



## Editorial

## Introduction to special papers presented at Measuring Behavior 2014



In this issue, we present a small number of significant papers that were presented at the 9th Measuring Behavior conference. It was held in Wageningen, The Netherlands, 27–29 August, 2014. Building on the format that has emerged from previous meetings, a wide variety of methodological aspects of the behavioral sciences was showcased. In addition to purely scientific presentations, we also had a good number of demonstrations for equipment, analysis tools and refinements of existing setups, and also the latest prototypes.

The ones selected by the *Journal of Neuroscience Methods* are featured here at the beginning of this issue and reverberate around the improvement of data analysis tools used for scoring and analysis of behavioural patterns in animals. The group of Casarrubea performed elegant experiments using the elevated plus maze. Distinction of behavioural strategies for the central platform was performed using T-pattern analysis, which enabled a richer detection of anxiety-related features.

Social behaviour between two conspecifics has numerous elements. One of the major hurdles for automation is the simultaneous scoring of each individual and the truthful continuous tracking. Using their video analysis system, Peters and colleagues generated frequency distributions of the velocity of and distance between the two test subjects. These parameters detected novel read-outs that align with manually annotated behaviours of chasing, allogrooming and social investigation. The study reported by Kyriakou and colleagues is also related to the in-depth analysis of movement. Their comprehensive feature categorization of static and dynamic parameters extracted from the gait analysis tool Catwalk confirmed that subtle differences in movement-related disease models are readily accessible and robust.

A refinement of an existing and widely administered set-shifting procedure for detection of executive function is revealed by Lamberty and coworkers. The emphasis is on better classification of errors (persistence versus regression), the redefinition of turn bias and reward related parameters. These improved both reliability and utility of the task as confirmed by drug treatments.

A novel means for the detection of surface body temperature during locomotion is reported in the paper by Mufford et al. The application of infrared thermography enabled the continuous monitoring of thermoregulation and confirmed that increased surface body temperature correlates with reduced locomotion. If temperature is regulated and stable, locomotion is high. This non-invasive tool is a major advance of radio-telemetry as it enables continuous and not only intermittent recording.

Andrew Spink  
Noldus IT, Netherlands

Gernot Riedel\*  
University of Aberdeen, United Kingdom

Egon van den Broek  
University of Utrecht, Netherlands

Maurizio Mauri  
University of Milan, Italy

\* Corresponding author.  
E-mail address: [g.riedel@abdn.ac.uk](mailto:g.riedel@abdn.ac.uk) (G. Riedel)

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