MONDAY, 8 May 2017

8:30 - 10:00  ⚡ Opening Plenary Session, “Material Ecology”  
Neri Oxman, Architect, Designer, Professor, Mediated Matter group, MIT Media Lab

10:00 - 11:30  � acompnay Coffee Break (Lobby A)  
Video Showcase (Four Seasons Ballroom)  
Student Game Competition Exhibit (Lobby A)

11:30 - 12:50  ⚡ Technical Sessions

12:50 - 14:30  ⚡ Lunch Break (on your own)

14:30 - 15:50  ⚡ Technical Sessions

15:50 - 16:30  ⚡ Coffee Break (Exhibit Hall F & Lobby A)  
Art Exhibition Sneak Peek (Exhibit Hall F)  
Student Game Competition Exhibit (Lobby A)

16:30 - 17:50  ⚡ Technical Sessions

18:00 - 19:30  ⚡ Conference Reception, Art Exhibition, Exhibits & Interactivity Grand Opening

TUESDAY, 9 May 2017

8:30 - 9:20  ⚡ Morning Plenary, “How the CHI Community Got Its Groove and Changed the World”  
Ben Shneiderman, Professor & Founding Director, HCI Laboratory, University of Maryland

9:30 - 10:50  ⚡ Technical Sessions  
(Note: Exhibit Hall Open 10:30-17:30)

10:50 - 11:30  ⚡ Coffee Break (Exhibit Hall F)

11:30 - 12:50  ⚡ Technical Sessions

12:50 - 14:30  ⚡ Lunch Break (on your own)  
Diversity & Inclusion Lunch (Preregistration required)

14:30 - 15:50  ⚡ Technical Sessions

15:50 - 16:30  ⚡ Coffee Break (Exhibit Hall F)  
Interactivity (Exhibit Hall F)

16:30 - 17:50  ⚡ Technical Sessions

18:00 - 19:30  ⚡ Job Fair (Exhibit Hall F)  
CHI Stories (Exhibit Hall F)

WEDNESDAY, 10 May 2017

8:30 - 9:20  ⚡ Morning Plenary, “Mobocratic Algorithms: Could Social Media be a Threat to Democracy?”  
Wael Ghonim, The Ash Center for Democratic Governance at Harvard University

9:30 - 10:50  ⚡ Technical Sessions  
(Note: Exhibit Hall Open 10:30-17:30)

10:50 - 11:30  ⚡ Coffee Break (Exhibit Hall F)

11:30 - 12:50  ⚡ Technical Sessions

12:50 - 14:30  ⚡ Lunch Break (on your own)  
ACM SIGCHI Town Hall Meeting (Room 207)

14:30 - 15:50  ⚡ Technical Sessions

15:50 - 16:30  ⚡ Coffee Break (Exhibit Hall F)  
Interactivity (Exhibit Hall F)

16:30 - 17:50  ⚡ Technical Sessions

THURSDAY, 11 May 2017

9:30 - 10:50  ⚡ Technical Sessions  
(Note: Exhibit Hall Open 10:30-13:30)

10:50 - 11:30  ⚡ Coffee Break (Exhibit Hall F)  
Interactivity (Exhibit Hall F)

11:30 - 12:50  ⚡ Technical Sessions

12:50 - 14:30  ⚡ Lunch Break (on your own)  
(Note: Exhibit Hall closes at 13:30)

14:30 - 15:50  ⚡ Technical Sessions

15:50 - 16:30  ⚡ Coffee Break (Lobby A)

16:30 - 17:50  ⚡ Closing Plenary Session, “Computers, Automation and the Human Future”  
Nicholas Carr, Author
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**WIFI** (case sensitive)

network name: CHI-2017

password: CHI-2017
We wish you a warm welcome to CHI 2017! You will find a rich program filled with workshops and symposia, followed by a technical program with 17 parallel sessions of provocative papers, panels, case studies, SIGs, courses, the popular student research, design, and game competitions and of course the stimulating alt.chi forum. CHI also offers an Interactivity forum showcasing cutting-edge technology and an Art Exhibit merging art and technology. This innovative work can be found in the Proceedings and Extended Abstracts, archived in the ACM Digital Library.

This year the conference received 2400 paper submissions which were rigorously reviewed, resulting in 600 accepted papers. Across all tracks, CHI received nearly 5000 submissions and accepted over 1000.

Our conference theme this year, Explore, Innovate, Inspire, informed our planning process. A new venue held this year was CHI Stories. CHI Stories is a chance for CHI community members to share personal stories of inspiration, challenge, successes and failures, and grit. We also focused on inclusion this year, holding a Day of Service partnering with non-profit organizations and hosting a Diversity and Inclusion Lunch. Telepresence robots enabled people with disabilities to participate remotely in the conference. Our keynote speakers were chosen to reflect our conference theme. The speakers were Neri Oxman, who combines computational design, digital fabrication, materials science and synthetic biology; Ben Shneiderman, a founder of the CHI conference who, along with some key CHI personalities, offers a perspective on CHI’s history and future; Wael Ghonim, credited with starting the Arab Spring and nominated for the Nobel Peace Prize and best-selling author Nicholas Carr who challenges us to examine the unforeseen impacts of technology, particularly with automation.
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The world has experienced a dramatic change this past year. We live in extraordinary times and this calls for extraordinary thinking, something that the CHI community excels at. One of the challenges the community faced this year was responding to a U.S. executive order to ban citizens of certain countries from entering the country to attend CHI. We decided to hold events at the conference to discuss and plan how we could continue our commitment to inclusion. The conference organized a panel to discuss impacts of current political events on science, and hastily organized a panel and a SIG to promote a conversation of civil liberties in science. We expanded telepresence options using robots to enable people to participate in the conference remotely if they were physically unable to enter the country. We had a keynote speaker who inspired us on the topic of Internet activism. Our art exhibit, “I’ll Be Watching You,” examined the contemporary issue of surveillance.

We are extremely grateful to a legion of volunteers who made CHI 2017 possible, including over 7000 reviewers across all areas of the technical program, 254 senior members of the papers program committee, over 100 members of the CHI 2017 conference organization committee and importantly, the more than 175 student volunteers. We also thank SIGCHI and ACM for its continued support.

Gloria Mark
University of California Irvine, General Conference Co-Chair

Susan Fussell
Cornell University, General Conference Co-Chair

Colorado Convention Center | Denver, Colorado | 3
### MONDAY

8:30 - 10:00

**Opening Plenary (Four Seasons 2/3)**

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<td>9:00</td>
<td>Ben Shneiderman - How the CHI Community Got its Groove – and Changed the World!</td>
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10:00 - 11:30 – Coffee Break • Student Game Competition Exhibit (Lobby A) • Video Showcase (Four Seasons Ballroom)

11:30 - 12:50

**102/104**

Papers Learning to be Makers

**103/105**

Papers Technology and Adoption

**106**

Course (C03) Computational UI Eval (1/3)

**107/109**

Papers Perceptions of Visualizations

**108**

Course (C05) Saying Yes Wisely (1/3)

**110/112**

Papers Innovative Sensing

12:50 - 14:30 – Lunch Break

Papers Sustainability and Public Service

Papers Understanding Data Visualization

Panel Robots in Group Context

Papers Fabrication via 3D Printing

Course (C03) Computational UI Eval (2/3)

Papers Design Theory

Course (C05) Saying Yes Wisely (2/3)

Papers Social & Collaborative Technologies

15:50 - 16:30 – Coffee Break (Exhibit Hall F & Lobby A) • Art Exhibition Sneak Peak (Exhibit Hall F) • Student Games Competition Exhibit (Lobby A)

18:00 - 19:30 • Job Fair (Exhibit Hall F) • CHI Stories (Exhibit Hall F)

### TUESDAY

8:30 - 10:00

**Tuesday Morning Plenary (Four Seasons 2/3)**

Ben Shneiderman - How the CHI Community Got its Groove – and Changed the World!

9:20 - 9:30 – Break

10:00 - 11:30 – Coffee Break • LBW Posters Rotation 1 • Doctoral Consortium Posters • Interactivity (Exhibit Hall F)

11:30 - 12:50

**102/104**

Papers Temperature Interfaces

Social Impact Award Talk Jacob Webbrock

Papers Human Factors

alt.chi Challenges to Design

Papers Fabricating New Materials

Course (C03) Computational UI Eval (3/3)

Papers Visual Perception Based Decisions

Course (C05) Saying Yes Wisely (3/3)

**110/112**

Papers Clinical Settings

12:50 - 14:30 – Lunch Break • Diversity & Inclusion Lunch (Preregistration required)

Papers Heatmap Experiments

Papers Gesture as Input

Papers Precautionary Behaviors

Panel Human-Computer Interaction and Powerful Tools

Papers It Could Be This Way

Course (C09) Interaction Design (2/4)

Papers Connect, Move, Touch, Build

Course (C08) UX Does Ethno (2/2)

Papers Behavior in Online Communities

18:00 - 19:30 • Job Fair (Exhibit Hall F) • CHI Stories (Exhibit Hall F)
### CHI 2017

**Opening Plenary (Four Seasons 2/3)**  
Neri Oxman - Material Ecology

**TUESDAY**

#### 8:30 - 9:20
- Opening Plenary (Four Seasons 2/3)
  - Neri Oxman - Material Ecology

#### 9:20 - 9:30
- Break

#### 9:30 - 10:50
- [alt.chi](#) Disciplinary Challenges: Methods and Writing
  - Papers: All about Data
  - Papers: Design and Cognitive Impairment
  - Papers: Novel Game Interfaces
  - Papers: HCI/UX Education and Industry
  - Papers: Evaluating Visual Perceptions
  - Papers: From Joysticks to Pokémon Go: Games and Play Research in SIGCHI

#### 10:50 - 11:30
- [alt.chi](#) Disciplinary Challenges: Methods and Writing
  - Coffee Break • LBW Posters Rotation 1 • Doctoral Consortium Posters • Interactivity (Exhibit Hall F)

#### 11:30 - 12:50
- Lunch Break • Diversity & Inclusion Lunch (Preregistration required)

### CONFERENCE AT A GLANCE

**Papers**

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**MONDAY**

#### 8:30 - 10:00
- Tuesday Morning Plenary (Four Seasons 2/3)
  - Ben Shneiderman - How the CHI Community Got its Groove – and Changed the World!

#### 11:30 - 12:50
- Coffee Break • LBW Posters Rotation 1 • Student Design & Student Research Posters • Interactivity (Exhibit Hall F)

#### 12:50 - 14:30
- Lunch Break • Diversity & Inclusion Lunch (Preregistration required)

### TUESDAY

#### 15:50 - 16:30
- Coffee Break (Exhibit Hall F & Lobby A) • Art Exhibition Sneak Peak (Exhibit Hall F) • Student Games Competition Exhibit (Lobby A)

#### 18:00 - 19:30
- Job Fair (Exhibit Hall F) • CHI Stories (Exhibit Hall F)

**Conference Reception, Art Exhibition, Exhibits & Interactivity Grand Opening (Exhibit Hall F)**
**CONFERENCE AT A GLANCE**

**Wednesday Morning Plenary (Four Seasons 2/3)**
Wael Ghonim - Mobocratic Algorithms: Could Social Media be a Threat to Democracy?

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Nicholas Carr - Computers, Automation and the Human Future
### CHI 2017

**Conference at a Glance**

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<td>(Four Seasons Ballroom) Nicholas Carr - Computers, Automation and the Human Future</td>
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**Papers**

- Collaborative Crowdsourcing
- Wearable Technology
- Chatbot Interfaces
- Fabrication and DIY
- Passwords and Authentication
- Bridging Communities for Better H-IIT
- Case Studies
- Positive Computing
- Camera-based Tracking
- Technology Enabled Commerce
- Unusual Displays
- Experiences with Virtual Reality
- Ways to Represent User Data
- Models of Use and Gestures
- Making Sense of Statistics in HCI
- Mobile and Tools
- UX (1/2)
- Social Media
- Civic Engagement
- Markets in the Global South
- 360 Video
- Cross Device Interaction
- On Leading Design
- Creativity and Exploration
- Making Sense of Statistics in HCI (2/2)

---

**SIGs**

- Bridging Communities for Better HIT
- BCI
- Taking Action in a Changing World
- On Leading Design
- UX
- UX Introduction
- UX (2/2)
- UX (1/2)
- Positive Computing
- Taking Action in a Changing World
- UX Introduction
- UX (2/2)
- UX (1/2)

---

**Courses**

- UX Intro (C17) Positive Computing
- UX Intro (C15) Mobile and Tools
- UX (2/2)
- UX (1/2)
Special NSF Session:

**NSF Funding Information and Proposal Writing**
*Mondays 11:30 – 12:50 Room 204*

Chia Shen and Dan Cosley
Program officers from the Education and Human Resources (EHR) and Computer and Information Science and Engineering (CISE) directorates will give attendees potentially relevant funding opportunities for the CHI community in our directorates and that we know about, an overview of proposal writing do’s and don’ts, and plenty of time for questions.

Special SIGCHI Sessions:

This year at CHI, SIGCHI is running a special track on outreach activities, to cover ‘Dealing with the Press’ and ‘Communicating your Research to the Public’ (details below). Sessions will be delivered by Helen Pitcher, a professional science journalist and communications trainer.

Sessions will be trainer-led but will also be lively and interactive, with group discussions and practical exercises. Participants should be prepared to talk about their research, opinions and personal experiences. Because sessions will have no more than 20 participants, the hope is that individuals will be able to receive advice and feedback that is specific to their needs.

**Becoming a SIGCHI Volunteer**
*Wednesdays 14:30 – 15:50 Room 106*

**Dealing with the Press**
Interacting with the media can be daunting and frustrating. Researchers frequently comment on how their work is misrepresented in the popular press. This session aims to give participants the skills needed to interact confidently with the media, and get their key messages across. Areas to be covered include:
- Understanding how research hits the headlines
- How to make the best of being interviewed
- Defining and defending your message
- Dealing with nerves

(3 Times Available)
*Monday 14:30 – 15:50 Room 204*
*Tuesday 14:30 – 15:50 Room 204*
*Tuesday 16:30 – 17:50 Room 204*

**Communicating Your Research to the Public**
Communicating your Research to the Public Researchers are increasingly called upon to communicate with non-specialist audiences, but it can be difficult to communicate complex scientific topics in a way that makes them accessible and engaging to people outside the field. This session aims to give the participants the skills needed to present their research to non-specialists. Areas to be covered include:
- Know your audience
- Jargon-busting
- Writing skills
- Presentation skills
- The importance of narrative, colour and anecdote

(4 Times Available)
*Tuesday 9:30 – 10:50 Room 204*
*Tuesday 11:30 – 12:50 Room 204*
*Wednesday 9:30 – 10:50 Room 204*
*Wednesday 11:30 – 12:50 Room 204*
Conference Chairs
Gloria Mark, University of California, Irvine
Susan Fussell, Cornell University

Assistants to General Chairs
Yiran Wang, University of California, Irvine
Ge Gao, Cornell University

Technical Program
Senior Technical Program Chair
Cliff Lampe, University of Michigan

Technical Program Chair
m.c. schraefel, University of Southampton

Assistant to the Technical Program Chairs
Lindsay Blackwell, University of Michigan

Papers Chairs
Caroline Appert, Univ. Paris-Sud & CNRS
Juan Pablo Hourcade, University of Iowa
Daniel Wigdor, University of Toronto

Assistant to Papers Chairs
Michael Glueck, University of Toronto

alt.chi Chairs
Karrie Karahalios, University of Illinois at Urbana – Champaign
Jess Lingel, University of Pennsylvania
Janet Vertesi, Princeton University

Case Studies Chairs
Stephen Snow, University of Southampton
Jessica Tismers, Google

Courses Chairs
Erik Andersen, Cornell University
Hilary Hutchinson, Google
Max Wilson, University of Nottingham

Demos Chairs
Ido Guy, Yahoo
Stephen Voids, University of Colorado Boulder

Doctoral Consortium Chairs
Anna Cox, University College London
Jeff Bigham, Carnegie Mellon University
Kenton O’Harra, Microsoft Research, UK

Interactive Installations Chairs
Adrian Friday, Lancaster University
Shengdong Zhao, National University of Singapore

Late Breaking Work Chairs
Sharon Ding, Fordham University
Ingrid Eriksson, Rutgers University
Bryan Semaan, Syracuse University
Fanis Tsardilas, INRIA

Panels Chairs
Santa Schoenebeck, University of Michigan
Jude Yew, National University of Singapore

Student Design Competition Chairs
Joohwan Lee, Seoul National University
Scott Minneman, California College of Arts

Student Game Competition Chairs
Floyd Mueller, RMIT University
Josh Tanenbaum, University of California, Irvine

Student Research Competition Chairs
Jeremy Birnholtz, Northwestern University
Jenn Thom, Spotify

Special Interest Groups Chairs
Lindsay Reynolds, Facebook
Bert Scerba, Disney

Systems Chairs
Michael Stewar, Virginia Tech
Dorota Filipczuk, University of Southampton

Symposia Chair
Lana Yarosh, University of Minnesota

Video Showcase Chairs
Danyel Fisher, Microsoft Research
Catherine Letondal, ENAC

Workshops Chairs
Duncan Brunby, University College London
Christopher Frauenberger, Vienna University of Technology
Shamsi Iqbal, Microsoft Research

Art Chairs
Jiffler Harrman, University of Colorado Andrid Kerme, Texas A&M University
Hyunjoo Oh, University of Colorado Boulder
Thecla Schiphorst, Simon Fraser University

CHI Stories Chairs
Nazzanin Andalibi, Drexel University
Nick Diakopoulos, University of Maryland, College Park
Andrea Forte, Drexel University
Misa Maruyama, University of Hawaii at Manoa
Scott Robertson, University of Hawaii at Manoa

Career Development Workshop Chairs
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Michael Muller, IBM Research

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David McDonald, University of Washington

Remix Chairs
Susan Dray, Dray & Associates
Amy Voids, University of Colorado Boulder

Student Volunteer Chairs
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Data Chair
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Toni-Jan Keith Monserrat, University of the Philippines Los Baños

Diversity and Inclusivity Lunch Chairs
Anke Brock, Inria Bordeaux
Allison Druin, University of Maryland
Gopinath Kannabiran, Indiana University, Bloomington

Language Inclusion Chair
Tilman Dingler, University of Stuttgart

Local Arrangements Chairs
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Tom Yeh, University of Colorado Boulder

Social Impact Chairs
Kathy Baxter, Salesforce
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Jill Woelfer, Google

Social Media Chairs
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Carman Neustaedter, Simon Fraser University

Translations Chairs
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Naomi Yamashita, Nippon Telegraph and Telephone

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Subcommittee Chairs:
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- William Gaver, University of London
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- Batya Friedman, University of Washington
- Elisa Giaccardi, TU Delft
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- Stephan Wensween, TU/e - Netherlands
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- Lining Yao, MIT
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Subcommittee Chairs:
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- James Fogarty, University of Washington
- Michel Beaudouin-Lafon, Université Paris-Sud
- Hrvoje Benko, Microsoft Research
- Andrea Bunt, University of Manitoba
- Parmjit Chilana, Simon Fraser University
- Hans Gellersen, Lancaster University
- Jun Kato, National Institute of Advanced Industrial Science and Technology
- Jarrod Knibbe, University of Copenhagen
- Antonio Krüger, German Research Center for Artificial Intelligence
- Walter Lasecki, University of Michigan
- Yang Li, Google
- Stephen Onyes, University of Michigan
- Albrecht Schmidt, University of Stuttgart
- Marcos Serrano, University of Toulouse
- Erin Solovey, Drexel University
- Simone Stumpf, City University London
- Khai Truong, University of Toronto

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Subcommittee Chairs:
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- Lennart Nacke, University of Waterloo
- Jingtao Wang, University of Pittsburgh
- Zachary O'Tours, New Mexico State University
- Erik Andersen, Cornell University
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- Elisa Melek, University of Basel
- AnniKa Waern, Uppsala University
- Derek L. Hansen, Brigham Young University
- Richard N. Landers, Old Dominion University

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Subcommittee Chairs:
- Jeffrey Bigham, Carnegie Mellon University
- Gillian Hayes, University of California, Irvine
- Dragomir Anhova, Carnegie Mellon University
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- Leslie Liu, Indiana University
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- Andrew Miller, Indiana University-Purdue University Indianapolis
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- Aisling O’Kane, University College London
- Helen Petrie, University of York
- Anne Marie Piper, Northwestern University
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- Anja Thieme, Microsoft Research
- Jacob O. Robbrock, University of Washington

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Subcommittee Chairs:
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- Jaime Teever, Microsoft Research
- Brent Hecht, University of Minnesota
- Brian Keegan, Harvard University
- Alexander Boden, Fraunhofer Institute for Applied Information Technology FIT
- Antonella De Angelis, University of Trento
- Ingrid Erickson, Rutgers University
- Matthew Bietz, University of California, Irvine
- Munmun De Choudhury, Georgia Institute of Technology
- Myriam Lewkowicz, Université de Technologie de Troyes
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- Claudia Müller, University of Siegen
- Mor Naaman, Cornell University
- Michael Pilla, Clausthal University of Technology
- Victoria Schwanda Sok, Google
- Kate Starbird, University of Washington
- Jessica Vitak, University of Maryland

Interaction Techniques, Devices, and Modalities

Subcommittee Chairs:
- Fanny Chevalier, Inria
- Alex Olwal, Google
- Anne Roudaut, University of Bristol
- Chris Harrison, Carnegie Mellon University
- Fraser Anderson, Autodesk Research
- Micheline Annett, University of Toronto
- Daniel Ashbrook, Rochester Institute of Technology
- Gilles Bailly, CNRS
- Xiaojun Bi, Google/UC Berkeley University
- Sebastian Boring, University of Copenhagen
- Baptiste Caramiaux, McGill University & IRCAM
- Céline Coutrix, CNRS & University of Stuttgart
- Steven Feiner, Columbia University
- Sean Follmer, Stanford University
- Mayank Goel, Carnegie Mellon University
- Michael Haller, University of Applied Sciences Upper Austria
- Bjørn Hartmann, UC Berkeley
- Eve Hogg, Aarhus University
- David Holman, Tactial Labs
- Otmar Hilgert, ETH Zurich
- Christian Holz, Microsoft Research
- Scott Hudson, Carnegie Mellon University
- Ali Israr, Disney Research
- Yvonne Jansen, CNRS
- Ricardo Jota, Tactial Labs
- Abhijit Karnik, Lancaster University
- Sven Kratz, FPAL
- Per Ola Kristensson, University of Cambridge
- Wilmot Li, Adobe Research
- Wendy Mackay, Inria
- Sylvain Malancia, Inria
- Justin Matejka, Autodesk Research
- Stefanie Mueller, MIT
- Mathieu Nancel, Inria Lille
- Alanson Sample, Disney Research
- Srinam Subramanian, University of Sussex
- Daniel Szafir, University of Colorado Boulder
- Daniel Vogel, University of Waterloo
- Koji Yatani, University of Tokyo
- Beste Filiz Yuksel, University of San Francisco

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- Alexander De Luca, Google
- Enrico Bertini, NYU Polytechnic School of Engineering
- Anastasia Bezerianos, University of Paris-Sud
- Maribesh Chetty, University of Maryland
- Paul Dunphy, Vasco Data Security
- Serge Egelman, University of California, Berkeley
- Niklas Elmqvist, University of Maryland
- Jean-Daniel Fekete, Inria
- Marian Harbach, Audi AG
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#### Late-Breaking Work Associate Chairs (continued)

- Clément Pillias, CNAM
- Nathaniel Poor
- Roman Rädle, Aarhus University
- Kathryn E. Ringland, University of California, Irvine
- Lionel P. Robert, University of Michigan
- Jennifer Rode, Drexel University
- John Rookby, University of Glasgow
- Selma Sabanovic, Indiana University Bloomington
- Antti Saloovaara, University of Helsinki
- Nithya Sambasivan, Google, Inc.
- Eunice Sari, University of Western Australia
- Arvind Satyanarayan, Stanford University
- Sanika K Sharma, Syracuse University
- Patrick C. Shih, Indiana University Bloomington
- Vivek K. Singh, Rutgers University
- Aneesha Singh, University College London
- Jaime Snyder, University of Washington
- Robert Soden, University of Colorado Boulder
- Jacob Solomon, University of Michigan
- Sowmya Somanath, University of Calgary
- Katarzyna Stawarz, University of Bristol
- Yusuke Sugano, Max Planck Institute for Informatics
- Na Sun, Pennsylvania State University
- Hilda Tellioglu, Vienna University
- Austin L. Toombs, Indiana University Bloomington
- Theophanis Tsandilas, IMIA
- Ravi K Vatrapu, Copenhagen University
- Murali Venkatesh, Syracuse University
- Simon Voelker, RWTH Aachen University
- Romain Vuilleumier, Harvard University
- Chat Wacharamanotham, University of Zurich
- Susann Wagenknecht, University of Siegen
- Alex C. Williams, University of Waterloo
- Donghee Yvette Wohn, New Jersey Institute of Technology
- Paweł W. Wozniak, University of Stuttgart
- Susan Wyche, Michigan State University
- Huichuan Xia, Syracuse University
- Yaoming Yao, Syracuse University
- Alyson Leigh Young, Indiana University-Purdue University Indianapolis
- Asta Zelenkauskaite, Drexel University
- Feifei Zhang, Syracuse University
- Zhan Zhang, Drexel University

#### Student Research Competition Jury

- Jed Brubaker, University of Colorado
- Tawanna Dillahunt, University of Michigan
- Abigail Durrant, Newcastle University
- Casey Fiesler, University of Colorado
- Mark Handel, Facebook
- Patrick Gage Kelley, Google
- Edith Law, University of Waterloo
- Kate Starbird, University of Washington
- Lana Yarosh, University of Minnesota
- Gilly Leshed, Cornell University

#### Student Design Competition Jury

- Scott Minneman, California College of the Arts & Institute for the Future
- Joonhwan Lee, Seoul National University
- Patrick Demasco, Apple Computer
- Wendy Lu, Stanford University & California College of the Arts
- Ellen Do, Georgia Institute of Technology
- Young-Woo Park, Ulsan National Institute of Science and Technology
- Anirudha Joshi, IIT Bombay
- Beth Bonsignore, University of Maryland

#### Student Game Competition Panelists

- Josh Tanenbaum, University of California, Irvine
- Floyd Mueller, RMIT University
- Zachary Toups, New Mexico State University
- Magy Seif El-Nasr, Northeastern University
ACM SIGCHI

CHI 2017 is sponsored by ACM's Special Interest Group on Computer-Human Interaction (ACM SIGCHI). ACM, the Association for Computing Machinery, is an educational and scientific society uniting the world's computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges. ACM strengthens the 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. ACM offers its more than 100,000 worldwide members cutting edge technical information through world class journals and magazines, dynamic special interest groups, and globally recognized conferences. Visit www.acm.org for more information about ACM.

SIGCHI is the premier international society for professionals, academics, and students who are interested in human-computer interaction (HCI). We provide a forum for the discussion of all aspects of HCI through our conferences, including our flagship CHI conference, publications, web sites, email discussion groups, and other services. We advance education in HCI through courses, workshops, and outreach, and we promote informal access to a wide range of individuals and organizations involved in HCI.

Members can be involved in HCI-related activities with others in their region through local SIGCHI chapters. Come to the SIGCHI Town Hall meeting on Wednesday at 12:50-14:30 in Room 207 or visit www.sigchi.org to learn more about SIGCHI. We also have a Youtube channel (near the entry directly across from the Hyatt) to be escorted to the room.

Membership Information
Please contact ACM's Member Services Department
Online: www.acm.org
Tel: +1-800-342-6626 (USA/Canada)
Fax: +1-212-944-1318
Email: acmhelp@acm.org
Write: Association for Computing Machinery, Inc. General Post Office
P.O. Box 30777
New York, NY 10087-0777, USA

CHI INFORMATION AND POLICIES

Name Badges
Your CHI 2017 name badge serves as your admission pass to conference sessions and events. Please wear your name badge at all times while inside the convention center. Conference management reserves the right to deny admission to anyone not wearing a CHI 2017 name badge.

CHI 2017 Information Desk
Student Volunteers staff the Information desk during Exhibits hours. They are happy to help answer your questions or find someone who can. At other times, stop by the Registration Desk for information.

Student Volunteers
CHI 2017 has over 175 Student Volunteers, easily identified by their brightly colored SV t-shirts. Most are graduate students in HCI and some are seeking jobs or internships.

Internet Café
Enjoy chatting with colleagues during the breaks at the Internet Café, located in the Exhibit Hall F, Interactivity and Posters in Exhibit Hall F. CHI 2017 provides access to power for your mobile devices in addition to wireless access.

Wireless Access
CHI 2017 offers wireless high-speed internet access throughout the convention center including in all meeting rooms. Please be considerate of your colleagues and limit your time spent online and any unnecessary bandwidth usage. See Table of Contents for network & password.

Blogging & Photosharing
CHI encourages attendees to blog, tweet and share photos using the hashtag #chi2017.

Photography and Recording
Photographing crowd scenes and people interacting with technology is common at CHI and attendees should be aware that their image might be captured. Please use common courtesy when taking photos or video of individuals that are later uploaded to YouTube, Flickr or similar sites. Please use common courtesy when taking photos or video of individuals that are later uploaded to YouTube, Flickr or similar sites. It is prohibited to audio or video record any talks or presentations.

Smoking Policy
The convention center supports a mandated smokefree environment. However, there are designated outdoor smoking areas.

Child Care
Child Care is not available at the conference this year. Please contact your hotel concierge for information on child care options.

Nursing Room
A room for nursing mothers with a fridge is available on request. Please check in with the Guest Services Department kiosk located in Atrium A (near the entry directly across from the Hyatt) to be escorted to the room.

