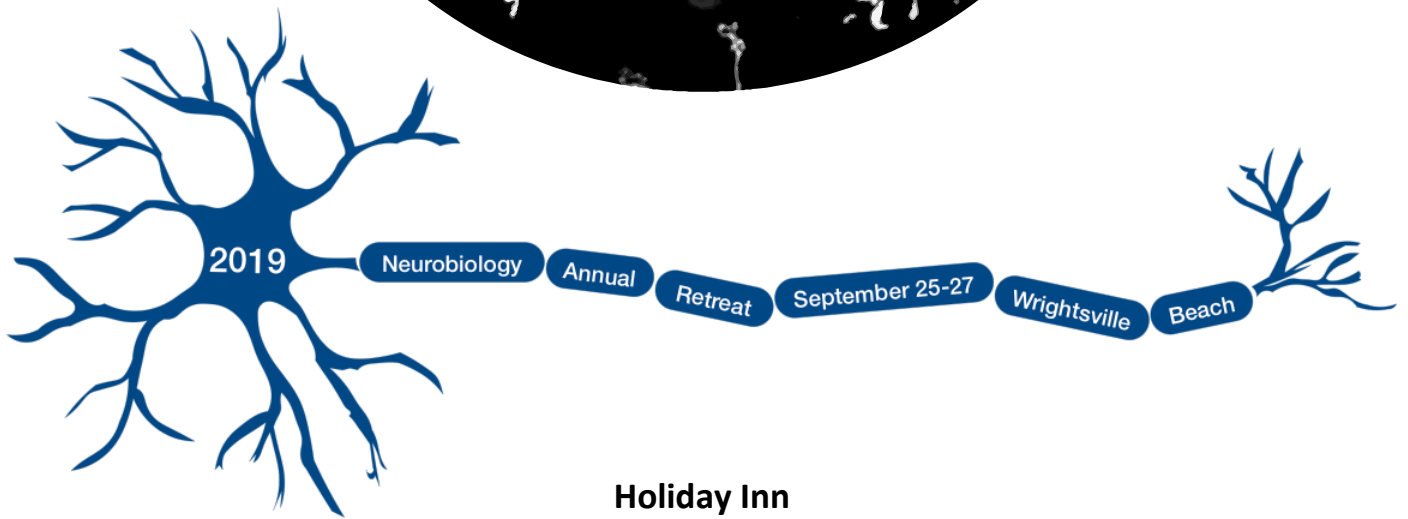
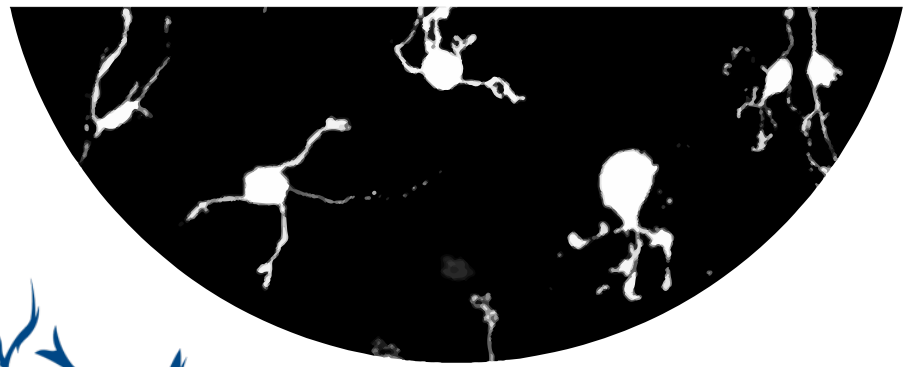


Duke | Neurobiology



Holiday Inn
1706 N Lumina Ave
Wrightsville Beach, NC 28480

Invited Speakers



Marla Feller, PhD
Professor of Neurobiology
University of California, Berkeley



I-Han Chou, PhD
Senior Editor and Team Leader
Nature

Student Organizers

Stuart Behling
Tyler Bradshaw
Mary Rose Branch
Urann Chan*
Jamie Courtland
Mariah Hazlett
Thuy Hua
Dalton Hughes
Oluwadamilola Lawal
Dongye Lu
Valerie Michael
Caitlin Paisley
Gwenaëlle Thomas**
Michael Young
*T Shirt Design **Program Design

