



# PervasiveHealth 2014

8th International Conference on  
Pervasive Computing Technologies for Healthcare

## Technical Programme

OFFIS - Institute for Information Technology  
Oldenburg, Germany  
20 – 23 May 2014

Endorsed and organized by:



Technical Sponsors:



Local host:





## Welcome Message

Dear Guests,

In the name of the Organizing Committee, we would like to cordially welcome all participants of the 8th International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth) held during May, 20-23, 2014 in Oldenburg, Germany. We are proud to present 2 keynotes, 3 workshops, a Doctoral Colloquium, 20 presentations in 7 chaired oral sessions, a Poster and Demo Session.

PervasiveHealth is a premier international forum with specific focus on technologies and human factors related to the use of ubiquitous computing in healthcare and wellbeing. The overall goal of the PervasiveHealth Conference is to take a multidisciplinary approach to pervasive healthcare technology research and development. The pervasive healthcare community is addressing a broad scope of research topics and concerns:

- identify and understand problems from a technological, social, and medical perspective (with a particular emphasis on understanding and supporting patient needs);
- design, implementation, and evaluation of supporting hardware and software infrastructures, algorithms, and applications; and
- organizational strategies that facilitate integration of Pervasive Healthcare Technology into the healthcare enterprise.

The purpose of the PervasiveHealth Conference is to bring together researchers, practitioners, application developers, vendors and users to present, share and discuss their latest findings.

The program of this conference required the dedicated effort of many people. Firstly, we would like to thank the authors, whose research and development efforts are presented during the conference. Secondly, we thank the members of the Technical Program Committee and the Organizing Committee and the additional reviewers for their diligence and expert reviewing. Thirdly, we thank the keynote speakers for their invaluable contributions and for taking the time to synthesize and prepare their talks. Finally, special thanks to all the members of the EAI team whose collaboration was fundamental for the organization of this conference.

The chairs of the Technical Program Committee will distribute a Best Paper Award at the conference dinner. The decision is mainly based on the paper classifications provided by the Program Committee and the paper presentations at the conference.

We wish you all an exciting conference and an unforgettable stay in the city of Oldenburg.

Prof. Dr.-Ing. A. Hein  
General Chair

Prof. Dr. S. Boll  
TPC Chair

Prof. Dr. F. Köhler  
TPC Chair

J. Meyer  
Local Host

We thank our sponsors for their kind support of PervasiveHealth 2014 that considerably helped us setting up an exciting event.

**DIE JOHANNITER**  
Aus Liebe zum Leben



 **cewe**  
einfach schöne Fotos



## Program at a Glance

### Workshops and Doctoral Colloquium

#### Tuesday May 20, 2014

08:30	Registration and coffee
09:00	Workshops and Doctoral Colloquium
10:00	Coffee break
11:00	Workshops and Doctoral Colloquium (cont'd)
13:00	Lunch break (Diekert cafeteria, Fleiwa)
14:00	Workshops and Doctoral Colloquium (cont'd)
15:30	Coffee break
16:00	Workshops and Doctoral Colloquium (cont'd)

### Conference Day 1

#### Wednesday May 21, 2014

08:30	Registration and coffee
09:30	Opening of conference, introduction and welcome
09:45	Keynote: Maturing pervasive health – where to from here? – G. Fitzpatrick
10:45	Coffee break
11:30	Session 1: Self management and pervasive health
13:00	Lunch break
14:30	Session 2: Sensors for pervasive health
16:00	Coffee break
16:30	Poster and Demo Presentation
17:30	Poster and Demo Session / Welcome Reception
19:00	End of program

### Conference Day 2

#### Thursday May 22, 2014

08:30	Registration and coffee
09:00	Introduction and announcements
09:15	Session 3: Health information seeking
10:45	Coffee break
11:30	Session 4: Designing software for pervasive health
13:00	Lunch break
14:30	Session 5: User needs for pervasive health applications in the field
16:00	Coffee break
16:30	Session 6: Processes for pervasive health
17:30	End of program
18:00	Optional: Guided city tour
19:30	Gala dinner

### Conference Day 3

#### Friday May 23, 2014

08:30	Registration and coffee
09:00	Introduction and announcements
09:15	Keynote: Looking Back and Looking Forward: Design of Pervasive Technologies for Health and Wellness – P. Klasnja
10:15	Coffee break
11:00	Session 7: Stress and adverse environments
12:30	Closing notes
12:45	Lunch
14:00	Optional: Lab visit

Tuesday May 20, 2014:

## Workshops and Doctoral Colloquium

8:30	Registration and coffee
9:00	Workshops and Doctoral Colloquium
10:00	Coffee break
11:00	Workshops and Doctoral Colloquium (continued)
13:00	Lunch break (at Diekert cafeteria in the Fleiwa)
14:00	Workshops and Doctoral Colloquium (continued)
15:30	Coffee break
16:00	Workshops and Doctoral Colloquium (continued)

### Workshop: REHAB – 2nd Patient Rehabilitation Research Techniques Workshop

Organizers *Abdulrahman H. Altalhi*, King Abdulaziz University (KAU), Saudi Arabia  
*Habib M. Fardoun*, King Abdulaziz University (KAU), Saudi Arabia  
*Pedro Gamito*, Lusófona University, Portugal  
*Víctor Ruiz Penichet*, University of Castilla-La Mancha, Spain  
*Sergio Albiol Pérez*, University of Zaragoza, Spain