Telepresence Robots
Pre-registration required
This year we are providing the opportunity for a small number of people to remotely attend the CHI conference via Beam telepresence robots. Our goal is to increase access to the conference for remote participants who would otherwise be unable to attend due to mobility impairments, chronic health issues, temporary travel limitations, or visa issues. Telepresence attendance continues to be an emerging experience where we, as a community, are exploring and shaping how telepresence attendance happens both technically and socially at CHI. Please remember to be open, flexible, and helpful to those attending remotely so that we can continue to grow as a community. Please also feel free to share your experiences with the telepresence chairs at telepresence@chi2017.acm.org.
CHI 2017 received about 5000 submissions and accepted over 1000 presentations and events distributed across 18 parallel sessions over four days. Given this, there is a wide variety of technical content for you to attend at the conference. It includes: Papers and Notes, papers from selected journals, Courses, Case Studies, Panels, alt.chi, SIGs, and Video Showcase. Also included are poster presentations and demos from Late-Breaking Work, Interactivity, the Doctoral Consortium, the Student Research Competition, the Student Design Competition, and the Student Game Competition, as well as an Art Exhibition.

We distinguish between two categories of CHI material in the ACM Digital Library. Papers and Notes are the most rigorously peer reviewed and prestigious material presented at the conference, and are collected in the Conference Proceedings. The CHI 2017 Program Committee received 2424 submissions for Papers and Notes, and the acceptance rate was 25%. The other categories of work are represented in the Extended Abstracts. These are peer-reviewed, juried, or curated, and reflect the breadth of education, research, design, artistic, scientific exploration and engineering activity within the HCI community. Most content is available on the ACM Digital Library at http://dl.acm.org. Journal papers are archived in their respective journals.

Navigating CHI 2017: How do you choose? With so many presentations happening at once, how do you choose? CHI 2017 offers the following resources to help you make the most of your conference experience:

1. This CHI 2017 Conference Program offers at-a-glance summaries and detail of all events in the main technical program, as well as times and locations.
2. The CHI 2017 Conference Proceedings and Extended Abstracts are available in the ACM Digital Library, and these publications contain the detail of the work presented.
3. The free CHI 2017 Mobile App contains the full CHI 2017 program as well as a personal interactive schedule to help you keep track of events you would like to see. The CHI 2017 Proceedings and Extended Abstracts as well as Video Previews (below) can be loaded into the Mobile App for easy access. That app can be downloaded from Apple’s App Store and Google Play. A web version can be accessed at http://chi2017.acm.org/mobileapp.
4. The CHI 2017 Video Previews are 30-second video overviews of most presentations in the main technical program. You can browse Video Previews on the CHI 2017 web site and the CHI 2017 Mobile App.
5. The CHI 2017 schedule is also available through Confer, a tool for conference attendees to discover papers of their interest, get paper recommendations and create their personal schedules. http://confer.csail.mit.edu/chi2017/papers
6. CHI 2017 Student Volunteers (SVs) are available to point you in the right direction or answer questions about the program.

Presentation Length Guides

Papers and notes and other sessions that include multiple presentations have icons like the ones above just below their session titles. The icons indicate the length of each presentation within the session, in the order in which it is listed. A long ellipse indicates a 20-minute presentation, and a short ellipse indicates a 10-minute presentation. The icon pattern above would describe a session with three 20-minute presentations followed by two 10-minute presentations. Knowing the duration of each presentation makes it possible for you to “session hop” if you wish. Using the icons as a guide, if there are particular presentations that you would like to attend in sessions occurring at the same time, you may be able to move between the sessions to see particular presentations in each.

Audience Questions

Plenaries, Invited Talks, and selected technical program sessions will use sli.do to organize and moderate questions. Visit http://sli.do, use the event code #chi2017, and select your room to ask or vote for questions.

TECHNICAL PROGRAM VENUES

<table>
<thead>
<tr>
<th>Papers &amp; Notes</th>
<th>Room 302</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-minute presentations for Papers; 10-minute for Notes</td>
<td></td>
</tr>
<tr>
<td>These rigorously peer-reviewed presentations are equivalent to journal papers in other fields, and form the core of CHI’s technical program.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Journal Papers</th>
<th>Room 302</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-minute presentations</td>
<td></td>
</tr>
<tr>
<td>Journal papers were published within the past year via SIGCHI’s flagship journal, TOCHI and the Foundation and Trends in HCI.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Case Studies</th>
<th>Room 111/113 &amp; 102/104</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-minute presentations</td>
<td></td>
</tr>
<tr>
<td>Case Studies describe examples of best practices in human-computer interaction. The goal is to explain methods that deliver reliable, high-quality results based on real-world experience and to present the lessons learned.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Panels</th>
<th>Four Seasons Ballroom 2/3 &amp; Room 102/104</th>
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</thead>
<tbody>
<tr>
<td>80-minute sessions</td>
<td></td>
</tr>
<tr>
<td>Panels take various formats but always involve significant interaction among panelists and audience members around a specified topic. The goal is to stimulate thought and discussion on current issues in HCI.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>alt.chi</th>
<th>Room 111/113 &amp; 102/104</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-minute presentations</td>
<td></td>
</tr>
<tr>
<td>Entering its tenth year, alt.chi offers an outlet for unusual, controversial, alternative or thought-provoking work that does not fit within the standard CHI submission process. The format encourages lively audience participation.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Courses</th>
<th>Rooms 303, 304, 106, 108</th>
</tr>
</thead>
<tbody>
<tr>
<td>One, two, or three 80-minute units</td>
<td></td>
</tr>
<tr>
<td>Courses provide professional development opportunities for existing and prospective HCI community members. Pre-register to receive the course notes and an identifier on your badge that permits entry to the course. You may register for any unfilled courses at the Registration Desk.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special Interest Groups (SIGs)</th>
<th>Rooms 301 &amp; 204</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-minute sessions</td>
<td></td>
</tr>
<tr>
<td>SIGs offer a forum for conference attendees who share similar interests to discuss a specified topic. Previous SIGs have launched new conferences and publications or generated new CHI activities.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Video Showcase</th>
<th>Four Seasons Ballroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-minute session</td>
<td></td>
</tr>
<tr>
<td>The CHI 2017 Video Showcase features engaging videos that offer a variety of perspectives on human-computer interaction, including novel interfaces, reflective pieces and future environments. Come and enjoy the videos during Monday morning break (10:00 – 11:30) followed by the Golden Mouse award ceremony. The People’s Choice Video award will be announced at the Closing Plenary.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interactivity: Installations and Research Demos</th>
<th>Exhibit Hall F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands-on demonstrations</td>
<td></td>
</tr>
<tr>
<td>Interactivity includes both research demos and interactive installations. Interactivity offers hands-on demonstrations that let you see, hear and touch interactive visions of the future. They take the form of prototypes, demonstrations, artworks, design experiences and inspirational technologies. Interactivity offers an alternative to CHI’s traditional text format to present advances in the field. Interactivity promotes and provokes discussion about the role of technology through hands-on engagement. Come see Interactivity at the CHI 2017 Conference Reception and Exhibits Grand Opening (Monday 18:00 – 19:30, Exhibit Hall F) and during coffee breaks.</td>
<td></td>
</tr>
</tbody>
</table>
The CHI 2017 Art Exhibition presents artworks that incite and challenge the full refereed selection process. Submissions report on cutting edge or other types of innovative or thought-provoking work relevant to the CHI community. Late-Breaking Work submissions represent work that has not reached a level of completion or maturity that would warrant the full refereed selection process. Submissions report on cutting edge or emerging work that has not been fully realized or developed, for which empirical data may not yet be available, or that has not yet reached a level of maturity expected for a Paper or Note submission. Rotation 1 posters appear on Monday and Tuesday; authors are available to discuss their work on Monday (18:00 – 19:30) and Tuesday (10:30 – 18:00). Rotation 2 posters appear on Wednesday and Thursday; authors are available to discuss their work on Wednesday (10:30 – 18:00) and Thursday (10:30 – 13:30).

**CHI Stories**

**Room 301**

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In this venue, premiering at CHI for the first time, both established and emerging members of the CHI community will present their stories that will uncover, understand, and record those experiences that make them the professionals who they are today. CHI Stories are a live personal narrative of significant experiences that transformed, inspired and challenged individuals, while also engaging with ideas and themes important to the discipline. These stories are performed live on stage in a specially designed setting.

**DIVERSITY AND INCLUSION STATEMENT**

The open exchange of ideas and the freedom of thought and expression are central to the aims and goals of the CHI 2017 conference. The organizers of CHI 2017, aim and commit to providing a harassment-free, accessible, and pleasant conference experience with equity in rights for all. We want every participant to feel welcome, included, and safe at the conference. Moreover, we will do our best to accommodate specific needs such as accessibility, or dietary requirements. We cannot promise to solve every issue, but will try our best.

We aim to provide a safe, respectful, and harassment-free conference environment for everyone involved regardless of age, sex, gender, gender identity and expression, sexual orientation, (dis)ability, physical appearance, race, ethnicity, nationality, marital status, military status, veteran status, religious beliefs, dietary requirements, childbirth- and pregnancy-related medical conditions or childcare requirements. We also respect any other status protected by laws of the country in which the conference or program is being held.

We do not tolerate harassment of conference participants. Harassment includes but is not limited to overt and/or covert acts of:
- Verbal accusations or bullying
- Deliberate intimidation, stalking, or following both in person and online
- Harassing photography or recording
- Sustained disruption of talks or other events
- Interference with a person’s participation or opportunity for participation
- Inappropriate physical contact
- Unwelcome sexual attention
- Advocating for, or encouraging, any of the above behaviour

We expect all interactions between CHI members to be respectful and constructive, including interactions during the review process, at the conference itself, and on social media. Conference participants violating these rules may be sanctioned or expelled from the conference (without a refund) at the discretion of the conference organizers. A response that the participant was “just joking,” or “teasing,” or being “playful,” will not be accepted.

Anyone witnessing or subject to unacceptable behavior should notify individual members of the Diversity Committee, the General Chairs, or the Diversity Committee directly at diversity@chi2017.acm.org.

Diversity and Inclusivity Lunch Chairs, CHI 2017

Anke Brock, Inria Bordeaux

Allison Druin, University of Maryland

Geopinaath Kannabiran, Indiana University, Bloomington

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**Late-Breaking Work (lbw)**

**Exhibit Hall F**

List on page 70

A Late-Breaking Work submission is a concise report of recent findings or other types of innovative or thought-provoking work relevant to the CHI community. Late-Breaking Work submissions represent work that has not reached a level of completion or maturity that would warrant the full refereed selection process. Submissions report on cutting edge or emerging work that has not been fully realized or developed, for which empirical data may not yet be available, or that has not yet reached a level of maturity expected for a Paper or Note submission. Rotation 1 posters appear on Monday and Tuesday; authors are available to discuss their work on Monday (18:00 – 19:30) and Tuesday (10:30 – 18:00). Rotation 2 posters appear on Wednesday and Thursday; authors are available to discuss their work on Wednesday (10:30 – 18:00) and Thursday (10:30 – 13:30).

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**CHI 2017 Art Exhibition**

**Room 301**

List on page 68

The CHI 2017 Art Exhibition presents artworks that incite and challenge our technological footprint in the world. We frame contemporary urban, mobile and online experiences through interactivity -- linking or isolating people, aggregating data and re-presenting place. We reflect, critique, and construct present and future visions of our lived world. “I’ll Be Watching You” is a curated, juried exhibition that represents a longstanding history of art practice within the CHI community including three specially invited works.
GENERAL INFORMATION

■ OPENING HOURS

Registration and Merchandise Desk  Lobby F
Register for the CHI 2017 Conference, Workshops and Courses (subject to availability) Saturday morning through Thursday at the Registration Desk located in Lobby F of the convention center. CHI 2017 Merchandise, including plush toy cougars and fleece jackets, will be available for purchase (subject to availability).

- Saturday 07:30 – 16:00
- Sunday 08:00 – 18:00
- Monday 07:30 – 18:30
- Tuesday 08:00 – 17:00
- Wednesday 08:00 – 17:00
- Thursday 08:00 – 16:30

Exhibit Hall  Exhibit Hall F
Exhibit Hall F is on 2nd Floor of convention center. Here you can enjoy a beverage and light snack during coffee breaks, talk with colleagues or explore Exhibits, Posters and Interactivity demonstrations. Opens on Monday evening.

- Monday 18:00 – 19:30 Opening Reception
- Tuesday 10:30 – 18:00 (Job Fair 18:00 – 19:30)
- Wednesday 10:30 – 17:30
- Thursday 10:30 – 13:30

Coffee Breaks
Regularly scheduled morning and afternoon coffee breaks are complimentary for all registered CHI 2017 attendees:

- Monday 10:00 – 11:30 300/500 Room Foyers
- 15:50 – 16:30 Exhibit Hall F
- Tuesday-Wednesday 10:50 – 11:30 Exhibit Hall F
- 15:50 – 16:30 Exhibit Hall F
- Thursday 10:50 – 11:30 Exhibit Hall F
- 15:50 – 16:30 300 Room Foyer

Speaker Ready Room  Room 403
Speakers and session chairs may use this room as a central check-in point and speakers may reserve a projector to prepare materials and rehearse their presentations. Sign up early with the staff person, since appointments are on a first-come, first-served basis and only one projector is available.

- Sunday-Wednesday 08:00 – 17:00
- Thursday 08:00 – 14:00

Media/Press Office  Room 206
CHI 2017 welcomes members of the media. Please stop by the Media Office Monday through Thursday to get information on scheduled Media Events this week, and to learn more about CHI 2017, SIGCHI, and future CHI conferences. CHI 2017 media coordinators will be happy to schedule interviews with select authors at the conference. The Media Office hours are the same as the Registration Desk.

■ SATURDAY–SUNDAY INVITATION ONLY EVENTS

Doctoral Consortium - Invitation Only  Room 304
Selected doctoral students present and explore their research topics with senior researchers and other students in a two-day interdisciplinary workshop. Doctoral Consortium posters are displayed in the Commons and brief descriptions appear in the CHI 2017 Extended Abstracts.

Doctoral Consortium Mentors:
- Jeffrey P. Bigham (Co-Chair), Carnegie Mellon University
- Anna L. Cox (Co-Chair), University College London
- Carman Neustaedter, Simon Fraser University
- Kenton O’Hara (Co-Chair), Microsoft Research
- Kate Starbird, University of Washington
- Zachary O. Toups, New Mexico State University

Workshops & Symposia - Invitation Only  Mineral Hall A–G, Granite AB, Quartz AB, Rooms 301–303, 501–507
Workshops and Symposia provide a valuable opportunity for small communities of people with diverse perspectives to engage in rich one- and two-day discussions about a topic of common interest. Participants are pre-selected based on submitted position papers, and a brief description of each Workshop and Symposium appears in the CHI 2017 Extended Abstracts. Some workshops choose to display a poster in the Exhibit Hall F Poster Area.
GENERAL INFORMATION

SPECIAL DAYTIME EVENTS

Day of Service  Lower Lobby F
Sunday, May 7, 09:00 – 17:00  
On May 7, 2017, CHI hosts its second annual “Day of Service” at the Denver Convention Center to enable CHI attendees to leverage their skills to make an impact. We have partnered with a dozen non-profit organizations that support the arts, cultural heritage, education, environmental science, social justice and more. The volunteer work that people can expect to do will range from helping critique a website, to brainstorming new ideas for an app, to setting up a database. Up to 100 CHI attendees will have the chance to participate with many diverse local organizations. The CHI4GOOD work accomplished on May 7th will be documented for highlighting at the Closing Plenary.

Student Game Competition Exhibition  Lobby A
Monday, 10:00 – 11:30, 15:50 - 16:30  
Tuesday, 10:00 – 11:30, 15:50 - 16:30  
CHI attendees can try out the games from the Student Game Competition (listed on page 69) during these morning and afternoon breaks.

CHI 2017 Art Exhibition  Exhibit Hall F
Monday, 15:50 – 16:30  
Sneak Peek  
The CHI 2017 Art Exhibition presents artworks that incite and challenge our technological footprint in the world. We frame contemporary urban, mobile and online experiences through interactivity -- linking or isolating people, aggregating data and re-presenting place. We reflect, critique, and construct present and future visions of our lived world. “I’ll Be Watching You” is a curated, juried exhibition that represents a longstanding history of art practice within the CHI community including three specially invited works.

Diversity & Inclusion Lunch  Room 501-504
Tuesday, 12:50 – 14:00  
Open to All Attendees, Online pre-registration required  
The CHI 2017 conference is hosting its second Diversity and Inclusion Lunch. This lunch is both an expansion of scope and deepening of engagement with multiple aspects of diversity and inclusion. These issues include but are not limited to race, ethnicity, geolocation, and culture; age and professional experience; gender identity and sexual orientation; (dis)ability and impairments; religious beliefs; work-life-balance and needs of parents and families at CHI. This lunch is intended as a social-peer platform to celebrate diversity, discuss challenges, and collaborate on strategies to bolster diversity and inclusion in the CHI community.

ACM SIGCHI Town Hall Lunch  Room 207
Wednesday, 12:50 – 14:30  
SIGCHI officers present ongoing programs and activities, followed by an audience Q&A session. Participants interested in shaping SIGCHI’s future are encouraged to attend. An informal lunch is available on a first-come, first-served basis.

Last-Minute SIGs  Wednesday - Thursday  
You may organize a last minute meeting of colleagues with similar interests. Reserve a timeslot at the Conference Office (Room 401) and publicize using the hashtag #chi2017.

SPECIAL EVENING EVENTS

Conference Reception, Art Exhibition, Exhibits, & Interactivity Grand Opening  Exhibit Hall F
Monday, 18:00 – 19:30  
Catch up with old friends and meet new ones at the CHI 2017 Conference Reception! Explore almost 50 hands-on demonstrations during the Grand Opening of Exhibits, Interactivity, and the Art Exhibition. Admission and drinks tickets are included with your conference registration; additional tickets may be purchased at the Registration Desk. Tickets are not available at the door.

Job Fair & Recruiting Boards  Exhibit Hall F
Tuesday, 18:00 – 19:30  
Recruiters and job candidates are invited to take advantage of the CHI 2017 Job Fair on Tuesday evening. Visit the Recruiting Boards and designated exhibit booths throughout the conference to find out more about available positions.

Champion Sponsor Recruiters:
- Bloomberg Recruiting Board
- Facebook Booth 408-410
- Google Booth 506-510
- IBM Research Booth 500
- Microsoft Booth 100-102
- Yahoo Booth 200-202

Contributing Sponsor Recruiters:
- Toyota Research Institute Recruiting Board

Additional Recruiters:
- Apple, Inc. Booth 310
- Metropolitan State University Recruiting Board

Hospitality Receptions  various locations  
Tuesday and Wednesday evenings  
Receptions are often hosted by different companies, universities, and other organizations on Tuesday or Wednesday evening. Whether they are public or private, your badge is required to enter; so please be sure to wear it.
AWARDS

LIFETIME RESEARCH AWARD

The SIGCHI Lifetime Research Award is presented to individuals for outstanding contributions to the study of human-computer interaction. This award recognizes the very best, most fundamental and influential research contributions. It is awarded for a lifetime of innovation and leadership and carries an honorarium of $50,000. The criteria for the award are:

• Cumulative contributions to the field.
• Innovation and the stimulation of innovation through practice.
• Impact on the field, industry, and society.
• Influence on the work of others, and the growth of other HCI practitioners and researchers.
• Successful application of human-computer interaction to products, services, and systems.

Brad A. Myers is a Professor in the Human-Computer Interaction Institute in the School of Computer Science at Carnegie Mellon University. He was chosen to receive the ACM SIGCHI Lifetime Achievement Award in Research in 2017, for outstanding fundamental and influential research contributions to the study of computer interaction. He is an IEEE Fellow, ACM Fellow, member of the CHI Academy, and winner of many best paper awards and three Most Influential Paper Awards. He is the author or editor of over 475 publications including the books “Creating User Interfaces by Demonstration” and “Languages for Describing User Interfaces.” Eighty-five of his publications have been presented at CHI. He has been on the editorial board of six journals, and a consultant on user interface design and implementation to over 80 companies. He regularly teaches courses on user interface design and software. Myers received a PhD in computer science at the University of Toronto. He received the MS and BSc degrees from the Massachusetts Institute of Technology during which time he was a research intern at Xerox PARC. From 1980 until 1983, he worked at PERQ Systems Corporation. His research interests include user interfaces, programming environments, programming language design, end-user software engineering (EUSE), API usability, interaction techniques, programming by example, handheld computers, and visual programming. He belongs to ACM, SIGCHI, IEEE, and the IEEE Computer Society.

LIFETIME PRACTICE AWARD

The SIGCHI Lifetime Practice Award is presented to individuals for outstanding contributions to the practice and understanding of human-computer interaction. This award recognizes the very best and most influential applications of human-computer interaction. It is awarded for a lifetime of innovation and leadership and carries an honorarium of $50,000. The criteria for the award are:

• Cumulative contributions to the field directly and through the leadership of others.
• Innovation and the stimulation of innovation through practice.
• Impact on the field, industry, and society.
• Influence on the work of others, and the growth of other HCI practitioners and researchers.
• Successful application of human-computer interaction to products, services, and systems.

Ernest A. Edmonds was born in London in 1942 and currently works in the UK as Director of the Institute of Creative Technologies (IoCT) at De Montfort University. He is a pioneer computer artist and HCI innovator for whom combining creative arts practice with creative technologies has been a lifelong pursuit. His art was already computer based before 1970, and his future vision was to transform user participation with interactive and distributed works. From this came some of the first exhibitions of art (1970), iterative design methods (1974), user interface architectures (1982) and the support of creativity (1989). His books include The Separable User Interface (Academic Press), Explorations in Art and Technology (Springer) and Interacting Art, Research and the Creative Practitioner (Libri), the last two co-authored with Linda Candy. Over the last fifty years Ernest has shown his artwork across the globe. He has exhibited, for example, Beijing, Shanghai, Rio de Janeiro, London, Sydney, Melbourne, Moscow, Riga, Rotterdam, Berlin and Washington DC. The Victoria and Albert Museum London collects his art and archives. He founded several HCI research centers including Loughborough University’s Computer Human Interaction Research Centre and the Creativity and Cognition Studies at the University of Technology, Sydney. In 1993, he co-founded the SIGCHI Creativity & Cognition conference series. Ernest was elected to the CHI Academy in 2015 and was Co-Arts Exhibit Chair at CHI 2016. He is an Honorary Editor of Leonardo and Editor-in-Chief of Springer’s Cultural Computing book series.

LIFETIME SERVICE AWARD

The SIGCHI Lifetime Service Award goes to individuals who have contributed to the growth of SIGCHI in a variety of capacities. This award is for extended services to the community at large over a number of years. Criteria for this award are:

• Service to SIGCHI and its activities in a variety of capacities.
• Extended contributions over many years.
• Influence on the community at large.

Scott Hudson is a Professor of Human-Computer Interaction in the School of Computer Science at Carnegie Mellon University where he serves as the director of the HCI Institute PhD program, which he founded in 1999. He received his PhD in Computer Science from the University of Colorado in 1986, and has previously held faculty positions at the University of Arizona and the Georgia Institute of Technology. Elected to the CHI Academy in 2006, he has published extensively on technology-oriented HCI topics, and recently received the Allen Newell Award for Research Excellence at CMU. His research interests range over many HCI topics, and currently include new fabrication technology applied to HCI, the development of new sensors, devices, and interaction techniques, as well as Human-Robot Interaction, and software systems for user interface implementation. He is currently the steering committee chair for the ACM Symposium on User Interface Software and Technology (UIST). Beginning in 1989, he has regularly served on program committees for the SIGCHI and UIST conferences (serving on these committees more than 30 times). He has served as the General Chair (1993) and Program Chair (1990, 2000) for the UIST conference, and he founded the UIST Doctoral Symposium in 2003. He also served as papers co-chair for the SIGCHI 2009 and 2010 conferences, and was one of the principal architects of the revised review process that has been in use since that time. He was a founding Associate Editor of the ACM Transactions on Computer Human Interaction, an Associate Editor for the International Journal of Human-Computer Studies, and has served on advisory boards for the University of Colorado and Georgia Institute of Technology.
SOCIAL IMPACT AWARD

This award is given to individuals who promote the application of human-computer interaction research to pressing social needs. The recipient should have past or current work within the HCI profession that demonstrates social benefit according to criteria such as:

- facilitating use of computer and telecommunication technology by diverse populations
- increasing access to technology for those with limited educational opportunities
- reducing economic barriers for access to information and communication technologies
- promoting privacy, security, trust, and safety
- improving medical care, education, housing, water supplies, and nutrition
- supporting technologies for international development and conflict resolution
- improving human communication and reducing isolation

Indrani Medhi Thies is a Researcher in the Technology for Emerging Markets group at Microsoft Research in Bangalore, India. Her research interests are in the area of User Interfaces, User Experience Design, and ICTs for Global Development. Over the years, Indrani’s primary work has been in user interfaces for low-literacy and novice technology users. As a part of this research, Indrani spent hundreds of hours in the field among low-income communities in rural and urban India, the Philippines and South Africa, conducting ethnographic design, iterative prototyping and user evaluations. Indrani is considered a world expert in interfaces for low-literate users. Her recent work is in user experience of conversational agents, mainly chatbots. Indrani also serves on the board of Digital Green, a not-for-profit international development organization that uses an innovative digital platform for community engagement to improve lives of rural communities across South Asia and Sub-Saharan Africa. Indrani’s distinctions include an MIT TR35 award, ACM SIGCHI and ACM CSCW best paper honourable mentions, a “Young Indian Leader” award from CNN IBN, and featuring in the list of Fortune magazine’s 2010 “50 Smartest People in Technology.” Indrani has published over 20 refereed research articles in leading conferences and journals. She has a Ph.D. from the Industrial Design Centre, IIT Bombay, India; a Masters’ degree in Design from the IIT Institute of Design, Chicago, USA; and a Bachelors’ degree in Architecture from VNIT, Nagpur, India.

Jacob O. Wobbrock is an Associate Professor in the Information School and an Adjunct Associate Professor in the Department of Computer Science & Engineering at the University of Washington, where he directs the Mobile & Accessible Design Lab. He is a founding member of the design use: build: Group (DUB Group) and the multi-departmental Master of HCI & Design program at UW. Dr. Wobbrock’s research seeks to scientifically understand people’s interactions with computers and information, and to improve those interactions through design and engineering, especially for people with disabilities. His specific research topics include interaction techniques, human performance measurement and modeling, HCI research and design methods, mobile computing, and accessible computing. He pursues Ability-Based Design (ABD), where the human abilities required to use a technology in a given context are questioned, and systems are made operable by or adaptable to alternative abilities. For example, his Slide Rule project [1] (with Shaun Kane and Jeffrey Bigham) was the first to make touch screen smartphones accessible to blind people using gestures, influencing Apple’s VoiceOver design for iOS. Dr. Wobbrock has co-authored over 120 peer-reviewed publications, receiving 19 paper awards, including 7 best papers and 7 honorable mentions from ACM CHI. He is the recipient of an NSF CAREER award and five other National Science Foundation grants. He is on the editorial board of ACM Transactions on Computer-Human Interaction. His advisees, to whom he owes his success, have become professors at Harvard, Cornell, Colorado, Maryland, Brown, Simon Fraser, and elsewhere. Dr. Wobbrock received his B.S. in Symbolic Systems and his M.S. in Computer Science from Stanford University; he received his Ph.D. in Human-Computer Interaction from Carnegie Mellon University. Upon graduation, he was honored with CMU’s School of Computer Science Distinguished Dissertation Award.

CHI 2017

CHI ACADEMY

The CHI Academy is an honorary group of individuals who have made substantial contributions to the field of human-computer interaction. These are the principal leaders of the field, whose efforts have shaped the disciplines and/or industry, and led the research and/or innovation in HCI. The criteria for election to the CHI Academy are:

- Cumulative contributions to the field.
- Impact on the field through development of new research directions and/or innovations.
- Influence on the work of others.

Elizabeth André is a full professor of Computer Science and Founding Chair of Human-Centered Multimedia at Aalborg University, Denmark. She was a principal researcher at the German Research Center for Artificial Intelligence. André has a long track record in multimodal human-machine interaction, embodied conversational agents, affective computing, and social signal processing. Her successful interdisciplinary collaborations have resulted in several award-winning multimodal user interfaces. She has promoted a novel form of experience-based learning to help children and young people cope with bullying, develop intercultural sensitivity, and master socially challenging situations. André served as a General and Program Co-Chair of the ACM CHI and ACM UIST conferences. She was elected a member of the prestigious Academy of Europe, the German Academy of Sciences Leopoldina, and AcademiaNet. To honor her achievements in bringing Artificial Intelligence techniques to HCI, André was awarded a EurAI fellowship.

Lorrie Faith Cranor is a Professor of Computer Science and Engineering and Public Policy at Carnegie Mellon University where she is director of the CyLab Usable Privacy and Security Laboratory (CUPS) and co-director of the MSIT-Privacy Engineering master’s program. In 2016 she served as Chief Technologist at the U.S. Federal Trade Commission. Cranor has authored over 150 research papers on online privacy, usable security, and other topics. She has played a key role in building the usable privacy and security research community, having co-edited the seminal book Security and Usability and founded the Symposium On Usable Privacy and Security (SOUPS). She has served on a number of boards, including the EFF of Directors, and on the editorial boards of several journals. She was named an ACM Fellow for her contributions to usable privacy and security research and education, and an IEEE Fellow for her contributions to privacy engineering.