Schedule of Events

Wednesday, September 25, 2019

11:30am – 1:00pm	Hotel Arrival
1:00pm – 1:30pm	Meet & Greet & Check-In
1:30pm – 3:20pm	Talks Session I Moderator: Eva Naumann Introduction: Steve Lisberger
1:40pm – 2:00pm	Caley Burrus , Graduate Student, Eroglu Lab <i>“Striatal Projection Neurons Require Huntingtin for Synaptic Connectivity and Longevity”</i>
2:10pm – 2:30pm	Yael Grossman , Postdoc, Dzirasa Lab <i>“State-Specific Control of Complex Social Behavior using Closed-Loop Optogenetics”</i>
2:40pm – 3:00pm	James McNamara , Faculty, Neurobiology <i>“Neurotrophin Signaling and Epileptogenesis: Mechanistic and Therapeutic Insights”</i>
3:10pm – 3:20pm	Break
3:20pm – 4:20pm	Ice Breaker: Getting to Know Your Peers Moderator: Anne West
4:30pm – 5:30pm	Keynote Speaker: Marla Feller , UC Berkeley <i>“Wiring Up Direction-Selective Circuits in the Retina: Nature or Nurture?”</i>
5:45pm – 7:15pm	Poster Session I and Happy Hour
Evening	Dinner on your own

Thursday, September 26, 2019

8:30am – 9:30am	Breakfast Buffet <i>Served outside the ballroom</i>
9:30am – 12:00pm	Talks Session II Moderator: Greg Field
9:30am – 9:50am	Derek Southwell , Faculty, Neurosurgery <i>“Examining the Therapeutic Potential of Interneuron Transplantation in an Organotypic Model of Human Epilepsy”</i>
10:00am-10:20am	Elizabeth Fleming , Graduate Student, Hull Lab <i>“Evaluating Pattern Separation in the Cerebellar Granule Cell Layer”</i>

Thursday, September 26, 2019

10:20am – 10:30am	Break
10:30am – 10:50am	Suva Roy , Postdoc, Field Lab <i>“Mosaic Organization in the Mammalian Retina”</i>
11:00am – 11:20am	Alex Vaz , Graduate Student, Brunel Lab <i>“Replay of Cortical Spiking Sequences Mediates Human Memory Retrieval”</i>
11:30am – 11:50am	Anita Disney , Faculty, Neurobiology <i>‘Channeling Cajal: Looking at Structure, and Seeing Function’</i>
12:00pm – 2:30pm	Lunch/Free time <i>Lunch will be provided outside the ballroom</i>
2:40pm – 3:40pm	Non-Academic Speaker: I-han Chou , Nature <i>“Science Publishing: The Road to an Editorial Career”</i>
3:40pm-3:50pm	Break
3:50pm-5:10pm	Talks Session III Moderator: Rebecca Yang
3:50pm – 4:10pm	Jenna McHenry , Faculty, Psychology and Neuroscience <i>“Illuminating the Encoding and Wiring of Socially-Tuned Valence Circuits for Behavior”</i>
4:20pm – 4:40pm	Xin Luo , Postdoc, Ji Lab <i>“Macrophage-Neuron Interactions Differentially Regulate Pain in Male and Female Mice”</i>
4:50pm – 5:10pm	Miaomiao Jin , Graduate Student, Glickfeld Lab <i>“Perceptual Roles of Mouse Higher Visual Areas”</i>
5:20pm – 6:40pm	Poster Session II and Happy Hour
7:00pm – 9:00pm	Banquet Dinner and Awards Ceremony <i>Awards are followed by the annual student and faculty skits</i>
9:00pm – 12:00am	Active DJ Entertainment: Shawn Booth Main Ballroom

