



UCSD & The University of Chicago present:

## **MURI Winter School 2017**

### Dynamics of Multifunction Brain Networks

January 11-13, 2017

15<sup>th</sup> Floor, Building 1, Village West, UCSD

#### Wednesday, January 11, 2017

8:15 am – 8:55 am *Registration & Continental Breakfast*

8:55 am – 9:00 am Welcome Remarks: Henry Abarbanel and Katja Lindenberg

Moderator: **Henry Abarbanel**

9:00 am – 10:30 am **Terry Sejnowski**, *Salk Institute*: 3 new ways to eavesdrop on cortical networks

10:30 am – 10:45 pm *Coffee break*

10:45 am – 12:15 pm **Emre Neftci**, *UC Irvine*: Brain-inspired learning machines

12:15 pm – 1:45 pm *Lunch*

Moderator: **Gert Cauwenberghs**

1:45 pm – 3:15 pm **Daniel Margoliash**, *University of Chicago*: New concepts in neural network organization: from cell biology through non-linear dynamics to learned behaviors

3:15 pm – 3:30 pm *Coffee break*

3:30 pm – 5:00 pm **Tim Gentner**, *UC San Diego*: Neuro-computational approaches to understand the recognition, categorization, and temporal patterning of natural communication signals

#### Thursday, January 12, 2017

8:30 am – 9:00 am *Continental Breakfast*

Moderator: **Terry Sejnowski**

9:00 am – 10:30 am **Eve Armstrong**, *UC San Diego*: A small-scale model of a pattern-generating neuronal network

10:30 am – 10:45 pm *Coffee break*

10:45 am – 12:15 pm **Mikhail Rabinovich**, *UC San Diego*: Modeling of consciousness dynamics: Autobiographic memory, binding and chunking in decision making and creativity

12:15 pm – 1:45 pm *Lunch*

Moderator: **Daniel Margoliash**

1:45 pm – 3:15 pm **Sadique Sheik**, *UC San Diego*: Spike based temporal processing and learning for neuromorphic systems

3:15 pm – 3:30 pm *Coffee break*

3:30 pm – 5:00 pm **Daniel Meliza**, *University of Virginia*: Diverse neuronal dynamics and their role in auditory learning

#### Friday, January 13, 2017

8:30 am – 9:00 am *Continental Breakfast*

Moderator: **Tim Gentner**

9:00 am – 10:30 am **Gert Cauwenberghs**, *UC San Diego*: Reverse engineering the cognitive brain in silicon

10:30 am – 10:45 pm *Coffee break*

10:45 am – 12:15 pm **Henry Abarbanel**, *UC San Diego*: Building, testing and validating model of neurons and functional neural networks

12:15 pm – 1:45 pm *Lunch*

Moderator: **Henry Abarbanel**

1:45 pm – 3:15 pm **Katja Lindenberg**, *UC San Diego*: Stochastic thermodynamics and noise: Small systems in and out of equilibrium

For more information please see the BioCircuits Institute website at [biocircuits.ucsd.edu](http://biocircuits.ucsd.edu)