Rooms Opening session: OFFIS, Conference Room F 02  
Tracks: Fleiwa, rooms “Colloquium”

### Joint Workshops: User-Centered Design of Pervasive Healthcare / Interdisciplinary Design of Pervasive Healthcare Applications

Organizers *Shirley Beul-Leusmann*, RWTH Aachen University, Germany  
*Carsten Röcker*, RWTH Aachen University, Germany  
*Martina Ziefle*, RWTH Aachen University, Germany  
*Greg Wadley*, University of Melbourne, Australia  
*Norimichi Ukita*, Nara Institute of Science and Technology, Japan  
*Nadir Weibel*, University of California San Diego, USA  
*Andreas Holzinger*, Medical University Graz, Austria  
*Jan Van Ooteghem*, Ghent University, IBCN – iMinds, Belgium  
*Femke Ongenaë*, Ghent University, IBCN – iMinds, Belgium  
*An Jacobs*, Vrije Universiteit Brussel, SMIT – iMinds, Belgium  
*Pascal Wiggers*, Amsterdam University of Applied Sciences, HvA, The Netherlands  
*Marije Kanis*, Amsterdam University of Applied Sciences, HvA, The Netherlands

Room OFFIS, room D21

## Doctoral Colloquium

**Lead:** Katie Siek, Indiana University

**Monitoring and Improving Mobility of the Elderly**

*Simone T. Boerema*, Roessingh Research and Development

**Detecting moments of needs to offer in situ support to enable long-term behavior change**

*Laura Pina*

**Supporting Intelligent Environment Occupants through Adaptive Fault Management**

*Guanitta Brady, Roy Sterritt, George Wilkie*, School of Computing and Mathematics, University of Ulster

**Ambient Activity Monitoring for Medical Applications in Multi-Person Households**

*Sebastian Müller*, OFFIS - Institute for Information Technology

**Can we build a pervasive, private health monitoring system using a publicly accessible social media platform?**

*Chonlatee Khorakhun*

**Motivation and support in virtual group training environments for physical rehabilitation**

*Esther Moekotte*, Roessingh Research and Development

**Developing Mobile Image-based Applications to Support Compliance in Tuberculosis Treatment in Rural Africa**

*Haji Ali*

**Wearable Devices for Fall Risk Assessment**

*Pierpaolo Palumbo, Lorenzo Chiari*, University of Bologna

**The BCI as a Pervasive Technology**

*Chris Phillip Brennan, Paul McCullagh, Gaye Lightbody, Leo Galway*, University of Ulster

Room: OFFIS, room E 02 / 03

## Wednesday May 21, 2014

8:30	<b>Registration and coffee</b>
9:30	<b>Opening of conference, introduction and welcome</b>
9:45	<b>Keynote: Maturing pervasive health – where to from here?</b> Geraldine Fitzpatrick, Vienna University of Technology
10:45	<b>Coffee break</b>
11:30	<b>Session 1: Self management and pervasive health</b>  Session Chair: Stefan Wagner, Aarhus University, Denmark  <b>Learning healthy habits with a mobile self-intervention</b> <i>Janne Vainiom</i> , Tampere University of Technology <i>Ilkka Korhonen</i> , Tampere University of Technology <i>Kirsikka Kaipainen</i> , VTT Technical Research Centre of Finland <i>Outi Kenttä</i> , Tampere University of Technology <i>Joona Järvinen</i> , Tampere University of Technology  <b>Designing a Wellness Self-Management Tool for Older Adults – Results from a Field Trial of YourWellness</b> <i>Julie Doyle</i> <i>Lorcan Walsh</i> , CASALA, Dundalk Institute of Technology <i>Antonella Sassu</i> , CASALA, Dundalk Institute of Technology <i>Teresa McDonagh</i> , CASALA, Dundalk Institute of Technology  <b>Designing Wearable Interfaces for Knee Rehabilitation</b> <i>Swamy Ananthanarayan</i> , University of Colorado Boulder <i>Miranda Sheh</i> , University of Colorado Boulder <i>Alice Chien</i> , University of Colorado Boulder <i>Halley Profita</i> , University of Colorado Boulder <i>Katie A. Siek</i> , Indiana University Bloomington
13:00	<b>Lunch break</b>
14:30	<b>Session 2: Sensors for pervasive health</b>  Session Chair: Oscar Mayora, CREATE-NET, Italy  <b>Automated Detection of Puffing and Smoking with Wrist Accelerometers</b> <i>Qu Tang</i> , Northeastern University <i>Damon Vidrine</i> , The University of Texas MD Anderson Cancer Center <i>Eric Crowder</i> , The University of Texas MD Anderson Cancer Center <i>Stephen Intille</i> , Northeastern University  <b>Is „Frequency Distribution“ Enough to Detect Tremor in PD Patients Using a Wrist Worn Accelerometer?</b> <i>Claas Ahlrichs</i> <i>Albert Samà</i> , Technical Research Centre for Dependency Care and Autonomous Living (CETpD)  <b>Energy Harvesting from the Human Leg Motion</b> <i>Nathalie Yarkony</i> , FDA <i>Kamran Sayrafian</i> , NIST <i>Antonio Possolo</i> , NIST
16:00	<b>Coffee break</b>
16:30	<b>Poster and Demo Presentation</b>
17:30	<b>Poster and Demo-Session and Welcome Reception (by kind invitation of CEWE)</b>
19:00	<b>End of program</b>