Vicki Hanson, the current ACM President, has worked for many years in support of the HCI community. She served as the SIGCHI Vice President at Large, co-created the NSF Human-Centered Computing research agenda, revitalized ACM’s SIGACCESS, and co-founded the ACM Transactions on Accessible Computing. Hanson is a Distinguished Professor in the College of Computing at the Rochester Institute of Technology, and holds a Chair in Inclusive Technologies at the University of Dundee. Her research focuses on accessibility of technology for people with disabilities, the aging population, and related issues of research ethics. Working with RIT’s National Technical Institute for the Deaf, she is exploring wearables for supporting the language needs of deaf signers in traditional classrooms. Hanson is a Fellow of the ACM, the British Computer Society, and the Royal Society of Edinburgh. She has received the Social Impact Award from ACM SIGCHI, and numerous other industry and professional honors.

Marti Hearst is a Professor in the School of Information and Computer Science at UC Berkeley. Her HCI research includes user interfaces for search, information visualization of text, website usability, and innovation in education. She wrote Search User Interfaces, the first academic book on this topic. Her search projects include TêteBars query term visualization, BioText search over the bioscience literature, and the Flamenco project that investigated and promoted the use of faceted metadata for navigation and search. Hearst was first an intern and then a member of the research staff at Xerox PARC from 1990-1997. Hearst has been on the editorial board of ACM TOCHI since 2004 and has reviewed for CHI, UIST, and Infoviz for 20 years. She has received four student-initiated Excellence in Teaching Awards. She successfully introduced user-centered design into a technology-centered U.S. federal agency and was named a Fellow of the ACM in 2013.
Gloria Mark is Professor of Informatics at the University of California, Irvine. She has been a visiting senior researcher at Microsoft Research since 2012. She received her PhD from Columbia University in experimental psychology. Her primary research interest is in understanding the impact of digital media on people’s lives and she is best known for her work in studying people’s multitasking, mood and behavior while using digital media in real world environments. She has also contributed to understanding distributed collaboration as well as social media use among people living in disrupted environments. She has published over 150 papers and is author of the book Multitasking in the Digital Age. Her work has received best paper and honorable mention awards and she has been a Fulbright scholar. She has held leadership roles in SIGCHI conferences since 2006. She also serves as Associate Editor of the ACM TOCHI and Human-Computer Interaction journals. Philippe Palanque is Professor of Computer Sciences at the University of Toulouse III, France, where he leads the Interactive Critical Systems group. He received a PhD in Computer Science from Université Toulouse Capitole, France. Philippe’s research deals with methods and tools for the development of interactive systems deployed in critical contexts e.g. cockpits of large civil aircraft, air traffic management workstations. He was a co-editor of the book Formal Methods for Human Computer Interaction and the Handbook on Formal Methods for Human Computer Interaction to appear in 2017. He has chaired or co-chaired several venues at SIGCHI conferences, mostly at CHI, EICS but also at INTERACT. He has published more than 300 refereed papers and has been actively involved in conference committees in the domain of safety and dependability such as SAFECOMP, IEEE DSN. He is a recipient of the IFIP silver core award and IFIP pioneer award.

SIGCHI Lifetime Research Award
2016 Bob Kraut
2015 Jim Hollan
2014 Steve Whittaker
2013 George G. Robertson
2012 Dan Olsen
2011 Terry Winograd
2010 Lucy Suchman

SIGCHI Lifetime Practice Award
2016 Jeff Johnson
2015 Susan M. Dray, Bill Verplank
2014 Gillian Crampton Smith
2013 Jakob Nielsen
2012 Joy Mountford
2011 Larry Tesler
2010 Karen Holtzblatt

SIGCHI Lifetime Achievement Award
2009 Sara Kiesler
2008 Bill Buxton
2007 James D. Foley
2006 Gary M. Olson, Judith S. Olson
2005 Tom Landauer
2004 Thomas P. Moran
2003 John M. Carroll
2002 Donald A. Norman
2001 Ben Shneiderman
2000 Stuart K. Card
1998 Douglas Engelbart

SIGCHI Lifetime Service Award
2016 Garnt van der Veer
2015 Michel Beaudouin-Lafon, Jean Scholtz
2014 Wendy Mackay, Tom Hewett
2013 Joseph A. Konstan
2012 Mike Atwood, Kevin Schofield
2011 Amie Lund, Jim Miller
2010 Mary Czerwinski
2009 Clare-Marie Karat, Steven Pemberton
2008 John Karat, Marian Williams
2007 Richard I. Anderson
2006 Susan M. Dray
2005 Sara Bly, John ‘Scooter’ Morris, Don Patterson, Gary Perlman, Marilyn Mantei Tremaine
2004 Robin Jeffries, Gene Lynch
2003 Lorraine Borman
2002 Dan R. Olsen, Jr.
2001 Austin Henderson

SIGCHI Social Impact Award
2016 Jonathan Lazar
2015 Leysia Palen
2014 Richard E. Ladner
2013 Sara J. Czaja
2012 Batya Friedman
2011 Alan Newell, Clayton Lewis
2010 Allison Druin, Ben Bederson
2009 Helen Petrie
2008 Vicki Hanson
2007 Gregory Abowd, Gary Marsden
2006 Ted Henter
2005 Gregg Vanderheiden
### PAST HONOREES (continued)

**CHI Academy Members**

**Class of 2016**
- Margaret Burnett
- Elizabeth Churchill
- Allison Druin
- Susan R. Russell
- Yves Guiard
- Leysia Palen
- Daniel M. Russell
- John Stasko

**Class of 2015**
- Stephen Brewster
- Andy Cockburn
- Anind Dey
- Ernest Edmonds
- Scott MacKenzie
- Sharon Oviatt
- Catherine Plaisant

**Class of 2014**
- John C. Tang
- Jeff A. Johnson
- Susan Dray
- Jodi L. Forlizzi
- Keith Edwards
- Ken Hinckley
- Richard H. R. Harper
- Gary Marsden

**Class of 2013**
- Patrick Baudisch
- Victoria Bellotti
- Clarisse Siecknius de Souza
- Alan Dix
- Rebecca E. Grinter
- Eric Horvitz
- Bonnie Nardi
- Thomas S. Tullis

**Class of 2012**
- Ben Bederson
- Steve Benford
- Hugh Dullberly
- Carl Gutwin
- Joy Mountford
- Alan Newell
- Yvonne Rogers

**Class of 2011**
- Ravin Balakrishnan
- Steven Feiner
- Joseph Konstan
- James Landay
- Jenny Preece
- Abigail (Abi) Sellen
- Dennis Wixon

**Class of 2010**
- Susanne Bødker
- Mary Czerwinski
- Austin Henderson
- David Kieras
- Larry Tesler
- Shumin Zhai

**Class of 2009**
- Mark Ackerman
- Bill Gaver
- Clayton Lewis
- Wendy E. Mackay
- Aaron Marcus
- Elizabeth Myatt
- Tom Rodden

**Class of 2008**
- Gregory Abowd
- Paul Dourish
- Wendy Kellogg
- Randy Pausch
- Mary Beth Rosson
- Steve Whittaker

**Class of 2007**
- Joëlle Coutaz
- Karen Holzbattl
- Gerhard Fischer
- Robert J. K. Jacob
- Jun Rekimoto
- Chris Schmandt

**Class of 2006**
- Scott Hudson
- Hiroshi Ishii
- Michel Beaudouin-Lafon
- Jakob Nielsen
- Peter Pirolli
- George Robertson

**Class of 2005**
- Ron Baecker
- Susan Dumais
- John Gould
- Saul Greenberg
- Bonnie E. John
- Andrew Monk

**Class of 2004**
- George Furnas
- Jonathan Grudin
- Brad Myers
- William Newman
- Dan R. Olsen Jr.
- Brian Shackel
- Terry Winograd

**Class of 2003**
- Thomas Green
- James D. Hollan
- Robert E. Kraut
- Gary M. Olson
- Peter G. Polson

**Class of 2002**
- William A. S. Buxton
- John M. Carroll
- Douglas C. Engelbart
- Sara Kiesler
- Thomas K. Landauer
- Lucy A. Suchman

**Class of 2001**
- Stuart K. Card
- James D. Foley
- Morten Kyng
- Thomas P. Moran
- Judith S. Olson
- Ben Shneiderman

### ACM/SIGCHI BEST OF CHI AWARDS

The SIGCHI “Best of CHI” awards honor exceptional submissions to SIGCHI sponsored conferences.

- The CHI Associate Chairs nominated 5% of the Paper and Notes submissions. 97 papers and notes received Honorable Mention, designated by a medallion icon.

- The separate Best Papers Committee selected the top 1% of total submissions. 24 Papers and Notes received a Best Paper award, designated by a trophy icon.

In addition to the Papers & Notes awards, there is one Best of alt.chi Award, one Best Case Study Award, one Best Provocation Award, and one Best Criticism of CHI Award (all marked with a trophy icon in the program). Winners of Student Competitions are announced in the Closing Plenary session. Congratulations to the 2017 award winners and nominees for their outstanding contributions to CHI 2017 and to our field.

### GOLDEN MOUSE

The Golden Mouse Award has been awarded annually since the creation of the Video Showcase in 2009.

- It is a “best of show” award and recognizes the best overall submission to the showcase in terms of both content and presentation value.

- In addition, an award is being given in the new category of “Best Storytelling” this year:
We Build Meaningful Experiences on a Global Scale

Giving people the power to share and connect requires constant innovation. At Facebook, research permeates everything we do. We believe the most interesting research questions are derived from understanding how people interact in the world around us.

A hands on approach

Our world-class teams of researchers take a hands-on approach to understand, design, and build smarter, unique, and more meaningful experiences on a global scale.

Immediate impact

UX Researchers at Facebook directly contribute new ideas to products that impact the experience of over a billion people around the world.

We’re hiring!

We are looking for great people to join our team. Talk to us about Internships, full time positions, and post doc opportunities.

Academic Program Opportunities

Graduate Fellowship  ■  Emerging Scholar Awards
Conference Sponsorships  ■  Faculty Sabbaticals  ■  Invited Talks

research.fb.com
We are looking for great people to join our team. Talk to us about Internships, full time positions, and post doc opportunities.

We're hiring!

UX Researchers at Facebook directly contribute new ideas to products that impact the experience of over a billion people around the world.

Immediate impact

Our world-class teams of researchers take a hands-on approach to understand, design, and build smarter, unique, and more meaningful experiences on a global scale.

Giving people the power to share and connect requires constant innovation. At Facebook, research permeates everything we do. We believe the most interesting research questions are derived from understanding how people interact in the world around us.

Material Ecology

Neri Oxman

Monday May 8, 8.30am – 10.00am

Four Seasons Ballroom

Biography

Neri Oxman is an Architect, Designer and Associate Professor based at the MIT Media Lab where she is the founding director of The Mediated Matter Group. Her team conducts research at the intersection of computational design, digital fabrication, materials science and synthetic biology and applies that knowledge to design across disciplines, media and scales—from the micro scale to the building scale. Areas of application include architectural design, product design, fashion design, as well as the design of new technologies for digital fabrication and construction. Oxman coined the term—and pioneered the field of—Material Ecology, which considers computation, fabrication, and the material itself as inseparable dimensions of design. Oxman’s work is included in permanent collections at the Museum of Modern Art (MoMA), the San Francisco Museum of Modern Art (SFMOMA), Centre Georges Pompidou, the Boston Museum of Fine Arts (MFA), Cooper Hewitt Smithsonian Design Museum, the Smithsonian Institution, the Museum of Applied Arts in Vienna (MAK), the FRAC Collection and the Boston Museum of Science, amongst others. Since 2005, Oxman and her team have won numerous awards and has grown in international scope and acclaim at venues such as the World Economic Forum and the White House.

How the CHI Community Got its Groove – and Changed the World!

Ben Shneiderman

Tuesday May 9, 8.30am – 9.20am

Four Seasons 2/3

In its 35 years, the CHI Community’s remarkable research success has enabled an astonishing worldwide cultural transformation. CHI research on graphical user interfaces, touchscreen, hypertext, mobile devices, and social media have dramatically changed family/friend relationships, business, medical care, education, and much more. Many of the changes are for good, but disruptive changes and destructive forces have also been unleashed.

This session will track the history of the CHI community’s dramatic growth, changing research methods, and substantial impact across disciplines, industries, and cultures. It will focus on some key personalities, while also drawing on my career, which includes being a founder of the CHI conference and a participant throughout. I will also present a fresh vision of research from my book: “The New ABCs of Research: Achieving Breakthrough Collaborations.”

Computers, Automation and the Human Future

Nicholas Carr

Thursday May 11, 16:30pm – 17:50pm

Four Seasons Ballroom

Nicholas Carr, author of such celebrated books as The Shallows and The Glass Cage, will offer a lively and provocative examination of how digital technologies are shaping our jobs, lives and society. Drawing on examples ranging from doctors’ offices to airplane cockpits to the recent presidential campaign, Carr will argue that prevailing software and systems design philosophies end up eroding skills, diminishing contextual and critical thinking, and creating a culture of distraction and dependency. He will make the case that only by shifting our assumptions about technology and its personal and social consequences will we be able to forge a future fit for human beings rather than robots.

Biography

Nicholas Carr writes on technology and culture. He is the author of such influential books as The Big Switch, The Glass Cage, Utopia Is Creepy and the Pulitzer Prize finalist The Shallows. His books have been translated into more than 25 languages. Carr’s essays, including “Is Google Making Us Stupid?” and “The Great Forgetting,” have been collected in several anthologies, including The Best American Science and Nature Writing, The Best Technology Writing and The Best Spiritual Writing. In 2015, Carr received the Neil Postman Award for Career Achievement in Public Intellectual Activity from the Media Ecology Association.
### 102/104 Papers: Learning to be Makers

**Chair:** Michelle Annett

1. **'Maker' within Constraints: Exploratory Study of Young Learners using Arduino at a High School in India**
   - Sawmya Somanath, Lora Oehlberg, Janette Hughes, Ehud Sharlin, Mario Costa Sousa

2. **I Make, Therefore I Am: An Investigation of Curriculum-based Making on Children's Self-Identity**
   - Sharon Lynn Chu, Rebecca Schlegel, Francis Quek, Andrew Christy, Kaiyuan Chen

3. **"It's a Bomb!" – Material Literacy and Narratives of Making**
   - Sophie Landwehr Sydow, Jakob Tholander, Martin Jonsson

4. **MakerWear: A Tangible Approach to Interactive Wearable Creation for Children**
   - Majeed Kazemitabaar, Jason McPeak, Alexander Jiao, Liang He, Thomas Outing, Jon E. Froehlich

### 103/105 Papers: Technology & Adoption

**Chair:** Myriam Lewkowicz

1. **Implications for Adoption**
   - Joseph Lindley, Paul Coulton, Miriam Sturdee

2. **UX Design Innovation: Some Challenges for Working with Machine Learning as a Design Material**
   - Graham Dave, Jodi L. Forlizzi, Kim Halvorsen, John Zimmerman

3. **Tariff Agent: Interacting with a Future Smart Energy System at Home**
   - Alper T. Alan, Enrico Baris Aracagi, Jasmine Zhu, Noah Marcus, Sorin Lerner, Ben Wiedermann

4. **Technology Maintenance: A New Frame for Studying Poverty and Marginalization**
   - Amy L. Gonzales

### 107/109 Papers: Perceptions of Visualizations

**Chair:** Xiaojuan Ma

1. **SlideSpace: Heuristic Design of a Hybrid Presentation Medium**
   - Darren Edge, Xi Yang, Yasmine Kattani, Shuo-Ping Wang, dan feng, Bangshin Lee, Steven Drucker

2. **User-Guided Synthesis of Interactive Diagrams**
   - John Sarracino, Odaris Barrios-Arcia, Jasmine Zhu, Noah Marcus, Sorin Lerner, Ben Wiedermann

3. **Peripheral Popout: The Influence of Visual Angle on Popout Effects**
   - Carl Gutwin, Andy Cockburn, Ashley Caveney

4. **Attention Allocation Aid for Visual Search**
   - Arturo Deza, Jeffrey Russell Peters, Grant S. Taylor, Arnt Suna, Miguel P. Eckstein

### 108 Course (C05): Saying Yes Wisely (1/3)

**Reflect, Re-claim, Reconnect: Learning to Say Yes Wisely and Strategically**
- Geraldine Fitzpatrick

### 110/112 Papers: Innovative Sensing

**Chair:** Fraser Anderson

1. **Electrick: Low-Cost Touch Sensing on Arbitrary Surfaces Using Electric Field Sensing**
   - Yang Zhang, Gerard Lapuit, Chris Harrison

2. **GhostID: Enabling Non-Persistent User Differentiation in Frequency-Division Capacitive Multi-Touch Sensors**
   - Siddarth Sahdev, Clifton Farries, Ricardo Jota, Bruno De Araujo, Brian Moseley, Jonathan DeBer, Steven Leonard Sanders, Darren Leigh, Daniel Wigdor

3. **Essence: Olfactory Interfaces for Unconscious Influence of Mood and Cognitive Performance**
   - Judith Amores, Pattie Maes

4. **Group Touch: Distinguishing Tabletop Users in Group Settings via Statistical Modeling of Touch Pairs**
   - Abigail C. Evans, Katie Davis, James Fogarty, Jacob Wobbrock
**111/113 Papers: Targets and Paths**

**CHAIR:** PAMELA J. WISNIEWSKI

- Steering Through Joined Linear Path Segments
  Shota Yamanaka, Wolfgang Suerzainger, Honei Miyashita

- Modeling User Performance on Arbitrary Constrained Paths
  Mathieu Nancel, Edward Lank

- Free the Hands! Enhanced Target Selection via a Variable-Friction Shoe
  Daniel Horodniceanu, Jeremy R. Cooperstock

- To Miss is Human: Information-Theoretic Rationale for Target Misses in Fitts’ Law
  Julien Gari, Olivier Roux, Yves GUIARD

**201 Papers: Mental Health**

**CHAIR:** JESSICA ANNETTE PATER

- Self Harmony: Rethinking Hackathons to Design and Critique Digital Technologies for Those Affected by Self-Harm
  Natoly Birbeck, Shaun Lawson, Kellie Morrissey, Tim Ropley, Patrick Olivier

- Changing Moods: How Manual Tracking by Family Caregivers Improve Caring and Family Communication
  Naomi Yamashita, Hideaki Kuzusaka, Keiji Hiraoka, Takashi Kudo, Eiji Aramaki, Kazuaki Hotta

- Modeling and Understanding Visual Attributes of Mental Health Disclosures in Social Media
  Lydia Munkonda, Munmun De Choudhury

- The Social Lives of Individuals with Traumatic Brain Injury
  Jessica L. Feuston, Charlotte G. Marshall-Fricker, Anne Marie Piper

**203 Papers: Interruptions and Email**

**CHAIR:** AMY ZHANG

- What Makes Live Events Engaging on Facebook Live, Periscope, and Snapchat
  Oliver L. Harison, John C. Tang

- Reducing Interruptions at Work: A Large-Scale Field Study of FlowLight
  Manuela Zoger, Christopher Scott Corley, André N. Meyer, Boyang Li, Thomas Fritz, David Shepherd, Vinay Augustine, Patrick Francis, Nicholas Kraft, Wilf Snipes

- MyriadHub: Efficiently Scaling Personalized Email Conversations with Valet Crowdsourcing
  Nicolas Kakallis, Chengdiao Fan, Johannes Raith, Michael S. Bernstein, Scott R. Klemmer

- “If a Person is Emailing You, It Just Doesn’t Make Sense”: Exploring Changing Consumer Behaviors in Email
  Frank R. Bentley, Nediyana Daskalova, Nazanin Andalibi

**204 NSF Funding Information and Proposal Writing**

**CHAIR:** CHIA SHEN and DAn Cosley

- SIGCHI Lifetime Research Award Talk
  **CHAIR:** STEVE FEINER
  SIGCHI Lifetime Research Award Talk
  Brad Myers

- Papers: Telepresence and Robots
  **CHAIR:** OREN ZUCKERMAN
  Someone to Read with: Design of and Experiences with an In-Home Learning Companion Robot for Reading
  Joseph E. Michaels, Bilge Mutlu

- Robotic Telepresence at Scale
  Irene Rue, Carman Neustaedter

- Movement Matters: Effects of Motion and Mimicry on Perception of Similarity and Closeness in Robot-Mediated Communication
  Mina Choi, Rachel Kornfield, Leila A. Tokayama, Bilge Mutlu

- A Simple Nod of the Head: The Effect of Minimal Robot Movements on Children’s Perception of a Low-Anthropomorphic Robot
  Cristina Zoga, Roelof Anne Jelle de Vries, Jamy J. Li, Khiet P. Truong, Vanessa Evers

- My Student Is A Robot: How Schools Manage Telepresence Experiences For Students
  Veronica A. Newhart, Judith S. Olson

**301 SIG: Co-Design Across Borders**

**Co-Design Across Borders Special Interest Group**

- Isaac Holeman, Edwin Blake, Melissa Densmore, Moletsatsi Molapo, Fiona Ssozi, Elizabeth Goodman, Indrani Medhi Thies, Susan Wyche

**302 Case Studies: Education and Play**

- The Choices We Make: Game Design to Promote Second Language Acquisition
  Yolanda A. Rankin, Mya S. Edwards

- Affect and Experience: Case Studies in Games and Test-Taking
  Bilar Lehman, Deliana Hebert, Tonner Jackson, Lindsay Grace

- Navigating between Different Forms of Embodiment in a Synchronous Hybrid Doctoral Course
  William Cain, John Bell

- The Persona Party: Using Personas to Design for Learning at Scale
  Rebecca M. Quintana, Stephanie R. Haley, Adam Levick, Caitlin Holman, Ben Hayward, Mike Wojan

**303 Course (C04): Gestures**

- Fundamentals of Gesture Production, Recognition, and Analysis
  Radu Daniu Valanu

**304 Course (C02): Crowdsourcing (1/3)**

- Crowdsourcing and Crowd Work
  Jeffrey P. Bigham, Walter S. Lasecki, Chaimy Esham Kukarni

- If a Person is Emailing You, It Just Doesn’t Make Sense: Exploring Changing Consumer Behaviors in Email
  Frank R. Bentley, Nediyana Daskalova, Nazanin Andalibi
**Four Seasons 1 Papers: Sustainability and Public Service**

**CHAIR:** CHRISTIAN REMY

- **The (Un)sustainability of Imagined Future Information Societies**
  Daniel Pargman, Elina Eriksson, Mattias Höjer, Ulrika Gunnarsson Östling, Luciane Aguiar Borges

- **Means and Ends in Human-Computer Interaction: Sustainability through Disintermediation**
  Barath Raghavan, Daniel Pargman

- **Crowdfunding Platforms and the Design of Paying Publics**
  Ann Light, Jo Briggs

- **Reappropriating Hackathons: The Production Work of the CHI4Good Day of Service**
  Emily Porter, Chris Bopp, Elizabeth Gerber, Amy Voida

**Four Seasons 2/3 Papers: Smartwatch Interactions and Displays**

**CHAIR:** MARK DUNLOP

- **AirPanes: Leveraging Two-Handed Around-Device Interaction for In-Air Pane Switching on Smartphones**
  Khalad Hasan, David Ahlström, Junhyeok Kim, Pourang Irani

- **Float: One-Handed and Touch-Free Target Selection on Smartwatches**
  Ke Sun, Yuntao Wang, Chun Yu, Yukang Yan, Hangyi Wen, Yuanchun Shi

- **COMPASS: Rotational Keyboard on Non-Touch Smartwatches**
  Xin Yi, Chun Yu, Weijie Xu, Xiaojun Bi, Yuanchun Shi

- **WatchThru: Expanding Smartwatch Displays with Mid-air Visuals and Wrist-worn Augmented Reality**
  Dirk Wenig, Johannes Schöning, Alex Olwal, Mathias Ober, Rainer Malaka

- **Evaluation of Korean Text Entry Methods for Smartwatches**
  Ivojyo Ilinkin, Sunghee Kim

**Four Seasons 4 Papers: Understanding Data Visualization**

**CHAIR:** MATTHEW KAY

- **Understanding Concept Maps: A Closer Look at How People Organise Ideas**
  Stefano Padilla, Thomas S. Metthen, David A. Robb, Mike J. Chantler

- **Increasing Users’ Confidence in Uncertain Data by Aggregating Data from Multiple Sources**
  Miriam Gries, Enrie Avci, Abrecht Schmidt, Tanja Machula

- **Bottom-up vs. Top-down: Trade-offs in Efficiency, Understanding, Freedom and Creativity with InfoVis Tools**
  Gonzalo Gabriel Méndez, Uta Hinrichs, Miguel A. Nacenta

- **What Happened in My Home?: An End-User Development Approach for Smart Home Data Visualization**
  Nico Castelli, Corinna Ogonowski, Timo Jakobi, Martin Stein, Gunnar Stevens, Volker Wulf

**102/104 Panel: Robots in Group Context**

- **Robots in Group Context: Rethinking Design, Development and Deployment**
  Malte Jung, Matt Beune, Jodi Forlizzi, Robin Murphy, Janet Vertesi

**103/105 Papers: Fabrication via 3D Printing**

**CHAIR:** XIANG “ANTHONY” CHEN

- **Consumer to Creator: How Households Buy Furniture to Inform Design and Fabrication Interfaces**
  Bokyung Lee, Gyeol Han, Jundong Park, Daniel Saakes

- **Stretching the Bounds of 3D Printing with Embedded Textiles**
  Michael L. Rivera, Melissa Moukperian, Daniel Ashbrook, Jennifer Markoff, Scott E. Hudson

- **3D Printers as Sociable Technologies: Taking Appropriation Infrastructures to the Internet of Things**
  Thomas Ludwig, Alexander Boden, Volkmar Pipel

**106 Course (C03): Computational UI Eval (2/3)**

- **Computational Approaches to Interaction Design**
  John H. Williamson, Antti Oulasvirta, Per Ola Kristensson

**107/109 Papers: Design Theory**

**CHAIR:** WILLIAM ODOM

- **Making Ritual Machines: The Mobile Phone as a Networked Material for Research Products**
  David Chatting, David S. Kirk, Abigail C. Durrant, Chris Elsden, Paulina Yurman, Jo-Anne Bichard

- **Products As Agents: Metaphors For Designing The Products Of The IoT Age**
  Nazli Cila, Iskander Smit, Elisa Giaccardi, Ben Krose

- **Pause: A Multi-lifespan Design Mechanism**
  Batya Friedman, Daisy Yoo

- **Interdependent Wearables (for Play): A Strong Concept for Design**
  Katherine Isbister, Kaho Abe, Michael J. Karlesky

**108 Course (C05): Saying Yes Wisely (2/3)**

- **Reflect, Re-claim, Reconnect: Learning to Say Yes Wisely and Strategically**
  Geraldine Fitzpatrick
**110/112 Papers: Social & Collaborative Technologies**

**CHAIR: JOHN TANG**

“Whatsapp is for Family; Messenger is for Friends”: Communication Places in App Ecosystems
Midas Nouwens, Carla F. Griggio, Wendy E. Mackay

I Need Your Encouragement! Requesting Supportive Comments on Social Media Reduces Test Anxiety
Robert T. Deloach, Brian P. Bailey, Alex C. Kirlk, Craig B. Zilles

Goodbye Text, Hello Emoji: Mobile Communication on WeChat in China
Rui Zhou, Jasmine Hentschel, Neha Kumar

A Kaleidoscope of Languages: When and How Non-Native English Speakers Shift between English and Their Native Language during Multilingual Teamwork
Ge Gao, Susan R. Fussell

**111/113 Papers: Authentication and Access Control**

**CHAIR: JAMES NICHOLSON**

How Do System Administrators Resolve Access-Denied Issues in the Real World?
Tianyin Xu, Han Min Naing, Le Lu, Yuanyuan Zhou

User Interactions and Permission Use on Android
Kristopher K.Micinski, Daniel Voitikov, Rock Stevens, Nikolaas Kofinas, Jeffrey S. Foster, Michelle L. Mazurek

Where Usability and Security Go Hand-in-Hand: Robust Gesture-Based Authentication for Mobile Systems
Can Liu, Gradeigh D. Clark, Jame Lindquist

I’m Too Busy to Reset my LinkedIn Password: On the Effectiveness of Password Reset Emails
Jun Ho Huh, Hyungseok Kim, Swathi S.V.P. Rajyalakshmi, Rakesh B. Bobba, Konstantin Beznosov

**201 Papers: Self-tracking Mental Health**

**CHAIR: JOHN ROOKSBY**

Self-tracking for Mental Wellness: Understanding Expert Perspectives and Student Experiences
Christina Kelley, Bangshin Lee, Lauren Wilcox

“It’s Definitely Been a Journey”: A Qualitative Study on How Women with Eating Disorders Use Weight Loss Apps
Elizabeth V. Eikev, Madhu C. Reddy

Conflict in Comments: Learning but Lowering Perceptions, With Limits
W. Ben Towne, Carolyn P. Rose, James D. Herbsleb

Identification and Classification of Usage Patterns in Long-Term Activity Tracking

**203 Papers: Learning and Reading**

**CHAIR: ANHONG GUO**

A Framework for Speechreading Acquisition Tools
Benjamin M. Garman, David R. Ristal

FLight: A Low-Cost Reading and Writing System for Economically Less-Privileged Visually-Impaired People Exploiting Ink-based Braille System
Tushar Chakrabarty, Taslim Arefin Khan, A. B. M. Alm Al Islam

Teaching Language and Culture with a Virtual Reality Game
Alan Cheng, Lei Yang, Erik Andersen

Identifying how Visually Impaired People Explore Raised-line Diagrams to Improve the Design of Touch Interfaces
Sandra Bardot, Marcos Serrano, Bernard Oriola, Christophe Jouffrais

