MUM 2015

14th International Conference on

MOBILE AND UBIQUITOUS MULTIMEDIA

Linz, Austria | Nov 30 - Dec 2, 2015

Name

Affiliation

UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA

FH OBERÖSTERREICH

SIGCHI
special interest group computer human interaction

JKU
JOHANNES KEPLER
UNIVERSITY LINZ

acm In-Cooperation

Welcome to

MUM 2015

On behalf of the organizing committee for MUM 2015, we would like to welcome you to this 14th edition of the International Conference on Mobile and Ubiquitous Multimedia, held at the Ars Electronica Center in Linz, Austria from November 30 to December 2, 2015. The MUM conference series is a distinguished forum for advances in research and technologies that drives innovation in mobile and multimedia systems, applications, and services. At MUM academics and practitioners gather to discuss challenges and achievements from diverse perspectives, in a comfortable and effective single track conference format.

This year we received 89 full and short research paper submissions surrounding these topics. A rigorous review process followed where each paper received at least three reviews from international experts. After this review process, 25 full papers and 8 short papers were selected to appear in these proceedings and to be presented at the conference. This results in an acceptance rate of 37% for 2015. The topics in the paper program are organized in the following sessions: media and applications; studies and findings; detecting, classifying, and recognizing; specific application areas; specific user groups; wearable and mobile interaction; augmented reality; and designing interactions. We hope that this selection of papers will form the basis of lively discussions at the conference as well as new cooperations leading to future research.

The program committee awards best paper awards to the authors of two papers, "Wearable Technology as a Solution for Workplace Safety" and "Effects of Camera Position and Media Type on Lifelogging Images", along with three further honorable mentions. These awards and honorable mentions were selected due to their very positive reviews and represent a special recognition of excellence.

In addition to the regular paper submissions, MUM 2015 is happy to feature a poster and a demo track again, with 15 accepted posters and 5 accepted demos. This year we introduce a video track with 3 accepted videos as well as a doctoral school with 4 accepted submissions. Altogether, 27 submissions to adjunct categories were accepted for publication in addition to the 33 full and short papers. We encouraged authors of adjunct submissions to submit to multiple categories (i.e. poster, demo, video, and doctoral school). Moreover, we encouraged authors of accepted full and short papers to also submit a demo or video for their papers. Therefore, one paper from the conference proceedings may be represented in multiple presentation categories.

We welcome you to enjoy MUM 2015 in Linz!

GENERAL CHAIRS

Clemens Holzmann
University of Applied
Sciences Upper Austria, Austria

René Mayrhofer
Johannes Kepler
University Linz, Austria

PROGRAM CHAIRS

Jonna Häkkilä
University of Lapland,
Finland

Enrico Rukzio
University of Ulm,
Germany

Icon Legend

● Full Paper

◐ Short Paper

🏆 Best Full Paper Award

🏆 Best Short Paper Award

★ Honorable Mention Award

Conference Program

www.mum-conf.org/2015/program.html

Tweet your thoughts and comments on Twitter using **#MUM2015** and **@MumConf2015**

Contents

Keynote Speakers

Hans Gellersen

Lancaster University, UK

Opening Keynote
Monday, 09:30 -10:30

Eye Movement for Multimodal and Ubiquitous Interaction

Ubiquitous computing aspires to support human activity seamlessly with interactive technologies. This involves the proliferation of digital devices of different form and function in our environments, and the appropriation of diverse sensing modalities to observe activity, capture context, and provide natural interfaces to users. For tracking human activities, eye movement is a compelling source of information, as the eyes are where the action is; I will thus argue that eye movement can be leveraged in novel and advanced ways for multimodal and ubiquitous interaction. While the technology has been maturing and become affordable for widespread use, there has not been much innovation in the use of eye gaze for interaction. For over 25 years, gaze pointing has remained the prevailing usage paradigm, although it overloads the sensory role of the eyes with a control function. In this talk I will present work that explores new ways of using eye movement for interaction. I will discuss gaze and touch: how hands and eyes can naturally work together; gaze and motion: how the natural gaze-following of moving stimuli enables new types of interface; and gaze and games: how gaze can be social and fun.