Friday, September 27, 2019

Morning	Breakfast on your own
11:00am	Check out by 11:00am

Poster Session I



Graduate Student



Postdoc



Lab Affiliate



Principal Investigator

	Name	Lab	Title	Poster Number
	Stuart Behling	Lisberger	<i>"Different Mechanisms for Modulation of the Initiation and Steady-State of Smooth Pursuit Eye Movements"</i>	1
	Tyler Bradshaw	Soderling	<i>"Quantitative Proteomics and Protein Network Analysis of Multiple Mouse Neurodevelopmental Disorders"</i>	2
	Samuel Brudner	Mooney	<i>"Quantifying the Development of Juvenile Zebra Finch Song"</i>	3
	Zac Caffall	Calakos	<i>"Repurposing the HIV Protease Inhibitor, Ritonavir, for DYT-TOR1A Dystonia"</i>	4
	Bin Chen	Wang	<i>"In Vivo Imaging of Central Analgesic Neurons in the Central Amygdala"</i>	5
	Bryson Deanhardt	Volkan	<i>"Experience-Dependent Chromatin Remodeling of Fruitless and Doublesex Regulate Courtship Learning in D. Melanogaster"</i>	6
	Yang Chen	Yang, Rebecca	<i>"Genetic Dissection of the Role of Central Complex in Drosophila Spatial Learning"</i>	7
	Ping Dong	Yang, Huanghe	<i>"Targeting BK Calcium-Activated Potassium Channel in Epilepsy"</i>	8
	Subhadra Mokashe	Brunel	<i>"Learning Sequences of Correlated Patterns in Neural Networks"</i>	9
	Shataakshi Dube	Soderling	<i>"In Vivo Proximity Proteomics of Presynaptic Terminals Reveals a Cytoskeletal Pathway Regulating Short-Term Plasticity"</i>	10
	Hala El-Nahal	Sommer	<i>"Anatomical Characterization of rAAV2-retro Neuronal Labeling in the Visuomotor System of Rhesus Macaques"</i>	11
	David Gallegos	West, Anne	<i>"Psychostimulant-Regulated Transcriptional Plasticities in Interneurons of the Nucleus Accumbens"</i>	12
	Thomas Harmon	Mooney	<i>"Acute and Chronic USV Performance in Helium-Enriched Air"</i>	13
	Mariah Hazlett	West, Anne	<i>"Epigenome Editing at a Fos Enhancer Modulates Activity-dependent Fos Induction in the Hippocampus"</i>	14
	David Herzfeld	Lisberger	<i>"Principles of Operation of a Neural Learning Circuit"</i>	15
	Ricardo Hernandez-Martinez	Calakos	<i>"Cholinergic Interneurons Require Tonic Activation of Stress Response Pathway to Maintain Integrity of Dopamine Signaling"</i>	16
	Thuy Hua	Wang	<i>"Identification of a Potent Central Pain-Suppression Circuit in the Amygdala"</i>	17
	Boris Kantor	Kantor	<i>"Development of the Novel CRISPR/Cas9- Based Technology for Alzheimer's Disease via Selective and Specific Targeting of ApoE4 allele"</i>	18
	Manuel Levy	Wang	<i>"Imaging Plasticity After Stroke in the Somatosensory Cortex"</i>	19
	Connor King	Calakos	TBD	20
	Bing Liu	Osborne	<i>"Efficiency without Ambiguity: An Adaptive Sensory Code in Cortical Area MT"</i>	21