## Thursday May 22, 2014

8:30 Registration and coffee

9:00 Introduction and announcements

9:15 Session 3: Health information seeking

Session Chair: Matthew Lee, Philips Research, USA

### Is it a Question of Trust? How Search Preferences Influence Forum Use

*Jamie Crawford*, Carnegie Mellon University

*Cheng Guo*, Carnegie Mellon University

*Jessica Schroeder*, Pomona College

*Rosa Arriaga*, Georgia Institute of Technology

*Jennifer Mankoff*, Carnegie Mellon University

### Honorable Mention

### Gauging the Patient-Centered Potential of Online Health Seeking

*Matthew Bonner*, Georgia Institute of Technology

*Elizabeth D. Mynatt*, Georgia Institute of Technology

### Patient-Centered Tools for Medication Information Search

*Lauren Wilcox*, Columbia University

*Steven Feiner*, Columbia University

*Noemie Elhadad*, Columbia University

*David Vawdrey*, Columbia University

10:45 Coffee break

11:30 Session 4: Designing software for pervasive health

Session Chair: Lauren Wilcox, Columbia University

### User-driven software design for an elderly care service robot

*Norman Hendrich*, University of Hamburg, Informatics

*Hannes Bistry*, University of Hamburg, Informatics

*Benjamin Adler*, University of Hamburg, Informatics

*Jianwei Zhang*, University of Hamburg, Informatics

### A Lightweight High Capacity ECG Watermark with Protection against Data Loss

*Arezou Soltani panah*, RMIT University

*Ron van Schyndel*, RMIT University

### A Biomechanical Analysis System of Posture

*Alberto Bucciario*, Italian National Research Council (CNR)

*Stefano Santo Sabato*, Mediasoft s.r.l.

*Marco Zappatore*, University of Salento

13:00 Lunch break



14:30

**Session 5: User needs for pervasive health applications in the field**

Session Chair: Katie A. Siek, Indiana University Bloomington, USA

**Best Paper Candidate**

**Findings of Mobile based Palliative Care System: Towards a Generic Framework for Measuring QoL**

*Md Haque, UAB*

*Md Adibuzzaman, Marquette University*

*Md Uddin, Marquette University*

*Ferdous Kawser, Marquette University*

*Sheikh Ahamed, Marquette University*

*Richard Love, IBCRF*

*Rumana Dowla, Amader Gram*

*Reza Salim, Amader Gram*

*Tahmina Ferdousy, Amader Gram*

**Virtual Assistive Companion for Older Adults: Field Study and Design Implications**

*Christiana Tsiourti, University of Geneva*

*Cindy Wings-Kolgen, Orbis Medical and Healthcare group*

*Emilie Joly, University of Geneva*

*Katarzyna Wac, University of Geneva*

**Best Paper Candidate**

**In Situ Cues for ADHD Parenting Strategies Using Mobile Technology**

*Laura Pina, University of California at San Diego*

*Kael Rowan, Microsoft Research, Redmond WA*

*Asta Roseway, Microsoft Research, Redmond WA*

*Paul Johns, Microsoft Research, Redmond WA*

*Gillian Hayes, University of California at Irvine*

*Mary Czerwinski, Microsoft Research, Redmond WA*

16:00

**Coffee break**

16:30

**Session 6: Processes for pervasive health**

Session Chair: Katarzyna Wac, University of Geneva, Switzerland

**Honorable Mention**

**RapidRead: Step-At-A-Glance Crisis Checklists**

*Jesse Cirimele, Stanford University*

*Leslie Wu, Stanford University*

*Kristen Leach, Stanford University*

*Larry Chu, Stanford Medical School*

*Kyle Harrison, Stanford Medical School*

*Stuart Card, Stanford University*

*Scott Klemmer, University of California, San Diego*

**Best Paper Candidate**

**Designing for Collaborative Reflection**

*Gabriela Marcu, Carnegie Mellon University*

*Anind K. Dey, Carnegie Mellon University*

*Sara Kiesler, Carnegie Mellon University*

17:30

**End of program**

18:00

**Optional: Guided city tour**

19:30

**Gala dinner**

## Friday May 23, 2014

8:30	Registration and coffee
9:00	Introduction and announcements
9:15	<b>Keynote: Looking Back and Looking Forward: Design of Pervasive Technologies for Health and Wellness</b> <i>Predrag Klasnja, University of Michigan</i>
10:15	Coffee break
11:00	<b>Session 7: Stress and adverse environments</b>

Session Chair: Pedja Klasnja, University of Michigan, USA

### **PopTherapy: Coping with Stress through Pop-Culture**

*Pablo Paredes, University of California - Berkeley*

*Ran Gilad-Bachrach, Microsoft Research*

*Mary Czerwinski, Microsoft Research*

*Asta Roseway, Microsoft Research*

*Kael Rowan, Microsoft Research*

*Javier Hernandez-Rivera, Massachusetts Institute of Technology*

### **Towards Personal Stress Informatics: Comparing Minimally Invasive Techniques for Measuring Daily Stress in the Wild**

