



Association for  
Computing Machinery

*Advancing Computing as a Science & Profession*

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## **ACM Conference on Pervasive and Ubiquitous Computing Explores Innovations in Connected Technologies**

### ***Major Research Gathering to Include Presentations on Mobile Phones, Smart Homes, and Crowdsourcing***

**New York, NY, September 7, 2016**— Few phenomena in recent years have had as much impact on society as pervasive and ubiquitous computing. From the explosion of mobile phone use, and wearable tech, to smart cities and autonomous vehicles, the potential uses and benefits of pervasive computing have never been greater. To highlight leading-edge research in the field and promote continued innovation, the Association for Computing Machinery (ACM) will hold its annual [ACM International Joint Conference on Pervasive and Ubiquitous Computing \(UbiComp\)](#), in Heidelberg, Germany from September 12-16, 2016.

“The computing world has changed drastically from the giant mainframes of the past to the complex computing devices we now carry in our pockets,” says Antonio Krüger, General Co-Chair of UbiComp 2016. “Amazingly, we are still only touching the tip of the iceberg when it comes to the possibilities of pervasive computing. UbiComp is a unique event that brings together some of the best minds in the industry to explore the vast potential of ubiquitous computing.”

### **Keynote Speakers**

**Rosalind W. Picard** is founder and director of the [Affective Computing Research Group](#) at the Massachusetts Institute of Technology (MIT) Media Lab, co-director of the Media Lab's Advancing Wellbeing Initiative, and faculty chair of MIT's Mind+Hand+Heart Initiative. She has co-founded Empatica, Inc. creating wearable sensors and analytics to improve health, and Affectiva, Inc., delivering technology to help measure and communicate emotion.

**Dirk Helbing** is Professor of Computational Social Science at the Department of Humanities, Social and Political Sciences and affiliate of the Computer Science Department at ETH Zurich. He is internationally known for his work on pedestrian crowds, vehicle traffic, and agent-based models of social systems. Furthermore, he coordinates the [FuturICT](#) Initiative, which focuses on the understanding of techno-socio-economic systems, using smart data.

### **Featured Sessions**

Featured sessions at this year's conference will cover everything from smart homes to eye tracking to functional on-skin technology, including:

- **Smart homes of the future**—“TableTalk: Integrating Personal Devices and Content for Commensal Experiences at the Family Dinner Table”

- **Unobtrusive sensing and feedback**—“Cognitive Rhythms: Unobtrusive and Continuous Sensing of Alertness Using a Mobile Phone”
- **UbiComp in education**—“Collective Use of a Fabric-based Interactive Surface to Support Early Development in Toddler Classrooms”
- **Sound and audio**—“Automated Estimation of Food Type and Amount Consumed from Body-worn Audio and Motion Sensors”; “Writing Hacker: Audio-based Eavesdropping of Handwriting via Mobile Devices”

## **Featured Workshops**

### **“(UnderWare) Aesthetic, Expressive, and Functional On-Skin Technologies”**

Emerging technologies allow for novel classes of interactive wearable devices that can be worn directly on skin, nails and hair. This one-day workshop explores, discusses and envisions the future of these on-skin technologies. The workshop addresses three important themes: aesthetic design to investigate the combination of interactive technology with personalized fashion elements and beauty products, expressive and multi-modal interactions for mobile scenarios, and technical function, including novel fabrication methods, technologies and their applications. The goal of this workshop is to bring together researchers and practitioners from diverse disciplines to rethink the boundaries of technology on the body and to generate an agenda for future research and technology.

### **“Mobile and Situated Crowdsourcing (WMSC’16)”**

Crowdsourcing beyond the desktop is increasingly attracting interest due to the rapid proliferation of smart phones and other ubiquitous technologies, such as public displays. This workshop seeks to investigate the current state of the art of mobile and situated crowdsourcing by bringing together researchers of this thriving research agenda.

### **“PETMEI 2016: Pervasive Eye Tracking and Mobile Eye-Based Interaction”**

Previous work on eye tracking and eye-based human-computer interfaces mainly concentrated on making use of the eyes in traditional desktop settings. With the recent growth of interest in wearable computers, such as smartwatches, smart eyewear and low-cost mobile eye trackers, eye-based interaction techniques for mobile computing are becoming increasingly important.

### **“EyeWear 2016: First Workshop on Eye Wear Computing”**

Smart glasses, head-mounted displays (HMDs), egocentric vision devices, and similar "smart eyewear" have recently emerged as interesting research platforms for a range of research fields, including human-computer interaction, ubiquitous computing, computer vision, and social sciences. While early prototypes were too bulky to be worn on a regular basis in daily life, new devices, such as Google Glass and JINS Meme, look more and more like normal glasses, are lightweight, and allow for long-term use.

A full conference program and list of speakers, is available at <http://ubicomp.org/ubicomp2016/>.

### **About UbiComp**

The ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp) is a premier venue for presenting research in the design, development, deployment, evaluation and understanding of ubiquitous computing systems, including pervasive, wireless, embedded, wearable and mobile technologies, to bridge the gaps between the digital and physical worlds. UbiComp brings together top researchers and practitioners who are interested in both the technical and applied aspects of ubiquitous computing. UbiComp is sponsored by the ACM Special Interest Group on Mobility of Systems, Users, Data and Computing (SIGMOBILE) and the ACM Special Interest Group on Computer-Human Interaction (SIGCHI).

### **About ACM**

ACM, the Association for Computing Machinery ([www.acm.org](http://www.acm.org)), is the world’s largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field’s challenges. ACM strengthens the computing profession’s

collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

**About SIGCHI**

SIGCHI, the ACM Special Interest Group on Computer Human Interaction ([www.sigchi.org/](http://www.sigchi.org/)) is the premier international society for professionals, academics and students who are interested in human-technology and human-computer interaction (HCI). SIGCHI serves as a forum for ideas on how people communicate and interact with computer systems. This interdisciplinary group of computer scientists, software engineers, psychologists, interaction designers, graphic designers, sociologists, and anthropologists is committed to designing useful, usable technology which has the potential to transform individual lives.

**About SIGMOBILE**

SIGMOBILE, the ACM Special Interest Group on Mobility of Systems, Users, Data and Computing (<https://www.sigmobile.org/>) is the international professional organization for scientists, engineers, executives, educators, and students dedicated to all things *mobile*. SIGMOBILE members work in academia, industry, and government. They are students, teachers, practitioners, policymakers, and scientists.

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