Hans Gellersen is Professor of Interactive Systems at Lancaster University. Hans' research interest is in sensors and devices for ubiquitous computing and human-computer interaction. In recent work he is focussing on eye movement as a source of context information and modality for interaction. Hans was involved in the foundation of the UbiComp conference series, and serves as Associate Editor of ACM TOCHI and the Journal on Personal and Ubiquitous Computing (PUC). Hans has held his chair position at Lancaster since 2001. Previously he was affiliated with the University of Karlsruhe in Germany, where he received his PhD in Computer Science in 1996.

Gerfried Stocker

Ars Electronica, Austria

Closing Keynote
Wednesday, 13:30 - 14:30

How ubiquitous and pervasive do computer systems have to become before we really start to care about the users?

In 1994 the Ars Electronica Festival was dedicated to "Intelligent Ambiences" and one of the pioneers of what we call nowadays ubiquitous and mobile computing, Rich Gold from the famous Xerox Parc Laboratories titled his lecture for the festivals symposium: "How smart does our bed have to be before we are afraid to sleep in it?". A wonderful and forward thinking title, considering that this was more than 20 years ago. A time where most of the concepts for such a future of computing were still speculative and many of them sounded as funny as this title. But now it's here or at least almost here. We are doing great in the technological developments towards it but when it comes to the social and cultural challenges, it seems we didn't learn much in the last two decades. So how ubiquitous and mobile can our digital world become at all, if we always just look at the technology behind it? What, if people really get afraid of these systems which we are preparing and implementing right now. And what can we do to get it right?

Gerfried Stocker is artistic and managing director of Ars Electronica since 1995. In this period the Linz based Ars Electronica has evolved from the early festival of Art, Technology and Society into a new type of institution which is engaged in artistic production and education as well as in research and development for the industry.

MONDAY
30.11.2015

Credit: Martin Hieslmair

Registration	08:00 - 09:00
Opening	09:00 - 09:30
Opening Keynote Eye Movement for Multimodal and Ubiquitous Interaction	09:30 - 10:30
☕ Coffee Break	10:30 - 11:00
Media and Applications	11:00 - 12:30
🍴 Lunch	12:30 - 13:30
Studies and Findings	13:30 - 15:00
☕ Coffee Break	15:00 - 15:30
Detecting, Classifying and Recognizing	15:30 - 17:00
🎁 Austrian Christmas Season Break	17:00 - 17:45
One Minute Madness	17:45 - 18:15
🍴 Video Reception + Finger Food	18:15

Media and Applications

Studies and Findings

Pick Up and Play: Understanding Tangibility for Cloud Media

Donald McMillan[1], Barry Brown[1], Abigail Sellen[2], Siân Lindley[2] and Roy Martens[3]

1 Stockholm University, Stockholm, Sweden
2 Microsoft Research, Cambridge, UK
3 Essense, Amsterdam, The Netherlands

On-the-fly Entity Resolution from Distributed Social Media Sources for Mobile Search and Exploration

Bernd Opitz[1], Timo Sztyler[1], Michael Jess[1], Florian Knip[1], Christian Bikar[1], Bernd Pfister[1] and Ansgar Scherp[2]

1 University of Mannheim, Mannheim, Germany
2 ZBW – Leibniz Information Centre for Economics and Kiel University, Kiel, Germany

What's the deal with privacy apps? A comprehensive exploration of user perception and usability

Hala Assal, Stephanie Hurtado, Asan Imran and Sonia Chiasson

Carleton University, Ottawa, Ontario, Canada

Redefining the Fundamentals of Photography with Cooperative Photography

James Wen[1] and Ayça Ünlüer[2]

