



Workshop 1: Significance of mapping complete neural circuits
February 5, 2021

Overall goal: To explore the potential impact of generating comprehensive maps of brain connectivity – “wiring diagrams” spanning the entire mammalian brain.

Agenda:

11:00 am ET **Welcome and Series Overview**
John Ngai, Ph.D.
Harriet Kung, Ph.D.

11:08 am ET **Welcome and Introduction**
Larry Abbott, Ph.D. (Workshop Co-Lead)
Eve Marder, Ph.D. (Workshop Co-Lead)

11:25 am ET **Workshop Logistics**

11:30 am ET **Speakers**

Each speaker will address three questions:

- a) What issues would you be able to address if you had detailed connectome data that cannot currently be investigated?
- b) Are there conceptual issues that would be approached entirely differently if detailed connectomic data were available?
- c) What would be the value added between having one versus many samples – across individuals, pathological conditions, and species – and how many is enough?

11:30 am ET **Beyond the lamppost: How the fly connectome is helping us to see the whole picture**
Gwyneth Card, Ph.D.
Gerry Rubin, Ph.D.

11:50 am ET **Mapping the zebrafish whole-brain connectome**
Florian Engert, Ph.D.
Claire Wyart, Ph.D.

12:10 pm ET **Songbird connectomes**
Michale Fee, Ph.D.
Sarah M. N. Woolley, Ph.D.

12:30 pm ET Break

12:40 pm ET Connectomics and Computation in the Retina
Stephen A. Baccus, Ph.D.
Rachel Wong, Ph.D.

1:00 pm ET The mouse brain connectome would transform understanding of core behaviors & physiology
Catherine Dulac, Ph.D.
Scott Sternson, Ph.D.

1:20 pm ET Basal ganglia connectome: Towards an accurate neural circuit model of reinforcement learning
Bernardo Sabatini, M.D., Ph.D.
Ilana Witten, Ph.D.

1:40 pm ET **Q & A session**

2:25 pm ET **Break**

2:55 pm ET **Discussion Panel**

Panel Discussion topic: How important is a whole mouse brain connectome?

Leaders: *Adrienne Fairhall, Ph.D.; Larry Zipursky, Ph.D.*

Discussants: *Timo Bremer, Ph.D.; Anne Churchland, Ph.D.; Vivek Jayaraman, Ph.D.; Jeff Lichtman, M.D., Ph.D.; Josh Sanes, Ph.D.; David Tank, Ph.D.*

3:55 pm ET **Closing remarks**

Larry Abbott, Ph.D. (Workshop Co-Lead)
Eve Marder, Ph.D. (Workshop Co-Lead)

3:55 pm ET **Workshop ends**