*Phil Adams, Department of Information Science, Cornell University*

*Mashfiqi Rabbi, Department of Information Science, Cornell University*

*Tauhidur Rahman, Department of Information Science, Cornell University*

*Mark Matthews, Department of Information Science, Cornell University*

*Amy Volda, School of Informatics and Computing, Indiana University, IUPUI*

*Geri Gay, Communication Department, Cornell University*

*Tanzeem Choudhury, Department of Information Science, Cornell University*

*Stephen Volda, School of Informatics and Computing, Indiana University*

### **Evaluating Auditory Contexts and Their Impacts on Hearing Aid Outcomes with Mobile Phones**

*Octav Chipara, University of Iowa*

*Syed Shabih Hasan, University of Iowa*

*Yu-Hsiang Wu, University of Iowa*

*Nazan Aksan, University of Iowa*

12:30	Closing notes
12:45	Lunch
14:00	<b>Optional Lab visit</b>

To be announced

## List of posters

### **AAL-Technology Acceptance through Experience**

*Alina Huldgtren*, Media Department, Duesseldorf University of Applied Sciences

*Gabriela Ascencio*, Department of Industrial Design, Delft University of Technology

*Anna Pohlmeier*, Department of Industrial Design, Delft University of Technology

*NataliaRomero Herrera*, Department of Industrial Design, Delft University of Technology

### **Automatic Recognition of Fear-Avoidance behavior in Chronic Pain Physical Rehabilitation**

*Min Aung*, University College London

*Amanda Williams*, University College London

*Nadia Bianchi-Berthouze*, University College London

### **NavMem Explorer: An Orientation Aid for People with Mild Cognitive Impairments**

*Benjamin Poppinga*, University of Oldenburg

*Wilko Heuten*, OFFIS - Institute for Information Technology

*Susanne Boll*, University of Oldenburg

### **Data-Dependent Controller Synthesis to Enable Reliable and Safe Interoperability of Medical Devices**

*Franziska Bathelt-Tok*, Technische Universität Berlin

*Sabine Glesner*, Technische Universität Berlin

*Oliver Blankenstein*, Charité Berlin

### **Does external environment affect stride length?**

*Matthew Patterson*, Insight Centre

*Darragh Whelan*, Insight Centre

*Niamh Caprani*, Insight Centre

*Alan Smeaton*, Insight Centre

*Brian Caulfield*, Insight Centre

### **Emergency App for People with Hearing and Speech Disabilities: Design, Implementation and Evaluation according to Legal Requirements in Germany**

*Jens Weppner*, German Research Center for Artificial Intelligence and University of Kaiserslautern

*Paul Lukowicz*, German Research Center for Artificial Intelligence and University of Kaiserslautern

### **Investigating issues related to pediatric diabetes education: problems and barriers**

*Damyanka Tsvyatkova*, IDC, University of Limerick

*Cristiano Storni*, IDC, University of Limerick

## List of posters (cont.)

### **Performance Evaluation of Decision Tree Classifiers for the Prediction of Response to treatment of Hepatitis C Patients**

*AbuBakr Awad*, Computer Science Department Faculty of Computers and Information, Cairo, University, Cairo

*Awad Tahany*, Endemic Medicine and Hepatology Department, Faculty of Medicine, Cairo University, Cairo

*Naglaa Zayed*, Endemic Medicine and Hepatology Department, Faculty of Medicine, Cairo University, Cairo

*Sherif Mousa*, Endemic Medicine and Hepatology Department, Faculty of Medicine, Cairo University, Cairo

*Mahasen Mabrouk*, Endemic Medicine and Hepatology Department, Faculty of Medicine, Cairo University, Cairo

*Mohamed Saeed*, Endemic Medicine and Hepatology Department, Faculty of Medicine, Cairo University, Cairo

### **Pervasive Eating Habits Monitoring and Recognition through Wearable Acoustic Sensors**

*Yin Bi*, Northeastern University

*Wenyao Xu*, The State University of New York at Buffalo

*Nan Guan*, Northeastern University

*Yangjie Wei*, Northeastern University

*Wang Yi*, Northeastern University

### **Towards Accurate Non-Intrusive Recollection of Stress Levels Using Mobile Sensing and Contextual Recall**

*Tauhidur Rahman*, Information Science, Cornell University, Ithaca, New York,

*Mi Zhang*, Information Science, Cornell University, Ithaca, New York

*Stephen Voida*, School of Informatics and Computing, Indiana University, Indianapolis, Indiana

## List of demos

### **ASSESS MS: detecting MS progression with computer vision**

*Cecily Morrison*, Microsoft Research

*Robert Corish*, Microsoft Research

*Abigail Sellen*, Microsoft Research

### **Common Ambient Assisted Living Home Platform for Seamless Care**

*Stefan Wagner*, Aarhus University

### **HeartBeat Demonstrator: Tactile Support for Keeping a Target Heart Rate**

*Janko Timmermann*, OFFIS - Institute for Information Technology

*Benjamin Poppinga*, OFFIS - Institute for Information Technology

*Wilko Heuten*, OFFIS - Institute for Information Technology

*Susanne Boll*, University of Oldenburg

### **OCareClouds: improving home care by interconnecting elderly, care networks and their living environments**

*Floris Van den Abeele*, Department of Information Technology (INTEC), Ghent University – iMinds