1 University of Gothenburg, Gothenburg, Sweden
2 Chalmers University of Technology, Gothenburg, Sweden

User Experience of Digital News: Two Semi-long Term Field Studies

Emilia Pesonen[1], Satu Jumisko-Pyykkö[1,2] and Heli Väätäjä[1]

1 Tampere University of Technology, Tampere, Finland
2 Eindhoven University of Technology, Eindhoven, The Netherlands

Street Art Gangs: Location Based Hybrid Reality Game

Paula Alavesa and Timo Ojala

University of Oulu, Oulu, Finland

Show Me Your Phone, I Will Tell You Who Your Friends Are: Analyzing Smartphone Data To Identify Social Relationships

Delphine Reinhardt[1,3], Franziska Engelmann[2], Andrey Moerov[3] and Matthias Hollick[2]

1 Fraunhofer FKIE, Bonn, Germany
2 TU Darmstadt, Darmstadt, Germany
3 University of Bonn, Bonn, Germany

Exploring Touch Interaction Methods for Image Segmentation on Mobile Devices

Christoph Korinke[1], Nils Steffen Worzyk[2] and Susanne Boll[2]

1 OFFIS – Institute for Information Technology, Oldenburg, Germany
2 University of Oldenburg, Oldenburg, Germany

Detecting, Classifying and Recognizing

Video Reception

● **Detecting Human Encounters from WiFi Radio Signals**

Vanderhulst Geert[1], Afra Mashhadi[2], Marzieh Dashti[2] and Fahim Kawsar[1]

1 Bell Laboratories, Antwerp, Belgium
2 Bell Laboratories, Dublin, Ireland

● **Happy and Agreeable? Multi-Label Classification of Impressions in Social Video**

Gilberto Chávez-Martínez[1], Salvador Ruiz-Correa[2] and Daniel Gatica-Perez[1]

1 Idiap Research Institute, Martigny, Switzerland
2 Instituto Potosino de Investigación Científica y Tecnológica, San Luis, Mexico

★ **Assessing Activity Recognition Feedback in Long-term Psychology Trials**

Manuel Dietrich[1], Eugen Berlin[2] and Kristof Van Laerhoven[3]

1 TU Darmstadt, Darmstadt, Germany
2 AGT International, Darmstadt, Germany 3 University of Freiburg, Freiburg, Germany

◑ **Towards Device-to-User Authentication: Protecting Against Phishing Hardware by Ensuring Mobile Device Authenticity using Vibration Patterns**

Rainhard Dieter Findling[1] and René Mayrhofer[2]

1 University of Applied Sciences Upper Austria, Hagenberg, Austria
2 Johannes Kepler University Linz, Linz, Austria

MoCo Motion: Integrating Mobile Devices into a Multiplayer Floor-based Gaming Environment

Andreas Friedl[1], Jeremiah Diephuis[1], Georgi Kostov[1] and Otto Naderer[2]

1 University of Applied Sciences Upper Austria, Hagenberg, Austria
2 Ars Electronica Futurelab, Linz, Austria

Gary: Combining Speech Synthesis and Eye Tracking to Support Struggling Readers

Gianluca Schiavo, Simonetta Osler, Nadia Mana and Ornella Mich

FBK (Fondazione Bruno Kessler), Trento, Italy

Sauberes Wiesbaden App: Introducing Mobile E-Participation for a Clean City Project in Germany

Stephan Böhm[1], Bodo Igler[1], Roberto Morales[1], Frank Sand[2] and Attila Ertan[3]

