

# Full Papers

## Full Paper sessions

Full Paper sessions are oral presentations grouped by topic.

The conference contains the following Full Paper sessions:

- Measuring the Behavior of Laboratory Animals
- Statistical Techniques and Pattern Analysis
- Measuring Gaze, Eye Tracking and Facial Expression
- Psychological Measurements of Behavior
- Studying Human Machine Interaction (1)
- Studying Human Machine Interaction (2)
- Tracking and the Analysis of Motion
- Human Behavior in the Urban Environment; Measurements in the Field and Realistic Situations

## FULL PAPER SESSION

### Measuring the Behavior of Laboratory Animals

Date: Wednesday, August 25

Time: 10:00-15:40

Location: Einstein

#### Program

- 10:00 Enrichment discrimination test: a novel model of attention deficiency in rats and mice.  
Ramiz Salimov, Elena V. Godovikh, Inga G. Kapitza, Alexander V. Ivashchenko. (Chemdiv Inc., CA, USA).
- 10:20 Microstructural assessment of rodent behavior in the hole-board experimental assay.  
Maurizio Casarrubea, Filippina Sorbera, Andrea Santangelo and Giuseppe Crescimanno. (University of Palermo, Italy).
- 10:40 *Coffee break*
- 11:10 A novel conditioning paradigm enables the dissociation between the formations of context- and cue-dependent memories of drug reward.  
Yossef Itzhak (University of Miami, USA).
- 11:30 Automation of continuous spontaneous alternation to increase the throughput for in vivo screening of cognitive enhancers. Optimization of the Ethovision system for Y-maze test in mice.  
Eric Detrait, Catherine Brohez, Etienne Hanon and Marc De Ryck. (UCB Pharma, Belgium).
- 11:50 Home cage testing of decision-making.  
Susanne Koot and Ruud van den Bos (Utrecht University, The Netherlands), Walter Adriani and Gianni Laviola (Istituto Superiore di Sanità, Italy).
- 12:10 Trainable, Vision-Based Automated Home Cage Behavioral Phenotyping.  
Hueihan Jhuang, Estibaliz Garrote, Nicholas Edelman, Tomaso Poggio and Thomas Serre (McGovern Institute of Brain Research, USA) and Andrew Steele (California Institute of Technology, USA).
- 12:30 *Lunch break*

- 14:00 Refinement through better animal monitoring: how behavioural researchers can contribute.  
Penny Hawkins (RSPCA, United Kingdom).
- 14:20 Natural color preference in the zebrafish (*Danio rerio*).  
Avdesh Avdesh, Mathew T Martin-Iverson, Alinda Mondal, Mengqi Chen, Giuseppe Verdile and Ralph N Martins (Edith Cowan University, Australia).
- 14:40 *End of session*

## FULL PAPER SESSION

### Statistical Techniques and Pattern Analysis

Date: Wednesday, August 25

Time: 14:00-17:30

Location: Zernike

#### Program

- 14:00 Estimating slope and level change in N=1 designs.  
Antonio Solanas, Rumen Manolov (University of Barcelona, Spain) and Patrick Onghena (Katholieke Universiteit Leuven, Belgium).
- 14:20 DyaDA: An R package for dyadic data analysis.  
David Leiva and Antonio Solanas (University of Barcelona, Spain), Han de Vries (University of Utrecht) and David A. Kenny (University of Connecticut, USA).
- 14:40 The Algorithm for Detection Fuzzy Behavioral Patterns.  
Valera Vishnevskiy and Dmitry P. Vetrov. (Moscow State University, Russia).
- 15:00 Machine learning techniques for parameter selection and automated behavioral classification.  
Dimitris Fekas (Noldus Information Technology, The Netherlands), Raymond de Heer, Marco Mellace & Berry Spruijt (Delta Phenomics, The Netherlands) and Cajo ter Braak (Wageningen University and Research Centre, The Netherlands).
- 15:20 Using Ideas of Kolmogorov Complexity for studying animal behavioural patterns.  
Sofia Panteleeva, Danzanov Zhargal and Reznikova Zhanna (Institute of Systematics and Ecology of Animals, Russia).
- 15:40 *Tea break*
- 16:10 Ball recovery in the handball tournament of the 2008 Beijing Olympic Games: sequential analysis of positional play as used by the Spanish team's defence.  
António Lopes (Universidade Lusófona, Portugal) Oleguer Camerino (INEFC-University of Lleida, Spain), M<sup>a</sup> Teresa Anguera (University of Barcelona, Spain) and Gudberg Jonsson (University of Iceland).
- 16:30 DataPrism: A Tool for Visualizing Multimodal Data.  
Adam Fouse and James D. Hollan (University of California, San Diego, USA).

