

# WORKSHOP

## Measuring Behaviour in Open Spaces

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Open spaces such as lobbies, playgrounds, museums and streets are common locations where people meet and interact with the environment. For various reasons, we might be interested in the behaviour of individuals and groups. Detection of suspicious behaviour or traffic control are typical applications in the areas of security and surveillance. But we can also analyse how people navigate through crowded places, whether children play cooperative or competitive on a playground or whether people are attending items on sale in a clothing store.

When the behaviour of people is analysed, we can also try to influence this behaviour as an interactive system. When displays or actuators are present in the open space, these can be used to navigate people through crowded halls or try to stimulate interactions between people that appear to have similar interests in a museum. An interactive system can even try to seduce people to explore how the system responds to them. In all these examples, there is a need to robustly identify and track people around the space. Sensors such as cameras, microphones and Kinects are employed and their signals processed to obtain information about the people's locations and movements. Subsequently, we can analyse these to understand the behaviour, either for individuals or for groups. This interpretation is non-trivial as it strongly depends on the spatial and social context in which the behaviour occurs. Moreover, unexpected behaviour and inconsistencies in the tracking make this task a challenging one. Besides the challenges in proper sensor technology and behaviour interpretation, research on measuring behaviour in open spaces also depends on the availability of labelled behaviours for the training and evaluation of various aspects of the system. This workshop addresses the challenges and opportunities in the analysis and understanding of (groups of) people in open spaces.

Speakers at the workshop include Marco Cristani (University of Verona), Liesbeth Jans (Fontys Sporthogeschool Tilburg), Andries Lohmeijer (KIT Engineering), Ben Schouten (Eindhoven University of Technology / Fontys University of Applied Sciences) and Mettina Veenstra (Amsterdam University of Applied Sciences).

### WORKSHOP CONTENTS

#### **Creating Interactive Public Spaces**

Mettina Veenstra (Amsterdam University of Applied Sciences)

#### **Human behavior analysis for the design of playful interactions**

Ben Schouten (Eindhoven University of Technology / Fontys University of Applied Sciences)

#### **Social Computer Vision for Group Behavior Analysis**

Marco Cristani (University of Verona)

#### **25 years Motion Interpreted Media Interface Control (MIMIC)**

Andries Lohmeijer (KIT Engineering)

#### **Observing physical activity and play in open spaces**

Liesbeth Jans (Fontys Sporthogeschool Tilburg)