ASU - UWü International Symposium and Workshop on

*Frontiers in Insect Behavior, Social Organization, and Evolution*

Program

May 23 – 30, 2014
Lecture Hall A101, Biozentrum, University of Würzburg
Symposium

Friday, May 23

9:00-9:20  Welcome and Opening Remarks

Wolfgang Rössler (Vice Dean Biology, Head Behavioral Physiology & Sociobiology, UWü)
Rob Page (Univ. Provost, Foundation Chair School of Life Sciences, ASU)
Charlotte Förster (Speaker Biocenter, Head Neurobiology & Genetics, UWü)

Ecology 1:  09:20-10:40 Chair: Wolfgang Rössler

09:20-09:40  Jennifer Fewell: Division of labor and network
09:40-10:00  Stephen Pratt: Collective cognition by insect societies
10:00-10:20  Nicola Plowes: Chemical communication during column foraging in nearctic Messor species
10:20-10:40  Zachary Shaffer: The wisdom of the acorn: social foraging in Temnothorax ants

10:40-11:10  Coffee break in front of lecture hall A101

Ecology 2:  11:10-12:30 Chair: Flavio Roces

11:10-11:30  Ted Pavlic: Understanding foraging patterns that achieve colony-level macronutrient regulation
11:30-11:50  Ying Wang: Molecular regulation of social behavior in honey bees
11:50-12:10  Yohan Cho: Information collection and transfer during recruitment by ants
12:10-12.30  Jessie Ebie: Inhibition of worker reproduction and nestmate recognition

12:30-13:30  Lunch @ Mensa am Hubland

13:30 - 14:30  Poster session
Neuroethology 1: 14:30-15:50 Chair: Brian Smith

14:30-14:50 Irina Sinakevitch: The chemical anatomy of the olfactory pathways (antenna, antennal lobe and mushroom body) in honeybees

14:50-15:10 Claudia Groh: Density of mushroom body synapses limits intraspecies brain miniaturization in polymorphic leaf-cutting ants

15:10-15:30 Ricarda Scheiner: Molecular mechanisms underlying division of labor in honeybees: Part I: The role of biogenic amines and their receptors

15:30-15:50 Markus Thamm: Molecular mechanisms underlying division of labor in honeybees: Part II: The role of cGMP-dependent protein kinase (PKG)

15:50-16:20 Coffee break in front of lecture hall A101

Neuroethology 2: 16:20-17:40 Chair: Jürgen Gadau

16:20-16:40 Frank Sommerlandt: Learning in honeybees: Linking visual conditioning to synaptic organisation

16:40-17:00 Martin Strube-Bloss: Simultaneous recordings of projection neurons and mushroom body extrinsic neurons: speed, odor sensation & memory recall

17:00-17:20 Jan Kropf: Differences in the ion channel composition between honeybee projection neurons and Kenyon cells and their implications on neuronal coding

17:20-17:40 free slot

17:40 – open Poster session

18:00 BBQ in the courtyard of the Biozentrum
Saturday, May 24

**Behavior 1: 09:00-10:20 Chair: Johannes Spaethe**

09:00-09:20  **Jacob Campbell:** Escape or Tolerate: Different Strategies to Survive Anoxia in Larval and Adult *Drosophila*

09:20-09:40  **Peter Marting:** Collective individuality of *Azteca* ants in *Cecropia* trees

09:40-10:00  **Hans-Joachim Poethke:** Pattern characterizes process: distinguishing between random and intelligent movement

10:00-10:20  **Fabian Nürnberg:** Impact of disrupted honeybee communication on resource intake in differently structured landscapes

10:20-10:50  **Coffee break** in front of lecture hall A101

**Behavior 2: 10:50-12:10 Chair: Claudia Groh**

10:50-11:10  **Flavio Roces:** The organization of foraging in leaf-cutting ants: learned and socially-mediated plant preferences

11:10-11:30  **Daniela Römer:** The influence of carbon dioxide levels on nest excavation and fungus relocation in leaf-cutting ants

11:30-11:50  **Agustina Falibene:** Avoidance learning in leaf-cutting ants: synaptic plasticity associated with long-term memory formation.