- 16:50 Video Deep Tagging and Data Archiving/Processing in the Comparative Mind Database.  
George Kampis and Adam Miklosi (Eötvös University, Hungary),  
Zsofia Viranyi (Konrad Lorenz Inst. for Evol. and Cog. Research, Austria) and  
Laszlo Gulyas (Aitia International, Inc., Hungary).
- 17:10 Using Postural Control System Measures to Detect Hypovigilance.  
Thomas Schnupp, Adolf Schenka, David Sommer, Martin Golz ((University  
of Applied Sciences Schmalkalden, Germany) and  
Jarek Krajewski (University Wuppertal, Germany).
- 17:30 *End of session*

## FULL PAPER SESSION

### Measuring Gaze, Eye Tracking and Facial Expression

Date: Wednesday, August 25

Time: 10:00-15:40

Location: Lorentz-Zeeman

#### Program

- 10:00 Measuring instant emotions during a self-assessment test: The use of FaceReader.  
Vasileios Terzis, Christos N. Moridis and Anastasios A. Economides (University of Macedonia, Greece.)
- 10:20 Comparison of eye tracking systems with one and three cameras.  
Christer Ahlström and Tania Duki (Swedish National Road and Transport Research Institute (VTI), Linköping, Sweden).
- 10:40 *Coffee break*
- 11:10 Gaze Metrics for Efficient and Safe Operations of Hemodialysis.  
Hirotaka Aoki (Tokyo Institute of Technology, Japan) and Satoshi Suzuki (Tokyo Women's Medical University, Japan).
- 11:30 Automatic Recognition of Lower Facial Action Units.  
Isabel Gonzalez, Hichem Sahli and Werner Verhelst (Joint Research Group on Audio Visual Signal Processing (AVSP), Belgium).
- 11:50 Facial expression classification based on local spatiotemporal edge and texture descriptors.  
Yulia Gizatdinova, Veikko Surakka, Erno Mäkinen and Roope Raisamo (University of Tampere, Finland) and Guoying Zhao (University of Oulu, Finland).
- 12:10 Comfort and acceptability study of 3D devices.  
Jean-Marc Diverrez, Dusan Iorgovan, Céline Nicolas, Gilles Coppin (Telecom Bretagne, France) and Alice Naylor (UBO, France).
- 12:30 *Lunch break*

- 14:00 Eye Tracking Analysis: Application in a Case Study of an Fast Moving Consumer Goods Product.  
Emma Lógó, Eszter Józsa and Balázs Péter Hámornik (Budapest University of Technology and Economics, Hungary).
- 14:20 Physiological Measures, Eye Tracking and Task Analysis to Track User Reactions in UGC.  
Aude Dufresne and François Courtemanche (University of Montreal, Canada),  
Sandrine Prom Tep and Sylvain Senechal (Hautes Études Commerciales Montréal, Canada).
- 14:40 Measuring reading characteristics using eye tracking and a context adapting classification system.  
Jakob de Lemos (iMotions - Emotion Technology, USA).
- 15:00 DogCam: a way to measure visual attention in dogs.  
Alejandra Rossi, Francisco J. Parada and Colin Allen (Indiana University, USA).
- 15:20 *End of session*

## FULL PAPER SESSION

### Psychological Measurements of Behavior

Date: Wednesday, August 25

Time: 14:00-16:50

Location: Curie

#### Program

- 14:00 A dyadic approach for measuring and testing agreement in interpersonal perception.  
Antonio Solanas, David Leiva and Rumen Manolov (University of Barcelona, Spain).
- 14:20 Acquisition, translitivity and transfer of a matching to sample task under different language modes.  
Agustin Daniel Gomez Fuentes and Emilio Ribes Iñesta. (Veracruz, México).
- 14:40 Early Social Skills as a Function of Gender: an Observational Study of Children Between 3 – 8 Years in Andhra Pradesh, India.  
Mayuri Kandalla and Pavitra Bhat (Angr Agricultural University, India).
- 15:00 Measuring Potential Cues for Depression in Adolescents.  
Martijn Balsters, Emiel Kraemer, Marc Swerts and Ad Vingerhoets (University of Tilburg, The Netherlands).
- 15:20 Observing the paraverbal communication of coaches in competitive match situations.  
Marta Castañer and Catarina Miguel (University of Lleida, Spain),  
M<sup>a</sup>. T. Anguera (University of Barcelona, Spain) and Gudberg K. Jonsson (University of Iceland).
- 15:40 Tea break
- 16:10 Temporal dynamics of multimodal multiparty interactions: A microgenesis of early social interaction.  
Kaya de Barbaro, Christine M. Johnson and Gedeon O. Deák (University of California, San Diego, USA) and Deborah Forster (MOBU Research Inc., USA).
- 16:30 Measuring behavioral indices of cognitive processing in children.  
Linda Phan, Rosemary Meza, Judy Reilly (San Diego State University, USA) and  
Gwen Littlewort, Marni Bartlett (University of San Diego California, USA).
- 16:50 *End of session*