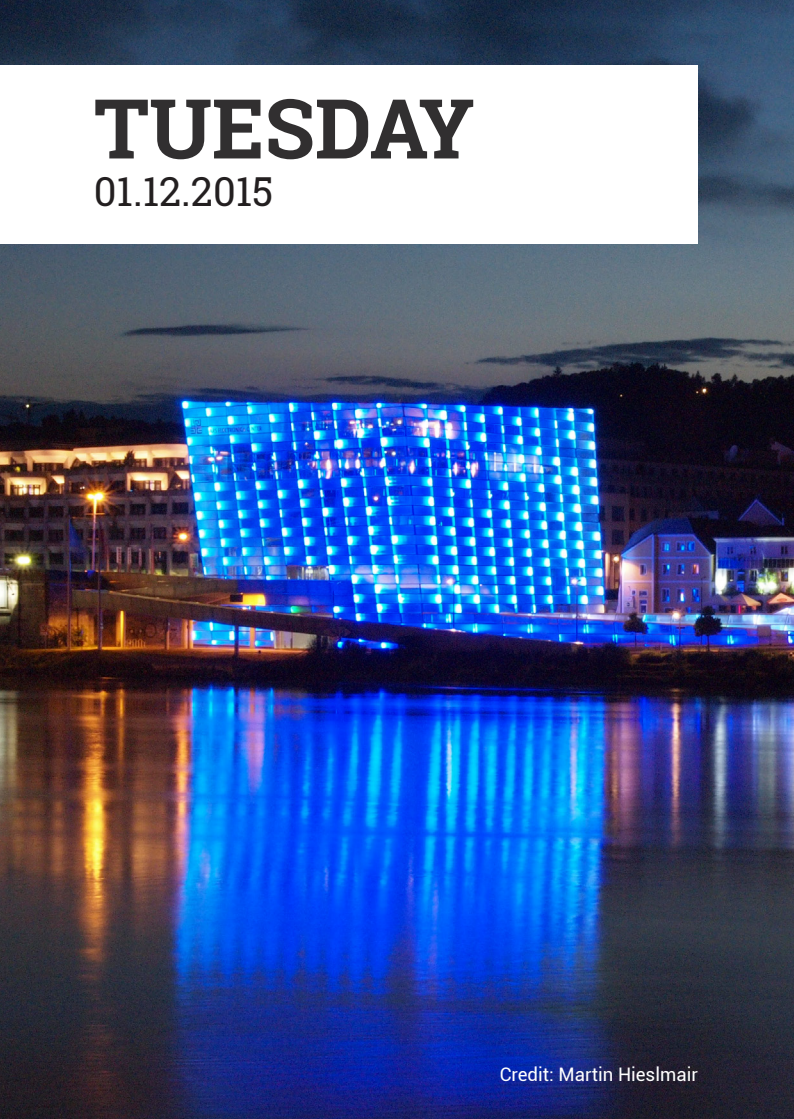1 RheinMain University of Applied Sciences, Wiesbaden, Germany
2 MBA Wiesbaden GmbH, Wiesbaden, Germany
3 ELW (Entsorgungsbetriebe der Landeshauptstadt Wiesbaden), Wiesbaden, Germany

12   **MUM 2015**

14th Intl. Conf. on Mobile and Ubiquitous Multimedia   13

TUESDAY

01.12.2015

Credit: Martin Hieslmair

Registration	**08:00 - 09:00**
Specific Application Areas	**09:00 - 10:30**
☕ Coffee Break	**10:30 - 11:00**
Specific User Groups	**11:00 - 12:30**
🍴 Demos/Posters + Lunch	**12:30 - 14:00**
AEC Highlight Tour	**14:00 - 15:30**
☕ Coffee Break	**15:30 - 16:00**
Wearable and Mobile interaction	**16:00 - 17:30**
Visit of Christmas Market	**17:30 - 19:00**
🍴 Banquet in the Linz Castle	**19:00**

Specific Application Areas

★ **Triage Training System: Adjusting the Difficulty Level According to User Proficiency**

Yuki Tayama, Ryuga Kato and Ken-Ichi Okada

Keio University, Kanagawa, Japan

◑ **TwitSoccer - Knowledge-based Crowdsourcing of live Soccer Events**

Markus Löchtefeld[1], Christian Jäckel[2] and Antonio Krüger[1]