	Marguerita Klein	Bohórquez	<i>"From Mouse to Human, a Neurotransmitter for Calorie"</i>	22
	Matthew Loring	Naumann	<i>"Development of Visuomotor Behaviors and Underlying Neural Circuitry in Zebrafish"</i>	23
	Winston Liu	Bohórquez	<i>"Neural Sensing of Gut Bacteria"</i>	24
	Jeff Mohl	Groh	<i>"Neural Correlates of Audio-Visual Causal Inference"</i>	25
	Ashley Martfeld	Grandl	<i>"Understanding the Effects of Human Disease-Causing Mutations on Piezo Function"</i>	26
	Moawiah Naffaa	Kuo	<i>"Understanding Neural Circuit Contributions to Tissue Recovery After Stroke"</i>	27
	Elizabeth O'Gorman	Dzirasa/Carlson	<i>"A Computational Ethology Approach to Identifying Stress Biomarkers"</i>	28
	Jiaxuan Qi	Mooney	<i>"Charactering the Inputs to VTA in Zebra Finches"</i>	29
	Alessandro Sanzeni	Brunel	<i>"Inhibition Stabilization is a Widespread Property of Cortical Networks"</i>	30
	Caitlin Paisley	Kay	<i>"Mechanisms Underlying the Developmental Death of Retinal Astrocytes"</i>	31
	Stephanie Schlebusch	Groh	<i>"Changes in Saccade-Related Eardrum Oscillations After Surgical Denervation of the Stapedius Muscle"</i>	32
	Juan Ramirez	Eroglu	<i>"Identification of Novel Astrocyte-Microglia Signaling Pathways that Control Synapse Numbers"</i>	33
	Catherine Seitz	Naumann	<i>"Gigapixel Behavioral and Neural Activity Imaging with a Multicamera Array Microscope"</i>	34
	Cameron Prigge	Kay	<i>"Retinal Direction-Selective Circuitry Requires FLRT2 and Unc5c for Selective Dendrite Laminar Targeting"</i>	35
	Divya Subramanian	Sommer	<i>"Discriminative Rather than Bayesian Models are Used for the Categorical Judgment of Visual Stability Across Saccades"</i>	36
	Nathan Taylor	Hull	<i>"Acetylcholine Modulates Cerebellar Granule Cell Spiking by Regulating the Balance of Synaptic Excitation and Inhibition"</i>	37
	Katherine Tonn	West, Anne	<i>"Caveolin-1 (Cav1) Regulates Medium Spiny Neuron Structural and Functional Plasticity"</i>	38
	Marios Tringides	Mooney	<i>"Calcium Imaging of a Secondary Auditory Region in Songbirds"</i>	39
	Jorge Villalobos	Bohórquez	<i>"A Neurotransmitter for Calories"</i>	40
	Ashley Wilson	Glickfeld	<i>"Separable Codes for Read-Out of Mouse Primary Visual Cortex Across Attentional States"</i>	41
	Zack Weaver	Tadross	<i>"Electrogenetics: Novel Technologies for Cell-Type Specific Electrophysiology"</i>	42
	Zhang Yang	Yang, Huanghe	<i>"A Noninvasive Method for Seizure Detection and Antiepileptic Drug Evaluation "</i>	43
	Martine Tremblay	West, Anne	<i>"The Role of Histone Linker Protein, HIST1H1E, in Autism Spectrum Disorder and Brain Development"</i>	44

Poster Session II



Graduate Student



Postdoc



Lab Affiliate



Principal Investigator

	Name	Lab	Title	Poster Number
	George Barlow Bryson Deanhardt	Volkan	<i>"Nature vs Nurture: Juvenile Hormone Works in Tandem with Sensory-Dependent Mechanisms to Regulate Chromatin Remodeling in ORNs"</i>	45
	Emily Griffith Burke	Glickfeld	<i>"Understanding the Neural Basis for Orientation Discrimination"</i>	46
	Sasha Burwell	Tadross	<i>"Deconstructing Dopaminergic Reward Dynamics with DART"</i>	47
	Hsueh-Ling Chen	Yang, Rebecca	<i>"Functional Division of Drosophila Sweet Taste Neurons Underlying Behavioral Flexibility Towards Sugars"</i>	48
	Urann Chan	West	<i>"The Role of the Lysine-Specific Histone Demethylase Kdm6b in Synapse Maturation"</i>	49
	Timothy Darlington	Lisberger	TBD	50
	Jamie Courtland	Soderling	<i>"From Patients to Organelles: Uncovering the Molecular Basis of an Inherited Cognitive and Movement Disorder"</i>	51
	Fabiola Duarte Ortiz	Mooney	<i>"Characterization of a Dopaminergic Circuit that Guides Sexually Motivated Behaviors in Songbirds"</i>	52
	Mathieu Flamand	Meyer	<i>"Control of mRNA Localization by m6A in Neurons"</i>	53
	Maxwell Gillett	Brunel	<i>"Storing Random Sequences with Temporally Asymmetric Hebbian Plasticity"</i>	54
 	Victoria Hall Brandon Turner	Calakos	<i>"Plasticity Mechanisms for Habitual Behavior: Examining Synaptic, Circuit and Behavioral Significance of Inhibitory Drive onto Striatal Fast Spiking Interneurons"</i>	55
	Jake Heffley	Hull	<i>"Classical Conditioning Drives Learned Reward Prediction Signals in Climbing Fibers across the Lateral Cerebellum"</i>	56
	Maya Kaelberer	Bohórquez	<i>"Controlling a Sense from Brain to Gut"</i>	57
	Shuyang Jin	Hull	<i>"Context-Dependent Regulation of Cerebellar Climbing Fiber Activity"</i>	58
	Ashley Helseth	Calakos	<i>"Developmental Regulation of Phospho-eIF2alpha Signaling in Striatal Cholinergic Interneurons and Significance for DYT1 Dystonia"</i>	59
	Na Young Jun	Field	<i>"The Influence of Noise on the Efficient Coding of Natural Scenes"</i>	60
	Jeremy Kay	Kay	<i>"Hidden mRNA Isoforms Diversify the Cell Surface Proteome in Neural Development and Disease"</i>	61
	Jennifer Li	Glickfeld	<i>"Cellular and Synaptic Properties in Mouse Higher Visual Areas"</i>	62
	Oluwadamilola Lawal	Eroglu	<i>"Is Astrocyte-Induced Synaptogenesis Involved in Goal-Directed Actions?"</i>	63
	Valerie Michael	Mooney	<i>"Descending Control of Vocalization in the Mouse Brain"</i>	64