11:50-12:10  **Christina Scholl:** The role of CaMKII in the formation of long term memory in the honeybee

12:10-13:30  **Lunch** @ Cafeteria Mensa am Hubland

**13:30 - 14:30  Poster session**
**Evolution:** 14:30-15:50 *Chair: Martin Strube-Bloss*

14:30-14:50 **Takao Sasaki:** A context-dependent alarm signal in the ant *Temnothorax rugatulus*

14:50-15:10 **Brian Haney:** The evolution and reproductive consequences of queen cooperation

15:10-15:30 **Ti Erickson:** The evolution of primary polygyny as an adaptive trait in the honey ant *Myrmecocystus mendax* Wheeler (Hymenoptera: Formicidae)

15:30-15:50 **Oliver Mitesser:** Different mechanisms trigger the evolution of simultaneous progressive provisioning in social vs. solitary insects.

15:50-16:20 *Coffee break* in front of lecture hall A101

**Genetics:** 16:20-17:40 *Chair: Ricarda Scheiner*

16:20-16:40 **Jürgen Liebig:** Genes and sociality in ants and termites

16:40-17:00 **Elizabeth Cash:** Evolution of desaturase genes in ants.

17:00-17:20 **Jürgen Gadau:** Genetics and genomics of speciation and adaptation in Hymenoptera

17:20-17:40 **Nils Becker:** Light-inducible transcriptomic changes underlying brain plasticity in honeybees

17:40 – open **Poster session**

Dinner organization is free!

We suggest going downtown to catch some Saturday night fever or at least some beer in one of our famous beer gardens

**Sunday, May 25:** explore Würzburg – suggestions will follow
Workshop: Lectures, Site- and Lab-Visits, Discussions

Monday, May 26

**Lecture** Lecture Hall A102
09:00-10:00  **Jürgen Gadau** School of Life Sciences, ASU
10:30-12:00 Visit **Bee Station Zoology II** (Dirk Ahrens, Beekeeper; Thomas Münz)
12:00-13:00 Lunch, self-organized
13:00-14:00 Meet your tandem, check posters
14:00 Meeting point at the Biocenter parking lot, drive via shuttle bus to the Botanical Institute and Botanical Garden
14:30-16:00 Visit **Metabolomics Core Unit** (Agnes Fekete, Pharmaceutical Biology)
16:00 Meet in front of the Metabolomics Facility to go by tram to **Drosophila** facility
16:30-18:00 visit **Medical Physiology, Drosophila Electrophys/Molecular Biol** (Robert Kittel)
18:45 **Wine tasting event** in the cellar of the “Würzburger Residence Palace”, a UNESCO world heritage and “must see” (until ~21:30)

Tuesday, May 27

9:00 – 10:00 Meet you tandem, check posters
10:00-12:00 Lab visits **Neurobiology & Genetics** (Charlotte Förster, Christian Wegener): Methods in Chronobiology, Neurogenetics, Neuropeptide Function
12:00-13:00 Lunch, self-organized

**Lecture** Lecture Hall A101
13:00-14:00 **Wolfgang Rössler** Behavioral Physiology & Sociobiology, UWü
14:00-17:00 Lab visits **Behavioral Physiology & Sociobiology** (Zoology II):
Methods in brain imaging & behavior (Claudia Groh)
Methods in Electrophysiology & behavior (Martin Strube-Bloss)
Ant behavioral ecology and ant facilities (Flavio Roces)
Bee/bumble bee behavior studies and molecular tools (Johannes Spaethe)
17:00 Meet **Rüdiger Wehner** (Prof. , Univ. Zürich), Seminar Room D133 (Zoology II)
Wednesday, May 28

10:00-12:00  Lab visit Animal Ecology and Tropical Biology (Ingolf Steffan-Dewenter, Thomas Schmitt)

12:00-13:00  Meet your tandem, check posters

13:00-14:30  Lunch, self-organized

**Guest Lecture** Lecture Hall A103
14:30 - 15:30  Sylvia Cremer (Institute of Science and Technology, Austria): Collective disease defence in ant societies

**Lecture** Lecture Hall A103
15:30-16:15  Charlotte Förster (Speaker DFG Collaborative Research Center “Insect Timing”, UWü)

16:30 -18:00  Visit Microscopy/BioImaging Core Unit (Christian Stigloher & Georg Krohne, Zoology I)

Thursday, May 29 (German Holiday)

Free organization, Sightseeing, Africa Festival, Hiking, meet your tandem...

Friday, May 30

Organize lab visits individually with your tandem, meetings, discussions, exchange ...

**Say Good Bye**

Posters will be up during the entire meeting and workshop

**Further information**

Meeting website with city map and hotels:
http://www.zoo2.biozentrum.uni-wuerzburg.de/konferenzen/symposium_workshop_2014_frontiers_in_insect_behavior_social_organisation_and_ecology/

26<sup>th</sup> Africa Festival in Würzburg (May 29 – June 1, 2014):
http://www.africafestival.org/
Conference contacts:

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