1 German Research Center for Artificial Intelligence (DFKI), Saarbrücken, Germany
2 Saarland University, Saarbrücken, Germany

● **'Weather With You': Evaluating Report Reliability in Weather Crowdsourcing**

Evangelos Niforatos[1], Athanasios Vourvopoulos[2] and Marc Langheinrich[1]

1 Università della Svizzera italiana (USI), Lugano, Switzerland
2 Madeira-ITI, Universidade da Madeira, Funchal, Portugal

● **Comic-Crowd: Interactive Comic Creation that Supports Multiple Storylines, Visualizations, and Platforms**

Hiroaki Tobita

Advanced Institute of Industrial Technology (AIIT), Tokyo, Japan

Specific User Groups

A Wearable and Mobile Intervention Delivery System for Individuals with Panic Disorder ●

Luis Cruz, Jonathan Rubin, Rui Abreu, Shane Ahern, Hoda Eldardiry and Daniel G. Bobrow

PARC, A Xerox Company, Palo Alto, CA, USA

Help Radar: Ubiquitous Assistance for Newly Arrived Immigrants ★

Stephanie Schwarz[1], Estefania Palacio Salazar[2], Jan Bobeth[1], Nicoletta Bersia[3] and Manfred Tscheligi[1]

1 AIT Austrian Institute of Technology GmbH, Vienna, Austria
2 FH Campus Wien, Vienna, Austria
3 Telecom Italia, Torino, Italy

Enabling Accessibility through Multimodality? Interaction Modality Choices of Older Adults ◑

Julia Himmelsbach, Markus Garschall, Sebastian Egger, Susanne Steffek and Manfred Tscheligi

AIT Austrian Institute of Technology GmbH, Vienna, Austria

Localization of Storyboards for Cross-Cultural User Studies ●

Tanja Walsh[1], Helen Petrie[2] and Anqi Zhang[2]

1 Tampere University of Technology, Tampere, Finland
2 University of York, York, UK

Posters

A Smartphone Application for Voice Browsing RFID Smart Shelves
Kamruddin Nur, Zulqarnain Rashid, and Rafael Pous
Universitat Pompeu Fabra, Barcelona, Spain

Destmaster – Improved Destination Input System For The UR-Walking Application
Stefan Covaci, Maximilian Frick, Florian Krämer and Julian Pörsch
University of Regensburg, Regensburg, Germany

Emotion-based Music Recommendation using Supervised Learning
Karl-Arnold Bodarwé, Jenny Noack, and Philipp Jean-Jacques
University of Regensburg, Regensburg, Germany

FROY: Exploring Sentiment-Based Movie Recommendations
Philip Gaag, Daniel Granvogl, Robert Jackermeier, Florian Ludwig, Johannes Rosenlöhner and Alexander Uitz
University of Regensburg, Regensburg, Germany

GRASPhere: A Prototype to Augment Indirect Touch with Grasping Gestures
Dorin-Mircea Popovici[1], Radu-Daniel Vatavu[2] and Mihai Polceanu[3]
1 Ovidius University of Constanta, Constanta, Romania
2 University Stefan cel Mare of Suceava, Suceava, Romania
3 Florida International University, Miami, FL, USA

InfoFinder: Just-in-Time Information Interface from the Combination of an HWD with a Smartwatch
Jianming Wu and Tomonori Yazaki
KDDI R&D Laboratories Inc., Japan

Nombot – Simplify Food Tracking
Bettina Graf, Maike Krüger, Felix Müller, Alexander Ruhland and Andrea Zech
University of Regensburg, Regensburg, Germany

Collaborative Landmark Mining With A Gamification Approach
Florian Bockes, Laura Edel, Matthias Ferstl and Andreas Schmid
University of Regensburg, Regensburg, Germany

