

# Measuring the Impossible: an EU New and Emerging Science and Technologies Initiative Symposium

G.W.A.M. van der Heijden<sup>1</sup>, G. Geršak<sup>2</sup>, R. Montgomery<sup>3</sup>, R. Sefelin<sup>4</sup>, and A. Cancedda<sup>5</sup>

<sup>1</sup> *Biometris, Wageningen University and Research Centre, Wageningen, the Netherlands* [gerie.vanderheijden@wur.nl](mailto:gerie.vanderheijden@wur.nl), <sup>2</sup> *University of Ljubljana, Ljubljana, Slovenia*, <sup>3</sup> *National Physics Laboratory, London, UK*, <sup>4</sup> *CURE, Vienna, Austria*, <sup>5</sup> *Laboratorio di Scienze della Cittadinanza, Rome, Italy*

This symposium will present research funded within the EU “Measuring the Impossible” initiative. The “Measuring the Impossible” initiative is part of the New and Emerging Science and Technologies programs of the EU (<http://cordis.europa.eu/nest/>).

Measuring the Impossible is about supporting interdisciplinary research and novel investigative methods that could present prospects for advancing the measurement of multidimensional phenomena which are mediated by human interpretation and/or perception – to be able to advance the frontiers of the science of measurement and to respond to future requirements for measuring properties such as comfort, naturalness, perceived quality, feelings, body language and consciousness (<ftp://ftp.cordis.europa.eu/pub/nest/docs/1-nest-measuring-290507.pdf>).

Many problems in real-life are so complex that they can only be solved using an interdisciplinary approach, including physical metrology (physics, chemistry, biology), neuroscience and psychology. The idea is that solutions require the combined effort of creative researchers with different scientific backgrounds. The emphasis of the initiative therefore lies in the multifaceted character and interdisciplinarity of the research and it aims to promote the creation of new interdisciplinary partnerships between researchers stemming from a wide range of research fields.

Successful cooperation will result in innovative theories and methods for measuring complex human perception and interpretation. The measurement based on novel kinds of technical cognitive systems will help understand human behaviour without neglecting the ethical and gender impacts.

Within the Measuring the Impossible initiative, 15 projects are granted with a total grant from the EU of over €26 M. This symposium will present the progress of seven projects, with emphasis on the techniques and methods that will be used for measuring the complex phenomena.

## Symposium contents

### **MINET – A European network on Measuring the Impossible**

M. Gröning

### **Measuring perceived odor quality**

L. Zheng

### **Focal attention models driven by image statistics**

Jan-Mark Geusebroek, Victoria Yanulevskaya, Jan Bernard Marsman, and Frans Cornelissen

### **Measuring Perception of Naturalness**

K.E. Overvliet, S. Soto-Faraco, T.A. Whitaker, L. Johnstone Sorensen, F. McGlone, and G. van der Heijden

### **Measuring the experience of digital game enjoyment**

Wijnand IJsselstein

### **Measuring conscious mental states**

M. Overgaard, K. Sandberg, B. Timmermans, and A. Cleeremans

### **MEMORY: Measuring the relationship between perception of space and time**

G. M. Cicchini, P. Binda, D. Burr, and M. C. Morrone