Learning and Memory: A Synthesis of Flies and Honeybees
Janelia Farm, May 15-18, 2011

Sunday, May 15th

3:00 pm Check-in

6:00 pm Reception (Lobby)

7:00 pm Dinner

8:15 pm **Opening Lecture: Randolf Menzel**, Freie Universität Berlin
Mushroom bodies and insect intelligence: From Dujardin to the present
Chair: Ron Davis

9:15 pm Refreshments available at Bob's Pub

Monday, May 16th

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 1: Molecular systems underlying learning and memory**
Chair: Martin Giurfa

9:00 am **Efthimios (Makis) Skoulakis**, Alexander Fleming Biomedical Sciences Research Center
The receptor tyrosine kinase Alk signals through Nf-1 and is essential for size determination and learning

9:30 am **Ron L. Davis**, The Scripps Research Institute Florida
Elongator function and long-term memory

10:00 am **Dorothea Eisenhardt**, Freie Universitat Berlin
The ubiquitin-proteasome system (UPS) mediates the balance between long-term memories for classical conditioning and extinction in the honeybee (Apis mellifera)

10:30 am **Kausik Si**, The Stowers Institute for Medical Research
The role of self-sustaining amyloidogenic state of Drosophila Orb2 in persistence of memory

11:00 am Break

11:30 am **Session 2: Student/Postdoc Session**
Chair: Martin Giurfa

11:30 am **Isaac Cervantes-Sandoval,** The Scripps Research Institute Florida
Drosophila DPM memory traces for aversive vs appetitive olfactory classical conditioning

11:45 am **Theo Mota,** Centre National de la Recherche Scientifique (CNRS)
Color modulates olfactory learning in honeybees by an occasion setting mechanism

12:00 pm **Tyler Ofstad**, HHMI Janelia Farm/University of California, San Diego
Place learning in Drosophila

12:15 pm **Julien Sejourne**, Centre National de la Recherche Scientifique (CNRS)
Gating long-term memory

12:30 pm Lunch

1:15 pm Tour *(optional - meet at reception)*

2:15 pm Session 3: Roles for dopamine
Chair: Leslie Griffith

2:15 pm **Hiromu Tanimoto**, Max-Planck Institute of Neurobiology
Dopamine signals for the formation of olfactory memory in Drosophila

2:45 pm **Krystyna Keleman**, Research Institute of Molecular Pathology
Dopamine neurons modulate pheromone responses in Drosophila courtship learning

3:15 pm **Thomas Preat**, Centre National de la Recherche Scientifique (CNRS)
Dopaminergic neurons antagonistically control the two forms of consolidated memory in Drosophila

3:45 pm Break

4:15 pm Session 4: Cognitive aging
Chair: Ron Davis

4:15 pm **Paul Shaw**, Washington University
Increased dopamine signaling delays functional senescence in behavioral and structural plasticity

4:45 pm **Sean McBride**, University of Pennsylvania
Pharmacological and genetic reversal of age-dependent cognitive deficits attributable to decreased presenilin function

5:15 pm **Minoru Saitoe**, Tokyo Metropolitan Institute for Neuroscience
Regulation of Drosophila age-related memory impairment by glial cells

5:45 pm Conclusion of Session 4 / Discussion

6:15 pm Reception

7:00 pm Dinner

8:00 pm Session 5: Poster Reception and Informal Discussions

9:30 pm Refreshments available at Bob's Pub

Tuesday, May 17th

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 6: Networks underlying learning and memory**
Chair: Leslie Griffith

9:00 am **Andreas S. Thum**, University of Fribourg
Drosophila larvae establish appetitive olfactory memories via mushroom body neurons of embryonic origin

9:30 am **Andre Fiala**, University of Göttingen
Odour generalization and discrimination learning in Drosophila

10:00 am **Jean-Christophe Sandoz**, Centre National de la Recherche Scientifique (CNRS)
Neural plasticity related to long-term memory in the olfactory pathway of the honeybee

10:30 am Break

11:00 am **Session 7: Networks underlying learning and memory (continued)**
Chair: Martin Giurfa

11:00 am **Randolf Menzel**, Freie Universität Berlin
Neural signatures of learning and memory retrieval in mushroom body extrinsic neurons

11:30 am **Yi Zhong**, Cold Spring Harbor Laboratory
Gating long-term memory formation

12:00 pm **Li Liu**, Institute of Biophysics, Chinese Academy of Sciences
Differential roles of the fan-shaped body and the ellipsoid body in visual pattern memory of Drosophila

12:30 pm Lunch

2:00 pm **Session 8: Redundancy and parallelism**
Chair: Martin Giurfa

2:00 pm **Joshua T. Dubnau**, Cold Spring Harbor Laboratory
Parallel processing of olfactory memories

2:30 pm **Leslie C. Griffith**, Brandeis University
Sensory cue redundancy in courtship learning: Many ways to learn the same lesson

3:00 pm	**Brian H. Smith**, Arizona State University *The problem with distributed plasticity, and some potential solutions*
3:30 pm	Break
4:00 pm	**Session 9: Cognition** **Chair: Ron Davis**
4:00 pm	**Martin Giurfa**, Centre National de la Recherche Scientifique (CNRS) *Learning about concepts with a miniature brain*
4:30 pm	**Bruno van Swinderen**, Queensland Brain Institute *Visual competiton and brain dynamics in the fly and the bee*
5:00 pm	**Aike Guo**, Chinese Academy of Sciences *Neural basis of behavioral flexibility in Drosophila*
5:30 pm	Conclusion of Session 9 / Discussion
6:00 pm	Reception
7:00 pm	Dinner
8:00 pm	**Session 10: Poster Reception and Informal Discussions**
9:30 pm	Refreshments available at Bob's Pub

Wednesday, May 18th

7:30 am	Breakfast *(service ends at 8:45 am)*
9:00 am	**Session 11: Behavioral variability, taste, sleep, and learning** **Chair: Leslie Griffith**
9:00 am	**Scott Waddell**, University of Massachusetts Medical School *Remembering nutrient quality of sugar in Drosophila*
9:30 am	**Jerry C.P. Yin**, University of Wisconsin-Madison *Sleep-associated dCREB2-responsive transcription*
10:00 am	**Bjoern Brembs**, Freie Universität Berlin *Action – outcome evaluation: FoxP in Drosophila self-learning*
10:30 am	Break
11:00 am	**Session 12: Learning in an ecological and evolutionary context** **Chair: Ron Davis**
11:00 am	**Walter M. Farina**, University of Buenos Aires *Olfactory experiences within the beehives – Long lasting implications of precocious learning*
11:30 am	**Frederic Mery**, Centre National de la Recherche Scientifique (CNRS) *The social fly: From simple interaction to social transmission in Drosophila*
12:00 pm	**Reuven Dukas**, McMaster University *Evolutionary significance of learning in the context of sexual behavior*
12:30 pm	Discussion / Concluding Remarks
12:45 pm	Lunch and Departure (to-go boxes available in servery for those on the first shuttle)
1:15 pm	First shuttle to Dulles
1:45 pm	Second shuttle to Dulles
2:30 pm	Last shuttle to Dulles