Posters

Woody: A Location-based Smartphone Game to Increase Children's Outdoor Activities in Urban Environments
Paul Spiesberger, Florian Jungwirth, Christoph Wöss, Stefan Bachl, Johannes Harms and Thomas Grechenig
Vienna University of Technology, Vienna, Austria

Mobile for Older Adults: Towards Designing Multimodal Interaction
Michela Ferron, Nadia Mana and Ornella Mich
FBK (Fondazione Bruno Kessler), Trento, Italy

Landmark Mining on a Smartwatch Using Speech Recognition
Jana Helgath, Simon Provinsky, and Timo Schaschek
University of Regensburg, Regensburg, Germany

Usability Requirements for Mobile Accessibility: A Study on the Vision Impairment
Clauirton Siebra[1], Tatiana Gouveia[1], Jefte Macedo[1], Walter Correia[2], Marcelo Penha[2], Fabio Silva[2], Andre Santos[2], Marcelo Anjos[3] and Fabiana Florentin[3]
1 CIn/Samsung, Universidade Federal de Pernambuco, Recife, Brazil
2 Universidade Federal de Pernambuco, Recife, Brazil
3 SIDI - Samsung, Campinas, Brazil

UI-CAT: Calculating User Interface Complexity Metrics for Mobile Applications
Andreas Riegler and Clemens Holzmann
University of Applied Sciences Upper Austria, Hagenberg, Austria

Augmented Reality-Based Training of the PCB Assembly Process
Jürgen Hahn, Bernd Ludwig and Christian Wolff
University of Regensburg, Regensburg, Germany

Understanding Usage Control Requirements in Pervasive Memory Augmentation Systems
Agon Bexheti and Marc Langheinrich
Università della Svizzera italiana (USI), Lugano, Switzerland

Demos

Interaction Visualization and Analysis in Automation Industry

Christian Grossauer, Clemens Holzmann, Dustin Steiner and Andreas Guetz

University of Applied Sciences Upper Austria, Hagenberg, Austria

MoCo Motion: Integrating Mobile Devices into a Multiplayer Floor-based Gaming Environment

Andreas Friedl[1], Jeremiah Diephuis[1], Georgi Kostov[1] and Otto Naderer[2]

1 University of Applied Sciences Upper Austria, Hagenberg, Austria
2 Ars Electronica Futurelab, Linz, Austria

Gary: Combining Speech Synthesis and Eye Tracking to Support Struggling Readers

Gianluca Schiavo, Simonetta Osler, Nadia Mana and Ornella Mich

FBK (Fondazione Bruno Kessler), Trento, Italy

Exploring AR Poster as an Interface to Personal Health Data

Juho Rantakari[1], Ashley Colley[1] and Jonna Häkkilä[2]

1 University of Oulu, Oulu, Finland
2 University of Lapland, Rovaniemi, Finland

Towards Device-to-User Authentication: Protecting Against Phishing Hardware by Ensuring Mobile Device Authenticity using Vibration Patterns

Rainhard Dieter Findling[1] amnd René Mayrhofer[2]

1 University of Applied Sciences Upper Austria, Hagenberg, Austria
2 Johannes Kepler University Linz, Linz, Austria

Wearable and Mobile interaction

Wearable Technology as a Solution for Workplace Safety

Mareike Kritzler, Martin Bäckman, Anders Tenfält, and Florian Michahelles

Siemens Corporation, Berkeley, CA, USA

WristRotate - A Personalized Motion Gesture Delimiter for Wrist-Worn Devices

Frederic Kerber, Philipp Schardt and Markus Löchtefeld

DFKI, Saarbrücken, Germany

Design Probes Study on User Perceptions of a Smart Glasses Concept

Jonna Häkkilä[1], Farnaz Vahabpour[1], Ashley Colley[2], Jani Väyrynen[2] and Timo Koskela[2]