*Jeroen Hoebeke*, Department of Information Technology (INTEC), Ghent University - iMinds

*Femke De Backere*, Department of Information Technology (INTEC), Ghent University - iMinds

*Femke Ongenaë*, Department of Information Technology (INTEC), Ghent University – iMinds

*Pieter Bonte*, Department of Information Technology (INTEC), Ghent University – iMinds

*Stijn Verstichel*, Department of Information Technology (INTEC), Ghent University – iMinds

*Tommy Carlier*, Televic Healthcare

*Pieter Crombez*, Televic Healthcare

*Kevin De Gryse*, Telecom IT

*Stefan Danschotter*, Telecom IT

*Ingrid Moerman*, Department of Information Technology (INTEC), Ghent University – iMind

*Filip De Turck*, Department of Information Technology (INTEC), Ghent University - iMinds

### **WaterJewel: Be Aware of Your Daily Servings of Water With an LED-illuminated Bracelet**

*Jutta Fortmann*, University of Oldenburg

*Vanessa Cobus*, University of Oldenburg

*Susanne Boll*, University of Oldenburg

*Wilko Heuten*, OFFIS - Institute for Information Technology

## Key Note:

# Maturing pervasive health – where to from here?

Geraldine Fitzpatrick



At the first PervasiveHealth conference in 2006, pervasive health was defined from two perspectives: “the development and application of pervasive computing [...] technologies for healthcare, health and wellness management; [and making] healthcare available to anyone, anytime, and anywhere [...] while increasing both the coverage and quality of healthcare”, where the conference aimed to cover three main challenge areas: “mobile and wireless technologies for pervasive healthcare, medical aspects of pervasive healthcare, and management of pervasive healthcare.” The 2014 conference reflects similar themes.

Where are we at with these challenges? Since 2006, there has been unprecedented growth and maturing of mobile and wireless technologies, with healthcare, health and well-being being a key target area. It could be argued that to date it has been technology-led, albeit driven by very real health/care needs. But how well are these technologies being integrated into the broad spectrum of health and care and what impact are they having? What could maturing pervasive health look like? Drawing on experiences from more general health IT and ‘behaviour change’ areas, I will reflect on some of the lessons learnt and propose some challenges and opportunities for pervasive health moving forward.

*Geraldine Fitzpatrick, PhD, is a Professor of Design and Assessment of Technology in the Faculty of Informatics at the Vienna University of Technology, and Head of the Institute of Technology Design and Assessment, and Head of the Human Computer Interaction Group. Her research is at the intersection of social and computer sciences, with a particular interest in technology-support for healthcare, health and well-being and older people, and supporting collaboration/social interaction and quality of life more generally. She was previously Director of the Interact Lab at the Uni of Sussex, User Experience consultant at Sapient London, Snr Researcher at the Center for Online Health and the Distributed Systems Technology Centre in Australia, and also has a clinical background. She is a co-editor of CSCW journal, plays key roles in CSCW/CHI related international conferences, and is co-author with Gunnar Ellingsen of “A Review of 25 Years of CSCW Research in Healthcare: Contributions, Challenges and Future Agenda”.*

## Key Note:

# Looking Back and Looking Forward: Design of Pervasive Technologies for Health and Wellness.

Predrag „Pedja“ Klasnja



Since the mid 2000s, HCI and UbiComp researchers have developed a variety of pervasive technologies to help individuals live healthier lives, and in the last few years such systems have entered the mainstream via commercial products such as Fitbit and Nike+. Although the sophistication of these systems has advanced a great deal, the majority of today’s personal-health technologies rely on the same handful of strategies for supporting healthy behaviors that were used ten years ago. In this talk, I review how the design of pervasive systems for health and wellness has evolved over the last decade, and I outline the key directions where I think the field should be moving next.

*Predrag „Pedja“ Klasnja is an Assistant Professor in the School of Information and the Department of Health Behavior and Health Education at the University of Michigan. He works at the intersection of Human-Computer Interaction and Health Informatics, investigating how mobile technologies can help individuals manage their health in everyday life. Pedja holds a Ph.D. in Information Science from the University of Washington, where he was also a National Library of Medicine Postdoctoral Fellow in Biomedical and Health Informatics.*

## Practical Information

### Conference Desk

The Conference Desk, located in the entry hall of OFFIS, is open throughout the conference. The conference team will be happy to help you with your registration, and with all other issues.

### Accessing the WLAN

Within the OFFIS building a WLAN is available in all rooms. Login to WLAN “pervasive Health” using the password “pervasive2014”. During the workshop day within the Fleiwa building a personal login is required for the WLAN. This is available to all participants of a workshop taking place in the Fleiwa rooms and is handed out at the conference desk.