**204 SIGCHI: Dealing with the Press**

**205 Papers: Cars and Automation**

**CHAIR: GILLY LEHED**

Priming Drivers before Handover in Semi-Autonomous Cars
Remo van der Heiden, Shamsi Iqbal, Chris Janssen

Toward Measurement of Situation Awareness in Autonomous Vehicles
David Sirkin, Nikolaas Martelora, Mishel Johns, Wendy Ju

The Trouble with Autopilots: Assisted and Autonomous Driving on the Social Road
Barry Brown, Eric Laurier

Understanding the Cost of Driving Trips
Caleb Southern, Ynnuo Cheng, Cheng Zhang, Gregory D. Abowd

**207 Papers: Robots at Work & Home**

**CHAIR: DANIEL SZAFIR**

Sensing and Handling Engagement Dynamics in Human-Robot Interaction Involving Peripheral Computing Devices
Mingjie Sun, Zheyu Zhao, Xiaojuan Ma

Managing Uncertainty in Time Expressions for Virtual Assistants
Xin Rong, Adam Fourney, Robin N. Brewer, Meredith Ringel Morris, Paul N. Bennett

Comparing Social Robot, Screen and Voice Interfaces for Smart Home Management
Michal Luna, Guy Hoffman, Oren Zuckerman

**301 SIG: HCI and Health**

HCl and Health: Learning from Interdisciplinary Interactions
Aneesha Singh, Nikki Newhouse, Jo Gibb, Ann E. Brandtford, Yunan Chen, Pam Briggs, Helena Mentis, Kate M. Sellen, Jakob E. Bardram
MONDAY 14:30 – 15:50

302 Case Studies: Age Defying

CHAIR: COSMIN MUNTEANU

Using Robotics and 3D Printing to Introduce Youth to Computer Science and Electromechanical Engineering
Foad Hamidi, Thomas S. Young, Josh Sideris, Ramtin Ardeshiri, Jacob Leung, Pouya Rezaei, Barbara Whitmer

Chinese Preschoolers as Design Partners — Lessons Learned
Jinsong Liu, Virpi Roto

Deriving Age Diverse Personas from a Participatory Design Study on Home Electricity Feedback
Jonathan Dodge, Michael Hilton, Ronald A. Metoyer, Josie Hunter, Karl Smeltzer, Catharina Vijay, Andrew Atkinson

“Table Manners”: Children’s Use of Mobile Technologies in Family-friendly Restaurants
Hilary Davis, Hasan Shahid Ferdous, Frank Vetere

303 Course (C06): Intro CogSci (1/2)

Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines
Jeff A. Johnson

304 Course (C02): Crowdsourcing (2/3)

Crowdsourcing and Crowd Work
Jeffrey P. Bigham, Walter S. Lasecki, Chinmay Eishan Kulkami

15:50 – 16:30
Art Exhibition Sneak Peak
Preview games from Student Game Competition
Exhibit Hall F
Lobby A

15:50 – 16:30
Coffee Break
Exhibit Hall F & Lobby A
### Four Seasons 1 Papers: Toolkits and UIs

**Chair:** Shaun Kane

- **AVUI: Designing a Toolkit for Audiovisual Interfaces**
  Nuno N. Correia, Atau Tanaka

- **Suggesting API Usage to Novice Programmers with the Example Guru**
  Michelle Izhica, Wint Yee Hnin, Caitlin L. Kelleher

- **Toward Everyday Gaze Input: Accuracy and Precision of Eye Tracking and Implications for Design**
  Anna Mans, Fei, Shane Williams, Arturo Toledo, Ann Paradiso, Harsh Kulkarni, Shaun Kane, Meredith Morris

- **Heat-Nav: Using Temperature Changes as Navigation Cues**
  Jordan Tewell, Ian Bird, George R. Buchanan

- **CodePilot: Scaffolding End-to-End Collaborative Software Development for Novice Programmers**
  Jeremy Warner, Philip J. Guo

### Four Seasons 2/3 SIGCHI Social Impact Award Talk

**SIGCHI Social Impact Award Talk**

- **Indrani Medhi Thies**

### Four Seasons 4 Papers: Human Factors

**Chair:** Wendy Ju

- **Design for Rituals of Letting Go: An Embodiment Perspective on Disposal Practices Informed by Grief Therapy**
  Corina Sas, Steve Whittaker, John Zimmerman

- **Exploring Low-Cost, Internet-Free Information Access for Resource-Constrained Communities**
  Jennifer Pearson, Simon Robinson, Matt Jones

- **Everyday Money Practices of Illiterate Users: Implications for New Financial Technology Design**
  Mesfin Woldmariam, George Ghinea, Solomon Atnafu, Tor-Morten Groenli

- **WaitSuite: Productive Use of Diverse Waiting Moments**
  Carrie J. Cai, Anji Ren, Rob Miller

### 102/104 alt.chi: Challenges to Design

**Chair:** Karrrie Karahalios

- **CHI4Good or Good4CHI**
  Jayaseet Pat

- **Design for Existential Crisis**
  Ann Light, Irina A. Shklovski, Alison Powell

- **MC Hammer Presents: The Hammer of Transformative Nostalgification - Designing for Engagement at Scale**
  Conor Linehan, Ben Kirman

- **New Process, New Vocabulary: Axiofact = A_tefact + Memoranda**
  Gilbert Cockton

### 103/105 Papers: Fabricating New Materials

**Chair:** Daniel Ashbrook

- **WireFab: Mix-dimensional Modeling and Fabrication for 3D Mesh Models**
  Min Liu, Yunbo Zhang, Jing Bai, Xuexia Gao, Jeffrey M. Alperovich, Karthik Ramani

- **Digital Mechanical Metamaterials**
  Alexandra Ion, Ludwig Wilhelm Wolf, Robert Kovacs, Patrick Baudisch

  Vij Kao, Emma Varga, Nao Machover, Hiroshi Ishi, Serena Pan, Weixuan Chen, Yasuaki Kakehi

- **Flexible: Deformation-Aware 3D-Printed Tangibles for Capacitive Touchscreens**
  Martin Schmitz, Jürgen Steimle, Jochen Huber, Niloofar Dezfuli, Max Mühlhäuser

### 106 Course (C03): Computational UI Eval (3/3)

**Computational Approaches to Interaction Design**

- **John H. Williamson, Antti Oulasvirta, Otmar Hilliges, Per Øla Kristensson**

### 107/109 Papers: Visual Perception based Decisions

**Chair:** Danyel Fisher

- **Empirical Analysis of the Subjective Impressions and Objective Measures of Domain Scientists’ Visual Analytic Judgments**
  Antini Dasgupta, Susannah Burrows, Kyungtae (Keith) Han, Philip J. Rasch

- **Colors - Messengers of Concepts: Visual Design Mining for Learning Color Semantics**
  Ali Jahanian, Shaiyan Keshvari, SVN Vishwanathan, Jan Allebach

- **A Cognitive Model of How People Make Decisions Through Interaction with Visual Displays**
  Xiuli Chen, Sandra Dorothee Starke, Chris Baber, Andrew Howes

- **Building with Data: Architectural Models as Inspiration for Data Physicalization**
  Carmen Hull, Wesley Willett

### 108 Course (C05): Saying Yes Wisely (3/3)

**Reflect, Reclaim, Reconnect: Learning to Say Yes Wisely and Strategically**

- **Geraldine Fitzpatrick**

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110/112 Papers: Clinical Settings

CHAIR: EUN KYOUNG CHOE

Opportunities and Design Considerations for Peer Support in a Hospital Setting
Shefali Haldar, Sonali R. Mishra, Maher Khelfli, Ari H. Pollack, Wanda Pratt

Patient Strategies as Active Adaptation: Understanding Patient Behaviors During an Emergency Visit
Sun Young Park, Yunan Chen

Itchetector: A Wearable-based Mobile System for Managing Itching Conditions
Jongin Lee, Daeki Cho, Junhang Kim, Eunji Im, Jin Yeong Bok, Kyung ho Lee, Kwan Hong Lee, John Kim

111/113 Papers: Digital Privacy & Security

CHAIR: SERGE EGELMAN

Privacy, Security, and Surveillance in the Global South: A Study of Biometric Mobile SIM Registration in Bangladesh
Syed Istiaque Ahmed, Md. Ramaqul Hasque, Shion Guha, Mohammad Rashidujjaman Rifat, Nicola Dell

Youth Perspectives on Critical Data Literacies
Samantha Hautea, Soayimanda Dass, Benjamin Mako Hill

Sharing Policies in Multisector Privacy Scenarios: Incorporating Context, Preferences, and Arguments in Decision Making
Ricard Lopez Fogues, Pradeep K. Murukannaiah, Jose M. Such, Munindar Singh

Where is the Digital Divide? A Survey of Security, Privacy, and Socioeconomics
Elissa M. Redmiles, Sean Kross, Michelle L. Mazzurek

201 Papers: Self-Monitored Healthcare

CHAIR: MUNMUN DE CHOUDHURY

Supporting the Self-Management of Chronic Pain Conditions with Tailored Momentary Self-Assessments
Phil Adams, Elizabeth Lindley Murmane, Michael Effenbein, Elaine Wethington, Geri Gay

Supporting Self-Care of Adolescents with Nut Allergy Through Video and Mobile Educational Tools
Neil Alexander Davidson, John Vines, Tom Bartindale, Selina Sutton, David Philip Green, Rob Comber, Madeline Balsam, Patrick Oliver, Gillian Vance

Automated Rehabilitation System: Movement Measurement and Feedback for Patients and Physiotherapists in the Rehabilitation Clinic
Agnes W. K. Lam, Danniell Varonaa-mar, Yeri Li, Mitchell Fergenbaum, Dana Kulk

Assessing Multiple Sclerosis with Kinect: Designing Computer Vision Systems for Real-world Use
Cecily Morrison, Kit Huckle, Robert Corish, Jonas F. Dorn, Peter Kantschieder, Kentan B. O’Hara, Assees MS Team, Antonio Crimini, Abigail Sellen

203 Papers: Educational Assessment

CHAIR: ELANOR O’ROURKE

A Unified Framework for Knowledge Assessment and Progression Analysis and Design
Shuhan Wang, Fang He, Erik Andersen

HOBIT: Hybrid Optical Bench for Innovative Teaching
David Furió, Stéphanie Fleck, Bruno Bousquet, Jean-Paul Guillet, Lionel Canioni, Martin Hachet

How People Write Together Now: Beginning the Investigation with Advanced Undergraduates in a Project Course
Judith S. Olson, Dakuo Wang, Gary M. Olson, Jingwen Zhang

PathViewer: Visualizing Pathways through Student Data
Yiting Wang, Walker M. White, Erik Andersen

204 SIGCHI: Dealing with the Press

205 Papers: Uniqueness of Geographic Information

CHAIR: AIRI LAMPINEN

Crowdsourcing GO: Effect of Worker Situation on Mobile Crowdsourcing Performance
Kazushi Ikeda, Keiichiro Hoashi

Understanding “Death by GPS”: A Systematic Study of Catastrophic Incidents Associated with Personal Navigation Technologies
Allen Yilun Lin, Kate Kuehl, Johannes Schöning, Brent Hecht

The Effect of Population and “Structural” Biases on Social Media-based Algorithms – A Case Study in Geolocation Inference Across the Urban-Rural Spectrum
Isaac Johnson, Connor McMahon, Johannes Schöning, Brent Hecht

The Geography of Pokémon GO: Beneficial and Problematic Effects on Places and Movement
Ashley Calley, Jacob Thebault-Spieker, Allen Yilun Lin, Donald Degraen, Benjamin Fachman, Johnna Hökkilä, Kate Kuehl, Valentina Nisi, Nuno Jardim Nunes, Nina Weng, Dirk Weng, Brent Hecht, Johannes Schöning
**207 Papers: Motivation in Games**

**CHAIR:** MAGY SEIF EL-NASR

Towards Personality-driven Persuasive Health Games and Gamified Systems
Rita Orji, Lennart E. Nacke, Chrysanthe DiMarco

Is Difficulty Overrated? The Effects of Choice, Novelty and Suspense on Intrinsic Motivation in Educational Games
Derek Lomas, Kenneth Koedinger, Nirmal Patel, Sharan Shadhan, Nikhil Poonwala, Jodi L. Forlizzi

Why is This Happening to Me? How Player Attribution can Broaden our Understanding of Player Experience
Ansgar E. Depping, Regan L. Mandryk

Keeping Users Engaged through Feature Updates:
A Long-Term Study of Using Wearable-Based Exergames
Zhao Zhao, Ali Arya, Anthony Whitehead, Gerry Chan, S. Ali Etemad

**301 SIG: Interactive Computing in Outdoor Recreation**

SIG on Interactive Computing in Outdoor Recreation
Michael D. Jones, Florian Daiber, Zann Anderson, Kevin Seppi

**302 Case Studies: Human Health**

**CHAIR:** KATIE SIEK

Phlebotomists Do It Better: Exploring Soft Interaction in the Medical Domain
Jessica Tsimeris, Duncan R. Stevenson, Tom D. Gedeon, Michael Broughton

Case Study of Adapting a Phone-based Support System to Enable Drug-dependent Patients to Develop Coping Skills
Yu-Fang Avon Lin, Cheng-Yuan Kelvin Li, Yanhui Kalinicheva, Ming-Chyi Wang, Hao-Hua Chu

Case Study of Adapting a Phone-based Support System to Enable Drug-dependent Patients to Develop Coping Skills
Ya-Fang Avon Lin, Cheng-Yuan Kelvin Li, Yanhui Kalinicheva, Ming-Chyi Wang, Hao-Hua Chu

Design for Balanced Engagement in Mixed Level Sports Teams
Sander Bogers, Carl Megens, Steven Vos

On the Genesis of an Assistive Technology Crowdsourcing Community
Christopher Michael Homian, Jan I. Schull, Akshai Prabhu

**303 Course (C06): Intro CogSci (2/2)**

Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines
Jeff A. Johnson

**304 Course (C02): Crowdsourcing (3/3)**

Crowdsourcing and Crowd Work
Jeffrey P. Beigham, Walter S. Lasecki, Chinmay Eishan Kulkarni

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18:00 – 19:30 Conference Reception, Art Exhibition and Exhibits Grand Opening List on page 76 Exhibit Hall F

Exhibit Hall F
Morning Plenary
8:30 – 9:20  
Ben Shneiderman
Four Seasons 2/3  
How the CHI Community Got its Groove – and Changed the World!

TUESDAY 9:30 – 10:50

Four Seasons 1  Papers: Temperature Interfaces
CHAIR: MARIANNA OBRIST

Ambiotherm: Enhancing Sense of Presence in Virtual Reality by Simulating Real-World Environmental Conditions
Nimesha Ranasinghe, Pravar Jain, Shenny Karwita, David Tolley, Ellen Yi-Luen Do

Multi-moji: Combining Thermal, Vibrotactile & Visual Stimuli to Expand the Affective Range of Feedback
Graham Wilson, Stephen A. Brewster

The Heat is On: A Temperature Display for Conveying Affective Feedback
Jordan Tewell, Jon Bird, George R. Buchanan

Exploring Novice Approaches to Smartphone-based Thermographic Energy Auditing: A Field Study
Matthew Louis Mauriello, Manaswi Saha, Erica Brown Brown, Jan E. Freehlich

Four Seasons 2/3  SIGCHI Social Impact Award Talk
CHAIR: BEN BEDERSON

SIGCHI Social Impact Award Talk
Jacob Wobbrock

Four Seasons 4  Papers: Smart Monitoring in Physical Spaces
CHAIR: PATRICK SHIH

Looking Inside the Wires: Understanding Museum Visitor Learning with an Augmented Circuit Exhibit
Elham Beheshti, David Kim, Gabrielle Escanow, Michael S. Horn

Log it While it’s Hot: Designing Human Interaction with Smart Thermostats for Shared Work Environments
Stephen Snow, Frederik Auffenberg, m.c. schraefel

Community-Empowered Air Quality Monitoring System
Yen-Chis Hsu, Paul Dille, Jennifer Cross, Beatrice Dics, Randy Sargent, Ilham Nourbaksh

The Catch(es) with Smart Home – Experiences of a Living Lab Field Study
Timo Jakobi, Conrada Ogonowski, Nico Castelli, Gunnar Stevens, Volker Wulf

102/104 alt.chi: Life with Robots and Other Non-Humans
CHAIR: JANET VERTESI

Life as a Robot (at CHI): Challenges, Benefits, and Prospects for Attending Conferences via Telepresence
Evan Golub, Brenna McNally, Becky Lewittes, Alazandra Shorter

The Anti-Influence Engine: Escaping the Diabolical Machine of Pervasive Advertising
Charlie Pinder

Bot Personas as Off-The-Shelf Users
Bert Vandenbergh

Machines as Co-Designers: A Fiction on the Future of Human-Fabrication Machine Interaction
Jeeun Kim, Haruki Takahashi, Homei Miyashita, Michelle Annett, Tom Yeh

Anna Zamansky, Mandy Roshier, Clara Monzini, Emily C. Collins, Carol Hall, Katherine M. Gillow, Ann Morrison, Steve North, Hanna Elina Wiman

103/105 Papers: Players, Spectators, Communities
CHAIR: ELIZABETH BONSIGNORE

Don’t Talk Dirty to Me: How Sexist Beliefs Affect Experience in Sexist Games
Jason T. Bowey, Ansgar Erasmus Depping, Regan L. Mandryk

Understanding Gaming Perceptions and Experiences in a Women’s College Community
Orit Shaer, Lauren Westendorf, Nicholas A. Krauf, Claudia Pedersen

Ways of Spectating: Unravelling Spectator Participation in Kinect Play
Buraq S. Tekin, Stuart Reeves

Expanding Video Game Live-Streams with Enhanced Communication Channels: A Case Study
Pascal Lessel, Alexander Viehhaure, Antonia Krüger

“These Are Not My Hands!”: Effect of Gender on the Perception of Avatar Hands in Virtual Reality
Valentin Schwind, Pascal Knerim, Cagri Tasca, Patrick Franckz, Nico Hasa, Niels Henze
### TUESDAY 9:30 – 10:50

#### 106 Course (C09): Interaction Design (1/4)
Creative Worthwhile Interaction Design
Gilbert Cockton

#### 107/109 Papers: Social Computing and Health
**CHAIR:** SUN YOUNG PARK

- A Social Media Based Index of Mental Well-Being in College Campuses
  Shrey Bagroy, Ponnurangam Kumaraguru, Munmun De Choudhury

- When Fitness Meets Social Networks: Investigating Fitness Tracking and Social Practices on WeRun
  Xinning Gui, Yu Chen, Clara Caldeira, Dan Xiao, Yunan Chen

- “Be Grateful You Don't Have a Real Disease”: Understanding Rare Disease Relationships
  Haley MacLeod, Grace Bostin, Leslie S. Liu, Katie A. Siek, Kay Connelly

- When Personal Tracking Becomes Social: Examining the Use of Instagram for Healthy Eating
  Chia-Fang Chung, Elena Agapie, Jessica Schroeder, Sarsili R. Mishra, James Fogarty, Sean Munson

#### 108 Course (C08): UX Does Ethno (1/2)
Practical UX Research Methodologies: Ethnography
Sarah Eden Garcia, Megan McCracken

#### 109/111 Papers: Supporting Local Space
**CHAIR:** DAVID MCGOOKIN

- Participatory Media: Creating Spaces for Storytelling in Neighbourhood Planning
  Jennifer Manuel, Geoff Vigar, Tom Bartindale, Rob Comber

- Block Party: Synchronized Planning and Navigation Views for Neighbourhood Expeditions
  Huiyuan Zhou, Aisha Edrah, Bannie MackKay, Derek Reilly

- Designing for Cohabitation: Naturecultures, Hybrids, and Decentering the Human in Design
  Nancy Smith, Shaowen Bardzell, Jeffrey Bardzell

- Stranger Searching in a Strange Land: The Impact of Familiarity on Local Search
  Isaac Johnson, Victoria Schwanda Sosik, Kacey Ballard

#### 111/113 Papers: All about Data
**CHAIR:** ELENA GLASSMAN

- Variolite: Supporting Exploratory Programming by Data Scientists
  Mary Beth Kery, Amber Imogene Harvath, Brad A. Myers

- The Trials and Tribulations of Working with Structured Data - A Study on Information Seeking Behaviour
  Laura M. Koester, Emilka M. Kocprzak, Jenifer F. Tenison, Elena Simperl

- Same Stats, Different Graphs: Generating Datasets with Varied Appearance and Identical Statistics through Simulated Annealing
  Justin Matejka, George Fitzmaurice

- Inferring Cognitive Models from Data using Approximate Bayesian Computation
  Antti Kangasrääsiö, Kumaripaba Athukorala, Andrew Howes, Jukka Corander, Samuel Kaski, Antti Oulasvirta

- Effects of Frequency Distribution on Linear Menu Performance
  Wanyu Liu, Gilles Bally, Andrew Howes

#### 201 Papers: Design and Cognitive Impairment
**CHAIR:** ANJA THIEME

- DemYouth: Co-Designing and Enacting Tools to Support Young People's Engagement with People with Dementia
  Roisin McNaney, John Vines, Jamie Mercer, Leon Mexter, Tony Young

- The Value of Experience-Centred Design Approaches in Dementia Research Contexts
  Kellie Morissette, John McCarthy, Nodia Pantick

- Connecting Those That Care: Designing for Transitioning, Talking, Belonging and Escaping
  Kiel S. Long, Lyndsey L. Bakewell, Roisin C. McNaney, Konstantina Vasileiou, Mark Atkinson, Manuela Barreto, Julie Barnett, Michael Wilson, Shaun Lawson, John Vines

- Designing Game-Based Myoelectric Prosthesis Training
  Aaron Tabor, Scott Buteman, Erik Schemer, David R. Fiotla, Kathrin Gering
**TUESDAY 9:30 – 10:50**

#### 203 Papers: Novel Game Interfaces

**CHAIR: SCOTT BATEMAN**

- **Bendtroller: An Exploration of In-Game Action Mappings with a Deformable Game Controller**
  - Paden Shorey, Audrey Grouard

- **Inner Garden: Connecting Inner States to a Mixed Reality Sandbox for Mindfulness**
  - Joan Sal Roa, Renaud Gervais, Jeremy Frey, Martin Hochet

- **Providing Haptics to Walls & Heavy Objects in Virtual Reality by Means of Electrical Muscle Stimulation**
  - Pedro Lopes, Ziyi You, Lung-Pin Cheng, Sebastian Marwicki, Patrick Baudisch

- **"It wasn’t really about the Pokémon": Parents’ Perspectives on a Location-Based Mobile Game**
  - Kiley Sobel, Arpita Bhattacharya, Alexis Hiniker, Jin Ha Lee, Julie A. Kientz, Jason C. Yip

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#### 204 SIGCHI: Communicating Your Research to the Public

**CHAIR: AMY OGAN**

- **How Design-inclusive UXR Influenced the Integration of Project Activities: Three Design Cases from Industry**
  - Janne van Kollenburg, Sander Bogers, Eva Deckers, Joep Frens, Caroline Hummels

- **Augmented Studio: Projection Mapping on Moving Body for Physiotherapy Education**
  - Thuong Hoang, Martin Reinoso, Zaher Joukhadar, Frank Vetere, David Kelly

- **Facilitating Development of Pragmatic Competence through a Voice-driven Video Learning Interface**
  - Gabriel Culbertson, Solace Shen, Malte Jung, Erik Andersen

- **Advancing UX Education: A Model for Integrated Studio Pedagogy**
  - Mheaela Varvareanu, Colin M. Gray, Paul Parsons, Nancy Rosche

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#### 207 Papers: Evaluating Visual Perceptions

**CHAIR: WESLEY WILLETT**

- **Affective Colour in Visualization**
  - Lyn Bartram, Abhishek Patra, Maureen Stone

- **Explaining the Gap: Visualizing One’s Predictions Improves Recall and Comprehension of Data**
  - Yea-Seul Kim, Katharina Reinecke, Jessica Hullman

- **Regression by Eye: Estimating Trends in Bivariate Visualizations**
  - Michael Carol, Jeffrey Heer

- **Evaluating Perceptually Complementary Views for Network Exploration Tasks**
  - Chunlei Chang, Benjamin Bach, Tim Dwyer, Kim Marriott

#### 301 SIG: From Joysticks to Pokémon Go

**From Joysticks to Pokémon Go: Games and Play Research in SIGCHI**
- Lennart E. Nacke, Zachary O. Toups, Daniel Johnson

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#### 205 Papers: HCI/UX Education and Industry

**CHAIR: TOBIAS GROSSE-PUPPENDAHL**

- **Placing and Recalling Virtual Items on the Skin**
  - Joanna Bergstrom-Lehtovirta, Sebastian Boring, Kasper Hornbæk

- **First Impressions in Human-Agent Virtual Encounters**
  - Angela Caffor, Hannes H. Völjölmsson, Timothy Bickmore

- **FLIPPIN’: Exploring a Paper-based Book UI Design in a Public Space.**
  - Koichi Yoshino, Koichi Obata, Satoru Tokuhisa

- **Designing Interactive Advertisements for Public Displays**
  - Hasibullah Sahibzada, Eva Homecker, Florian Echtler, Patrick Tobias Fischer

#### 302 Papers: Novel Interfaces

**CHAIR: TOBIAS GROSSE-PUPPENDAHL**

- **How Design-inclusive UXR Influenced the Integration of Project Activities: Three Design Cases from Industry**
  - Janne van Kollenburg, Sander Bogers, Eva Deckers, Joep Frens, Caroline Hummels

- **Augmented Studio: Projection Mapping on Moving Body for Physiotherapy Education**
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#### 303 Course (C07): Intro to HCI (1/3)

**Introduction to Human-Computer Interaction**
- Jonathan Lazar, Simone D. J. Barbosa

#### 304 Course (C10): Speech Interaction (1/2)

**Speech-based Interaction: Myths, Challenges, and Opportunities**
- Cosmin Munteanu, Gerald Penn
**Four Seasons 1**  Papers: Crowd-powered Systems

**CHAIR:** KATHARINA REINECKE

- The Effect of Peripheral Micro-tasks on Crowd Ideation
  Victor Girotto, Erin Walker, Winslow Burleson

- Respeak: A Voice-based, Crowd-powered Speech Transcription System
  Aditya Vashista, Pragya Sethi, Richard J. Anderson

- Subcontracting Microwork
  Meredith Ringel Morris, Jeffrey Bigham, Robin Brewer, Jonathan Bragg, Anand P. Kulkarni, Jessie Li, Saiph Savage

- Scalable Annotation of Fine-Grained Objects Without Experts
  Timmit Gebru, Jonathan Krause, Jia Deng, Fei-Fei Li

**Four Seasons 2/3**  Papers: Gesture as Input

**CHAIR:** WAI-TAT FU

- Toward Realistic Hands Gesture Interface: Keeping it Simple for Developers and Machines

- Memory in Motion: The Influence of Gesture- and Touch-Based Input Modalities on Spatial Memory
  Johannes Zagernann, Ulrike Pfeil, Daniel Immanuel Fink, Philipp Alexander van Bauer, Harald Reiterer

- EarFieldSensing: A Novel In-Ear Electric Field Sensing to Enrich Wearable Gesture Input through Facial Expressions
  Denys J.C. Matthes, Bernhard A. Strecker, Bodo Urban

- EchoFlex: Hand Gesture Recognition using Ultrasound Imaging
  Jess McIntosh, Aser Marzo, Carol L. Phillips, Mike Fraser

**Four Seasons 4**  Papers: Precautionary Behaviors

**CHAIR:** JANNE LINDQVIST

- Stories from Survivors: Privacy & Security Practices when Coping with Intimate Partner Abuse
  Tara Matthews, Kathleen O’Leary, Anna Turner, Manya Sleeper, Jill Palzkill Woelfer, Martin Shelton, Cori Manthorne, Elizabeth F. Churchill, Sunny Consalvo

- Self-Confidence Trumps Knowledge: A Cross-Cultural Study of Security Behavior
  Yukiko Sawaya, Mahmoud Shafii, Nikolas Christin, Ayumu Kubota, Akihisa Nakamura, Akira Yamada

- What Do We Really Know about How Habituation to Warnings Occurs Over Time? A Longitudinal fMRI Study of Habituation and Polymorphic Warnings
  Anthony Vance, C. Brack, Kirwan, Daniel Bjorn, Jeffrey L. Jenkins, Bonnie Brinton Anderson

  Rick Wash, Emilee Roder, Chris Fennell

- Toward Harmonizing Self-reported and Logged Social Data for Understanding Human Behavior
  Vivek K. Singh, Arushi Jain

**102/104 Panel:** Human Computer Integration vs. Powerful Tools

- Human Computer Integration versus Powerful Tools
  Umer Faraq, Jonathan Grudin, Ben Shneiderman, Pattie Maes, Xiangang Ren

**103/105 Papers:** It Could Be This Way

**CHAIR:**

- Evaluation of Prototypes and the Problem of Possible Futures
  Antti Salovaara, Arto Oulasvirta, Giulo Jacucci

- Situated Dissemination through an HCI workplace
  Ko-Le Chen, Rachel Clarke, Teresa Almeida, Matthew Wood, David S. Kirk

- A Survey of the Trajectories Conceptual Framework: Investigating Theory Use in HCI
  Raphael Veit, Steve Benford, Stuart Reeves

- ProtoMold: An Interactive Vacuum Forming System for Rapid Prototyping
  Junichi Yamaoka, Yasuaki Kakehi

**106 Course (C09):** Interaction Design (2/4)

- Creative Worthwhile Interaction Design
  Gilbert Cockton
107/109 Papers: Connect, Move, Touch, Build
CHAIR: SHEENA ERETE

Environment-Scale Fabrication: Replicating Outdoor Climbing Experiences
Emily Whiting, Nada Ouf, Liane E. Makatura, Christos Mousas, Zhenyu Shu, Ladislav Kavan