1 University of Lapland, Rovaniemi, Finland
2 University of Oulu, Oulu, Finland

Effects of Camera Position and Media Type on Lifelogging Images

Katrin Wolf[1], Yomna Abdelrahman[2], David Schmid[2], Tilman Dingler[2] and Albrecht Schmidt[2]

1 BTK – University of Art and Design, Berlin, Germany
2 University of Stuttgart, Stuttgart, Germany

Detecting Users Handedness for Ergonomic Adaptation of Mobile User Interfaces

Markus Löchtefeld[1], Philipp Schardt[1], Antonio Krueger[1] and Sebastian Boring[2]

1 DFKI, Saarbrücken, Germany
2 University of Copenhagen, Copenhagen, Denmark

WEDNESDAY
02.12.2015

Registration	**08:00 - 09:00**
Augmented Reality	**09:00 - 10:30**
☕ Coffee Break	**10:30 - 11:00**
Designing Interactions	**11:00 - 12:30**
🍴 Lunch	**12:30 - 13:30**
Closing Keynote How ubiquitous and pervasive do computer systems have to become before we really start to care about the users?	**13:30 - 14:30**
Closing	**14:30 - 15:00**
Doctoral School	**15:00 - 18:30**

Credit: Martin Hieslmair

Augmented Reality

◗ **A Benchmark for Interactive Augmented Reality Instructions for Assembly Tasks**

Markus Funk[1], Thomas Kosch[1], Scott W. Greenwald[2] and Albrecht Schmidt[1]

1 University of Stuttgart, Stuttgart, Germany
2 MIT Media Lab, Cambridge, MA, USA

● **Augmenting Food with Information**

Niels Henze[1], Thomas Olsson[2], Stefan Schneegass[1], Alireza Sahami Shirazi[3] and Kaisa Väänänen-Vainio-Mattila[2]

1 University of Stuttgart, Stuttgart, Germany
2 Tampere University of Technology, Tampere, Finland
3 Yahoo! Labs, Sunnyvale, CA, USA

● **Deriving Design Guidelines for Ambient Light Systems**

Andrii Matviienko[1], Vanessa Cobus[1], Heiko Müller[1], Jutta Fortmann[1], Andreas Löcken[1], Susanne Boll[1], Maria Rauschenberger[2], Janko Timmermann[2], Christoph Trappe[2] and Wilko Heuten[2]

1 University of Oldenburg, Oldenburg, Germany
2 OFFIS – Institute for Information Technology, Oldenburg, Germany

● **Influence of Temporal Delay and Display Update Rate in an Augmented Reality Application Scenario**

Ming Li, Katrin Arning, Luisa Vervier, Martina Ziefle and Leif Kobbelt

RWTH Aachen University, Aachen, Germany

Designing Interactions

● **Building Interactive Experiences Block by Block**

Rossana Santos[1,2] and Nuno Correia[1]

1 NOVA-LINCS – Universidade NOVA de Lisboa, Caparica, Portugal
2 Instituto Politécnico de Setúbal, Caparica, Portugal

● **De+re: A Design Concept For Provoking Meaningful Interactive Experiences**

Florian Güldenpfennig and Geraldine Fitzpatrick

Vienna University of Technology, Vienna, Austria

● **Authoring Context-dependent Cross-device User Interfaces based on Trigger/Action Rules**

Giuseppe Ghiani, Marco Manca and Fabio Paternò

CNR-ISTI, HIIS Laboratory, Pisa, Italy

◗ **Opportunistic At-Glance Information Acquisition on Interactive Public Displays**

Hannu Kukka, Jorge Goncalves, Alexander Samodelkin and Timo Ojala

University of Oulu, Oulu, Finland

15:00 - 18:30

Active Office: Designing for Physical Activity in Digital Workplaces

Kathrin Probst

University of Applied Sciences Upper Austria, Hagenberg, Austria

Collaborative Security Code Review

Hala Assal

Carleton University, Ottawa, Ontario, Canada

The Mind Behind the Glass: Human Factors in the Design of Collaborative AR Environments

