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**PROGRAM,
BOOK OF ABSTRACTS,
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EDITED BY LINO OMETTO AND OMAR ROTA-STABELLI



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P₂O₅ 50kg/ha K₂O (V9). The results confirm a positive correlation between chlorophyll content, dry matter content and crude protein in under the influence of fertilization.

Asymmetric social interactions through left and right antenna in honey bees

Elisa Rigosi^{1,2,3}, Lesley J. Rogers⁴, Elisa Frasnelli¹, Giorgio Vallortigara¹

¹*CIMEC Center for Mind/Brain Sciences, University of Trento, CorsoBettini 31, I-38068 Rovereto (TN), Italy.*

²*Research and Innovation Center, Fondazione Edmund Mach, Via Mach 1, 38010 San Michele all'Adige (TN), Italy.*

³*BIOTech research center, Dept. of Industrial Engineering, via Mesiano 77, 38123 Trento, Italy.*

⁴*Centre for Neuroscience and Animal Behaviour, University of New England, Armidale, NSW 2450, Australia.*

Contact: elisa.rigosi@gmail.com

Left-right specialization of brain and behaviour is not unique property of vertebrates but has been recently observed in invertebrate species as well. Interestingly, a link between lateralization and sociality has been suggested, together with capabilities of mastering high cognitive tasks, at least among vertebrates. The study of invertebrates is important from an evolutionary and comparative perspective. In particular, honey bees are useful models to investigate the evolution of brain asymmetries and social traits. To date, though a lateralization has been revealed at the electrophysiological level in single individuals during olfactory processing, nothing is known about asymmetric bias and social behaviours. Here we report for the first time a strong lateral preference in honey bees to use their right antenna in social interactions with conspecifics. We analyzed different social behaviours (latency to contact, numbers of proboscis extension (PER), number of C-responses, number of mandibulations) in pairs of bees coming either from the same colony or from different colonies. We found a directional bias in the use of antennae for three measures of social interactions such as latency, PER, and C-responses. In particular in bees with only right antennae social behaviour is more context-appropriate compared to left antennae bees, the later possibly due to an impairment in distinguishing between hive mates and bees from another hive. This highlights a direct association of lateral biases during social interactions in honey bees and raises the question whether it might have evolved as a putative adaptation to eusociality.