

Sunday, April 19

- 3:00 pm Check-in
- 5:30 pm Reception (*Lobby*)
- 6:30 pm BBQ Dinner (*Dining Room Patio*)
- 8:00 pm Director's Welcome: Gerry Rubin
- 8:05 pm Introduction: Tom Clandinin

Keynote: Tony Movshon, New York University
Visual motion processing in insects and mammals

- 9:05 pm Refreshments available at Bob's Pub

NOTE:
Meals are in the **Dining Room**
Talks are in the **Seminar Room**
Posters are in the **Lobby**

Monday, April 20

- 7:30 am Breakfast (*service ends at 8:45am*)
- 9:00 am Session 1: Multi-Sensory Integration**
Chair: Ines Ribeiro
- 9:00 am **Michael Dickinson**, California Institute of Technology
Odor-induced visual salience in the food search of flying insects
- 9:20 am **Holger G. Krapp**, Imperial College London
From sensing self-motion to controlling reflex behaviour
- 9:40 am **Basil el Jundi**, Lund University
Neural coding of the hierarchy of celestial cues in the insect brain
- 10:00 am Break
- 10:45 am **Matthias Wittlinger**, University of Ulm
*Visual odometry during passive transport in the desert ant *Cataglyphis**
- 11:05 am **Johannes D. Seelig**, Janelia Research Campus/HHMI
Neural dynamics for angular path integration and landmark orientation
- 11:25 am Session 2: Visual Pathway Diversity I**
Chair: Kit Longden
- 11:25 am **Kazunori Shinomiya**, Janelia Research Campus/HHMI
*A novel "two-color" EM method to identify connections between visual neurons in *Drosophila**
- 11:45 pm **Ming Wu**, Janelia Research Campus/HHMI
*Visual output neurons drive distinct behaviors in *Drosophila**
- 12:05 pm Lunch (*service ends at 1pm*)
- 2:00 pm Session 3: Visual Pathway Diversity II**
Chair: Kit Longden
- 2:00 pm **Iris Salecker**, National Institute for Medical Research
*Generating neurons for the lobula plate in *Drosophila**
- 2:20 pm **Daniel B. Zurek**, University of Pittsburgh
*Spectral filtering enables trichromatic vision in the principal eyes of *Habronattus* jumping spiders*

2:40 pm **Thomas W. Cronin**, University of Maryland Baltimore County
Complex color vision in mantis shrimps: Opsins and filters

3:00 pm Break

3:30 pm Poster Reception

5:30 pm Dinner

7:00 pm **Session 4: Perspective Talks**
Chair: Michael Reiser

7:00 pm **Alexander Borst**, Max Planck Institute of Neurobiology
Neural basis and functional significance of motion opponency in the fly

7:40 pm **Marla Feller**, University of California, Berkeley
The development of direction selective circuits in the mouse retina

8:20 pm Refreshments available at Bob's Pub

Tuesday, April 21

- 7:30 am Breakfast (*service ends at 8:45am*)
- 9:00 am Session 5: Mechanisms & Circuits for Motion Vision I**
Chair: Holger Krapp
- 9:00 am **Fabrizio Gabbiani**, Baylor College of Medicine
Neural motion detection circuits underlying looming-evoked escape behaviors in Drosophila
- 9:20 am **Marion Silies**, European Neuroscience Institute
A columnar medulla neuron with wide-field properties plays an essential role in elementary motion detection
- 9:40 am **Georg Ammer**, Max Planck Institute of Neurobiology
Neural elements and tuning properties of the ON motion vision pathway in Drosophila
- 10:00 am Break
- 10:45 am Session 6: Mechanisms & Circuits for Motion Vision II**
Chair: Holger Krapp
- 10:45 am **Ian A. Meinertzhagen**, Dalhousie University
How might the T4 and T5 motion detection pathways of the Drosophila visual system have evolved?
- 11:05 am **Claude Desplan**, New York University
Temporal patterning of neural stem cells
- 11:25 am **Yvette E. Fisher**, Stanford University
Inhibitory signaling shapes correlation-type elementary motion detection
- 11:45 am **James Strother**, Janelia Research Campus/HHMI
The neural circuits of the ON motion pathway in Drosophila melanogaster
- 12:05 pm Lunch (*service ends at 1pm*)
- 1:00 pm Tour (*optional – meet at reception*)
- 2:00 pm Session 7: Motion Vision in a Broader Context I**
Chair: Helen Yang
- 2:00 pm **Eugenia Chiappe**, Champalimaud Foundation
Visuomotor interaction in motion-sensitive visual interneurons

- 2:20 pm **Anmo Kim**, The Rockefeller University
Cell-type tailored silencing of fly vision during flight turns
- 2:40 pm **Anna L. Stöckl**, Vision Group, Lund University
Bringing light to the dark: Visual processing improves sensitivity in hawkmoth brains
- 3:00 pm Break
- 3:30 pm Session 8: Motion Vision in a Broader Context II**
Chair: Helen Yang
- 3:30 pm **Martin Egelhaaf**, Bielefeld University
Motion as a source of environmental information: A fresh view on biological motion computation by insect brains and its role for solving spatial vision tasks
- 3:50 pm **Damon A. Clark**, Yale University
Tuning the nonlinear step in a motion detector for naturalistic motion estimation
- 4:10 pm **Ron R. Hoy**, Cornell University
Neural processing of local motion signals reveals evolutionary convergence in dragonfly and macaque
- 4:30 pm Panel Discussion: Clark, Chiappe, Maimon, Strother, Silies**
Chair: Claude Desplan
- 5:15 pm Poster Reception
- 6:45 pm Dinner
- 8:00 pm Session 9: Perspective Talks**
Chair: Karin Nordström
- 8:00 pm **Thomas Collett**, University of Sussex
Behaviour for extracting scene information and what is extracted
- 8:40 pm **Botond Roska**, Friedrich Miescher Institute for Biomedical Research (FMI)
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- 9:20 pm Refreshments available at Bob's Pub

Wednesday, April 22

- 7:30 am Breakfast (*service ends at 8:45am*)
- 9:00 am Session 10: Feature Detection I**
Chair: Stanley Heinze
- 9:00 am **Cole Gilbert**, Cornell University
Visual scanning by retinal movements of freely behaving jumping spiders
- 9:20 am **Annette Stowasser**, University of Cincinnati
Exploring distance cues that a highly unusual visual system could use to hunt under water
- 9:40 am **Daniel Tomsic**, University of Buenos Aires
A network of visual motion-sensitive neurons for computing object position in an arthropod
- 10:00 am Break
- 10:30 am **Session 11: Feature Detection II**
Chair: Stanley Heinze
- 10:30 am **Andrew D. Straw**, Research Institute of Molecular Pathology (IMP)
Multiple fly visuo-motor behaviors predicted by a single biologically plausible circuit
- 10:50 am **Mehmet Keles**, University of California, Los Angeles
*Neural basis of parallel object detection streams in *Drosophila**
- 11:10 am **Anthony Leonardo**, Janelia Research Campus/HHMI
Predictive control and internal models direct dragonfly interception steering
- 11:30 am Panel Discussion: Tom Clandinin, Karin Nordström, and Michael Reiser**
- 12:00 pm Lunch & Departure
- 1:00 pm First shuttle to Dulles
2:00 pm Second shuttle to Dulles
3:00 pm Last shuttle to Dulles