	Shaun Sze-Xian Lim	Tadross	<i>"Deconstructing Behavioral Neuropharmacology with Subcellular Specificity"</i>	65
	Anne Draelos	Pearson	<i>"Adaptive Platform for Real-Time Characterization of Neural Data"</i>	66
	Fang Liu	West, Anne	<i>"KDM6B-Mediated H3K27Me3 Dynamics Orchestrate Postnatal Development of Cerebellum"</i>	67
	Max Nikitchenko	Naumann	<i>"A Modular Open-Source Framework for Two-Photon and Lightsheet Microscopes"</i>	68
	Xin Luo	Ji, Ru-Rong	<i>"IL-23 Induces Persistent Mechanical Pain Hypersensitivity via Macrophage-Neuron Interaction in Female Mice"</i>	69
	Vincent Prevosto	Wang	<i>"Identifying Brainstem Rhythmogenic Circuits Controlling Whisking in Behaving Mice"</i>	70
	Angela McCall	ElMallah	<i>"Characterizing Respiratory Neuromuscular Deficits in a Novel Optn^{-/-} Mouse Model"</i>	71
	Kiersten Ruda	Field	<i>"When Assuming Independence in a Neural Population Makes an Ass Out of You and Me"</i>	72
	Melyssa Minto	West, Anne	<i>"Using Bayesian Networks to model Zic TF in Postnatal Development in the Cerebellum"</i>	73
	Meredith Schmehl	Groh	<i>"Probing the Auditory Periphery with McGurk Stimuli"</i>	74
	Miranda Scalabrino	Field	<i>"How Faking Retinal Gene Therapy can Inform us About Real Gene Therapy"</i>	75
	Zhongwei Qu	Yan	<i>"Guidance of "Pioneer-Follower Axons" in Axon Regeneration"</i>	76
	Jonnathan Singh Alvarado	Mooney	<i>"The Role of the Basal Ganglia in Context-Dependent Changes in Vocal Performance"</i>	77
	Laura Rupprecht	Bohórquez	<i>"Sensing Fat in the Gut"</i>	78
	Jun Takato	Wang	<i>"Neural Circuit Mechanism of Whisking Rhythm Generation"</i>	79
	Renee Tamming	Meyer	<i>"m6A Regulation in Response to Cocaine Administration"</i>	80
	Gwenaëlle Thomas	Dzirasa/ Caron	<i>"Assessing Region Specific Neurophysiological Effects of Antipsychotic Drug Administration"</i>	81
	Jack Goffinet	Pearson	<i>"Inferring Low-Dimensional Latent Descriptions of Animal Vocalizations"</i>	82
	Paul Thompson	Wang	<i>"Encoding of Touch by Club and Lanceolate Endings in the Mouse Whisker System"</i>	83
	Aashutosh Vihani	Matsunami	<i>"Olfactory Receptors for Enantiomer Discrimination"</i>	84
	Shawn Willett	Groh	<i>"Response Properties of Monkey Inferior Colliculus Neurons to Simultaneously Presented Sounds"</i>	85
	Michael Young	Grandl	<i>"The Energetics of Rapid Cellular Mechanotransduction"</i>	86
	Jieyu Wu	Yan	<i>"Glia-Neuron Communication in the Aging Process"</i>	87
	Samantha Zarnick	Kay	<i>"Cell-Type-Specific NuclearRNA Sequencing to Study State-Dependent Gene Expression Changes in Retinal Development and Disease"</i>	88