Why Tangibility Matters: A Design Case Study of At-Risk Children Learning to Read and Spell
Min Fan, Alissa N. Antle, Maureen Hoskyn, Carman Neustaedter

WeBuild: Automatically Distributing Assembly Tasks Among Collocated Workers to Improve Coordination
C. Ale Fraser, Tovi Grossman, George Fitzmaurice

Pressure-Based Gain Factor Control for Mobile 3D Interaction using Locally-Coupled Devices
Lonni Besançon, Mehdi Ammi, Tobias Isenberg

108 Course (C08): UX Does Ethno (2/2)
Practical UX Research Methodologies: Ethnography
Sarah Eden Garcia, Megan McCracken

110/112 Papers: Behavior in Online Communities
CHAIR: MICHAEL PRILLA

"People are Either too Fake or too Real": Opportunities and Challenges in Tie-based Anonymity
Xiao Ma, Nazanin Andalibi, Louise Barkhuus, Mor Noaman

Increasing Activity in Enterprise Online Communities Using Content Recommendation
Ido Guy, Itibal Farah, Eldad Kravi, Maya Barnea

Priming Effects and Strategic Influences in Social Tagging
David Bodoff, Einav Yakov

Design and Usability of Interactive User Profiles for Online Health Communities
Andrea Hurtzler, Bridget Weis, Carly Cahill, Wanda Pratt, Albert Park, Uba Backonya, David W. McDonald

111/113 alt.chi: Disciplinary Challenges: Methods & Writing
CHAIR: ANDRÉS MONROY-HERNÁNDEZ

The Emotional Work of Doing eHealth Research
Maria K. Wolters, Zawadshakia Mkula, Petra M. Boynton

Throwaway Citation of Prior Work Creates Risk of Bad HCI Research
Joe Marshall, Conar Linehan, Joelyn C. Spence, Stefan Renwick, Egglesstone

Breaking Down Silos: Involving Various Researchers for Driving HCI Research
Arisa Emu, Hitoshi Otsawa, Hitamitsu Hattori, Naonori Akuya, Nabuuti Karazuki, Ryoziro Iwase, Mino Kukita, Toshihiro Otani, Akikru Kudo, Kazunori Komatani

A Little Respect: Four Case Studies of HCI’s Disregard for Other Disciplines
Joe Marshall, Conar Linehan, Joelyn C. Spence, Stefan Renwick, Egglesstone

201 Papers: Perspectives on Cognitive Impairment
CHAIR: ERIN BUEHLER

Designing for the “Universe of One”: Personalized Interactive Media Systems for People with the Severe Cognitive Impairment Associated with Rett Syndrome
Anthony J. Horrof, Haley R. Whitman, Marsh C. Sutherland, Samuel I. Gerendasy, Joanna McGrenere

Supporting People with Dementia in Digital Social Sharing
Amanda Lazar, Caroline Edasis, Anne Marie Piper

Care and Connect: Exploring Dementia-Friendliness Through an Online Community Commissioning Platform
Kellie Marinsey, Andrew Garbett, Peter Wright, Patrick Oliver, Edward Ian Jenkins, Katie Brittain

A Critical Lens on Dementia and Design in HCI
Amanda Lazar, Caroline Edasis, Anne Marie Piper

203 Papers: Human Performance Gaming
CHAIR: ELISA MEKLER

Virtuosos on the Screen: Playing Virtual Characters Like Instruments in Competitive Super Smash Bros. Melee
Colin M. Ford

Designing Leaderboards for Gamification: Perceived Differences Based on User Ranking, Application Domain, and Personality Traits
Yuan Jia, Yiikun Liu, Xing Ya, Stephen Voida

Inferring Motion Direction using Commodity Wi-Fi for Interactive Exergames
Kun Qian, Chenshu Wu, Zimu Zhou, Yue Zheng, Zheng Yang, Yunchao Liu

Be Me or Be Mi?: A Study of Self-Presentation and Interaction in the Miitomo Mobile Application
Anna Kasunic, Geoff Kaufman

Why Players use Pings and Annotations in Dota 2
Jason Wuertz, Scott Bateman, Anthony Tang
Applying the Norman 1986 User-Centered Model to Post-WIMP UIs: Theoretical Predictions and Empirical Outcomes
G. Michael Poor, Samuel D. Jaffe, Laura Marie Leventhal, Jordan Ringenberg, Dale S. Klipfer, Guy Zimmerman, Brandi A. Klein

Extracting Gait Velocity and Stride Length from Surrounding Radio Signals
Chen-Yu Hsu, Yuchen Liu, Zachary Kablavi, Rumen Hristov, Dina Katobi, Christine Liu

Personas and Behavioral Theories: A Case Study Using Self-Determination Theory to Construct Overweight Personas
Arne Jansen, Maarten Van Mechelen, Karin Slegers

HeartChat: Heart Rate Augmented Mobile Chat to Support Empathy and Awareness
Mariam Hassib, Daniel Buschek, Pawel W. Wadnick, Florian Alt

“I’ve been manipulated!”: Designing Second Screen Experiences for Critical Viewing of Reality TV
Tom Feltwell, Gavin Wood, Kiel S. Lang, Philip Brooker, Tom W. Schaufeld, Ioannis Petridis, Julie Barnett, John Vines, Shaun Lawson

Interaction with a TV companion app as synopsis and supplement
John Dowell, Edward J. Anstead

Social Printers: A Physical Social Network for Political Debates
Katerina L. Gorkovenko, Nick Taylor, Jon Rogers

Child-Computer Interaction SIG: Ethics and Values
Juan Pablo Huaracade, Anja Zeising, Ole Sejer Iversen, Narcis Parees, Michael Eisenberg, Chris Quintana, Mikael B. Skov
**Four Seasons 1 Papers: Crowdfunding and Crowdsourcing**

**CHAIR:** STEVEN DOW

- Revolt: Collaborative Crowdsourcing for Labeling Machine Learning Datasets  
  Joseph Chee Chang, Saleema Amershi, Ece Kamar
- VoxPL: Programming with the Wisdom of the Crowd  
  Daniel W. Barowy, Emery D. Berger, Daniel G. Goldstein, Siddharth Suri
- Embedding a Crowd inside a Relay Baton: A Case Study in a Non-Competitive Sporting Activity  
  Franco Curmi, Maria Angela Ferrario, Jon Whittle
- Prioritizing Flexibility and Intangibles: Medical Crowdfunding for Stigmatized Individuals  
  Amy Gonzales, Nicole Fritz

**Four Seasons 2/3 Papers: Innovative Fabrication Techniques**

**CHAIR:** LINING YAO

- Pineal: Bringing Passive Objects to Life with Embedded Mobile Devices  
  David Ledo, Fraser Anderson, Ryan Schmidt, Lora Oehlberg, Saul Greenberg, Tovi Grossman
- CalibMe: Fast and Unsupervised Eye Tracker Calibration for Gaze-Based Pervasive Human-Computer Interaction  
  Thiago Santini, Wolfgang Fuhl, Enkelejda Kasneci
- TrussFab: Fabricating Sturdy Large-Scale Structures on Desktop 3D Printers  
  Robert Kovacs, Anna Seufert, Ludwig Wilhelm Wölfl, Huang-Ting Chen, Parvion Meinel, Wil Mülter, Jing You, Maximilian Breith, Jonathan F. Strobel, Yannis Karamnissos, Alexander Popista, Thomas Bilassa, Patrick Baudisch
- StretchEBand: Enabling Fabric-based Interactions through Rapid Fabrication of Textile Stretch Sensors  
  Anita Vogl, Patrick Parzner, Tea Babic, Joanne Leong, Alex Olwal, Michael Haller

**Four Seasons 4 Papers: Improving Gaze Mechanisms**

**CHAIR:** NAOMI YAMASHITA

- Tell Me Where to Look: Investigating Ways for Assisting Focus in 360° Video  
  Yen-Chen Lin, Yung-Ju Chang, Hou-Ning Hu, Hsiu-Tzu Cheng, Chi-Wen Huang, Sun Min
- ScreenGlint: Practical, In-situ Gaze Estimation on Smartphones  
  Michael Xuelin Huang, Jiajie Li, Grace Ngoi, Hongya Leang
- Improving Dwell-Based Gaze Typing with Dynamic, Cascading Dwell Times  
  Martez E. Mott, Shane Williams, Jacob O. Wobbrock, Meredith R. Morris
- Looking Coordinated: Bidirectional Gaze Mechanisms for Collaborative Interaction with Virtual Characters  
  Sean Andrist, Michael Gleicher, Bilge Mutlu

**102/104 Panel: Robots in Group Context**

Robots in Group Context: Rethinking Design, Development and Deployment  
Malte Jung, Matt Beune, Jodi Forlizzi, Robin Murphy, Janet Vertesi

**103/105 Papers: Supporting Low Resource Communities**

**CHAIR:** GABRIELA MARCU

- Uncovering the Values and Constraints of Real-time Ride Sharing for Low-resource Populations  
  Tawanna R. Dillahunt, Vaishnav Kamteswaran, Lin Feng Li, Tanya Rosenblat
- Supporting Community Health Workers in India through Voice- and Web-Based Feedback  
  Brian DeRenzi, Nicola Dell, Jeremy Wacksman, Scott Lee, Neal Lesh
- We Play We Learn: Exploring the Value of Digital Educational Games in Rural Egypt  
  Shaimaa Lazem, Hussein Aly Jad
- Sidestepping the Elephant in the Classroom: Using Culturally Localized Technology To Teach Around Taboos  
  Pyra Sorcar, Benjamin Strauber, Prashant Layoka, Neha Kumar, Shelley Goldman

**106 Course (C09): Interaction Design (3/4)**

Creative Worthwhile Interaction Design  
Gilbert Cockton

**107/109 Papers: Exertion, Sport, Bodies**

**CHAIR:** PAWEŁ W. WOŹNIAK

- A Thing of Beauty: Steering Behavior in an Interactive Playground  
  Robby van Delden, Alejandro Moreno, Dennis Reidamo, Ronald Pappe, Dirk Heylen
- Five Lenses for Designing Exertion Experiences  
  Florian Mueller, Daman Young
- Go-with-the-Flow: Tracking, Analysis and Sonification of Movement and Breathing to Build Confidence in Activity Despite Chronic Pain  
  Aneesha Singh, Stefano Piana, Davide Polcaro, Guattiero Volpe, Giovanna VARNI, Ana-Tadura Jiménez, Amanda Williams, Antonio Camurni, Nadia Bianchi-Berthouze
- Recording and Sharing Non-Visible Information on Body Movement while Skateboarding  
  Hwang Kun Park, HyeonBeom Yi, Woohun Lee
- The Pokémon GO Experience: A Location-Based Augmented Reality Mobile Game Goes Mainstream  
  Jane K. Pasvolsky, Hannu J. Korhonen, Kati Alha, Jaakko Steenros, Elina Kaskinen, Frans Mayra

**108 Course (C12): Gameful Design (1/2)**

Applying Gameful Design Heuristics  
Gustavo Fortes Tondello, Lennart E. Nacke
110/112 Papers: Civic Technology
CHAIR: JENNIFER J. PREECE

A City in Common: A Framework to Orchestrate Large-scale Citizen Engagement around Urban Issues
Mara Bales, Yianni Rogers, Carolyn Hassan, Javi Creus, Martha king, Paul Marshall

Creating a Sociotechnical API: Designing City-Scale Community Engagement
Mariam Asad, Christopher A. Le Dantec, Becky Nielsen, Kate Diedrick

Empowered Participation: How Citizens Use Technology in Local Governance
Sheena Erete, Jennifer O. Burrell

Community Conversational: Supporting and Capturing Political Deliberation in Local Consultation Processes
Ian G. Johnson, Alistair G. MacDonald, Jo Briggs, Jennifer Manuel, Karen Salt, Emma Flynn, John Vines

111/113 Papers: Designing Haptic Interfaces
CHAIR: GRAHAM WILSON

PinPad: Touchpad Interaction with Fast and High-Resolution Tactile Output
Jungun Jung, Eunhye Youn, Geohyuk Lee

Agency in Mid-air Interfaces
Patricia Jette, Camelo Martinez, Silvana de Pira, Chi Thanh V., Srikant Subramanian

Frozen Suit: Designing a Changeable Stiffness Suit and its Application to Haptic Games
Ahmed Al Maimani, Anne Roudaut

Haptic-Enabled Handheld Mobile Robots: Design and Analysis
Aybek Öğüz, Wafaa Jalal, Francesca Mondada, Pierre Dillenbourg

201 Papers: Mindfulness and Reflection
CHAIR: TIMOTHY BICKMORE

A Framework for Interactive Mindfulness Meditation Using Attention-Regulation Process
Kavous Safetlaee, Nikolaos Chatzaki, Zhaohui Ling, Mahmoud Mohammadi, Peng Cheng, Xiangyi Ren

Designing Digital Mindfulness: Presence-In and Presence-Without Presence-Through
Bin Zhu, Anders Hedman, Haibo Li

Reflective Practicum: a Framework of Sensitising Concepts to Design for Transformative Reflection
Petr Stolovik, Christopher Fraunberger, Geraldine Fitzpatrick

mHealth for Maternal Mental Health: Everyday Wisdom in Ethical Design
Marguerite Barry, Kevin Doherty, Jose Marcano Belisario, Josip Car, Cecily Morrison, Gavin Doherty

203 Papers: Designing for the Workplace
CHAIR: GE GAO

CalendarHelp: Designing a Workflow-Based Scheduling Agent with Humans in the Loop
Justin B. Cranshaw, Ermal Ekrem, Todd Newman, Rafal Kocielnik, Bowen Yu, Sandeep Soni, Jaime Eeckhout, Andres Navarro-Hernandez

Introducing Mood Self-Tracking at Work: Empirical Insights from Call Centers
Veronica Rivera-Pelayo, Angela Sosol, Lars Mueller, Viktoria Panzer

Conversational Chat Circles: Being All Here Without Having to Hear It All
Matthew K. Miller, John C. Tang, Gino Venkata, Gerard Wilkinson, Kori M. Inkpen

A Predictive Model of Emergency Physician Task Resumption Following Interruptions
Allan Fang, Aaron Zachary Hetsinger, Raj M. Ratwani

Understanding and Detecting Divided Attention in Mobile MOOC Learning
Xiang Xiao, Jingtao Wang

204 SIGCHI: Dealing with the Press

205 Papers: Intelligent Visualization Systems
CHAIR: GIULIO JACCUCCI

GraphScape: A Model for Automated Reasoning about Visualization Similarity and Sequencing
Younghoon Kim, Kant Wongsuphasawat, Jessica Hullman, Jeffrey Heer

GiAnT: Visualizing Group Interaction at Large Wall Displays
Ulrich von Zadow, Raimund Dachselt

Voyager 2: Augmenting Visual Analysis with Partial View Specifications
Kant Wongsuphasawat, Zening Qu, Dominik Moritz, Riley Chang, Felix Ouk, Anushka Amand, Jack Mackinlay, Bill Howe, Jeffrey Heer

TouchPivot: Blending WIMP & Post-WIMP Interfaces for Data Exploration on Tablet Devices
Jaemin Ja, Sehi L’Yi, Bangshin Lee, Jiwook Seo
What Can Be Predicted from Six Seconds of Driver Glances?
Lex Fridman, Sean Sexman, Bobbie Seppelt, Linda Angell, Joonbum Lee, Bruce Mehler, Bryan Reimer

Using Advisory 3D Sound Cues to Improve Drivers’ Performance and Situation Awareness
Minjuan Wang, Sus Lundgren Lyckvi, Chenhui Chen, Palle Dahlstedt, Fang Chen

Designing Gamified Applications that Make Safe Driving More Engaging
Fabius Steinberger, Ronald Schroeter, Marcus Foth, Daniel Johnson

Tunneled In: Drivers with Active Secondary Tasks Need More Time to Transition from Automation
Brian Mak, Mishel Johns, David B. Miller, Wendy Ju

An Evaluation of Input Controls for In-Car Interactions
Alexander Ng, Stephen A. Brewster, Frank Beruschi, Wolfgang Krautter

Manifesting the Cyborg through Techno-Body Modification: From Human-Computer Interaction to Integration
Lauren M. Britton, Bryan Semaan

Factors in Fairness and Emotion in Online Case Resolution Systems
Youyang Hou, Cliff Lampe, Maximilian Bulinski, J.J. Prescott

Us vs. Them: Understanding Artificial Intelligence Technophobia over the Google DeepMind Challenge Match
Changhoon Oh, Toeyaung Lee, Ryojun Kim, Suh-Jung Park, Soe Born Kwon, Bongwon Suh

People Don’t Feel Guilty About Exploiting Machines
Celso M. de Melo, Stacy Marsella, Jonathan Gratch
**Four Seasons I Papers: Data as Design Material**

**CHAIR:** CHRIS ELSDEN

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A Design Perspective on Data
Melanie Feinberg

Bitbarista: Exploring Perceptions of Data Transactions in the Internet of Things
Larissa Puchetz, Elia Tully, Rany Gians, Chris Speed

Centralized, Parallel, and Distributed Information Processing during Collective Sensemaking
Peter A. Kroff, Kaitlyn Zhou, Isabelle A. Edwards, Kate Starbird, Emma S. Spiro

Quietto: An Interactive Timepiece Molded in Concrete and Milled Wood
Kyung-Ryong Lee, Geonil Goh, Young-Woo Park

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**Four Seasons 2/3 Papers: Social Justice**

**CHAIR:** MICHAEL MULLER

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Women’s Safety in Public Spaces: Examining the Efficacy of Panic Buttons in New Delhi
Naveena Karusala, Neha Kumar

Technologies and Social Justice Outcomes in Sex Work Charities: Fighting Stigma, Saving Lives
Angelka Strehmayer, Mary Laing, Rob Carrber

A Human-Centered Approach to Algorithmic Services: Considerations for Fair Smart Community Service Management that Allocates Donations to Non-profit Organizations
Min Kyung Lee, Ji Eun Kim, Leah Lizarondo

Class Confessions: Restorative Properties in the Online Experience of Socioeconomic Stigma
Eugenia Ha Rim Rha, Oliver L. Huismans, Nazanin Andalibi, Melissa Mazmanian, Gillian R. Hayes

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**Four Seasons 4 Papers: Designing Gaze-based Gestures & Features**

**CHAIR:** JARROD KNIBBE

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Robust Gaze Features for Enabling Language Proficiency Awareness
Jakob Karulos, Pawel W. Wdowiak, Lewis L. Chuang, Albrecht Schmidt

A Multifaceted Study on Eye Contact based Role Identification in Multiparty Conversations
Yu Ding, Tuting Zhang, Mehshu Xiao, Zhigang Deng

Supporting Making Fixations and the Effect on Gaze Gesture Performance
Howell O. Istane, Auliiki I. Hysrykakari

GazeEverywhere: Enabling Gaze-only User Interaction on an Unmodified Desktop PC in Everyday Scenarios
Simon Schenk, Marc. Dreiser, Gerhard Rigoll, Michael Dorr

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**102/104 Panel: Human-Agent Collaboration**

Human-Agent Collaboration: Can an Agent be a Partner?
Rachel K. E. Bellamy, Sean Andrist, Timothy Bickmore, Elizabeth F. Churchill, Thomas Erickson

**103/105 Papers: Pens, Ink, Input**

**CHAIR:** NIELS HENZE

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WritLarge: Ink Unleashed by Unified Scope, Action, & Zoom
Haijun Xia, Ken Hindkley, Michel Pahud, Xiao Tu, William A.S. Buxton

As We May Ink? Learning from Everyday Analog Pen Use to Improve Digital Ink Experiences
Yann Riche, Nathalie Henry Riche, Ken Hindkley, Sarah Fuelling, Sarah Williams, Shen Panabaker

Thumb + Pen Interaction on Tablets
Ken Pfeuffer, Ken Hindkley, Michel Pahud, William A.S. Buxton

Experimental Analysis of Mode Switching Techniques in Touch-based User Interfaces
Hernant Bhaskar Surate, Fabrice Matulic, Daniel Vogel

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**106 Course (C09): Interaction Design (4/4)**

Creative Worthwhile Interaction Design
Gilbert Cockton

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**107/109 Papers: Sensing and Input**

**CHAIR:** GIERAD LAPUT

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ForceEdge: Controlling Autoscroll on Both Desktop and Mobile Computers Using the Force
Axel Antoine, Sylvain Malacria, Géry Casteu

Finding Common Ground: A Survey of Capacitive Sensing in Human-Computer Interaction
Tobias Gross-Puppendahl, Christian Holz, Gabe Cohn, Raphael Wimmer, Olkar Bechtold, Steve Hodges, Matthew S. Reynolds, Joshua R. Smith

bioSync: A Paired Wearable Device for Blending Kinesthetic Experience
Jun Nishida, Kenji Suzuki

Modeling Cumulative Arm Fatigue in Mid-Air Interaction based on Perceived Exertion and Kinetics of Arm Motion
Su Jin Jang, Wolfgang Stuerzlinger, Sujit Ambike, Karthik Ramani

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**108 Course (C12): Gameful Design (2/2)**

Applying Gameful Design Heuristics
Gustavo Fortes Tondello, Lennart E. Nacke
TUESDAY 16:30 – 17:50

110/112 Papers: Online Content
CHAIR: CASEY FIESLER

The Bag of Communities: Identifying Abusive Behavior Online with Preexisting Internet Data
Eshwar Chandrasekharan, Mattia Samory, Anirudh Srinivasan, Eric Gilbert

PersaLog: Personalization of News Article Content
Eytan Adar, Carolyn Geang, Ayshwarya Balasubramanian, Jessica Hulman

You Want Me to Work with Who? Stakeholder Perceptions of Automated Team Formation in Engineering Courses
Farnaz Jahanbakhsh, Wai-Tat Fu, Kanie Kandhalas, Darka Mannox, Brian R. Bailey

Multimodal Classification of Moderated Online Pro-Eating Disorder Content
Stevie Chancellor, Yannis Kalantidis, Jessica Annette Pater, Munmun De Choudhury, David A. Shamma

111/113 Papers: Haptics on Skin
CHAIR: ALEXANDRA ION

Investigating Haptic Perception of and Physiological Responses to Air Vortex Rings on a User’s Cheek
Yuka Sato, Ryoko Ueoka

SkinMarks: Enabling Interactions on Body Landmarks Using Conformal Skin Electronics
Martin Weigel, Aditya Shekhar Nittala, Alex Olwal, Jürgen Steinle

tactoRing: A Skin-Drag Discrete Display
Seungwoo Je, Brendan Rooney, Liew Chan, Andrea Bianchi

Fingertip Tactile Devices for Virtual Object Manipulation and Exploration
Samuel B. Schorr, Allison M. Okamura

BrushTouch: Exploring an Alternative Tactile Method for Wearable Haptics
Evan Nicholas Strasnick, Jessica R. Cauchard, James Landay

201 Papers: Enabling Healthy Behaviors
CHAIR: LENA MAMYKINA

Trajectories of Engagement and Disengagement with a Story-Based Smoking Cessation App
Wally Smith, Bernd Ploderer, Greg Wadley, Sarah Webber, Ron Borland

Lessons from Practice: Designing Tools to Facilitate Individualized Support for Quitting Smoking
Arpita Bhattacharya, Roger Vilardaga, Julie A. Kientz, Sean A. Munson

Toward Usable Evidence: Optimizing Knowledge Accumulation in HCI Research on Health Behavior Change
Predrag Klasnja, Eric B. Hekler, Elizabeth V. Korinek, John Harlow, Sonali R. Mishra

Co-interpreting Movement with Sensors: Assessing Parkinson’s Patients’ Deep Brain Stimulation Programming
Helene Menta, Rita Shekrdige, Sharon Powell, Melissa Armstrong, Paul Fishman, Lisa Shulman

203 Papers: Autism, Disabilities, and Assistive Technology
CHAIR: HERNISA KACORRI

When Empathy Is Not Enough: Assessing the Experiences of Autistic Children with Technologies
Katharina Spiel, Christopher Frauenberger, Eva Hornecker, Geraldine Fitzpatrick

ProCom: Designing and Evaluating a Mobile and Wearable System to Support Proximity Awareness for People with Autism
LouAnne E. Boyd, Xirong Jiang, Gillian R. Hayes

Smartphone-Based Gaze Gesture Communication for People with Motor Disabilities
Xiaoyi Zhang, Harish Kulkarni, Meredith Ringel Morris

Exploring the Design Space of AAC Awareness Displays
Kiley Sabel, Alexander Fianaoco, Jan Campbell, Harish Kulkarni, Ann Paradis, Ed Cutrell, Meredith Morris

204 SIGCHI: Dealing with the Press

205 Papers: Big Data Intelligent Visualization Systems
CHAIR: BONGWON SUH

Trust, but Verify: Optimistic Visualizations of Approximate Queries for Exploring Big Data
Dominik Mantz, Danyel Fisher, Bolin Ding, Chi Wang

iSphere: Focus+Context Sphere Visualization for Interactive Large Graph Exploration
Fan Du, Nan Cao, Yu-Ru Lin, Panpan Xu, Honghong Tang

TagRefinery: A Visual Tool for Tag Wrangling
Christoph Kraji, Mohsen Kamalzadeh, Torsten Möller

TopoGroups: Context-Preserving Visual Illustration of Multi-Scale Spatial Aggregates
Jowei Zhang, Abhishek Malik, Benjamin Michael Ahlbrand, Niklas Elmqvist, Ross Maciejewski, David Ebert

207 Papers: Wild Methods
CHAIR: ANTTI SALOVAARA

Activity as the Ultimate Particular of Interaction Design
Annika Waern, Jon M.E. Back

Intuition in Design: Reflections on the Iterative Aesthetics of Form
Haakon Faste

Understanding Public Evaluation: Quantifying Experimenter Intervention
Julie R. Williamson, John H. Williamson

Challenges in Public Display Deployments: A Taxonomy of External Factors
Ville Mäkelä, Sumita Sharma, Jaakko Hakulinen, Torri Heimonen, Markku Turunen
301 SIG: Future of Food in the Digital Realm

Future of Food in the Digital Realm
Rohit Ashok Khot, Deborah Lupton, Marketa Dolejsova, Florian ‘Floyd’ Mueller

302 Papers: HCI and Collective Action

Chair: Tawanna Dillahunt

HCI, Solidarity Movements and the Solidarity Economy
Vasillis Vlachokyriakos, Clara Crivellaro, Pete Wright, Evita Kanamagioi, Pete Wright, Evita Kanamagioi, Eleni-Revekka Staiou, Dimitris Gouscas, Rowan Thorpe, Antonio Krüger, Johannes Schöning, Matt Jones, Shaun Lawson, Patrick Olivier

Environmental Protection and Agency: Motivations, Capacity, and Goals in Participatory Sensing
Paul M. Aoki, Alison Woodruff, Buladitya Yellapragada, Wesley Willett

Providing Online Crisis Information: An Analysis of Official Sources during the 2014 Carlton Complex Wildfire
Apoorva Chauhan, Amanda L. Hughes

“Algorithms ruin everything”: #RIPTwitter, Folk Theories, and Resistance to Algorithmic Change in Social Media
Michael A. DeVito, Darren Gergle, Jeremy Birnholtz

304 Course (C11): Body Design (2/2)

Inbodied Interaction: 3 Things You Need to Know About How Your Body Works to Lead HCI Innovation
m.c. Schraefel
**WEDNESDAY 9:30 – 10:50**

**Morning Plenary**
8:30 – 9:20
Four Seasons 2/3

**Wael Ghonim**

*Mobocratic Algorithms: Could Social Media be a Threat to Democracy?*

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**Four Seasons 1**

**Papers: Social Media Privacy**

**CHAIR:** FLORIAN SCHAUB

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**FDVT: Data Valuation Tool for Facebook Users**
José González Cabañas, Ángel Cuevas, Rubén Cuevas

**Characterizing Social Insider Attacks on Facebook**
Wali Ahmed Usmani, Diogo Marques, Ivan Beschastnikh, Konstantin Beznosov, Tiago Guerreiro, Luis Canedo

**Photo Privacy Conflicts in Social Media: A Large-scale Empirical Study**
Jose Such, Joel Porter, Sören Preibusch, Adam Joinson

**Towards Understanding Differential Privacy: When Do People Trust Randomized Response Technique?**
Brooke Bullek, Stephanie Garboski, Darakhshan J. Mir, Evan M. Peck

**Was My Message Read?: Privacy and Signaling on Facebook Messenger**
Roberto Hoyle, Srijita Das, Apu Kapadia, Adam J. Lee, Kami Vaniea

**Four Seasons 2/3**

**SIGCHI Lifetime Practice Award Talk**
Ernest Edmonds

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**Four Seasons 4**

**Papers: Data Culture**

**CHAIR:** YANG WANG

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**Disempowered by Data: Nonprofits, Social Enterprises, and the Consequences of Data-Driven Work**
Chris Bopp, Ellie Harmon, Amy Voids

**Scratch Community Blocks: Supporting Children as Data Scientists**
Sayamindu Dasgupta, Benjamin Mako Hill

**Supporting the Use of User Generated Content in Journalistic Practice**
Peter Tömmie, Rob N. Procter, David William Randall, Mark Rouncefield, Christian Burger, Geraldine Wong, Sok Hoi, Arkaitz Zubiaza, Maria Lisakota

**How Data Workers Cope with Uncertainty: A Task Characterisation Study**
Nadia Boukhelifa, Marc-Emmanuel Perrin, Samuel Huron, James Eagan

**102/104 Panel: Policy Impacts on the HCI Research Community**

**CHAIR:** KENTARO TOYOMA

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**Policy Impacts on the HCI Research Community**
Jofish Kaye, Casey Fiesler, Neha Kumar, Bryan Semaan

