Faculty

Day 4

8:00 - 9:00	<i>Informal Faculty Time</i>	Robert Savoy and/or Other Faculty
9:00 - 12:00	Workshop: Using the CONNECTOME 2.0 Scanner at Martinos	Susie Huang+Other Faculty
12:00 - 1:00	<i>Lunch</i>	
1:00 - 4:00	Workshop: TMS/TDCS and related brain stimulation technologies	Aapo Nummenmaa, Lucia Isabel Navarro De Lara + Faculty
4:15 - 5:30	Application Lecture(s) related to above two workshops	Faculty
5:30 - 6:00	Related Topic(s), to be determined	Faculty

Day 5

8:00 - 9:00	<i>Informal Faculty Time</i>	Robert Savoy and/or Other Faculty
9:00 - 12:00	Workshop on Combining fMRI-Based Modalities: Resting State Data, Task-Based Data, and Real-Time Feedback and Event-Triggered Tasks	Susan Whitfield-Gabrieli + Faculty
12:00 - 1:00	<i>Lunch</i>	
1:00 - 3:00	Discussions including Combined Applications; Grant Writing; Other	Faculty
3:00 - 3:30	Closing	Robert Savoy + Faculty