CVS RETREAT SCHEDULE

Friday, 2/14/2020

7:00—8:45: Travel to Beaver Hollow Conference Center

8:45—9:15: Poster setup

9:20—9:30: Opening remarks by CVS Director, David Williams, PhD

9:30—11:00: Invited talks (15min, 5min questions):

   Martina Poletti, PhD, Brain & Cognitive Sciences and Neuroscience
   Modulations of foveal vision associated with motor preparation

   Shanna Coop, Brain & Cognitive Sciences (Mitchell lab)
   Neural mechanisms of pre-saccadic attention in the marmoset monkey

   Mark Buckley, PhD, Biomechanical Engineering
   Evaluation of surgical trauma to corneal endothelial cells

   Juliette McGregor, PhD, Merigan Lab
   Restoring foveal vision

11:00—12:00: Coffee break and 1st Poster Session

12:00—1:30: Invited talks (15min, 5min questions):

   Krystel Huxlin, PhD, Flaum Eye Institute
   Time is vision: a critical period for plasticity after V1 damage in humans

   Rebecca Lowery, PhD, Neuroscience (Majewska lab)
   Effects of Gestational 2,3,7,8-Tetrachlorodibenzo-p-dioxin Exposure on Microglia in Visual Cortex

   Jesse Schallek, PhD, Flaum Eye Institute
   New views in the retina: imaging single blood cells reveals retinal physiology in health and disease
Cherlyn Ng, PhD, Flaum Eye Institute (Yoon lab)
*Neural adaptation as revealed by advanced optical correction*

1:30—4:30: Lunch and afternoon activities (hiking, skiing, snowshoeing, swimming etc.)

4:30—5:15: Invited talks (15min, 5min questions):

**Ed Lalor, PhD,** Biomechanical Engineering/Neuroscience
*Natural audiovisual speech encoding in the early stages of the human cortical hierarchy*

**Melissa Polonenko, PhD,** Biomechanical Engineering/Neuroscience (Maddox lab)
*Auditory spatial discrimination in chronic hemianopes*

5:15—6:15: Happy hour and 2nd Poster Session

7:00—9:00: Dinner with CVS-Themed Trivia

9:00: Optional bonfire/games/free time

**Saturday, 2/15/2020**

7:45—8:45: Breakfast

8:45—10:15: Overview of Existing CVS Resources, Services, and Events
   - Director Search Update
   - Core Grant Support
   - Grant Preparation
   - Pilot Funding
   - Technology Transfer
   - Colloquia
   - Undergraduate Opportunities
   - Symposia and Conferences
   - Training Grant Support
   - Selection of New Trainees for Training Grant
   - Poster Awards

10:15—10:30: Break

10:30—11:15: Planning our Future: Break-out groups (45 minutes)

11:15—12:00: Plenary report out of recommendations from breakout groups (45 minutes)

12:00—1:00: Lunch
CVS RETREAT POSTERS

Session 1

VISUAL PERCEPTION, COGNITION AND ACTION

P1: Ashley Clark, BCS, Janis Intoy, BU & BCS, Haizhu Yang, Martina Poletti, BCS & NSC

Fixational eye movements & crowding in the foveola

P2: Janis Intoy, BU & BCS, Jonathan D. Victor, Weill Cornell Medical College, Michele Rucci, BCS

Active task-dependent control of ocular drift during natural fixation

P3: Sanjana Kapisthalam, BCS, Martina Poletti, BCS & NSC

Spatio-temporal dynamics of foveal visual search

P4: Hayden Scott, BCS, Klaus Wimmer, Tania Pasternak, NSC, Adam Snyder, BCS & NSC

Common rules guide comparisons of motion direction & location in the lateral prefrontal cortex

P5: Shraddha Shah & Marc Mancarella, NSC, Jacqueline R. Hembrook-Short, Geisel School of Medicine at Dartmouth, Vanessa L. Mock, NSC, & Farran Briggs, NSC & BCS

Attentional Modulation of Multiunit activity in LGN & V1

P6: Luke Shaw, NSC, Jude Mitchell, BCS, & Kuan Hong Wang, NSC

Machine Vision Based Tracking of Reach to Grasp Movements in Marmosets Across Age

ADVANCED OPTICAL TECHNOLOGY

P7: Guanping Feng and Jesse Schallek, FEI

Retinal thickness increases in anesthetized but not awake-behaving mice
P8: Benjamin Moon, OPT, Ruei-Jr Wu, BCS, Jannick Rolland, OPT, Michele Rucci, BCS, Martina Poletti, BCS and NSC

Adaptive optics scanning laser ophthalmoscope for high-resolution imaging of the foveal cone mosaic

Session 2

VISUAL DEVELOPMENT, LEARNING & PLASTICITY

P9: Monique Mendes & Jason Atlas, NSC, Zachary Brehm, Biostatistics, Antonio Ladron de Guevara Ruiz, NSC & BME, Matthew McCall & Ania Majewska, NSC

In vivo imaging of the kinetics of microglial self-renewal & maturation in the adult visual cortex

P10: Brendan S. Whitelaw, Evelyn K. Matei, Ania K. Majewska, NSC

The role of PI3Kg signaling in microglial dynamics & experience-dependent synaptic plasticity

P11: Mark B. Stoessel, Rianne D. Stowell, Ania K Majewska, NSC

Differences in the dynamics of cerebellar & visual cortical microglia

MULTISENSORY & SENSORIMOTOR INTEGRATION

P12: Aaron Nidiffer, BME, Edmund Lalor, BME & NSC

Alpha and beta band brain activity tracks the temporal correlation between auditory and visual stimuli

P13: Sabyasachi Shivkumar, Gregory C. DeAngelis, Ralf M. Haefner, BCS

A causal inference model for the perception of complex motion in the presence of self-motion
**DISORDERS OF VISION**

P14: Sunwoo Kwon, BCS, Krystel Huxlin, FEI, Jude Mitchell, BCS  
*Dissociation between perception & predictive oculomotor behavior in retrained cortically blind fields*

P15: Katherine M Andersh, Stephanie B Syc-Mazurek, Olivia J Marola, Gareth R Howell, Richard T Libby, FEI  
*C1q is not required for RGC death after glaucoma-relevant injury*

P16: Olivia J. Marola & Stephanie B. Syc-Mazurek, FEI, Gareth R. Howell, Jackson Laboratory, Richard T. Libby, FEI  
*Endothelin Signaling in Glaucomatous Neurodegeneration*

P17: Chloe Degre, Yifei Wu, Qiuzhi Ji, Jiakai Lyu, Geunyoung Yoon, FEI  
*The role of optical & neural factors in the peripheral retina in myopia progression*

Krystel Huxlin, FEI  
*First-in-human laser-induced refractive index change, LIRIC treatment of the cornea*