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**103/105**

**Papers: Technology & Spatial Landmarks**

**CHAIR:** BRENT HECHT

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**The Effects of Artificial Landmarks on Learning and Performance in Spatial-Memory Interfaces**
Md. Sami Uddin, Carl Gutwin, Andy Cockburn

**Studying Space Use: Bringing HCI Tools to Architectural Projects**
Himanshu Verma, Hamed S. Alavi, Denis Lalanne

**Locating the Internet in the Parks of Havana**
Michaela Dine Dye, David Nemer, Laura Pira, Nithya Sambaskar, Amy S. Bruckman, Neha Kumar

**The To-and-Fro of Sense Making: Supporting Users’ Active Indexing in Museums**
Eva Hornecker

**106 Course (C14): Hardware Prototyping (1/2)**

**Make This! Introduction to Electronics Prototyping Using Arduino**
David Sirkin, Nik Martelaro, Wendy Ju

**107/109**

**Papers: Haptic Feedback**

**CHAIR:** PEDRO LOPES

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**Sparkle: Hover Feedback with Touchable Electric Arcs**
Daniel Spelmezan, Deepak Ranjan Sahoo, Srinath Subramonian

**Sparse Haptic Proxy: Touch Feedback in Virtual Environments Using a General Passive Prop**
Lung-Pan Cheng, Eyal Ofek, Christian Holz, Hrvoje Benko, Andrew D. Wilson

**HapticHead: A Spherical Vibrotactile Grid around the Head for 3D Guidance in Virtual and Augmented Reality**
Oliver Beren Kaul, Michael Rohs

**Passive Yet Expressive TouchTokens**
Rafael Morales Gonzalez, Caroline Appert, Giles Bally, Emmanuel Pietriga

**Enhancing Pen-based Interaction using Electrovibration and Vibration Haptic Feedback**
Qinglong Wang, Xiangshi Ren, Xiaoying Sun

**108 Course (C16): Writing/Reviewing (1/2)**

**How to Write and Review CHI Papers**
Lennart E. Nacke

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**Morning Plenary**
8:30 – 9:20
Four Seasons 2/3

**Wael Ghonim**

*Mobocratic Algorithms: Could Social Media be a Threat to Democracy?*

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**Four Seasons 1**

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**Four Seasons 2/3**

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**Four Seasons 4**

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**How to Write and Review CHI Papers**
Lennart E. Nacke

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= 20 minute presentation; = 10 minute presentation
### 110/112 Papers: Contextual Smartwatch Use

**Chair:** Michael Nebeling

- **Always On(line)? User Experience of Smartwatches and their Role within Multi-Device Ecologies**
  - Marta E. Cecchinato, Anna L. Cox, Jan Bierd

- **Quantifying Sources and Types of Smartwatch Usage Sessions**
  - Aku Tapio Visuri, Zhanna Sorsenbayeva, Niels van Berkel, Jorge Goncalves, Reza Rawassizadeh, Vasilis Kostakos, Deniz Fernandez

- **Situating Wearables: Smartwatch Use in Context**
  - Donald McMillan, Barry Brown, Ari Lampinen, Maire McGregor, Eve Hoggan, Stefania Pizza

- **BreakSense: Combining Physiological and Location Sensing to Promote Mobility during Work-Breaks**
  - Scott Allen Cambo, Daniel Auraham, Matthew L. Lee

### 111/113 Papers: Collaborative Crowdwork

**Chair:** Jeffrey Bigham

- **CrowdVerge: Predicting If People Will Agree on the Answer to a Visual Question**
  - Danna Gurari, Kristen Grauman

- **Facilitating Pervasive Community Policing on the Road with Mobile Roadwatch**
  - Sangheun Park, Emilia Stefania Ilinca, Jeungmin Oh, Su Jin Kwon, Rabea Maziara, Utchin Lee

- **ReTool: Interactive Microtask and Workflow Design through Demonstration**
  - Chen Chen, Xiaojun Meng, Shengdong Zhao, Morten Fjeld

- **Flash Organizations: Crowdsourcing Complex Work by Structuring Crowds As Organizations**
  - Melissa A. Valentine, Daniela Retelny, Alexandra Ta, Negar Rahmati, Tathwee Doshi, Michael S. Bernstein

### 201 Papers: Wearable Technology

**Chair:** Christian Holz

- **TriTap: Identifying Finger Touches on Smartwatches**
  - Hyunjoo Gil, Do Young Lee, Seunggyu Im, Ian Oakley

- **WatchSense: On- and Above-Skin Input Sensing through a Wearable Depth Sensor**
  - Srinath Sridhar, Anders Markussen, Antti Oulasvirta, Christian Theobalt, Sebastian Boring

- **Supporting Everyday Function in Chronic Pain Using Wearable Technology**
  - Aneesha Singh, Nadia Bianchi-Berthouze, Amanda CdeC Williams

- **SoPhy: A Wearable Technology for Lower Limb Assessment in Video Consultations of Physiotherapy**
  - Deepi Aggarwal, Wei Li, Zhang, Thuong Hoang, Bernd Ploderer, Frank Vereke, Mark Bradford

### 203 Papers: Chatbot Interfaces

**Chair:** Sadat Shami

- **Typefaces and the Perception of Humanness in Natural Language Chatbots**
  - Heloisa Candela, Claudio Pinheiro, Rocio Figueiredo

- **Could You Define That in Bot Terms?: Requesting, Creating and Using Bots on Reddit**
  - Kiel S. Long, John Vines, Selina Sutton, Philipp Brooker, Tom Feltham, Ben Kirkman, Julie Barnett, Shaun Lowman

- **Response Times when Interpreting Artificial Subtle Expressions are Shorter than with Human-like Speech Sounds**
  - Takamori Komatsu, Kazuki Kabayashi, Seiji Yamada, Katara Funakoshi, Mikio Nakano

- **A New Chatbot for Customer Service on Social Media**
  - Anbang Xu, Zhe Liu, Yufan Guo, Vibha Sinha, Rama Akkiraju

### 204 SIGCHI: Communicating Your Research to the Public

**Chair:** Daniel Ashbrook

- **Cardboard Machine Kit: Modules for the Rapid Prototyping of Rapid Prototyping Machines**
  - Nadya Peek, James Coleman, Iain Moyer, Neil Gershenfeld

- **Printflatables: Printing Human-Scale, Functional and Dynamic Inflatable Objects**
  - Harpreet Sareen, Udayan Umnapathi, Patrick Shin, Yasuaki Kakehi, Jifei Ou, Hiroshi Ishii, Patty Meece

- **Sketching CuddleBits: Coupled Prototyping of Body and Behaviour for an Affective Robot Pet**
  - Paulucci, Xi, Laura Cang, Anasazi Star, David Marchal, Lucia Tseng, Merel Jung, Jussi Rantak, Oliver S. Schneider, Karen E. MacLean

- **WireDraw: 3D Wire Sculpturing Guided with Mixed Reality**
  - Ya-Ting Yue, Xiaolong Zhang, Yangiang Yang, Gang Ren, Yi-King Choi, Wenping Wang
207 Papers: Passwords and Authentication

**Chair:** MARIAN HARBACH

Stay Cool! Understanding Thermal Attacks on Mobile-based User Authentication
Yomna Abdelrahman, Mohamed Khamis, Stefan Schneegass, Florian Alt

Thumprint: Socially-Inclusive Local Group Authentication Through Shared Secret Knocks
Sauvik Das, Gerad Laput, Chris Harrison, Jason I. Hong

Design and Evaluation of a Data-Driven Password Meter
Blase Ur, Felicia Alfieri, Maung Aung, Lujo Bauer, Nicolas Christin, Jessica Colnago, Lorrie Faith Cranor, Henry Dixon, Pardis Emami Naeini, Hana Habib, Noah Johnson, William Melicher

Can Unicorns Help Users Compare Crypto Key Fingerprints?
Joshua Tan, Lujo Bauer, Joseph Bonneau, Lorrie Faith Cranor, Jeremy Thomas, Blase Ur

301 SIG: Bridging Communities for Better HIT

Bridging Communities for Better HIT: Streaming Conversations from WISH on Challenges, Strategies, and Opportunities
Jing Zhang, Gabriela Marcu, Julie A. Kientz, Siddhant Ambulkar, Lena Mamykina, Laura R. Pina, Jina Huh

302 ReMix

**Chair:** SUSAN DRAY

Rivet Counting and Ocean Crossing: Case Examples Illuminating the Fracticality of the Theory-Practice Cycle and the Importance of Horizon Expansion
Chris Hass, Elizabeth Rosenzweig

Augmented Reality Prototyping For Interaction Design Students
Andrew J. Hunsucker, Kelly McClinton, Jennifer Wang, Erik Stolterman

Gender-based Violence Campaign in Namibia: Traditional meets Technology for Societal Change
Ruben Ng’jou, Anica N. Peters, Heike Wünschiers-Theophilus, Fannes Namhunya

Studying Studying – Academic Life as the Subject of Commercial Research
Alan J. Dix

303 Course (C15): UX (1/2)

User Story Mapping: The Hands-on Course
Stephanie Foehrenbach, Christian Heldstab

304 Course (C17): Positive Computing (1/2)

Positive Computing: Research & Practice in Wellbeing Technology
Rafael A. Calvo, Dorian Peters
**Four Seasons 1 Papers: User Perceptions in Sociotechnical Systems**

**CHAIR:** JENNIFER MARLOW

- **A Quantified Past: Toward Design for Remembering With Personal Informatics**
  Chris Elsden, David S. Kirk, Abigail Dumont

- **Foreign-language Reviews: Help or Hindrance?**
  Scott A. Hale, Irene Eleta

- **Getting Something for Nothing? A User-Centric Perspective on Loyalty Card Schemes**
  Annika Hupfeld, Chris Speed

- **Online Feedback Exchange: A Framework for Understanding the Socio-Psychological Factors**
  Eureka Foong, Steven P. Dow, Brian P. Bailey, Elizabeth M. Gerber

**Four Seasons 2 Papers: Sound of Music**

**CHAIR:** BEST YUKSEL

- **MuEns: A Multimodal Human-Machine Music Ensemble for Live Concert Performance**
  Akira Maezawa, Kazuhiko Yamamoto

- **Playing Fast and Loose with Music Recognition**
  Chris Greenhalgh, Steve Benford, Adrian Hazzard, Alan Chamberlain

- **Holographic Whisper: Rendering Audible Sound Spots in Three-dimensional Space by Focusing Ultrasonic Waves**
  Yoichi Ochiai, Takayuki Hoshi, Ippei Suzuki

- **EnseWing: Creating an Instrumental Ensemble Playing Experience for Children with Limited Music Training**
  Fei Lyu, Feng Tian, Wenxin Feng, Xiang Cao, Xiaolong (Luke) Zhang, Guangheng Dai, Hongan Wang

**Four Seasons 4 Papers: Food & Nutrition**

**CHAIR:** M.C. SCHRAEFEL

- **Rice Today, Roti Tomorrow: Diets and Diabetes in Urban Indian Households**
  Jasmine Hentschel, Samyuka Manjula Shergar, Rui Zhou, Vaishnav Ganeswaran, Rajesh Chandwani, Neha Kumar

- **Monster Appetite: Effects of Subversive Framing on Nutritional Choices in a Digital Game Environment**
  Maria L. Hwang, Lena Mamykina

- **The Role of Explanations in Casual Observational Learning about Nutrition**
  Marissa Burgermaster, Krzysztof Z. Gojas, Patricia Davidson, Lena Mamykina

- **Bearing an Open “Pandora’s Box”: HCI for Reconciling Everyday Food and Sustainability**
  Adrian K. Cleare, Kirstie O’Neill, Adrian Friday, Mike Hazas

**102/104 Panel: Research Ethics in HCI - A Town Hall Meeting**

**Research Ethics in HCI - A Town Hall Meeting**
Christopher Frauenberger, Melissa Densmore, Amy Bruckman, Jenny Waycott, Cosmin Munteanu

**103/105 Journals: Foundations and Trends Papers**

**CHAIR:** ANDY COCKBURN

- **The Psychophysiology Primer: A Guide to Methods and a Broad Review with a Focus on Human-Computer Interaction**
  Ben Cowley, Marco Filetti, Kristian Lukander, Jan Tornaminen, Andreas Henelius, Lauri Ahonen, Oswald Borri, Ilkka Kasunen, Teppo Vattinen, Minna Huotilainen, Niklas Ravaja, Giulia Jorucci

- **Exertion Games**
  Floyd Mueller, Rohit Khot, Kathrin Gerling, Regan L. Mandryk

- **Communicating Personal Genomic Information to Non Experts: A New Frontier for Human Computer Interaction**
  Orit Shaer, Oded Nov, Lauren Westendorf, Madeleine Bull

**106 Course (C14): Hardware Prototyping (2/2)**

**Make This! Introduction to Electronics Prototyping Using Arduino**
David Sirkin, Nik Martelaro, Wendy Ju

**107/109 Papers: Impaired Vision and Navigation**

**CHAIR:** ED CUTRELL

- **Audible Beacons and Wearables in Schools: Helping Young Visually Impaired Children Play and Move Independently**
  Euan Freeman, Graham Wilson, Stephen Brewster, Gabriel Baud-Bovy, Charlotte Magnusson, Hector A. Caltenco

- **Embracing Errors: Examining How Context of Use Impacts Blind Individuals’ Acceptance of Navigation Aid Errors**
  Ali Abdalrahmani, William Berkley Easley, Michele Willums, Stacy M. Branham, Amy Hurst

- **Understanding Low Vision People’s Visual Perception on Commercial Augmented Reality Glasses**
  Yuhang Zhao, Michele Hu, Shofeeka Hashash, Shiri Azenkot

- **Synthesizing Stroke Gestures Across User Populations: A Case for Users with Visual Impairments**
  Luis A. Leiva, Daniel Martin-Alba, Rodul Daniel Vatavu

**108 Course (C16): Writing/Reviewing (2/2)**

**How to Write and Review CHI Papers**
Lennart E. Nacke
203 Papers: Unusual Displays
CHAIR: ZACHARY TOUPS

MistForm: Adaptive Shape Changing Fog Screens
Yutaka Tokuda, Mohd Adili Norasikin, Srinivas Subramanian, Diego Martinez Plasencia

The Object Inside: Assessing 3D Examination with a Spherical Handheld Perspective-Corrected Display
François Béarat, Thibaut Louis

Visual Composition of Graphical Elements on Non-Rectangular displays
Marcos serrano, Anne Rouault, Pourang Irani

Effects of Tactile Feedback on the Perception of Virtual Shapes on Non-Planar Display Objects
Juan Pablo Carrascal, Roel Vertegaal

BreathScreen – Design and Evaluation of an Ephemer al UI
Ismo Alakärppä, Elisa Jaakkola, Ashley Colley, Jonna Häkkilä

205 Papers: Innovative Text Entry Systems
CHAIR: XIAOJUN BI

Investigating Tilt-based Gesture Keyboard Entry for Single-Handed Text Entry on Large Devices
Hui-Shyong Yeo, Xiao-Shen Phang, Steven J. Castelluccia, Per Olo Kristensson, Aaron Quigley

Modelling Learning of New Keyboard Layouts
Jussi P. P. Jakinen, Soyan Sarcar, Anntti Oulasvirta, Chaklam Sipasuwanchai, Zhenxin Wang, Xiangzh Ren

Word Clarity as a Metric in Sampling Keyboard Test Sets
Xin Yi, Chun Yu, Weinan Shi, Xiaojun Bi, Yuanchun Shi

Quantifying Aversion to Costly Typing Errors in Expert Mobile Text Entry
Nikola Banovic, Varun Murakidhar Rao, ABINAYA SARAVANAN, Anind Dey, Jennifer Mankoff

201 Papers: Technology Enabled Commerce
CHAIR: DANIEL EPSTEIN

Market Design for HCI: Exploring the Successes and Failures of Peer-to-Peer Exchange Platforms
Ari Lampinen, Barry Brown

Community Commerce: Facilitating Trust in Mom-to-Mom Sale Groups on Facebook
Carol Maser, Paul Resnick, Santo Schoenebeck

No Such Thing as Too Much Chocolate: Evidence Against Choice Overload in E-Commerce
Carol Maser, Chanda Phelan, Paul Resnick, Santo Schoenebeck, Katharina Reinecke

Why Users Disintermediate Peer-to-Peer Marketplaces
Victoria Bellotti, Dan Turner, Kamila Demkova, Alexander Ambard, Armando Waterman

110/112 Papers: Environmental Sensing
CHAIR: PAUL WORGAN

Zensei: Embedded, Multi-electrode Bioimpedance Sensing for Implicit, Ubiquitous User Recognition
Munehiko Sata, Rohan S. Puri, Alex Olwal, Yusuke Ushigome, Lukas Franciszkiewicz, Deepak Chandra, Ivan Poupyrev, Ramesh Raskar

Synthetic Sensors: Towards General-Purpose Sensing
Gierad Laput, Yang Zhang, Chris Harrison

Deus EM Machina: On-Touch Contextual Functionality for Smart IoT Appliances
Robert Xiao, Gierad Laput, Yang Zhang, Chris Harrison

Seeing, Sensing and Recognizing Laban Movement Qualities
Sarah Fathi, Alouai, Jules Françoise, Thecla Schiphorst, Karen Studd, Frederic Bevilacqua

111/113 Papers: Camera-based Tracking
CHAIR: DANIEL VOGEL

EagleSense: Tracking People and Devices in Interactive Spaces using Real-Time Top-View Depth-Sensing
Chi-Jui Wu, Steven Houben, Nicola Marquardt

Interactive Visual Calibration of Volumetric Head-Tracke d 3D Displays
Andrew John Wagemakers, Dylan Brodie Fafard, Ian Stavness

Changing the Appearance of Real-World Objects By Modifying Their Surroundings
David Lindlbauer, Jörg Mueller, Marc Alexa

HeadPhones: Ad Hoc Mobile Multi-Display Environments through Head Tracking
Jens Grubert, Matthias Kranz

204 SIGCHI: Communicating Your Research to the Public

202 Papers: Camera-based Tracking
207 Papers: Experiences with Virtual Reality

**CHAIR:** PARINYA PUNPONGSANON

- **ShareVR:** Enabling Co-Located Experiences for Virtual Reality between HMD and Non-HMD Users
  Jan Gugenheimer, Evgeny Stemsov, Julian Frommel, Enrico Rukzio

- **CarVR:** Enabling In-Car Virtual Reality Entertainment
  Philipp Hack, Sebastian Benedikter, Jan Gugenheimer, Enrico Rukzio

- **Effects of Sharing Physiological States of Players in a Collaborative Virtual Reality Gameplay**
  Arindam Dey, Thammathip Piumsomboon, Youngho Lee, Mark Billinghurst

- **VR RRRoom:** Virtual Reality for Radiologists in the Reading Room
  Maurício Sousa, Daniel Mendes, Soraia Paula, Nuno Mateus, Joaquim Jorge, Daniel Simões Lopes

- **Handsfree Omnidirectional VR Navigation using Head Tilt**
  Sam Tregillus, Majed Al Zayer, Eekele Palmer

301 SIG: Ways to Represent User Data

- **Ways to Represent User Data: Best Practices in Communication Design**
  Karen Holtzblatt, Carol Farnsworth

302 Papers: Models of Use and Gestures

**CHAIR:** DUNCAN BRUMBY

- **High Costs and Small Benefits: A Field Study of How Users Experience Operating System Upgrades**
  Francesco Vitale, Joanna McGrenere, Aurélien Tabard, Michel Beaudouin-Lafon, Wendy E. Mackay

- **Understanding Shoulder Surfing in the Wild: Stories from Users and Observers**
  Malin Eiband, Mohamed Khannis, Emanuel van Zeeland, Heinrich Hussmann, Florian Alt

- **Fieldward and Pathward: Dynamic Guides for Defining Your Own Gestures**
  Joseph W. Malloch, Carla Florencia Grigio, Joanna McGrenere, Wendy E. Mackay

- **Gesture Interfaces: Minor Change in Effort, Major Impact on Appeal**
  Xiaoxing Liu, Geb Thomas

- **MoveMeant: Anonymously Building Community Through Shared Location Histories**
  Emily Sun, Ross McLachlan, Mor Naaman

303 Course (C15): UX (2/2)

- **User Story Mapping: The Hands-on Course**
  Stephanie Feilerknecht, Christian Heldstab

304 Course (C17): Positive Computing (2/2)

- **Positive Computing: Research & Practice in Wellbeing Technology**
  Rafael A. Calvo, Dorian Peters

12:50 – 14:30 Lunch Break
Restaurants, bars & cafés available nearby
Four Seasons 1  Papers: Textures and Haptics

CHAIR: GRAHAM WILSON

- WAVES: A Wearable Asymmetric Vibration Excitation System for Presenting Three-Dimensional Translation and Rotation Cues
  Heather Cubertson, Julie M. Walker, Michael Raitor, Allison M. Okamura

- Magnetic Plotter: A Macrotexture Design Method Using Magnetic Rubber Sheets
  Kentaro Yasu

- Generating Haptic Textures with a Vibrotactile Actuator
  Paul Strohmeier, Kasper Hornbæk

- Localized Haptic Texture: A rendering technique based on Taxels for high density tactile feedback
  Yosra Rekik, Eric Vezzoli, Laurent Grisoni, Frédéric Giraud

Four Seasons 2/3  Papers: Performative Interactions

CHAIR: JULIE WILLIAMSON

- Performing Research: Four Contributions to HCI
  Robyn Taylor, Jesselyn Spence, Brendan Walker, Bettina Nissen, Peter Wright

- MagicFace: Stepping into Character through an Augmented Reality Mirror
  Ana Javornik, Yvonne Rogers, Delia Gander, Ana Moutinho

- Interactive Performance as a Means of Civic Dialogue
  Chana Rosetta, Maria Normark, Louise Barkhuus

- The Game of Performing Play: Understanding Streaming as Cultural Production
  Anthony J. Pellicone, June Ahn

Four Seasons 4  Papers: Innovative Input Techniques

CHAIR: MARCOS SERRANO

- Structured Input Improves Usability and Precision for Solving Geometry-based Algebraic Problems
  Bo Kang, Joseph LoVario Jr., Pamela J. Wisniewski

- Genie: Input Retargeting on the Web through Command Reverse Engineering
  Amanda Marie Swearingin, Andrew J. Ko, James Fagarty

- IconHK: Using Toolbar Button Icons to Communicate Keyboard Shortcuts
  Emmanuel Giannakis, Gilles Bally, Sylvain Malacria, Fanny Chevalier

- Mouse, Tactile, and Tangible Input for 3D Manipulation
  Larni Besançon, Paul Issartel, Mehdi Ammi, Tobias Isenberg

102/104  alt.chi: Augmented Bodies and Interactions

CHAIR: ERIN CHERRY

- Chat Speed OP PogChamp: Practices of Coherence in Massive Twitch Chat
  Colin Ford, Daniel Gardner, Leoh Elaine Horgan, Calvin Liu, a.m. tsaisan, Bonnie Nardi, Jordan Rickman

- EarthTones: Chemical Sensing Powders to Detect and Display Environmental Hazards through Color Variation
  Cindy Hsin-Liu Kuo, Bichlien Nguyen, Asta Roseway, Michael Dickey

- Memory Dialogue: Exploring Artefact-Based Memory Sharing
  Stephanie Neumann, Marian Drk, Richard Banks

- Morphological Interfaces: On Body Transforming Technologies
  Sang-won Leigh, Pottie Moeis

103/105  Papers: Serious + Educational + Exer Games

CHAIR: KONSTANTINOS PAPANGELIS

- Finding the Right Fit: Understanding Health Tracking in Workplace Wellness Programs
  Chia-Fang Chung, Nanna Jensen, Irina A. Shklovski, Sean Munson

- Mastery Learning of Second Language through Asynchronous Modeling of Native Speakers in a Collaborative Mobile Game
  Xiangmin Fan, Wencan Luo, Jingtou Wang

- Misrepresentation of Health Research in Exertion Games Literature
  Joe Marshall, Conor Linehan

- Teaching Programming with Gamified Semantics
  Ian Arawjo, Cheng-Yao Wang, Andrew C. Myers, Erik Andersen, François Guimbretière
## Paper Sessions

### 107/109 Papers: Crowdwork
**Chair:** Sandy Gould

- **Low-Wage Precarious Workers’ Sociotechnical Practices**
  Working Towards Addressing Wage Theft
  Lynn S. Dombrowski, Adriana Alvarado Garcia, Jessica Despard

- **Examining Crowd Work and Gig Work Through The Historical Lens of Piecework**
  Ali Alkhatib, Michael Bernstein, Margaret Levi

- **Leveraging Complementary Contributions of Different Workers for Efficient Crowdsourcing of Video Captions**
  Yun Huang, Yifeng Huang, Na Xue, Jeffrey Bigham

- **Critique Style Guide: Improving Crowdsourced Design Feedback with a Natural Language Model**
  Markus Krause, Thomas Garczarcz, Steven P. Dow, Brian P. Bailey, Elizabeth Gerber

### 108 Course (C21): Cars (1/2)
**An Introduction to Automotive User Interfaces**
Bastian Pfleging, Nora Broy, Andrew L. Kun

### 110/112 Papers: Improving Touch Interfaces
**Chair:** Jacob Wobbrock

- **ProbUI: Generalising Touch Target Representations to Enable Declarative Gesture Definition for Probabilistic GUIs**
  Daniel Buschek, Florian Alt

- **BackXPress: Using Back-of-Device Finger Pressure to Augment Touchscreen Input on Smartphones**
  Christian Carsten, Bjørn Daehlmann, Simon Voelker, Jan Borchers

- **Improving Gesture Recognition Accuracy on Touch Screens for Users with Low Vision**
  Radu-Daniel Vatavu

- **Understanding Grip Shifts: How Form Factors Impact Hand Movements on Mobile Phones**
  Rachel Earley, Anne Roudaut, Steve Gill, Stephen J. Thompson

### 111/113 Papers: Technology in Households
**Chair:** Lana Yarosh

- **Investigating the Suitability of the Asynchronous, Remote, Community-based Method for Pregnant and New Mothers**
  Annu Sible Prabhakar, Lucia Guerra-Reyes, Vanessa Kleinschmidt, Ben Jelen, Haley MacLead, Kay Connelly, Katie A. Seik

- **Has Instagram Fundamentally Altered the ‘Family Snapshot’?**
  Effie Le Moignan, Shaun Lawson, Duncan A. Rowland, Jamie Mohoney, Pam Briggs

- **Internet Search Roles of Adults in Their Homes**
  Jinyoung Kim, Brenna McNally, Leyla Narooz, Allison Druin

- **Managing Uncertainty: Using Social Media for Risk Assessment during a Public Health Crisis**
  Xinning Gui, Yubo Kou, Kathleen H. Pine, Yunan Chen

- **Understanding the Role of Human Senses in Interactive Meditation**
  Mahmoud Mohamed Hussien Ahmed, Chaklom Silpasuwanchai, Kavous Salehzadeh Niksari, Xiangshi Ren

- **Gender Norms and Attitudes about Childcare Activities Presented on Father Blogs**
  Kai Lukoff, Carol Mose, Santa Schoenebeek

### 201 Papers: Civic Engagement
**Chair:** Kate Starbird

- **Revisiting The American Voter on Twitter**
  Huyen T. Le, G.R. Boynton, Yelena Mejova, Zubair Shafiq, Padmini Srinivasan

- **Managing Uncertainty: Using Social Media for Risk Assessment during a Public Health Crisis**
  Xinning Gui, Yubo Kou, Kathleen H. Pine, Yunan Chen

- **Theory-Driven Collocated CMC: A Study of Collocated Mediated Interaction As a Public Sphere**
  Matti Nelimarkka, Antti Salovaara, Bryan Semaan, Giulio Jacucci

### 203 Papers: Markets in the Global South
**Chair:** Nicki Dell

- **Market Practices and the Bazaar: Technology Consumption in Urban ICT Markets in the Global South**
  Priyank Chandra, Syed Ishtiaque Ahmed, Joyeeta Pal

- **Cinehacking Cape Town - Embracing Informality in Pursuit of High Quality Media**
  David Philip Green, Guy Schofield, Gary W. Pritchard, Pete Wright, Patrick Oliver

- **Informality and Invisibility – Traditional Technologies as Tools for Collaboration in an Informal Market**
  Priyank Chandra

- **From Margins to Seams: Imbrication, Inclusion, and Torque in the Aadhaar Identification Project**
  Ranjit Singh, Steven Jackson
The Geometry of Storytelling: Theatrical Use of Space for 360-degree Videos and Virtual Reality
Vanessa C. Pope, Robert Dawes, Florian Schweiger, Ali Sheikhand

Tap, Dwell or Gesture?: Exploring Head-Based Text Entry Techniques for HMDs
Chun Yu, Yizheng Gu, Zhicen Yang, Xin Yi, Hengliang Luo, Yuanchun Shi

Videos of Things: Speculating on, Anticipating and Synthesizing Technological Mediations
Doenzja Oogjes, Ron Wakkary

Watching 360° Videos Together
Anthony Tang, Omid Fakourfar

Is Two Enough?: Studying Benefits, Barriers, and Biases of Multi-Tablet Use for Collaborative Visualization
Thomas Plank, Hans-Christian Jetter, Roman Rüde, Clemens N. Klikmose, Thomas Luger, Harald Reiterer

LetsPic: Supporting In-situ Collaborative Photography over a Large Physical Space
Auk Kim, Sangjoon Kang, Uichin Lee

XDBrowser 2.0: Semi-Automatic Generation of Cross-Device Interfaces
Michael Nebeling

Improv: An Input Framework for Improvising Cross-Device Interaction By Demonstration
Xiang "Anthony" Chen, Yang Li