## FULL PAPER SESSION

### Studying Human Machine Interaction (1)

Date: Wednesday, August 25

Time: 16:10-17:30

Location: Einstein

#### Program

- 16:10 A Method for Remote and Semi-Automatic Usability Evaluation of Web-based Applications Through Users Behavior Analysis.  
Ariel Vargas, Heloísa Vieira da Rocha (University of Campinas, Brazil) and Harold Weffers (Eindhoven University of Technology, The Netherlands).
- 16:30 Beyond Usability: A Methodology to Evaluate the Affective Experience of Interaction with E-Commerce Websites.  
Troy Abel (Virginia Tech, USA).
- 16:50 A Framework to Measure User Experience of Interactive Online Products.  
Katrin Schulze and Heidi Krömker (TU Ilmenau, Germany).
- 17:10 iHeartrate: A heart rate controlled in-flight music recommendation system.  
Hao Liu, Jun Hu and Matthias Rauterberg (Technical University of Eindhoven, The Netherlands).
- 17:30 *End of session*

## FULL PAPER SESSION

### Studying Human Machine Interaction (2)

Date: Thursday, August 26

Time: 10:00-12:30

Location: Einstein

#### Program

- 10:00 Measuring motor actions and psychophysiology for task difficulty estimation in human-robot interaction.  
Domen Novak, Matjaz Mihelj, Jaka Zihel, Andrej Olensek and Marko Munih (University of Ljubljana, Slovenia).
- 10:20 Evaluating Multimodal Human-Robot Interaction: A Case Study of an Early Humanoid Prototype.  
Gudberg K. Jonsson (University of Iceland) and Kristinn R. Thorisson (University of Reykjavik, Iceland).
- 10:40 *Coffee break*
- 11:10 Measurement of feet-ground interaction for real-time person localization, step characterization, and gaming.  
Chris Varekamp and Patrick Vandewalle (Philips Research, The Netherlands).
- 11:30 Web Based Measuring System For Health Monitoring At Home.  
Luca Rizzi, Cinzia Dinardo, Nicola Savino and Gianluca Ciullo (CETMA Consortium, Italy).
- 11:50 Towards the Use of Psychological Variables in User Profiling.  
Ricardo Luiz and Marilia Felismino (Edificio YDreams, Portugal),  
Marta Castela and Pedro Marques (Alameda da Universidade, Portugal).
- 12:10 MAESTRO: Orchestrating User Behavior Driven and Context Triggered Experience Sampling.  
Alexander Meschtscherjakov, Wolfgang Reitberger and Manfred Tscheligi (University of Salzburg, Austria).
- 12:30 *End of session*

## FULL PAPER SESSION

### Tracking and the Analysis of Motion

Date: Thursday, August 26

Time: 10:00-12:30

Location: Ernst

#### Program

- 10:00 Multi-Method Analysis of the Relationship between Individual's Space-Time Behavior, Built Environment and the Evolution of Cognitive Representations: Application of Tracking Technologies and Internet Surveys.  
Anastasia Moiseeva and Harry Timmermans (Eindhoven University of Technology, The Netherlands).
- 10:20 Appraising the aesthetics of human movement: An application to contemporary dance using a motion capture system.  
Marta Castañer, Carlota Torrents, Gaspar Morey and Toni Jofre (INESCOP, Spain) and M. Teresa Anguera (University of Barcelona, Spain).
- 10:40 *Coffee break*
- 11:10 Using Motion Sensing to Study Human Computer Interaction in Hospital Settings.  
Katherine Sellen and Mark Chignel (University of Toronto, Canada), Sharon Straus (Micheal's Hospital, Canada), Jeannie Callum (Sunnybrook Health Sciences Center, Canada) and Jacob Pendergrast (University Health Network, Toronto, Canada).
- 11:30 A high-resolution system for recording the daily and lifetime behavioral and movement patterns of individual Tephritid fruit flies.  
James Carey, H.-G. Müller and J.-L. Wang (University of California Davis, USA), S. Zou (National Institute on Aging, USA), P. Liedo (El Colegio de al Frontera Sur Tapachula, Mexico), Leopoldo Robles and Leopoldo Altamirano (National Institute for Astrophysics, Optics and Electronics, Mexico), Donald Ingram (Louisiana State University, USA) and N. Papadopoulos (University of Thessaly Greece).

