Advance Theory Seminar
Spring 2019

Organized by Rainer Engelken

Meetings: Wednesdays 10.15am – 11.45am

Webpage: https://ctn.zi.columbia.edu/courses

Encoding and decoding

1/23/2019	Fabio Stefanini	Intro
1/30/2019	Ramon Nogueira and Josh Glaser	Linear & Logistic regression
2/6/2019	Ramon Nogueira and Josh Glaser	GLM & nonlinear regression
2/13/2019	Matt Whiteway	Static Models for Dimensionality Reduction
2/20/2019	Shreya Saxena	Dynamic Models for Dimensionality Reduction
2/27/2019	Cosyne	
3/6/2019	Cosyne	
3/13/2019	Hackathon encoding & decoding	

Mechanistic models of neural circuits

3/20/2019	Laureline Logiaco	Intro: From spiking models to population rate part I
3/27/2019	Laureline Logiaco	From spiking models to population rate part II
4/3/2019	Mario Dipoppa	Inhibition stabilized networks & supralinear stabilized network
4/10/2019	Mario Dipoppa	Neural variability in rate models, appropirateness spiking vs. rate models
4/17/2019	Alessandro Ingrosso	Equilibrium theory for Hopfield model
4/24/2019	Alessandro Ingrosso	Dynamic mean field theory of chaotic rate networks

Learning in recurrent networks

5/1/2019	Rainer Engelken	Intro learning in rec. networks, backprop through time
5/8/2019	James Murray	Least-squares, RLS, FORCE, Kalman filters
5/15/2019	Rainer Engelken	Dynamic mean field theory for low-rank static solutions
5/22/2019	James Murray	Control theory for low-rank static solutions
5/29/2019	Bonus	