International Symposium in Honeybee Neuroscience
Berlin, June 10 - 13, 2010

"Honeybee Neuroscience – a New, Old Model System, Bridging Genomics, Physiology and Behavior. Where to in the Next 50 Years?"

Zuse Institute Berlin (ZIB)

Thursday, 6/10/2010

16:00-17:00 *Registration and hanging of posters*

17:00-17:30 *Introductory remarks*
"What do learning and motor control have in common"
(Jochen Pflüger, Berlin, Germany)

17:30-19:00 *Plenary lecture*
Visual cognition in honeybees: from elemental stimulus learning and discrimination to non-elemental categorization and rule extraction
(Martin Giurfa, Toulouse, France)

19:00-19:30 *Meeting of the authors of the forthcoming book (Springer Publisher):*
"Honeybee neurobiology and behavior – a tribute for Randolf Menzel"

20:00 *Dinner and reception (at Seminaris hotel)*

Friday, 6/11/2010

08:30-08:45 *Opening remarks*
(Dorothea Eisenhardt, Berlin, Germany)

08:45-11:15 *Session 1: Sensory systems*
(Chair: Giovanni Galizia, Konstanz, Germany)

08:45-09:15 The auditory system of the honeybee
(Hiroyuki Ai, Fukuoka, Japan)

09:15-09:45 Chromatic and achromatic vision of bees in relation to flower patterns
(Misha Vorobyev, Auckland, New Zealand)

09:45-10:15 Psychophysics of honeybee colour processing in complex environments
(Adrian Dyer, Monash, Australia)

10:15-10:45 *Break and poster session*

10:45-11:15 Olfaction in the honeybee: multiple odour representations in the honeybee brain
(Jean-Christophe Sandoz, Toulouse, France)

11:15-15:05 *Session 2: Genetics and molecular biology*
(Chair: Jean-Christophe Sandoz, Toulouse, France)

11:15-11:45 Molecular dissection of the honeybee brain: an approach to solving the mystery of 'dance communication' and the sociality of the honeybee
(Takeo Kubo, Tokyo, Japan)

11:45-12:15 Elucidating the path from genotype to behaviour: is epigenomics a way forward for the honey bee neuroscience?
(Ryszard Maleszka, Canberra, Australia)

12:15-14:15 *Lunch (at FU Mensa)*

14:15-14:45 Molecular insights into honeybee brain plasticity
(Judith Reinhard and Charles Claudianos, Queensland, Australia)

14:45-15:05 Glutamate neurotransmission in the honeybee central nervous system
(Gerard Leboulle, Berlin, Germany)

15:05-16:35 *Session 3: Social organization within the hive*
(Chair: Judith Reinhard, Queensland, Australia)

15:05-15:35 The genetic and developmental evolution of social organization
(Rob Page, Tempe, USA)

15:35-16:05 Molecular genetic regulation of division of labor
(Gro Amdam, Tempe, USA)

16:05-16:35 The social regulation of task-related plasticity in circadian rhythms in honeybees
(Guy Bloch, Jerusalem, Israel)

16:35-17:05 *Break and poster session*

17:05-18:05 *Session 4: Communication within the hive*
(Chair: Gro Amdam, Tempe, USA)

17:05-17:35 Foraging honeybees: how foragers determine and transmit information about feeding site locations
(Harald Esch , Notre Dame, USA)

17:35-18:05 Olfactory information transfer during recruitment in honeybees
(Walter Farina, Buenos Aires, Argentina)

19:30 *Dinner (at Museum Dahlem)*

Saturday, 6/12/2010

08:30-10:30 *Session 5: Learning and memory*
(Chair: Guy Bloch, Jerusalem, Israel)

08:30-09:00 Universal laws of behavior tested in the honeybee
(Ken Cheng, Sydney, Australia)

09:00-09:20 Tactile learning in the honeybee
(Joachim Erber, Berlin, Germany)

09:20-09:40 Formation of contrasting memories in honeybees
(Dorothea Eisenhardt, Berlin, Germany)

09:40-10:00 Molecular biology of learning and memory: from memory phases to signaling cascades
(Uli Müller, Saarbrücken, Germany)

10:00-10:30 Distributed plasticity in the honeybee brain
(Brian Smith, Tempe, USA)

10:30-10:50 Break

10:50-14:40 Session 6: Brain anatomy and physiology
(Chair: Dorothea Eisenhardt, Berlin, Germany)

10:50-11:10 The honeybee standard brain
(Jürgen Rybak, Berlin, Germany)

11:10-11:40 Dopamine signalling in the bee
(Alison Mercer, Otago, New Zealand)

11:40-12:10 Modification of olfactory learning and memory induced by siRNA targeting nicotinic acetylcholine subunits in the honeybee
(Monique Gauthier, Toulouse, France)

12:10-12:30 Cellular pysiology of the honeybee brain
(Bernd Grünewald, Frankfurt, Germany)

12:30-14:00 Lunch (buffet in the lobby) and poster session

14:00-14:20 Plasticity of synaptic microcircuits in the mushroom-body calyx of the honeybee
(Wolfgang Roessler, Wuerzburg, Germany)

14:20-14:40 Neuropeptides in the bee brain
(Giovanni Galizia, Konstanz, Germany)

14:40-15:40 Session 7: Orientation and navigation
(Chair: Alison Mercer, Otago, New Zealand)

14:40-15:10 How do honeybees obtain the specific messages from dances in the darkness of the hive?
(Axel Michelsen, Odense, Denmark)

15:10-15:40 Molecular dissection of honey bee dance language: progress and prospects
(Gene Robinson, Urbana-Champaign, USA)

15:40-16:00 Break

16:00-17:00 Past, presence, future of honeybee neurobiology
Randolf Menzel

17:00-19:30 Poster session and closing of the day

Sunday, 6/13/2010

09:00-12:00 *Session 8: Comparison with other invertebrate systems*
(Chair: Wolfgang Roessler, Würzburg, Germany)

09:00-09:30 Multi-component signals in ant communication
(Bert Hölldobler, Tempe, USA)

09:30-10:00 Neurogenetics of associative function in *Drosophila*
(Bertram Gerber, Würzburg, Germany)

10:00-10:30 Neural processing of behaviorally significant odors in the antennal lobe of the moth *Manduca sexta*
(John Hildebrand, Tucson, USA)

10:30-11:00 *Break*

11:00-11:30 How time flies: the molecular architecture of long-term memory in *Aplysia*
(Tom Carew, Irvine, USA)

11:30-12:00 Chemosensory coding and learning in the moth *Heliothis virescens*: searching for the neuronal network involved
(Hanna Mustaparta, Trondheim, Norwegian)

12:00-12:30 *Closing remarks*
(C Giovanni Galizia, Konstanz, Germany)