### Lunch

At the workshop day (Tuesday), lunch will be served in the cafeteria of „Fleiwa“, located in the ground floor of the Fleiwa-tower, opposite to the OFFIS building. Student volunteers will show the way.

At the conference days, Wednesday to Friday, lunch will be sponsored by, and served at „Johanniter-Unfall-Hilfe e.V.“ (JUH, the german sister organization of St John Ambulance), located 200m from the OFFIS building, right hand side of the Fleiwa tower. Student volunteers will show the way.



### Guided Tour

A guided tour (given in English) showing the nicest spots in the historical downtown area of Oldenburg, will be offered before the gala dinner. The tour will start near the Oldenburg Castle and will end at the gala dinner’s location „Horst Janssen Museum“ (see below). The tour will take about 90 minutes. The number of participants to this tour is limited to 50. Please register on a first come first serve basis at the conference desk.

### Gala Dinner

A conference gala dinner will take place in Horst Janssen Museum (Am Stadtmuseum 4-8). Your dietary needs that you pointed out during registration will be taken care of. If you have any further needs let us know as soon as possible. If you want to bring a guest let us know as soon as possible.

Horst Janssen (1929 – 1995) was a German draftsman, printmaker, poster artist and illustrator. He had a prolific output of drawings, etchings, woodcuts, lithographs and wood engravings. His work is shown internationally in major museums. The Horst Janssen Museum in his hometown of Oldenburg is dedicated to his legacy. Horst Janssen is an honorary citizen of the city of Oldenburg, where he was buried, according to his own will. His grave is close to the Horst-Janssen-Museum.



Source: Horst Janssen Museum

The Horst Janssen Museum was opened in 2000, showing 1800 pieces on about 1.000m<sup>2</sup>. The many facets of Janssens’s art are shown in a permanent exhibition. Changing exhibitions show works of artists which influenced Janssen, such as Goya, Rembrandt, and Egon Schiele. A library contains 25.000 volumes, including publications of Janssen.



## Directions

### Getting from the train station Oldenburg to OFFIS

OFFIS is located about 3 km from the Oldenburg central train station. We recommend taking a taxi for this short trip.

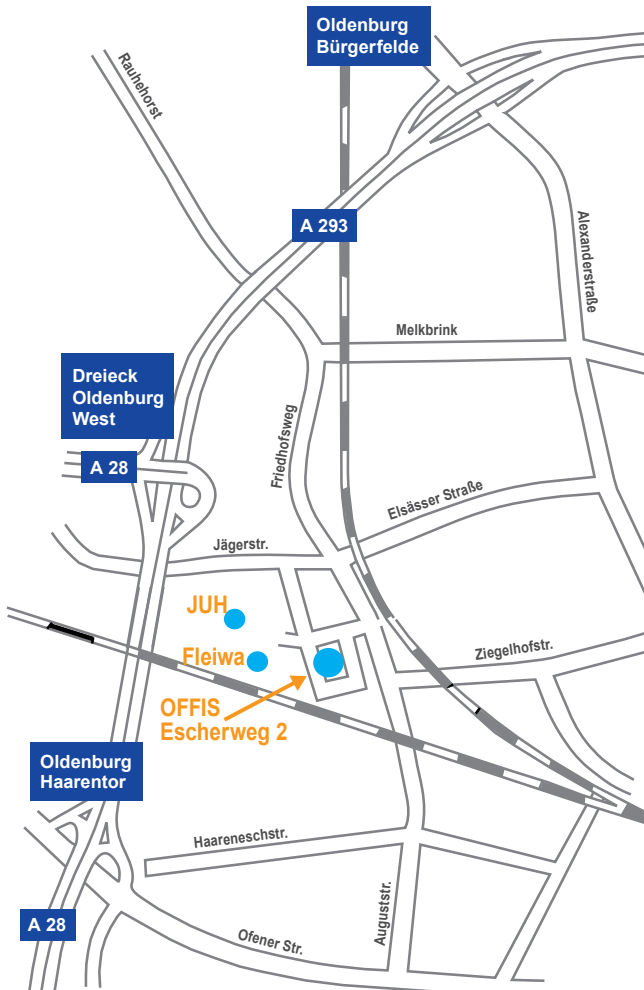
### Getting from the airport Bremen to OFFIS

Bremen Airport is about 45 km from Oldenburg. Several possible combinations of tram, taxi and train can be used to get to Oldenburg. Listed in the order slowest and cheapest to fastest and most expensive, the possibilities are:

Tram to Bremen train station (approx € 1,50) then train to Oldenburg (approx € 6)

Taxi to Bremen train station (approx € 10) then train to Oldenburg (approx € 6)

Taxi direct to Oldenburg (approx € 50)



## Organizing Committee

### General Chair

Andreas Hein, OFFIS - Institute for Information Technology

### TPC Chairs

Susanne Boll, OFFIS - Institute for Information Technology  
Friedrich Köhler, Charité Berlin

### Short Papers and Posters Chairs

Katarzyna Wac, Université de Genève  
Young Seok Lee, Motorola

### Demos Chairs

Ernö Kovacs, NEC Laboratories Europe

### Workshops Chair

Lauren Wilcox, Georgia Institute of Technology

### Doctoral Colloquium Chair

Katie Siek, Indiana University

### Medical Perspectives Chairs

Stefan Wagner, Aarhus University

### Publication Chair

Heiko Müller, OFFIS - Institute for Information Technology

### Publicity / Web Chair

Jochen Meyer, OFFIS - Institute for Information Technology  
Heiko Müller, OFFIS - Institute for Information Technology