On Leading Design
Carola Fellenz-Thomas, Janice A. Rehn

Dusk: Adaptation and Perception in Interactive Theatre
Michaela Honauer, Patrick Tobias Fischer, Eva Hornecker, Julia Höhn, Bahar Akgün, Claire Donweller, Lisa Niedler, Yvonne Götzl, Muhammad Raisul Islam, Thomas Kellner

The Storytelling Systems of Los Atlantis
Jeff Burke, Peter Gusev, Zoe Sandoval, Jared J. Stein, Zhehao Wang

Board Game Prototyping to Co-Design a Better Location-Based Digital Game
Catherine Emma Jones, Antonios Lopis, Ioanna Lykaurentzou, Daniele Guzzo

Learning from Failures in Designing and Evaluating Full-Body Interaction Learning Environments
Laura Malinvern, Narcís Pares

Making Sense of Statistics in HCI: From P to Bayes and Beyond
Alan Dix
Four Seasons 1 Papers: Online and On-the-go
CHAIR: FLORIAN ‘FLOYD’ MUELLER

Squeezeback: Pneumatic Compression for Notifications
Henning Pohl, Peter Brandes, Hung Ngo Quang, Michael Rohs

Cito: An Actuated Smartwatch for Extended Interactions
Jun Gong, Lan Li, Daniel Vogel, Xing-Dong Yang

How Busy Are You? Predicting the Interruptibility Intensity of Mobile Users
Fengpeng Yuan, Xianyi Gao, Janne Lindqvist

Demand Around the Clock: Time Use and Data Demand of Mobile Devices in Everyday Life
Kelly Widdicks, Oliver Bates, Mike Hazas, Adrian Friday, Alastair R. Beresford

Four Seasons 2/3 Papers: Virtual Reality
CHAIR: NEHA KUMAR

Vremiere: In-Headset Virtual Reality Video Editing
Cuong Nguyen, Stephen DiVerdi, Aaron Hertzmann, Feng Liu

“They’re Just Tixel Pits, Man”: Disputing the ‘Reality’ of Virtual Reality Pornography through the Story Completion Method
Matthew Wood, Gavyn Wood, Madeline Balaam

Examining The Role Of Smart TVs And VR HMDs In Synchronous At-A-Distance Media Consumption
Mark McGill, John H. Williamson, Stephen A. Brewster

ThermoVR: Exploring Integrated Thermal Haptic Feedback with Head Mounted Displays
Roshan L. Peiris, Wei Peng, Zikun Chen, Liwei Chan, Kouta Minamizawa

Efficient Typing on a Visually Occluded Physical Keyboard
James Walker, Bochao Li, Keith Vertanen, Scott Kuhl

Four Seasons 4 Papers: Difficulty and Challenges in Games
CHAIR: ERIN SOLOVEY

A Good Reason to Die: How Avatar Death and High Challenges Enable Positive Experiences
Serge Petraitis, Florian Bröhlmann, Géna Iten, Elisa D. Meckler, Klaus Opwis

How Human Am I? EEG-based Evaluation of Computer-Generated Virtual Characters
Maryam Mustafa, Stefan Gathe, Jan-Philipp Tauscher, Michael Goesele, Marcus Magnor

Testing Incremental Difficulty Design in Platformer Games
Rina R. Wébbe, Elisa D. Meckler, Mike Schoekermann, Edward Lank, Lennart E. Nacke

EngageMeter: A System for Implicit Audience Engagement Sensing Using Electroencephalography
Mariam Hassab, Stefan Schneegass, Philipp Eggpfeeger, Niels Henze, Albrecht Schmidt, Florian Alt

Can I Think of Something else when Using a BCI? Cognitive Demand of an SSVEP-based BCI
André Evin, Ferran Angelaguet, Nicolas Roussel, Géry Casiez, Anatole Lécuyer

“Not another Z piece!” Adaptive Difficulty in TETRIS
Katharina Spiel, Sven Bertel, Fares Kayal

102/104 Papers: FnT: Personal Fabrication
CHAIR: KENTARO TOYOMA

Personal Fabrication
Patrick Baudisch, Stefanie Mueller

103/105 Papers: Speculation & Storytelling
CHAIR: WAYNE LUTTERS

Reworking the Gaps between Design and Ethnography
Vera Khovanskaya, Phoebe Sengers, Melissa Mazmanian, Charles Dorr

On Speculative Enactments
Chris Elden, David Chatting, Abigail C. Durrant, Bettina Nissen, Andrew Garbett, John Vines, David S. Kirk

Research Fiction: Storytelling, Plot and Design
Mark Blythe

Intersectional HCI: Engaging Identity through Gender, Race, and Class
Ari Schlesinger, W. Keith Edwards, Rebecca E. Grinter
107/109 Papers: Improving Video Communication

CHAIR: HAO-CHUAN WANG

Through the Looking Glass: The Effects of Feedback on Self-Awareness and Conversational Behaviour during Videochat
Matthew K. Miller, Regan L. Mandryk, Max V. Birk, Ansgar E. Depping, Tushita Patel

Gestures From the Point of View of an Audience: Towards Anticipatable Interaction of Presenters With 3D Content.
Andrey Krekhov, Katharina Enmerich, Maxim Babinski, Jens Krüger

Showing Objects: Holding and Manipulating Artefacts in Video-mediated Collaborative Settings

ThirdEye: Simple Add-on Display to Represent Remote Participant’s Gaze Direction in Video Communication
Mai Otsuki, Taki Kawano, Keita Maruyama, Hideaki Kuzuoka, Yasuke Suzuki

FaceShare: Mirroring with Pseudo-Smile Enriches Video Chat Communications
Keita Suzuki, Masanori Yokoyama, Shigeo Yoshida, Takayoshi Machizuki, Tomohiro Yamada, Takiy, Norumi, Tomohiro Tanikawa, Michitaka Hirose

108 Course (C21): Cars (1/2)

An Introduction to Automotive User Interfaces
Bastian Pfleging, Nora Broy, Andrew L. Kun

110/112 Papers: Design Frameworks

CHAIR: ANDRUID KERNE

What is Interaction?
Kasper Hornbæk, Antti Oulasvirta

Beyond Grids: Interactive Graphical Substrates to Structure Digital Layout
Nalwenn Maudet, Ghita Jalai, Philip Tchernavskij, Michel Beaudouin-Lafon, Wendy E. Mackay

Expressive Fused Deposition Modeling by Controlling Extruder Height and Extrusion Amount
Haruki Takahashi, Homei Miyashita

shiftIO: Reconfigurable Tactile Elements for Dynamic Affordances and Mobile Interaction
Evan Nicholas Strasnick, Jackie Yang, Kesler Tanner, Alex Olwal, Sean Fallmer

111/113 Papers: Family Health

CHAIR: HALEY MACLEOD

Reflective Informatics Through Family Storytelling: Self-discovering Physical Activity Predictors
Herman Saksono, Andrea Parker

Supporting Families in Reviewing and Communicating about Radiology Imaging Studies
Matthew K. Hong, Clayton Feustel, Meeshu Agnihotri, Max Silverman, Stephen F. Simanneaux, Lauren Wiltox

How Values Shape Collaboration Between Patients with Multiple Chronic Conditions and Spousal Caregivers
Andrew B.L. Berry, Catherine Lim, Andrea L. Hartzler, Tod Hirsch, Edward H. Wagner, Evette Ludman, James D. Ralston

Commensality and Social Use of Technology during Family Mealtime
Hasan Shafid Ferdaus, Bernd Ploderer, Hilary Davis, Frank Vetere, Kenton P. O’Hara

201 Papers: Visualization for the People

CHAIR: YUAN CHI TSENG

Showing People Behind Data: Does Anthropomorphizing Visualizations Elicit More Empathy for Human Rights Data?
Jeremy Boy, Anshul Vikram Pandey, John Emerson, Margaret L. Satterthwaite, Oded Nov, Enrico Bertini

Narratives in Crowdsourced Evaluation of Visualizations: A Double-Edged Sword?
Evanthia Dimara, Anastasia Bezerianos, Pierre Drogoivic

Visualization Literacy at Elementary School
Basak Alper Ramaswamy, Nathalie Henry Riche, Fanny Chevalier, Jeremy Boy, Metin Sazgin

Finding Similar People to Guide Life Choices: Challenge, Design, and Evaluation
Fan Du, Catherine Plaisant, Neil Spring, Ben Shneiderman

203 Papers: Embodied Interaction

CHAIR: THECLA SCHIPHORST

The World-as-Support: Embodied Exploration, Understanding and Making of the Augmented World
Laura Malinwern, Julian Maya, Marie-Monique Schaper, Narcis Pares

Extending the Body for Interaction with Reality
Tiar Feuchter, Joerg Mueller

Embodied Design Ideation Methods: Analysing the Power of Estrangement
Danielle Wilde, Anna Valgård, Oscar Tomica

Designing for Kinesthetic Awareness: Revealing User Experiences through Second-Person Inquiry
Jules Françoise, Yves Candiou, Sarah Fall Alou, Thecla Schiphorst
205 Papers: Emerging Privacy

CHAIR: UICHIN LEE

Chameleon Devices: Investigating More Secure and Discreet Mobile Interactions via Active Camouflaging
Jennifer Pearson, Simon Robinson, Matt Jones, Anirudha N. Joshi, Shashank Honumant Ahire, Deepak Ranjan Sahoo, Sriram Subramanian

Toys That Listen: A Study of Parents, Children, and Internet-Connected Toys
Emily McReynolds, Sarah Hubbard, Timothy Lau, Aditya Saraf, Maya Coakley, Franziska Roesner

Better the Devil You Know: Exposing the Data Sharing Practices of Smartphone Apps
Max G. Van Kleek, Ilaria Liccardi, Reuben Brins, Jun Zhao, Daniel Weitzner, Nigel Shadbolt

Parents’ and Children’s Preferences about Parents Sharing about Children on Social Media
Carol Moser, Tianying Chen, Sarita Schoenebeck

Challenges of using Personal Data to drive Personalised Electronic Programme Guides
Neelima Sailaja, Andy Crabtree, Phil Stenton

207 Papers: Design and Games

CHAIR: ERIK ANDERSEN

Supporting Easy Physical-to-Virtual Creation of Mobile VR Maze Games: a New Genre
Wei Gai, Chenglei Yang, Yulong Bian, Chia Shen, Xiangxu Meng, Lu Wang, Juan Lu, Lingjia Dong, Chengjie Niu, Cheng Lin

Adding Physical Objects to an Interactive Game Improves Learning and Enjoyment: Evidence from EarthShake
Nesra Yannier, Scott Hudson, Ekaterina Stumpfer Wiese, Kenneth Koeing

The UX of Avatar Customization
Victoria McArthur

To Three or not to Three: Improving Human Computation Game Onboarding with a Three-Star System
Jacqueline Gaston, Seth Cooper

301 SIG: Human-Computer Interaction Across the Arab World

Human-Computer Interaction Across the Arab World
Ebtisam Al abolqadier, Norah Abokhodair, Shaimaa Lazem

302 Case Study: Understanding People and Products

CHAIR: NITHYA SAMBASIVAN

Gregoria Convertino, Andy Echenique

From Snake-Oil to Science: Measuring UX Maturity
Jeff Sauro, Kristin Johnson, Chelsea Meenan

Comparing the Reliability of Amazon Mechanical Turk and Survey Monkey to Traditional Market Research Surveys
Frank R. Bentley, Nediyana Daskalova, Brooke White

Assessing Product Design Using Photos and Real Products
Seong-Eun Moon, Jun-Hyuk Kim, Sun-Wook Kim, Jong-Seok Lee

304 Course (C20): Making Sense of Statistics in HCI (2/2)

Making Sense of Statistics in HCI: From P to Bayes and Beyond
Alan Dix
Four Seasons 1  Papers: Technology Use Around the Globe

CHAIR: AMANDA L. HUGHES

Imagined Connectivities: Synthesized Conceptions of Public Wi-Fi in Urban India
Nithya Sambasivan, Paul M. Aoki

Choosing to Adapt: Agency in Technology Adoption for Mobile Smartphone Users in Bangalore
Joyojeet Pal, Anandhi Viswanathan, Priyank Chandra, Anisha Nazareth, Vaishnav Vamshidhar, Harshith Subramanyam, Aditya Jhari, Mark S. Ackerman, Sile O’Modhrain

Money, God, and SMS: Explorations in Supporting Social Action Through a Bangladeshi Mosque
Mohammad Rashidujjaman Rijat, Joy Chen, Kentaro Toyama

Negotiating Absent Practices and Dormant Features: Discourse as a Means of Shaping the Implementation of a Global Enterprise System to Meet Local Work Culture
George Kandathil, Erica Wagner

Four Seasons 2/3  Panel: HCI and the 2016 U.S. Campaign

HCI and the 2016 U.S. Campaign: Towards a Research Agenda
Brent Hecht, Loren Terveen, Kate Starbird, Ben Shneiderman

Four Seasons 4  Papers: Interactions in Virtual Reality

CHAIR: ERIN CHERRY

Experimental Evaluation of Sketching on Surfaces in VR
Rahul Arora, Rubaiat Habib Kazi, Fraser Anderson, Tovi Grossman, Karan Singh, George Fitzmaurice

I Am The Passenger: How Visual Motion Cues Can Influence Sickness For In-Car VR
Mark McGil, Alexander Ng, Stephen A. Brewster

On Lions, Impala, and Bigraphs: Modelling Interactions in Physical/Virtual Spaces
Steve Benford, Muffy X. Calders, Tom Rodden, Michele Severgnini

VaiR: Simulating 3D Airflows in Virtual Reality
Michael Rietzler, Katrin Plaumann, Taras Kränzle, Marcel Erath, Alexander Stahl, Enrico Rukzio

102/104  Panel: CHI-nnabis

CHI-nnabis: Implications of Marijuana Legalization for and from Human-Computer Interaction
Brian Keegan, Jofish Kaye, Patricia Cavazos-Rehg, Munmun De Choudhury, Anh Ngoc Nguyen, Michael J. Paul, Saiph Savage

103/105  Papers: Mobility and Navigation in Many Forms

CHAIR: JEREMY BIRNHOLTZ

Collaborative Map Making: A Reflexive Method for Understanding Matters of Concern in Design Research
Hee Rin Lee, Selma Sabanovic, Sonya Kwak

Austin Z. Henley, Scott D. Fleming, Maria V. Luong

Follow-My-Lead: Intuitive Indoor Path Creation and Navigation Using Interactive Videos
Quentin Roy, Simon T. Perrault, Shengdong Zhao, Richard C. Davis, Anuroop Pattana Vanyar, Yoko Vechey, Youngki Lee, Archan Misra

Mobility in Later Life – Appropriation of an Integrated Transportation Platform
Martin Stein, Johanna Meurer, Alexander Boden, Volker Wulf

106  Course (C23): When HCI Meets Neurotechnologies (1/3)

When HCI Meets Neurotechnologies: What You Should Know about Brain-Computer Interfaces
Jeremy Frey, Camille Jeunet, Jelena Mićenovíc, Léa Pillette, Fabien Lotte

107/109  Papers: What Things Look Like

CHAIR: ERIN SOLOVEY

Hybrid HFR Depth: Fusing Commodity Depth and Color Cameras to Achieve High Frame Rate, Low Latency Depth Camera Interactions
Jojun Lu, Hrvoje Benko, Andrew D. Wilson

Understanding the Aesthetic Evolution of Websites: Towards a Notion of Design Periods
Wen Chen, David J. Crandall, Norman Makoto Su

Understanding Blind People’s Experiences with Computer-Generated Captions of Social Media Images
Haley MacLeod, Cynthia L. Bennett, Meredith Ringel Morris, Edward Curell

Time Travel with One Click: Effects of Digital Filters on Perceptions of Photographs
Yilang Peng

108  Course (C24): Auto Sys

Automation: Danger or Opportunity? Designing and Assessing Automation for Interactive Systems
Philippe Palanque, Camille Fayolle, Célia Martine
### 110/112 Papers: Participant Design with Children
**Chair:** JERRY FAILS

- **Gains from Participatory Design Team Membership as Perceived by Child Alumni and their Parents**
  Brenna McNally, Matthew Louis Mauriello, Mana Leigh Guha, Allison Druin

- **Examining Adult-Child Interactions in Intergenerational Participatory Design**
  Jason Yip, Kelsey Sabel, Caroline Pitt, Kung Jin Lee, Sijin Chen, Kari Nasu, Laura Pina

- **Participatory Evaluation with Autistic Children**
  Katharina Spiel, Laura Malinverni, Judith Good, Christopher Frauenberger

- **Co-Designing with Preschoolers Using Fictional Inquiry and Comicboarding**
  Alexis Hiniker, Kiley Sabel, Bongshin Lee

### 111/113 Papers: Personal Object Recognizers
**Chair:** ANJA THIEME

- **Facade: Auto-generating Tactile Interfaces to Appliances**
  Anhong Guo, Jeeewun Kim, Xiang "Anthony" Chen, Tom Yeh, Scott E. Hudson, Jennifer Mankoff, Jeffrey P. Bigham

- **People with Visual Impairment Training Personal Object Recognizers: Feasibility and Challenges**
  Hernisa Kacorri, Kris M. Kitani, Jeffrey P. Bigham, Chieko Asakawa

- **Jackknife: A Reliable Recognizer with Few Samples and Many Modalities**

- **Ubiquitous Accessibility for People with Vision Impairments: Are We There Yet?**
  Syed Masum Bakhsh, Vikas Ashok, Donald E. Porter, I.V. Ramakrishnan

### 201 Papers: Classroom Tools
**Chair:** CHRIS QUINTANA

- **Better Organization or a Source of Distraction? Introducing Digital Peer Feedback to a Paper-Based Classroom**
  Amy Shannon, Alex Sciuto, Danielle Hu, Steven P. Dow, Jessica Hammer

- **Group Spinner: Recognizing and Visualizing Learning in the Classroom for Reflection, Communication, and Planning**
  Ahmed Kharrufa, Sally Ross, Timur Osadchiy, Anne Preston, Patrick Olivier

- **ViVo: Video-Augmented Dictionary for Vocabulary Learning**
  Yeshuang Zhu, Yuntao Wang, Chun Yu, Shaoqian Shi, Yanqiao Gao, Zhu Zhang, Shuang He, Peijun Zhao, Xianjun Ma, Yan Chun Shi

- **From in the Class or in the Wild? Peers Provide Better Design Feedback Than External Crowds**
  Helen Wack, Yu-Chun (Grace) Jen, Wai-Tat Fu, Elizabeth Gerber, Steven P. Dow, Brian P. Bailey

### 203 Papers: Spatial Manipulation and Navigation
**Chair:** PARMIT CHILANA

- **BiGnav: Bayesian Information Gain for Guiding Multiscale Navigation**
  Wanyu Liu, Rafael Gregorio Lucas D’Oliveira, Michel Beaudouin-Lafon, Olivier Roux

- **Design and Evaluation of a Handheld-based 3D User Interface for Collaborative Object Manipulation**
  Jerónimo Gustavo Grand, Henrique Galvan Debarba, Luciana Nedel, Anderson Maciel

- **TDome: A Touch-Enabled 6DOF Interactive Device for Multi-Display Environments**
  Housssem Saidi, Marcos Serrano, Pouya Iran, Emmanuel Dubois

- **A Field Experiment of Spatially-Stable Overviews for Document Navigation**
  Carl Gutwin, Andy Cockburn, Nickolas Gough

### 205 Papers: Patient-generated Data in the Clinic
**Chair:** MATTHEW LEE

- **Making Space for the Quality Care: Opportunities for Technology in Cognitive Behavioral Therapy for Insomnia**
  Haining Zhu, Yuhan Luo, Eun Kyoung Choe

- **Prescribing 10,000 Steps Like Aspirin: Designing a Novel Interface for Data-Driven Medical Consultations**
  Yoojung Kim, Eu Young Heo, Hyunjong Lee, Soonyoung Ji, Jueun Choi, Jeong Whun Kim, Jongseek Lee, Sooyoung You

- **Crafting a View of Self-Tracking Data in the Clinical Visit**
  Helena M. Merits, Anita Kamlock, Katrina Schnider, Michael Phipps, Anni Graber-Baldini, Karen Yarbrough, Lisa Shulman

- **What Happens to Digital Feedback?: Studying the Use of a Feedback Capture Platform by Care Organisations**
  Andy Dow, John Vines, Toby Lowe, Rob Camber, Rob Wilson

### 207 Papers: Finger and Pen
**Chair:** ANTONIO GOMES

- **Collection Objects: Enabling Fluid Formation and Manipulation of Aggregate Selections**
  Haifun Xia, Bruno Araujo, Daniel Wigdor

- **IllumiPaper: Illuminated Interactive Paper**
  Konstantin Klamka, Raimund Dachselt

- **Does Practice Make Perfect? Learning to Deal with Latency in Direct-Touch Interaction**
  Elie Cattan, Amélie Rochet-Capel, Pascal Fenner, François Bérand

- **MarkPad: Augmenting Touchpads for Command Selection**
  Bruno Fruchard, Eric Lecolinet, Olivier Chapuis
THURSDAY 9:30 – 10:50

301 SIG: Paradigm Shift from HCI to Integration
Paradigm Shift from Human Computer Interaction to Integration
Umer Farooq, Jonathan T. Grudin

302 Case Studies: Mobile and Tools
CHAIR: AARON QUIGLEY

Designing Mobile Applications with Empathizing User Experience
Sarrika Dawar, Sanjay Ghosh, Samrat Nawle

Exploring the use of the Physical Web with Resource Constrained Communities
Jennifer Pearson, Simon Robinson, Thomas Reitmaier, Matt Jones, Anirudha N. Joshi, Chinmay Pandya, Franklin Oncheku Mogoi, Scott Jenson

Visualizing Multivariate Volume-Rendered Ensembles of Asteroid Impact Simulations
Francesca Samsel, John M. Patchett, David Honeger Rogers, Karen Tsai

A Usability Refactoring Process for Large-Scale Open Source Projects: The ILIAS Case Study
Agnes Lisowska Masson, Timon Amstutz, Denis Lalanne

303 Course (C25): Applying Color Theory to Digital Media (1/2)
Applying Color Theory to Digital Media and Visualization
Theresa-Marie Rhyne

304 Course (C22): UX Intro Interviews (1/2)
UX Interviewing: Personalized Coaching to Avoid Leaving Data on the Table
Elizabeth Elliott Baytor, Dawn Shaikh, Utkarsh Seth, Beverly Freeman, Marianne Berkovich, Martin Ortlieb

10:50 – 11:30
Coffee Break
Exhibit Hall F

Interactivity: Installations & Research Demos  List on page 76  Exhibit Hall F
### Four Seasons 1  Papers: Interactive Design Methodologies

**Chair:** LYNN S. DOMBROWSKI

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<tr>
<th>Title</th>
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<tbody>
<tr>
<td>Post-userism</td>
<td>Eric P. S. Baumer, Jed R. Brubaker</td>
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<tr>
<td>Tap the “Make This Public” Button: A Design-Based Inquiry into Issue Advocacy and Digital Civics</td>
<td>Mariam Assaf, Christopher A. Le Dantec</td>
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<tr>
<td>Enabling Polyvocality in Interactive Documentaries through ‘Structural Participation’</td>
<td>David Green, Simon Bowen, Jonathan Hook, Peter Wright</td>
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<tr>
<td>Supporting Expressive Procedural Art Creation through Direct Manipulation</td>
<td>Jennifer Jacobs, Sumit Gogia, Radomir Mech, Joel R. Brandt</td>
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### Four Seasons 2/3  Papers: Motivation in Peer-production Communities

**Chair:** BRIAN KEEGAN

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Crowd Diversity and Performance in Wikipedia: The Mediating Effects of Task Conflict and Communication</td>
<td>Ruqin Ren, Bei Yan</td>
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<tr>
<td>Freedom versus Standardization: Structured Data Generation in a Peer Production Community</td>
<td>Andrew Hall, Sarah A. McRoberts, Jacob Trebaulet-Speker, Yilin Lin, Shilad W. Sen, Brent Hecth, Loren G. Terveen</td>
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<tr>
<td>Commitment of Newcomers and Old-timers to Online Health Support Communities</td>
<td>Dyi Yang, Robert E. Kraut, John M. Levine</td>
</tr>
<tr>
<td>Starting Online Communities: Motivations and Goals of Wiki Founders</td>
<td>Jeremy Foote, Daren Gergle, Aaron Shaw</td>
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<tr>
<td>Investigating the Motivational Paths of Peer Production Newcomers</td>
<td>Martina Balestra, Caye Cheshirel, Ofir Arazi, Oded Nov</td>
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### Four Seasons 4  Papers: Video “Smart” Viewers

**Chair:** KORI M. INKPEN

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<tr>
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<tr>
<td>EgoScanning: Quickly Scanning First-Person Videos with Egocentric Elastic Timelines</td>
<td>Keita Higuchi, Ryo Yonemoto, Yoichi Sato</td>
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<td>Retargeting Video Tutorials Showing Tools With Surface Contact to Augmented Reality</td>
<td>Peter Mohr, David Mardi, Morus Tats Gern, Eduardo Vees, Dieter Schmalstieg, Denis Kalkofen</td>
</tr>
<tr>
<td>Close to the Action: Eye-Tracking Evaluation of Speaker-Following Subtitles</td>
<td>Kuno Kurzhals, Emine Cetinkaya, Yangtso Hu, Wenping Wang, Daniel Weiskopf</td>
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<td>Responsive Action-based Video Synthesis</td>
<td>Corneliu Iliescu, Hafiz Ayrat, Kanastri, Matteo Romagnoli, Neil D.F. Campbell, Gabriel Brostow</td>
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### 102/104  Panel: Tweaking Design Thinking

**Title:** Tweaking Design Thinking for Strategic and Tactical Impact

Carola Thompson, Janaki Kumar, Julie Stanford, Ben Syverson, C. Todd Lombardo

### 103/105  Papers: Cultural Heritage

**Chair:** WENDY MONCUR

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<tr>
<td>Designing Cultural Values into Interaction</td>
<td>Reeseu Muntean, Alissa N. Ante, Brendan Matkin, Kate Hennessy, Susan Rowley, Jordan Wilson</td>
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<td>Kinecting with Orangutans: Zoo Visitors’ Empathetic Responses to Animals’ Use of Interactive Technology</td>
<td>Sarah Webber, Marcus Carter, Sally Sherwen, Wally Smith, Zither Joukhadar, Frank Weteres</td>
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<tr>
<td>Exploring Seasonality in Mobile Cultural Heritage</td>
<td>David McGookin, Karay Tahrajlj, Tsunamis Vattinen, Mikko Kytö, Beatrice Monasteros, Juan Carlos Vazquez</td>
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<tr>
<td>Where No One Has Gone Before: A Meta-Dataset of the World’s Largest Fanfiction Repository</td>
<td>Kodlee Yin, Cecila R. Aragon, Sarah A. Evans, Katie Davis</td>
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### 106  Course (C23): When HCI Meets Neurotechnologies (2/3)

**Title:** When HCI Meets Neurotechnologies: What You Should Know about Brain-Computer Interfaces

Jeremy Frey, Camille Jeunet, Jelena Miodunovic, Leta Pilette, Fabien Lotte

### 107/109  Papers: Health Volunteers

**Chair:** AISLING ANN O’KANE

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<td>Video Consumption Patterns for First Time Smartphone Users: Community Health Workers in Lesotho</td>
<td>Moletsadasa Molapo, Melissa Densmore, Brian DeRenzi</td>
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<td>Experiences of Delivering a Public Health Data Service</td>
<td>Emma Louise Simpson, Rob Comber, Andrew Garbett, Edward Ian Jenkins, Madeline Balaam</td>
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<td>VITA: Towards Supporting Volunteer Interactions with Long-Term Care Residents with Dementia</td>
<td>Pin Sym Faong, Shengdong Zhao, Kelsey Carlson, Zhe Liu</td>
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### 108  Course (C26): Sketching (1/2)

**Title:** Sketching User Experiences: Hands-on Workshop of Sketching Techniques for HCI Research

Nicola Marquardt
110/112 Papers: Spatial & Temporal Design

CHAIR: AMBRA TROTTO

Malleable Embodiment: Changing Sense of Embodiment by Spatial-Temporal Deformation of Virtual Human Body
Shunichi Kasahara, Keina Kanno, Richi Owaki, Tsubasa Nishi, Akiko Takeshita, Takayuki Ita, Shoko Kasuga, Junichi Ushiba

Sensitizing Concepts for Socio-spatial Literacy in HCI
Peter Gall Kragh, Marianne Graves Petersen, Kentan P. O'Hara, Jens Emil Grebnerøk

“Situational When”: Designing for Time Across Cultures
Jennifer Lawrence Taylor, Alessandro Sara, Paul Roe, Anita Lee Hong, Margot Breteron

Modeling Sub-Document Attention Using Viewport Time
Max Grusky, Jeran Johani, Josh Schwartz, Dan Valente, Yoav Artzi, Mar Noaman

Remote Collaboration With Mixed Reality Displays: How Shared Virtual Landmarks Facilitate Spatial Referencing
Jens Müller, Raman Riddle, Harold Reiterer

111/113 Papers: The Infrastructure of Trust

CHAIR: JOFISH KAYE

Growing the Blockchain Information Infrastructure
Karim Jabbar, Pernille Bjorn

Design for Trust: An Exploration of the Challenges and Opportunities of Bitcoin Users
Corina Sas, Imi Eliana Khairuddin

Infrastructure as Creative Action: Online Buying, Selling, and Delivery in Phnom Penh
Margaret C. Jack, Joy Chen, Steven J. Jackson

Supporting Cultures of Making: Technology, Policy, Visions, and Myths
Shaowen Bardzell, Jeffrey Bardzell, Sarah Ng

