



Association for  
Computing Machinery

*Advancing Computing as a Science & Profession*

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## **World's Major Showcase of Human-Computer Interaction Research Opens May 6**

### **3,000 Professionals to Gather at ACM CHI 2017 to Present Groundbreaking Research Findings, Explore Issues Including Civil Liberties, Big Data, Social Media**

**NEW YORK, April 20, 2017** – The Association for Computing Machinery's (ACM) Special Interest Group on Human-Computer Interaction (SIGCHI) presents the premier international conference on human-computer interaction, [CHI 2017](#), which takes place in Denver, Colorado May 6-11, 2017. CHI 2017 addresses the use of technology in all areas of life, and brings together people from multiple disciplines and diverse cultures to explore new ways to practice, develop and improve methods and systems in human-computer interaction.

“With the dramatic changes this past year, we decided to hold events at the conference to discuss and plan how we could continue our commitment to inclusion,” said Gloria Mark, CHI 2017 Co-chair. “The conference includes organized panels and special interest group meetings to discuss impacts of current political events on civil liberties in science. Additionally, to provide access to all who study human-technology and human-computer interaction, we are offering telepresence options for remote participants who would otherwise be unable to attend due to mobility impairments, chronic health issues, temporary travel limitations, or visa issues.”

Newly added this year are CHI Stories, live personal narratives capturing significant experiences that transformed, inspired and challenged individuals, which the organizers envision as a mashup of TED, The Moth, and Pop-Up Magazine.

#### **CHI 2017 Leading Edge Research Papers Include:**

##### **Can thermal cameras steal the PIN from your mobile phone?**

In their paper “Stay Cool! Understanding Thermal Attacks on Mobile User Authentication,” Yomna Abdelrahman and co-authors investigate the viability of exploiting thermal images to infer PINs and patterns on mobile devices. The authors validate that thermal attacks are a threat and offer possible security solutions.

##### **Instead of banning devices from the dinner table, a new technology enables families to connect through their devices at mealtimes to foster interaction.**

In their paper “Celebratory Technology to Orchestrate the Sharing of Devices and Stories During Family Mealtimes,” Hasan Shahid Ferdous and co-authors present Chorus, a technology that orchestrates the sharing of smart devices and stories, explores related content from everyone’s devices, and supports revisiting shared content to facilitate interaction.

### **Measuring situational awareness to improve autonomous driving.**

David Sirkin and colleagues contend that the leading techniques for measuring situation awareness in simulated environments are ill-suited to autonomous driving scenarios, and particularly to on-road testing. In their paper “Toward Measurement of Situation Awareness in Autonomous Vehicles,” the authors present a technique called Daze, which measures situation awareness through real-time, in-situ event alerts.

### **What can 50 million tweets tell us about the 2016 presidential election?**

Zubair Shafiq and co-authors analyzed 50 million tweets for the findings in their paper “Revisiting the American Voter on Twitter.” Their analysis reveals the continuing importance of party, personality, and policy, and augments understanding by applying sentiment analysis techniques.

### **Imagine driving and being able to answer your phone simply by smiling.**

Author Denys Matthies will present his paper “Earfield Sensing: A Novel In-Ear Electric Field Sensing to Enrich Wearable Gesture Input through Facial Expressions.” EarFieldSensing (EarFS) is a novel input method for mobile and wearable computing using facial expressions. The device, once planted inside the ear canal, can detect moods such as fatigue, stress, and happiness by tracking facial muscle movements.

### **How much revenue do you generate for Facebook?**

In their paper “FDVT: Data Valuation Tool for Facebook Users,” Angel Cuevas and colleagues present a Facebook Data Visualization tool. This Google Chrome extension provides Facebook users with a real-time and personalized estimation of the revenue they generate for Facebook.

### **Do children approve of the kinds of things their parents share about them online?**

In their paper “Parents’ and Children’s Preferences about Parents Sharing about Children on Social Media,” Carol Moser and co-authors conducted a survey with 331 child-parent pairs to examine preferences about the ways in which parents share information about their children online. The authors found that parents and children are in agreement in their perception of how often and how much information parents share about their children on social media, but disagree on permission practices.

### **The complicated relationship of women and gaming.**

Recent trends in gaming diversification have shown that women are both an increasingly significant pool of consumers and game producers, and regular victims of misogynistic harassment in the field. In the paper “Understanding Gaming Perceptions and Experiences in a Women’s College Community,” Orit Shaer and co-authors found indications that in some cases gender-related negative experiences of gaming have a lasting impact on the participation and self-confidence of young women.

### **Forget smartwatches, the next on-body display will be your fingernail.**

In their paper “AlterNail: Ambient, Batteryless, Stateful Dynamic Displays at your Fingertips,” Christine Dierk and co-authors present AlterNail, an interactive fingernail-worn device that utilizes wireless power and e-ink technology in order to present a low-power, dynamic fingernail display.

CHI 2017 features several breakout sessions and unique events including its second annual "Day of Service," an opportunity for attendees to leverage their skills to make an impact. The volunteer work will range from helping critique a website, to brainstorming new ideas for an app, to setting up a database. Additionally, the conference will host an art exhibition titled, "I'll Be Watching You," a curated exhibition that reflects, critiques, and constructs present and future visions of our technologically-enhanced world.

### **Other CHI 2017 highlights include:**

#### Panels and special interest groups

- **Panel: Policy Impacts on the HCI Research Community.** Recent policy developments in both the United States and elsewhere have sparked significant concern within the HCI research community. What can SIGCHI do to best support the community under current conditions? In this panel discussion, designed to be heavily participatory, we will take on these issues and discuss what we can do to support our strong, diverse community of researchers.
- **Special interest group (SIG): Taking Action in a Changing World: Research and Community.** The CHI community is global, diverse, and highly engaged. In light of international policy developments that impact both our community and the practice of science in general, this SIG will bring together members of this community to discuss policy changes we could pursue and future research directions to fight against issues such as isolationism, misinformation, and censorship.

#### Plenary speakers

- **Opening plenary speaker: Neri Oxman, Material Ecology.** Oxman will discuss the pioneering field of Material Ecology, which considers computation, fabrication, and the material itself as inseparable dimensions of design. Oxman's work is exhibited internationally, e.g., in the MoMA, Centre Georges Pompidou, and the Smithsonian.
- **Tuesday plenary speaker: Ben Shneiderman: How the CHI Community Got Its Groove --and Changed the World!** This session will track the history of the CHI community's dramatic growth, changing research methods, and substantial impact across disciplines, industries, and cultures.
- **Wednesday plenary speaker: Wael Ghonim, Mobocratic Algorithms: Could Social Media Be a Threat to Democracy?** This talk from a Nobel Peace prize nominee aims at providing "alternative" perspectives (not facts!) about social media from a witness to how such a powerful tool was used to unite people, and also to tear them apart, during the Arab Spring.
- **Closing plenary speaker: Nicholas Carr, Computers, Automation and the Human Future.** This talk, presented by a best-selling author, will offer a lively and provocative examination of how digital technologies are shaping our jobs, lives and society.

For a complete conference program, please visit <https://chi2017.acm.org/>.

### **About the ACM CHI Conference**

Originally a small conference for psychologists interested in user interface design, the annual CHI conference has grown to include a diverse group of interaction designers, computer scientists, engineering psychologists, developers, and performing artists. CHI also addresses the organizational integration of technology, and the use of technology in all areas of life.

### **About SIGCHI**

SIGCHI, the ACM Special Interest Group on Human-Computer 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 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.

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