- 11:50 Identification of vertical and horizontal movement patterns in cod behavior.  
Gudberg K. Jonsson (University of Iceland),  
Vilhjalmur Thorsteinsson (The Marine Research Institute, Iceland) and  
Gunnar Gudni Tomasson (Reykjavik University, Iceland).
- 12:10 Measuring 3D Arm Movements for Activities of Daily Living.  
Thomas Haslwanter and Jürgen Waldhör (Upper Austria University of Applied  
Sciences, Austria).
- 12:30 *End of session*

## FULL PAPER SESSION

### Human Behavior in the Urban Environment; Measurements in the Field and Realistic Situations

Date: Friday, August 27

Time: 10:00-17:30

Location: Curie

#### Program

- 10:00 Review of Real-time Visual Driver Distraction Detection Algorithms.  
Christer Ahlström and Katja Kircher (Swedish National Road and Transport Research Institute, VTI, Sweden).
- 10:20 Using semi-automated shadowing for analysing stress-induced spatio-temporal behaviour patterns of passengers in public transport infrastructures.  
Alexandra Millonig and Gudrun Maierbrugger (Austrian Institute of Technology, Austria).
- 10:40 *Coffee break*
- 11:10 Assessment of aging effects on drivers' perceptual and behavioral responses using subjective ratings and pressure measures.  
Gyohyung Kyung (UNIST, Korea) and Maury A. Nussbaum (Virginia Tech, USA).
- 11:30 Applying Nonlinear Dynamics Features for Speech-based Fatigue Detection.  
Jarek Krajewski (Univ. of Wuppertal, Germany),  
Thomas Schnupp, David Sommer, Christian Heinze and Martin Golz (FH Schmalkalden, Germany).
- 11:50 Detecting Fatigue from Steering Behaviour Applying Continuous Wavelet Transform.  
Jarek Krajewski and Tom Laufenberg (University Wuppertal, Germany),  
David Sommer, Thomas Schnupp, Christian Heinze and Martin Golz (University of Applied Sciences Schmalkalden, Germany).
- 12:10 Creating a Richer Data Source for 3D Pedestrian Flow Simulations in Public Transport.  
Veronika Egger (is-design, Austria),  
Helmut Schrom-Feiertag, Gregory Telepak (Austrian Institute of Technology) and Lisa Ehrenstrasser (inklusive design, Austria).

- 12:30 Identifying operators monitoring appropriately.  
Dietrich Grasshoff, Catrin Hasse, Hinnerk Eißfeldt and Carmen Bruder (German Aerospace Center, Germany).
- 12:50 *Lunch break*
- 14:00 A Detailed Analysis of Eating Behaviour.  
Ioannis Ioakeimidis, Per Södersten and Modjtaba Zandian (Karolinska Institute, Sweden).
- 14:20 Field Measurement Protocol for Team Communication: A Study of Medical Rehabilitation Team Interaction.  
Bálázs Péter Hámornik and Márta Juhász (Budapest University of Technology and Economics, Hungary) and  
Ildikó Vén (National Institute for Medical Rehabilitation, Hungary).
- 14:40 Measuring Professional Teams' Information Sharing Behaviour.  
Juliánna Katalin Soós, Márta Juhász and Balázs Péter Hámornik (Budapest University of Technology and Economics, Hungary).
- 15:00 Child-Activity Recognition from Multi-Sensor Data.  
Sabri Boughorbel, Jeroen Breebaart, Fons Bruekers, Ingrid Flinsenbergh and Warner ten Kate (Philips Research Laboratories Eindhoven, The Netherlands).
- 15:20 Studying media usage in the living room by measuring Infrared Signals.  
Thomas Mirlacher (IRIT – ICS, France),  
Thomas Fischer and Regina Bernhaupt (ruwido research, Austria).
- 15:40 Optimization of User Satisfaction on an Augmented Reality Based Guided Tour.  
Marília Felismino and Ricardo Luiz (Edifício YDreams, Portugal),  
Marta Castela and Pedro Marques (Alameda da Universidade, Portugal).
- 16:00 *End of session*