



6th Meeting of the ANN

"Evolution of the arthropod brain - from development to structure"



DZG & SPP 2205 Evolutionary Optimisation of Neuronal Processing

Organizers: Gregor Bucher, Steffen Harzsch,
Anna Stöckl, Susanne Neupert



SPP 2205
Evolutionary optimization
of neuronal processing

Monday, September 12th

Time	min	Title	Speaker	
12:00		Lunch and chats		
			Chair: Gregor Bucher	
13:00	10	Welcome	Gregor Bucher	Göttingen
13:10	40	Visual specialisation and explosive expansion of the mushroom bodies in <i>Heliconius</i> butterflies	Steve Montgomery	Bristol (UK)
13:50	20	Coevolution of central complex and mushroom bodies through a shared spatial orientation circuitry in <i>Heliconiini</i> butterflies	Max Farnworth	Bristol (UK)
14:10	20	Parallel evolutionary shifts in brain and behaviour across elevational gradients in tropical <i>Heliconius</i> butterflies	Richard Merrill	München
14:30	30	Coffee break / Posters	Chair: Susanne Neupert	
15:00	40	The velvet worm brain—homologies and novelties across Panarthropoda	Christine Martin	Kassel
15:40	20	Localization of the circadian clock neurons in a velvet worm (Onychophora)	Niklas Metzendorf	Kassel
16:00	20	Developing a taste for sweets: Sugar detection and preference in <i>Manduca sexta</i> caterpillars and adults reflects leaf and nectar feeding lifestyles	Alexander Haverkamp	Wageningen (NL)
16:20	30	Coffee break / Posters	Chair: Anna Stöckl	
16:50	40	<i>Drosophila sechellia</i> : a model for chemosensory system evolution in drosophilids	Thomas Auer	Lausanne (CH)
17:30	20	Structural and functional substrate for intraglomerular signaling in the insect antennal lobe	Martin Nawrot	Cologne
17:50	20	Evolutionary trends in pancrustacean olfactory systems	Steffen Harzsch	Greifswald
18:10	20	Morphology of a small brain: neuromodulator localization in the central olfactory pathway of the crustacean <i>Parhyale hawaiiensis</i>	Katja Kümmerlen	Greifswald
18:30	20	Insight into the olfactory system of the migratory locust, <i>Locusta migratoria</i> : An anatomical and cellular study	Eleftherios Dimitriou	Jena
18:50		Bier & Brezln		

Tuesday, September 13th

Time	min	Title	Speaker	
			Chair: Steffen Harzsch	
9:00	40	Comparative connectomics of the insect central complex: The circuits underlying diverse navigational abilities.	Stanley Heinze	Lund (SE)
9:40	30	Cellular and genetic mechanisms of central complex diversification	Gregor Bucher	Göttingen
10:10	20	Towards a groundplan of lineage associated fiber tracts in the insect brain	Volker Hartenstein	Los Angeles (US)
10:30	30	Coffee break / Poster session	Chair: Uwe Homberg	
11:00	40	Vision in spiders: impacts of ecological shifts on the evolution of a highly versatile system	Lauren Sumner-Rooney	Berlin
11:40	20	Comparative analysis of major visual motion processing circuits and neuropil investment among stationary and cursorial hunting spiders	Philipp Steinhoff	Greifswald
12:00	20	Interspecific ommatidia size differences in <i>Drosophila</i> are driven by variation in Rhodopsin 3 positive photoreceptors	Nico Posnien	Göttingen
12:20	20	Genetically marking homologous cells in two species to study the evolution of brain development	Georg Bullinger	Göttingen
12:40		Lunch		



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Posters

Monday, September 12th & Tuesday, September 13th

No.	Title	Speaker	
1	The control of multiscale rhythms in sensitivity and kinetics in pheromone transduction of the hawkmoth <i>Manduca sexta</i>	Aditi Vijayan	Kassel
2	Identification and distribution of RYamides in the circadian clock of the Madera cockroach	Sohail H. A. Shoaib	Kassel
3	The neuropeptide pigment-dispersing factor (PDF) controls seasonal adaptation to changing light periods in the equatorial cockroach <i>Rhyarobia maderae</i>	Huleg Zolmon	Kassel
4	Systematic Classification of Ascending Neurons from the Ventral Nerve Cord to the Brain of Adult <i>Drosophila melanogaster</i>	Erica Ehrhard	Köln
5	A computational model of olfactory processing in the fly antennal lobe using EM data	Magdalena Anna Springer	Köln
6	Temperature-dependent variability of detectable neuropeptide and aminergic titers in individual <i>Drosophila</i> neurons by quantitative immunolabelling	Inga Schirmer	Kassel
7	Adaptation of olfactory brain regions in Hemiptera in transition from land to water habitats	Ngoc Anh Luu	Jena