List of Attendees

*Aghil Abed Zadeh
Trevor Alston
Minel Arinel
Michael Austin
Ludovica Bachschmid Romano
George Barlow
Jeffrey Beck
Stuart Behling
Robin Blazing
Diego Bohórquez
Kim Boua
Bonnie BoWell
Tyler Bradshaw
Samuel Brudner
Nicolas Brunel
Emily Griffith Burke
Caley Burrus
Sasha Burwell
Zac Caffall
Nicole Calakos
Urann Chan
Yang Chen
Hsueh-Ling Chen
Bin Chen
Kirill Chesnov
I-han Chou
Madeline Clark
Jamie Courtland
Marie Cronin
Tim Darlington
Bryson Deanhardt
Carolyn Diaz
Anita Disney
Ping Dong
Anne Draelos
Fabiola Duarte Ortiz
Shataakshi Dube
Timothy Dunn
Hala El-Nahal
Ashley Emery
Isabella Fallon
Marla Feller
Greg Field
Mathieu Flamand
Elizabeth Fleming
David Gallegos
Julia Gamache
Maxwell Gillett
Jack Goffinet
Jorg Grandl
Matthew Green
Jennifer Groh
Yael Grossman
Pranjal Gupta
Victoria Hall
Tom Harmon
Mariah Hazlett
Jake Heffley
Ashley Helseth*

*Ricardo Hernandez-Martinez
David Herzfeld
Thuy Hua
Whit Jacobs
Miaomiao Jin
Shuyang Jin
Na Young Jun
Maya Kaelberer
Boris Kantor
Jeremy Kay
Sean Klein
Marguerita Klein
Juliane Krueger
Achint Kumar
Chay Kuo
Oluwadamilola Lawal
Manuel Levy
Jennifer Li
Pengfei Liang
Shaun Lim
Grace Link
Stephen Lisberger
Winston Liu
Fang Liu
Bing Liu
Matthew Loring
Lan Luo
Xin Luo
Ashley Martfeld
Hiro Matsunami
Angela McCall
Jenna McHenry
James McNamara
Valerie Michael
Aki Min
Melyssa Minto
Jeff Mohl
Subhadra Mokashe
Samuel Montgomery
Richard Mooney
Carlene Moore
Michael Mutersbaugh
Moawiah Naffaa
Arthy Narayanan
Eva Naumann
Thomas Nguyen
Maxim Nikitchenko
Elizabeth O'Gorman
Leslie Osborne
Caitlin Paisley
Vincent Prevosto
Cameron Prigge
Alicia Purkey
Jiaxuan Qi
Zhongwei Qu
Juan Ramirez
J. Russell Ravenel
Ashleigh Rawls
Mariana Ribeiro*

*Corey Roach
Aquiles Romero
Suva Roy
Shaolin Ruan
Kiersten Ruda
Marija Rudzite
Laura Rupprecht
Fernando Santos Valencia
Alessandro Sanzeni
Miranda Scalabrino
Stephanie Schlebusch
Meredith Schmehl
Catherine Seitz
Charles Sheehan
Miranda Shipman
Jonnathan Singh Alvarado
Scott Soderling
Marc Sommer
Derek Southwell
Stanislav Srednyak
Divya Subramanian
Michael Tadross
Jun Takato
Renee Tamming
Nathan Taylor
Katherine Thanyamongkhonsawat
Gwenaëlle Thomas
Paul Thompson
Nevyana Todorova
Stefanie Tokiyama
Katherine Tonn Eisinger
Martine Tremblay
Marios Tringides
Brandon Turner
Ricardo Vancini
Alex Vaz
Aashutosh Vihani
Jorge Villalobos
Fan Wang
Zack Weaver
Peter Weng
Anne West
Andrew West
William Wetsel
Shawn Willett
Ashley Williams
Ashley Wilson
Jieyu Wu
Wenxi Xiao
Dong Yan
Rebecca Yang
Huanghe Yang
Zhang Yang
Michael Young
Samantha Zarnick*