Marion Koelle and Matthias Kranz

University of Passau, Passau, Germany

Biometric and Sensoric Authentication on Mobile Devices

Rainhard Dieter Findling

University of Applied Sciences Upper Austria, Hagenberg and Johannes Kepler University Linz, Linz, Austria

Local Information

MUM 2015 is held at the Ars Electronica Center (AEC) in Linz, which is also known as the „Museum of the Future" and is one of the most important sights in Linz. Participants of the conference will be able to visit the museum and discover its exhibitions. Moreover, Linz has a long history of Christmas markets, which will be open during the conference.

Linz is the third-largest city of Austria and capital of the state of Upper Austria (German: Oberösterreich). The city boasts an atmospheric old town (1.000 years old) with a thriving music and entertainment scene, museums, theatres, concert halls, festivals, marathons, the Linz triathlon, unique shops and numerous cafes. The river Danube is the main tourism and transport connection that runs through the city.

Danube park, Lentos Museum and Linz Castle
Credit: Linz Tourismus Röbl

Christmas Market
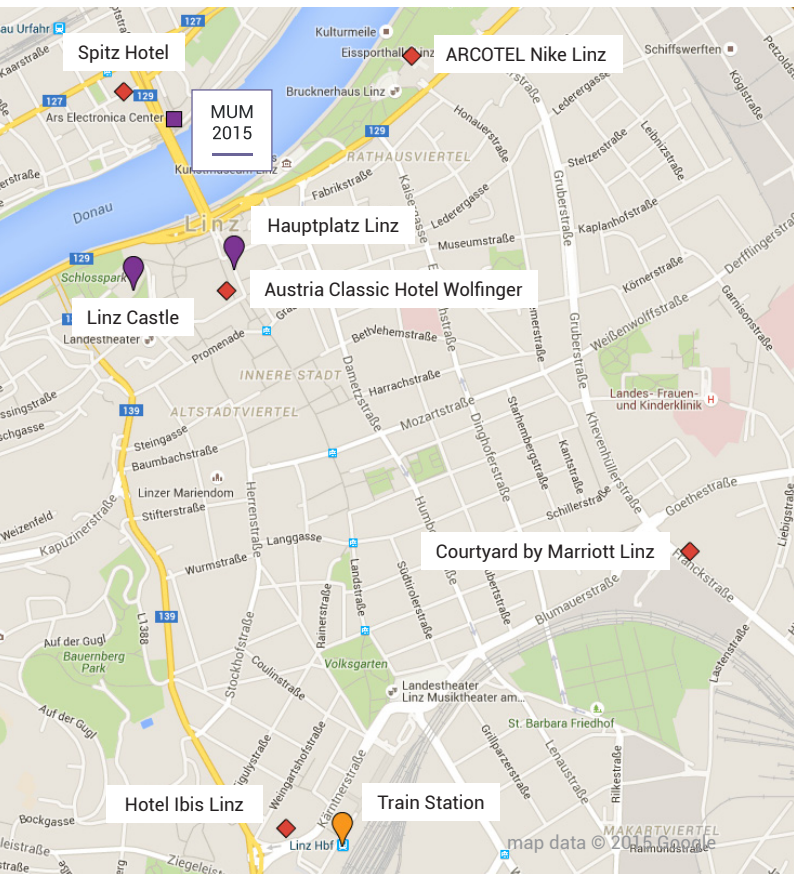Credit: Linz Tourismus Röbl

Deep Space at AEC
Credit: Florian Voggeneder

City Map Linz

For fast and easy navigation open this map on your smartphone: https://goo.gl/j0t6H5

Spitz Hotel

ARCOTEL Nike Linz

MUM 2015

Hauptplatz Linz

Austria Classic Hotel Wolfinger

Linz Castle

Courtyard by Marriott Linz

Hotel Ibis Linz

Train Station

map data © 2015 Google