### Local Hosts

Jochen Meyer, OFFIS - Institute for Information Technology  
Albert Sill, University of Oldenburg

## Technical Program Committee

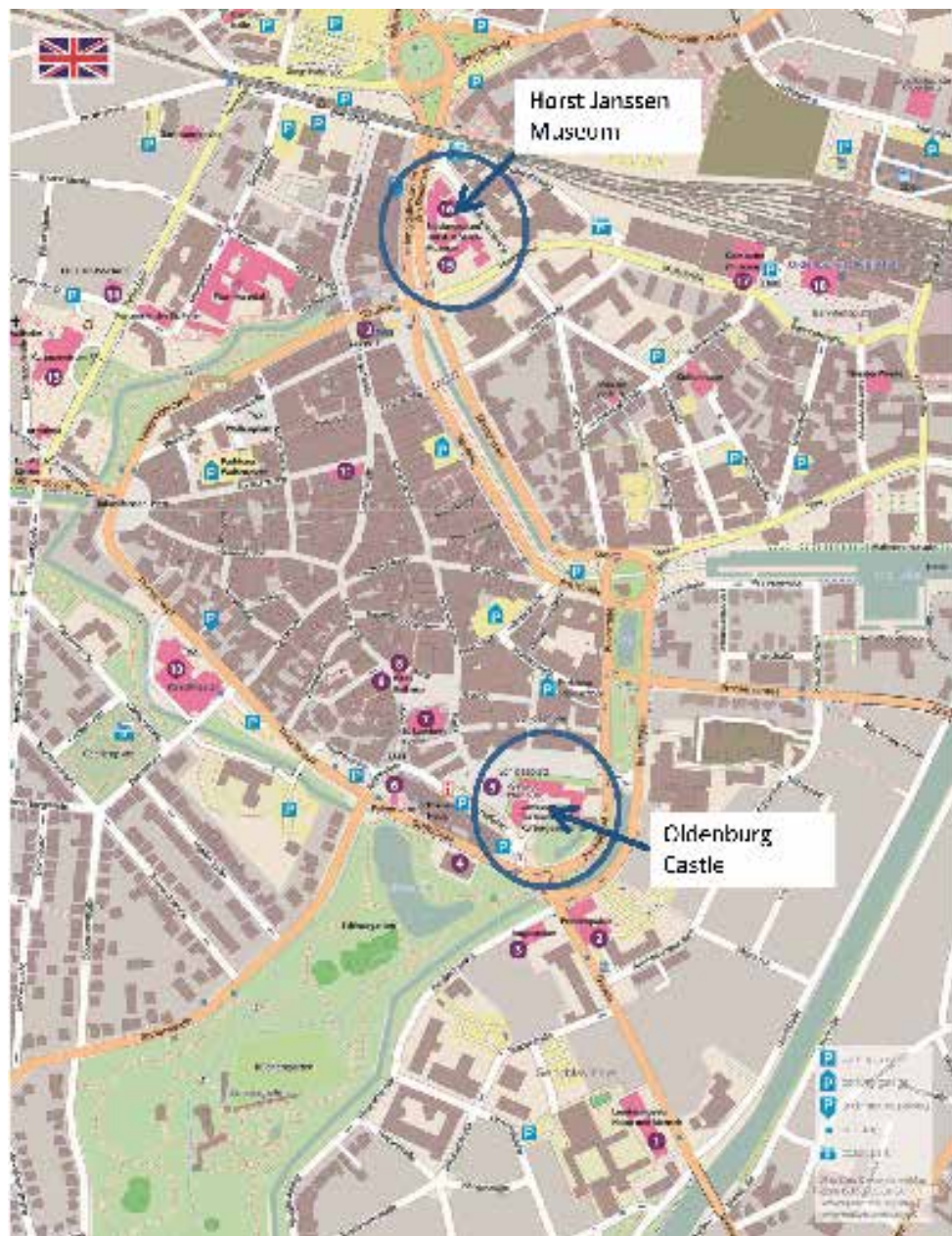
Bert Arnrich, Boaziçi University, Istanbul, Turkey  
Yunan Chen, University of California, Irvine, USA  
Anind Dey, Carnegie Mellon University, USA  
Parisa Eslambolchilar, Swansea University, UK  
Melina Frenken, Jade University of Applied Science, Germany  
Mads Frost, IT University of Copenhagen, Denmark  
Floriana Grasso, University of Liverpool, UK  
Reinhold Haux, Technical University of Braunschweig, Germany  
Eric Hekler, Arizona State University, USA  
Hermie Hermens, Roessingh Research and Development, The Netherlands  
Wilko Heuten, OFFIS Institute for IT, Germany  
Presdrag Klasnja, University of Michigan, USA  
Ilkka Korhonen, Tampere University of Technology, Finland  
Santosh Kumar, The University of Memphis, USA  
Kai Kunze, Osaka Prefecture University, Japan  
Mathew Lee, Philipps, USA  
Michael Marschollek, Hanover Medical School  
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## Map of Oldenburg City Center



courtesy of Touristinfo Oldenburg

**1 Landesmuseum Natur und Mensch Oldenburg**  
(1842/86 and 1876/79)

The State Museum of Natural and Human History was opened in 1836 by Grand Duke Paul Friedrich August as a natural history museum and moved to its current location in 1883. It is home to an important collection with the departments Archeology, Ethnology and Natural History with the permanent interdisciplinary exhibitions „Moerland and Sandy Heathland“ and „Coast and Marshland“.

