

Gene-Brain-Behavior Interactions in Neurodevelopmental Disorders: Towards an Integration of Perspectives on Disease Mechanisms Clinical Syndromes and Disorders

T32 Postdoc Seminar Series

University of North Carolina at Chapel Hill
Carolina Institute for Developmental Disabilities
FALL 2013 and SPRING 2014 Syllabus

PURPOSE

This seminar will review the epidemiology, pathogenesis, diagnosis and treatment of neurodevelopmental syndromes and disorders. Topics will range from single gene (e.g. fragile X syndrome and tuberous sclerosis) to complex genetic (e.g., autism, schizophrenia), to environmental disorders with varied phenotypes, pathogenetic mechanisms and treatments.

TIME AND LOCATION

Wednesdays, 9:00 am – 10:30 am

Autism Building off Smith Level Road, 2nd floor conference room

Address: 100 Renee Lynne Court, Carrboro*

COURSE DIRECTORS

Joe Piven, MD and Ben Philpot, PhD

Section I: Neuroscience (Coordinators: Kelly Jones, PhD & Meghan Swanson, PhD)

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| Aug 21 | Gross Brain Anatomy
Aldo Rustioni, MD
Professor,
Department of Cell Biology and Physiology |
| Sept 4 | Early Brain Development (cellular-molecular)
Eva Anton, PhD
Professor,
Department of Cell Biology and Physiology |
| Sept 11 | Synaptic Plasticity in Developmental Disorders
Ben Philpot, PhD
Professor,
Department of Cell Biology and Physiology |

- Sept 25 **Functional Neuroanatomy of Cognitive and Clinical dimensions of Developmental Disorders: Autism, Psychosis, Turner**
Ayse Belger, PhD
Professor and Director of Neuroimaging Research in Psychiatry;
Professor of Psychology
Department of Psychiatry
- Oct 9 **Brain Function (fMRI, EEG, EP)**
Gabriel Dichter, PhD
Assistant Professor of Psychiatry and Psychology; Director, Clinical-Affective Neuroscience Lab Director, Neuroscience Research Center, CIDD
Department of Psychiatry
- Oct 16 **Sensory Neurobiology and Development**
Spencer Smith, PhD
Assistant Professor,
Department of Cell Biology and Physiology

Section II: Genetics (Coordinators: Brandon Pearson, PhD & Jeff Stirman, PhD)

- Oct 30 **Intro/Classical Genetics**
Ann K. Foreman, MS
Clinical Assistant Professor,
Department of Cell Biology and Physiology
- Nov 20 **Complex human genetics (basic principles)**
Ethan Lange, PhD
Associate Professor,
Department of Genetics
- Dec 11 **Mouse models**
Lisa Tarantino, PhD
Assistant Professor,
Department of Psychiatry
- Jan 7 **Clinical Genetics/Karyotyping**
Cindy Powell, MD
Associate Professor;
Division Chief, Pediatric Genetics and Metabolism
Division of Genetics and Metabolism
- Jan 22 **Epigenetics – principles**
Scott Bultman, PhD
Assistant Professor,
Department of Genetics

Section III: Behavior (Coordinators: Sarah Schipul, PhD & Katrina Martin, PhD)

- Feb 5 **Designing Developmental Behavioral Assessments for Use in Clinical Contexts**
Steve Reznick, PhD
Professor,

Department of Psychology

- Feb 26 **Social Development (relating to Neurodevelopmental Disorders)**
Lauren Turner-Brown, PhD
Assistant Director, TEACCH Autism Program
Department of Psychiatry
- Mar 19 **Language Development (relating to Neurodevelopmental Disorders)**
Linda Watson, EdD
Professor,
Department of Allied Health Sciences Speech and Hearing Sciences
- Mar 26 **Repetitive Behaviors (relating to Neurodevelopmental Disorders)**
Jason Wolff, PhD
Research Associate, Carolina Institute for Developmental Disabilities (CIDD)
Department of Psychiatry
- Apr 9 **Mouse Behavioral Phenotypes; featuring Brandon Pearson**
Sheryl Moy, PhD
Professor,
Department of Psychiatry

Section IV: Gene x Brain Interaction (Coordinators: all)

- Apr 16 **Optogenetics**
Garret Stuber, PhD
Assistant Professor of Psychiatry, Cell Biology and Physiology
Department of Psychiatry
- Apr 30 **Gene Therapy**
Steve Gray, PhD
Research Assistant Professor,
Department of Ophthalmology
- May 7 **Gene-Environment Interactions in Neurodevelopmental Disorders**
Cindy Lawler, PhD
Branch Chief, Genes, Environment, and Health Branch (GEH)
National Institute of Environmental Health Sciences
- May 21 **The Neurogenetics of Vulnerability and Resilience: Insights from Studies on Threat and Reward Processing**
Yuliya Nikolova, BA
Graduate Student,
Duke University Psychology and Neuroscience
- Jun 11 **Embryonic Exposure**
Mark Zylka, PhD
Associate Professor,
Department of Cell Biology and Physiology