**2 Prinzenpalais (1826)**

The Classicistic building was the residence of the Russian prince Alexander and Peter Later, Grand Duke Nikolaus Friedrich Peter moved into this building. Since 2008 it has been part of the State Museum of Art and Cultural History.

**3 Augusteum (1876)**

In 1876 the Augusteum opened as Oldenburg's first art museum. It was built in the neo-Renaissance style.

**4 Elisabeth-Anna-Palais (1894/1896) and Schlossgarten (1814)**

The red-brick secular building is adorned with many ornaments and Baroque attributes. It was built for Oldenburg's last Grand Duke Friedrich August as a new residential palace for the Duke's family and is named after his wife Elisabeth Anna of Prussia, who died while it was being built. The adjacent Palace Garden is a 94-acre historic park in the style of an English landscape garden. It was laid out in the period from 1804 to 1819 by order of Duke Peter Friedrich Ludwig of Oldenburg by Julius Friedrich Wilhelm Basse, the court gardener at that time.

**5 Schloss (1607), Schlossplatz with Schlosswache (1839)**

Count Anton Günther had the renaissance palace built as his residence. Under Duke Peter Friedrich Ludwig the interior was redesigned in the Classicistic style. Since 1923 it has housed part of the State Museum of Art and Cultural History. In 1889 the palace guard house was erected as the last building of the „Schlossfreiheit“ (residential area surrounded by palace walls). The building is considered one of the most successful creations of the Classicistic age in Oldenburg.

**6 Pulverturm (16. Jahrhundert)**

The „Pulverturm“ (powder magazine) is the last remaining building of Oldenburg's ancient town fortifications. It was actually only used to store gunpowder under the Danish between 1730 and 1765.

**7 St. Lambertikirche (13th century / renovated in 19th century)**

The church was built as a Romanesque hall church between 1155 and 1234 and was altered several times. Today its outward appearance hides the romanesque basilica based on the Roman Pantheon inside the building.

**8 Rathaus (1888)**

In 1885 Count Anton Günther had a Renaissance town hall built here. In 1886 it was torn down and replaced by today's building with elements in the neo-Gothic and neo-Renaissance style.

**9 Haus „Degede“ (1502)**

The half-timbered house is appointed with an impressive painted wooden

ceiling from the 17th century inside. It shows an allegoric depiction of the world view prevalent at that time.

**10 Oldenburgisches Staatstheater (1893)**

The impressive building is captivating with its Classicistic columned portico and the neo-Baroque interior appointments of the so-called „Big House“, the modern street houses, the „Small House“.

**11 Haus „Graf Anton Günther“ (1682)**

The house with the facade redesigned in the neo-Renaissance style in 1894 and a depiction of Count Anton Günther was used by merchants and tobacco manufacturers.

**12 Lappan (1467/68)**

The hall tower, which once belonged to „Heiligen-Geist-Spita“ (Holy Spirit Hospital), is one of few buildings to survive the town fire of 1676 unscathed. In 2008 the shingle roof was replaced with a copper cap.

**13 Peter-Friedrich-Ludwig-Hospital (1838/41)**

The former hospital was named after Duke Peter Friedrich Ludwig, who had various Classicistic buildings erected during his reign. It has been used as a cultural center since 1994.

**14 Edith-Russ-Haus**

The EDITH RUSS HOUSE originated from an endowment by Edith Russ, a secondary school teacher in Oldenburg, and is solely devoted to art that uses new media.

**15 Stadtmuseum Oldenburg**

The Oldenburg City Museum came about in 1915 as a foundation of the Oldenburg art collector Theodor Franckens. Today the Oldenburg City Museum consists of the Theodor Franckens Foundation, The Bernhard Winter Foundation, the Department of Local History, the New Gallery with changing exhibitions and the Museum Library.

**16 Horst-Janssen-Museum**

The museum devoted to the artist Horst Janssen was opened in 2000 with 1,800 works from the Janssen collection. Horst Janssen was a graphic artist, etcher, lithographer, woodblock print artist, author, poster artist and illustrator. The many facets of his artistic talent are the topic of the permanent exhibition.

**17 Oldenburger Computer-Museum (reopening March 2014)**

In Germany's only home computer museum, visitors cannot only view the home computers and game consoles of the 70's and 80's arranged in chronological order – they can also try them.

**18 Bahnhofgebäude – station building (1912/15)**

The art nouveau building houses a waiting room well worth seeing, which once served as a waiting and boarding area for the Grand Duke's family. Today the ticket sales area of the Deutsche Bahn (German Railway) is located there.

The shop for Oldenburg lovers.

Touristinfo // Ticketshop Oldenburg

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