201 Papers: Explorative Engineering

CHAIR: DAVID LINDLBAUER

Illumination Aesthetics: Light as a Creative Material within Computational Design
Cesar Torres, Jasper O’Leary, Molly Nicholas, Eric Paulos

Transformative Appetite: Shape Changing Food Transforms from 2D to 3D by Water Interaction through Cooking
Wei Wong, Lingyao Tao, Teng Zhang, Chen-Yi Cheng, Daniel V. Levine, Hiroshi Ishii

Emotion Actuator: Embodied Emotional Feedback through Electroencephalography and Electrical Muscle Stimulation
Marjan Hassib, Max Pfeiffer, Stefan Schneegass, Michael Rohs, Florian Alt

Understanding the Role Fluidity of Stakeholders During Assistive Technology Research “In the Wild”
Laurianne E. Boyd, Kyle Rector, Halley Profita, Abigail J. Stangl, Annuska Zolotarn, Shaun K. Kane, Gillian R. Hayes

203 Papers: Accessibility

CHAIR: KYLE RECTOR

ForgetMeNot: Active Reminder Entry Support for Adults with Acquired Brain Injury
Matthew Jamieson, Brian O’Neill, Breda Cullen, Marilyn Lennon, Stephen A. Brewster, Jonathan Evans

Interaction Proxies for Runtime Repair and Enhancement of Mobile Application Accessibility
Xiaoqi Zhang, Anne Spencer Ross, Anat Caspi, James Fagoray, Jacob Webrekk

SUGILITE: Creating Multimodal Smartphone Automation by Demonstration
Toby Jia-Jun Li, Amos Azania, Brad A. Myers

Automated Detection of Facial Expressions during Computer-Assisted Instruction in Individuals on the Autism Spectrum
Alex A. Ahmed, Matthew S. Goodwin

Comparing Touchscreen and Mouse Input Performance by People With and Without Upper Body Motor Impairments
Leah Fredrik, Karyn Moffatt, Jan E. Frechich, Meethu Malu, Joan Zhang

205 Papers: Older Adults and Computers

CHAIR: JUAN PABLO HOURCADE

Traversing Boundaries: Understanding the Experiences of Ageing Saudis
Saud Nasser, Tuck Wah Leong

Transitions in Digital Personhood: Online activity in Early Retirement
Abigail C. Dumont, David S. Kirk, Diego Trujillo Paisanty, Wendy Mancur, Kathryn M. Orzech, Tom W. Schofield, Chris Eisden, David J. Chatting, Andrew F. Monk

Dissecting Spear Phishing Emails for Older vs Young Adults: On the Interplay of Weapons of Influence and Life Domains in Predicting Susceptibility to Phishing
Daniela Oliveira, Harold Rocha, Huizi Yang, Donovan Ellis, Sandeep Dammanagu, Melsi Muraldougl, Devon Weir, Adam Saluman, Tian Lin, Natalie Ebner

Privacy Considerations when Designing Social Network Systems to Support Successful Ageing
Andrew R. McNeil, Lynne Coventry, Jake Pywell, Pam Briggs
### 207 Papers: Helping Software Developers

**Chair:** ELISSA REDMILES

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<tr>
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<tbody>
<tr>
<td>Micro-Versioning Tool to Support Experimentation in Exploratory Programming</td>
<td>Hiroaki Mikami, Daisuke Sakamoto, Takeo Igarashi</td>
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<td>Codeon: On-Demand Software Development Assistance</td>
<td>Yan Chen, Sang Wan Lee, Yin Xie, Yuwei Yang, Walter Lassecki, Stephen Oney</td>
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<td>PFIS-V: Modeling Foraging Behavior in the Presence of Variants</td>
<td>Sruti Srinivasan Ragavan, Bhargav Pandya, David Parkowski, Charles G. Hill, Sandeep Kaur Kuttal, Anita Sarma, Margaret Burnett</td>
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<tr>
<td>Improving Communication Between Pair Programmers Using Shared Gaze Awareness</td>
<td>Sarah D’Angelo, Andrew Begel</td>
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### 301 SIG: Current & Future Process Mapping to Reimagine Work

**Chair:** XUAN ZHAO

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<tr>
<td>SIG: Current and Future Process Mapping to Reimagine Work</td>
<td>Carol Farnsworth, Lauren McEwen, Stephen Williams</td>
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### 302 Case Studies: Advertising and Service Design

**Chair:** XUAN ZHAO

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<tr>
<td>Applied Research for Advertising Products: Tactics for Effective Research</td>
<td>Hsiao Chun Lai, Rushani Wirasinghe</td>
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<tr>
<td>It’s All About Coupons: Exploring Coupon Use Behaviors in Email</td>
<td>Nediyana Daskalova, Frank R. Bentley, Nazanin Andalibi</td>
</tr>
<tr>
<td>Approaches to Successful Entry of the Ride-sharing Service for Startups</td>
<td>Sungkyu Shaun Park, Jaram Park, Suyeon Cho, Jaeyeon Won</td>
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### 303 Course (C25): Applying Color Theory to Digital Media (2/2)

**Title:** Applying Color Theory to Digital Media and Visualization

**Speaker:** Theresa-Marie Rhyne

### 304 Course (C22): UX Intro Interviews (2/2)

**Title:** UX Interviewing: Personalized Coaching to Avoid Leaving Data on the Table

**Speakers:** Elizabeth Elliott, Baylor, Dawn Shaikh, Utkarsh Seth, Beverly Freeman, Marianne Berkovich, Martine Ortlieb

---

**Lunch Break**

12:50 – 14:30

Restaurants, bars & cafés available nearby
### 102/104 Papers: Appropriation and Individuation

**Chair:** LENNART E. NACKE

- **Competent Men and Warm Women: Gender Stereotypes and Backlash in Image Search Results**
  Janna Otterbacher, Jo Bates, Paul Clough

- **Technology Individuation: The Foibles of Augmented Everyday Objects**
  Aloha Hufana Ambe, Margot Bretonet, Alessandro Sara, Paul Roe

- **Social Consequences of Grindr Use: Extending the Internet-Enhanced Self-Disclosure Hypothesis**
  Samuel Hardman Taylor, Jevan Alexander Hutson, Tyler Richard Alicea

- **Gender-Inclusiveness Personas vs. Stereotyping: Can We Have it Both Ways?**
  Charles G. Hill, Maren Hoag, Alannah L. Oleson, Chris Mendez, Nicola Mansden, Anita Sarma, Margaret Burnett

### 107/109 Papers: Personal Informatics & Self-Tracking

**Chair:** ANNEEY SINGH

- **TummyTrials: A Feasibility Study of Using Self-Experimentation to Detect Individualized Food Triggers**
  Ravi Karkar, Jessica Schroeder, Daniel A. Epstein, Laura R. Pina, Jeffrey Scaife, James Fogarty, Julie A. Kientz, Sean A. Munson

- **Making Sense of Sleep Sensors: How Sleep Sensing Technologies both Support and Potentially Undermine Sleep Health**
  Ruth Ravichandran, Song-Wha Sien, Shwetak N. Patel, Julie Kientz, Laura R. Pina

- **Examining Menstrual Tracking to Inform the Design of Personal Informatics Tools**
  Daniel A. Epstein, Nicole B. Lee, Jennifer H. Kang, Elena Agopie, Jessica Schroeder, Laura Pina, James Fogarty, Julie A. Kientz, Sean Munson

- **Quantifying the Body and Caring for the Mind: Self-Tracking in Multiple Sclerosis**
  Amid Ayoub, Paul Marshall, Anna L. Cox, Yuman Chen

### 103/105 Papers: Data Extraction

**Chair:** MIGUEL A. NACENTA

- **SEER: Auto-Generating Information Extraction Rules from User-Specified Examples**
  Maeda F. Hanafi, Azza Abouzied, Laura Chiticariu, Yunyao Li

- **Leveraging Human Routine Models to Detect and Generate Human Behaviors**
  Nikola Bunovic, Anqi Wang, Yanfeng Jin, Christie Chang, Julian Ramos, Anind Dey, Jennifer Mankoff

- **Interactive Vectorization**
  Jun Xie, Holger Winnemöller, Wilmot Li, Stephen Schiller

- **ChartSense: Interactive Data Extraction from Chart Images**
  DaeYoung Jung, WanJoe Kim, HyunJoo Song, Jeong-In Hwang, Yongbin Lee, Bohyung Kim, Jinwook Seo

### 108 Course (C26): Sketching (1/2)

**Sketching User Experiences: Hands-on Workshop of Sketching Techniques for HCI Research**
Nicola Marquardt

### 110/112 Papers: Displays and Collaboration

**Chair:** ANTHONY HORNOF

- **CamRay: Camera Arrays Support Remote Collaboration on Wall-Sized Displays**
  Ignacio Avelino, Cedric Fleury, Wendy E. Mackay, Michel Beaudouin-Lafon

- **CoReach: Cooperative Gestures for Data Manipulation on Wall-sized Displays**
  Can Liu, Olivier Chapuis, Eric Lecolinet, Michel Beaudouin-Lafon

- **Turbulent Touch: Touchscreen Input for Cockpit Flight Displays**
  Andy Cockburn, Carl Gutwin, Philippe Palanque, Yannick Deleris, Catherine Trask, Ashley Coveney, Marcus Yung, Karen E. MacLean

- **AlterNail: Ambient, Batteryless, Stateful, Dynamic Displays at Your Fingertips**
  Christine Dierk, Tomás Vega Galvez, Eric Pavlos

- **Subtle and Personal Workspace Requirements for Visual Search Tasks on Public Displays**
  James R. Wallace, Ariel S. Weingarten, Edward Lank
### 111/113 Papers: Online Experiments

**CHAIR: DAVID W. MCDONALD**

- **Citizen Science Opportunities in Volunteer-Based Online Experiments**
  Nigini Oliveira, Eunice Jun, Katharina Reinecke

- **Differences in Crowdsourced vs. Lab-based Mobile and Desktop Input Performance Data**
  Leah Findlater, Joan Zhang, Jon E. Froehlich, Karyn Moffatt

- **Gut Instinct: Creating Scientific Theories with Online Learners**
  Vineet Pandey, Amnon Amir, Justine Debelius, Embriette R. Hyde, Tomasz Kaszolek, Rob Knight, Scott R. Klemmer

- **Self-Experimentation for Behavior Change: Design and Formative Evaluation of Two Approaches**
  Jisoo Lee, Erin Wolker, Winslow Burleson, Matthew Kay, Matthew P. Buman, Eric B. Hekler

### 201 Papers: Drones

**CHAIR: JESSICA R. CAUCHARD**

- **“Spiders in the Sky”: User Perceptions of Drones, Privacy, and Security**
  Victoria G. Chang, Pramod Chundury, Marshini Chetty

- **Privacy Mechanisms for Drones: Perceptions of Drone Controllers and Bystanders**
  Yaxing Yao, Huichuan Xia, Yun Huang, Yang Wang

- **Free to Fly in Public Spaces: Drone Controllers’ Privacy Perceptions and Practices**
  Yaxing Yao, Huichuan Xia, Yun Huang, Yang Wang

- **Drone & Wo: Cultural Influences on Human-Drone Interaction Techniques**
  Jane L. E., Yene L. E., James A. Landay, Jessica R. Cauchard

### 203 Papers: Presentation in Online Communities

**CHAIR: OLIVER L. HAMSON**

- **Share First, Save Later: Performance of Self through Snapchat Stories**
  Sarah McRoberts, Haiwei Ma, Andrew Hall, Svetlana Yarosh

- **Situated Anonymity: Impacts of Anonymity, Ephemeralty, and Hyper-Locality on Social Media**
  Ari Schlesinger, Eshwar Chandrasekharan, Christina A. Masden, Amy S. Bruckman, W. Keith Edwards, Rebecca E. Grinter

- **Relational Distancing and Termination between Online Friends: An Application of the Investment Model**
  Christopher J. Carpenter, Stephane T. Tong

- **Enhancing Personal Informatics Through Social Sensemaking**
  Aare Puussaar, Adrian K. Clear, Peter Wright

- **Sizing Up the Troll: A Quantitative Characterization of Moderator-Identified Trolling in an Online Forum**
  Mattia Samory, Enoch Peserico

### 205 Papers: Technology Use Challenges for Older Adults

**CHAIR: ERIN BRADY**

- **Successful Leisure in Independent Living Communities: Understanding Older Adults’ Motivations to Engage in Leisure Activities**
  Amanda Lazar, David Nguyen

- **Navigating Relationships and Boundaries: Concerns around ICT-uptake for Elderly People**
  Dominik Hermeng, Claudia Müller, Inna Shklovski, Timo Jakobi, Volker Wulf

- **Older Adults Learning Computer Programming: Motivations, Frustrations, and Design Opportunities**
  Philip J. Guo

- **ICT-based Fall Prevention System for Older Adults: Qualitative Results from a Long-Term Field Study**
  Corinna Ogonowski, Konstantin Aal, Daryoush Daniel Vaziri, Thomas von Rekowski, David Randall, Dirk Schreiber, Rainer Wiechling, Volker Wulf

### 207 Papers: Technology in the Workplace

**CHAIR: VERA LIAO**

- **Utilizing Experience Goals in Design of Industrial Systems**
  Virpi Roto, Eija Kaasinen, Tomi Heimonen, Hannu Karvonen, Jussi P. P. Jokinen, Petri Mannanen, Hannu Naasu, Jaakko Samuli Hakulinen, Yichen Lu, Pertti O. Sarpiluoma, Tina Kymäläinen, Tuuli Keskinen, Markku Taranen, Hanna Maria Kaarina Koskinen

- **Evaluating Digital Creativity Support To Improve Health-and-Safety in a Manufacturing Plant**
  Neil Maiden, Konstantinos Zachos, James Lockerbie, Sergio Levis, Kasia Camargo, Shaun Haddy, Gianluca Alenndi

- **The Design Fictions of Philanthropic IT: Stuck Between an Imperfect Present and an Impossible Future**
  Ellie Harmon, Chris Bopp, Amy Voda

- **Proxemic Transitions: Designing Shape-Changing Furniture for Informal Meetings**
  Jens Emil Groenbaek, Henrik Karasgaard, Marianne Graves Petersen, Morten Henriksen Birk, Peter G. Krogh

### 301 SIG: Taking Action in a Changing World

**Taking Action in a Changing World: Research and Community**

Casey Fiesler, Lisa Anthony, Paul Strohmeier, Susan Fussell, Gloria Mark
302 Papers: Sharing, People and Communities

CHAIR: VICTORIA SCHWANDA SOSIK

Building a Maker Community Around an Open Hardware Platform
Fabio Morreale, Giulio Mara, Alan Chamberlain, Steve Benford, Andrew P. McPherson

Celebratory Technology to Orchestrate the Sharing of Devices and Stories during Family Mealtimes
Hasan Shafiq Perdios, Frank Vetere, Hilary Davis, Bernd Ploderer, Kenton O’Hara, Rob Comber, Geremy Far-Wharton

Exploring Topic-Based Sharing Mechanisms
Manya Sleeper, Lorrie Faith Cranor, Sarah K. Pearman

HCI and Environmental Public Policy: Opportunities for Engagement
Vanessa Thomas, Christian Remy, Mike Hazas, Oliver Bates

303 Papers: 3D Tangibles

CHAIR: HUAISHU PENG

Co-3Deator: A Team-First Collaborative 3D Design Ideation Tool
Cecil K. Pya, Vinayak Senthil Chandrasegaran, Niklas Elmqvist, Karthik Raman

EdiPulse: Investigating a Playful Approach to Self-monitoring through 3D Printed Chocolate Treats
Rohit Ashok Khot, Deepti Aggarwal, Ryan Penning, Larissa Hjorth, Florian ‘Floyd’ Mueller

Investigating Cross-Device Interaction between a Handheld Device and a Large Display
Jeni Paay, Dimitrios Rapits, Jesper Kjeldskov, Mikael B. Skov, Bjarke M. Lauridsen, Eric V. Ruder

Closing Plenary

16:30 – 17:50
Four Seasons Ballroom
Nicholas Carr
Computers, Automation and the Human Future

15:50 – 16:30
Coffee Break
Lobby A
CHI 2017 workshops take place in the 300 and 500 rooms on the meeting room level of the convention center and the third floor of the Hyatt Regency. Workshops are accessible only to pre-registered attendees.

**Saturday 6 May – Sunday 7 May (2 days)**

**W01** Hacking Women’s Health  
Quartz AB  
Madeline Balassan, Lone Koefoed Hansen, Catherine D’Ignazio, Emma Louise Simpson, Teresa Almeida, Staye Kuznetsov, Mike Catt, Marie Louise Juel Sandergaard

**W02** HCItxDementia Workshop: The Role of Technology and Design in Dementia  
Granite AB  
Kellie Morrissey, Amanda E Lazar, Jennifer Boger, Austin L. Toombs

**Saturday 6 May (1 day)**

**W03** Conversational UX Design  
503  
Robert J. Moore, Raphaël Arar, Guangjie Jin, Ren, Margaret H. Szymanski

**W04** Design Fiction for Mixed-Reality Performances  
504  
Aareen Rastami, Chiras Rasottai, Louise Borkhous, Jonathan Hook, Jarno Laakosalohi, Robyn Taylor, Donald McMillan, Jocelyn C. Spence, Julie Williamson

**W05** Designing Mobile Interactions for the Aging Populations  
505  
Sayan Sarcar, Cosmin Munteanu, Jussi P.P. Jokinen, Anti Oulavirta, Choklam Silpasuwanchai, Neil Cheesman, Mark Dunlop, Xiangshi Ren

**W06** Digital Health & Self-Experimentation: Design Challenges & Provocations  
506  
Marketa Dolejsova, Dennis Ken, Cristiano Storni, Rohit Khot, Ijay John Clement, Ako Pava, Purnee Kiar

**W07** Ethical Encounters in HCI: Implications for Research in Sensitive Settings  
507  
Cosmin Munteanu, Pourang Irani, Sharon L. Oviatt, Matthew P. Aylett, Gerald Pen, Shmiri Pan, Nikhil Sharma, Frank Rudzicz, Randy Gomez, Ben Cowan, Kenikei Nakamura

**W08** Making Home: Asserting Agency in the Age of IoT  
508  
David Philip Green, Verena Fuchsberger, David S. Kirk, Nick Taylor, David Chatting, Janis Lena Messner, Martin Murer, Manufred Tscheligi, Silvia Lindtner, Penville Bjorn, Andreas Josef Reiter

**W09** Moving Transparent Statistics Forward at CHI  
509  
Matthew Kay, Steve Hanza, Shion Gushi, Pierre Desiguet, Chat Wacharamanotham

**W10** Open Design at the Intersection of Making and Manufacturing  
510  
David Chatting, Gerard Wilkinson, Kevin Marshall, Audrey Desjardins, David Philip Green, David S. Kirk, Andy Baucher

**W11** Soma-Based Design Theory  
511  
Kristina Höök, Caroline Hummels, Katherine Isbister, Patricia Marsi, Elena Márquez Segura, Martin Jonsson, Florian Floyd Mueller, Pedro A.N. Sanches, Thecla Schiphorst, Anna Ståhl, Dog Svanæs, Arnab Tratta, Marianne Groves Petersen, Your-kyung Lim

**W12** Ubiquitous Text Interaction  
512  
Keith Verbeke, Kyle Montague, Mark Dunlop, Ahmed Saad Serif, Xiaojun Bi, Shin Azerkot

**W13** What Actors can Teach Robots  
513  
Naomi T. Fitter, Heather Knight, Nk Mantelaro, David Sidik
SYMPOSIAS & VIDEO SHOWCASE

**SYMPOSIAS**

CHI 2017 is offering a series of special symposia for topics pertinent to HCI communities. Participants include both presenters and audience members. The symposia descriptions appear in the CHI 2017 Extended Abstracts.

- **Saturday 6 May – Sunday 7 May (2 days)**
  - S01 HCI Across Borders Room 303

- **Saturday 6 May (1 day)**
  - S02 2nd Symposia on Computing and Mental Health Room 501/502
  - Rafael A. Calva, Karthik Dinakar, Rosalind Picard, John Tangus

- **Sunday 7 May (1 day)**
  - S03 Asian CHI Symposium: Emerging HCI Research Collection Room 302
  - Kenta Huguchi, Takaharu Hachiya, Musa Ogata, Hiroshi Nakamura, Jun Kata, Saki Sakaguchi, Takeshi Nishida, Kohei Matsunuma, Daikuke Sakamoto

- **Monday 8 May (1 day)**
  - S04 2nd Career Development Symposium for Recent PHDs Room 301
  - Lubina Gill, Michael Muller

- **Monday 8 May (1 day)**
  - S05 Workshop on Interactive Systems in Healthcare (WSIH) Room 501/502
  - Julie A. Kientz, Jino Huh, Gabriela Marcu, Laura R. Pino, Saied Amilkar

**VIDEO SHOWCASE**

Video Showcase features engaging videos that offer a variety of perspectives on human-computer interaction, including novel interfaces, reflective pieces and future envisions. Come and enjoy the videos during Monday morning break followed by the Golden Mouse award ceremony.

- **Monday**
  - Room 1000 – 11:30 Video Showcase Four Seasons Ballroom

**Videos**

- **VS01** Essence Video Showcase: Olfactory Interfaces for Unconscious InfluenceJudith Amores, Patrice Mares
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS02** Videos of Things: The Other HalfDoenja Oogjes, Ron Wakkary
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS03** Gushed Light Field Video Showcase of Aerosol-Based Fog DisplayIppei Suzuki, Shunsuke Yumihara, Kessuke Kowahara, Nobutaka Ito, Atsushi Shinoda, Akira Ishii, Takahiro Yoshida, Yoichi Ochiai
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS04** Shared Bicycling Over DistanceAnezka ChuaAzadeh Forghani, Carmen Neustaedter
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS05** Furniture that Learns to Move ItselfTetsuya Iwata, Michio Chou, Akira Cosneff, Daniel Soares
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS06** On-mandu Korean Dumpling into Whatever Shape You WantBokyung Lee, Jiwoo Hong, Jongheung Suh, Daniel Soares
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS07** MM-Space: Multimodal Meeting Space Embodied by Kinetic TelepresenceKazuhiko Otsuka
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS08** Delete by Haiku: Poetry from Old SMS MessagesVygonas Simbels, Elsa Vazera, Pedro Ferreira, Jarro Leasko, Kristina Hök
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS09** DayCube: An Interactive Object for Delivering Daily Information through Five Unique MaterialsJuntae Kim, Boram Noh, Young-Woo Park
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS10** Conveyor World Mixed Reality Game on Physically Actuated Game StageJiwoo Hong, Hyung Kun Park, Woohun Lee
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS11** EduBang: Envisioning the Next Generation Video SharingHywan Lee, Gayathri Bala Kumaran, King Won Poon
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS12** Smart Crew: A Smart Watch Design for Collaboration Amongst Flight AttendantsStephanie Wong, Samanth Singh, Carmen Neustaedter, Ayur Kadir
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS13** Fashion Film as Design Fiction for Wearable ConceptsJinyi Wang, Oskar Juhlin, Nathan Hughes
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS14** Peekabot Robot that Helps Children’s Cognitive/Physical DevelopmentQing Liu, Minchul So, Hyunju Lee, Minju Lee, Seong-Woo Kim, Juhyun Eune
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS15** FistPointer: Target Selection Technique using Mid-air Interaction for Mobile VR EnvironmentAkira Ishii, Tsuguhito Keigo, Shinya Shino, Shota Nakamura, Buntarou Shizuki, Shin Takahashi
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS16** The Third Eye A Shopping Assistant for the Visually ImpairedJohn M. Carroll, Michelle McManus, Sooyeon Lee, Peter A. Zientara, Vijaykrishnan Nampoori
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS17** HoloART Video Showcase: Painting with Holograms in Mixed RealityJudith Amores, John Loder
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS18** Buddy Interactive Toy that can Play Grow, and Remember with BabyJiyoung Kim, Hyunsu Jeong, Changhyeyeon Lee, Azura Yvette Yomen, Thi Ho, Soo, Pwoon Lee, Minju Lee, Seong-Woo Kim, Juhyun Eune
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS19** How Visual Motion Cues Can Influence Sickness For In-Car VRMark McGuAnder Ng, Stephen A Brewster
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS20** ARTexiles Promoting Social Interactions Around Personal Interests Through Augmented RealityAmna Foose, Chris Schmandt
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS21** Defining Gamification VideoMelissa Soares, Marini Gondoa, Gustavo Fiandelto, Lenore E. Nickol
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS22** Pixels to Droplets Multi-Output Display of Color, Odor, and Shape Changing MaterialsVijay Kan
  - Room 1000 – 11:30 Four Seasons Ballroom

- **VS23** Ant-Based Modeling Agent-Based City Simulation with AntsPoseidon Hui Chi Ho, Carson Smuts, Markus Aurel Rasmus, Kayser Javier Hernandez
  - Room 1000 – 11:30 Four Seasons Ballroom
Courses allow CHI attendees to extend their knowledge beyond their current community and their current areas of expertise. Courses are taught in one to three 80-minute units.

Pre-registration is required. The Course Notes you receive at registration serve as your entry ticket. You may register for courses that have not yet been filled at the Registration Desk in the lobby area on the ground level.

<table>
<thead>
<tr>
<th>Saturday Courses, 6 May</th>
<th>Time / Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01 Understanding People: A Course on Qualitative and Quantitative HCI Research Methods</td>
<td>09:00 / 301</td>
</tr>
<tr>
<td>Duncan P Brumby, Ann Blandford, Anna L Cox, Sandy J Gould, Paul Marshall</td>
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<tr>
<th>Monday Courses, 8 May</th>
<th>Time / Room</th>
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<tbody>
<tr>
<td>C02 Crowdsourcing and Crowd Work</td>
<td>11:30 / 304</td>
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<tr>
<td>Jeffrey P Bigham, Wouter S Lassek, Chirnray Eshan Kulkarni</td>
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<tr>
<td>C03 Computational Approaches to Interaction Design</td>
<td>11:30 / 106</td>
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<tr>
<td>John H Williamson, Antti Oulasvirta, Otmar Hilliges, Per Ola Kranstassen</td>
<td></td>
</tr>
<tr>
<td>C04 Fundamentals of Gesture Production, Recognition, and Analysis</td>
<td>11:30 / 303</td>
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<tr>
<td>Radu-Daniel Vatavu</td>
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<tr>
<td>C05 Reflect, Re-claim, Reconnect: Learning to Say Yes Wisely and Strategically</td>
<td>11:30 / 108</td>
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<tr>
<td>Geraldine Fitzpatrick</td>
<td></td>
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<tr>
<td>C06 Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines</td>
<td>14:30 / 303</td>
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<tr>
<td>Jeff A Johnson</td>
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<thead>
<tr>
<th>Tuesday Courses, 9 May</th>
<th>Time / Room</th>
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</thead>
<tbody>
<tr>
<td>C07 Introduction to Human-Computer Interaction</td>
<td>09:30 / 303</td>
</tr>
<tr>
<td>Jonathan Lazar, Simone D’J Barbosa</td>
<td></td>
</tr>
<tr>
<td>C08 Practical UX Research Methodologies: Ethnography</td>
<td>09:30 / 108</td>
</tr>
<tr>
<td>Sarah E Garcia, Megan McCracken</td>
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<tr>
<td>C09 Creative Worthwhile Interaction Design</td>
<td>09:30 / 106</td>
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<tr>
<td>Gilbert Cockton</td>
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<tr>
<td>C10 Speech-based Interaction: Myths, Challenges, and Opportunities</td>
<td>09:30 / 304</td>
</tr>
<tr>
<td>Camrin Munteanu, Gerald Penn</td>
<td></td>
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<tr>
<td>C11 Inbodied Interaction: 3 things you need to know about how your body works to lead HCI innovation rsc, schnaefl</td>
<td>14:30 / 304</td>
</tr>
<tr>
<td>C12 Applying Gameful Design Heuristics</td>
<td>14:30 / 108</td>
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<tr>
<td>Gustavo F. Tondello, Lennart E. Nacke</td>
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<tr>
<th>Wednesday Courses, 10 May</th>
<th>Time / Room</th>
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<tbody>
<tr>
<td>C14 Make This! Introduction to Electronics Prototyping Using Arduino</td>
<td>09:30 / 106</td>
</tr>
<tr>
<td>David Shih, Nikola Mavridis, Wendy Ju</td>
<td></td>
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<tr>
<td>C15 User Story Mapping: The Hands-on Course</td>
<td>09:30 / 303</td>
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<tr>
<td>Stephanie Feothenbach, Christian Heldstab</td>
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<tr>
<td>C16 How to Write and Review CHI Papers</td>
<td>09:30 / 108</td>
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<tr>
<td>Lennart E. Nacke</td>
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<tr>
<td>C17 Positive Computing Research &amp; Practice in Wellbeing Technology</td>
<td>09:30 / 304</td>
</tr>
<tr>
<td>Rafael A. Calvo, Dorian Peters</td>
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<tr>
<td>C20 Making Sense of Statistics in HCI: From P to Bayes and Beyond</td>
<td>14:30 / 304</td>
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<tr>
<td>Alan Dix</td>
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<tr>
<td>C21 An Introduction to Automotive User Interfaces</td>
<td>14:30 / 108</td>
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<tr>
<td>Bastian Pfieger, Nora Bray, Andrew L Kun</td>
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<tr>
<th>Thursday Courses, 11 May</th>
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<tbody>
<tr>
<td>C22 UX Interviewing: Personalized Coaching to Avoid Leaving Data on the Table</td>
<td>09:30 / 304</td>
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<tr>
<td>Elizabeth Elliott Boyer, Marianne Berkovich, Martin Ortleb, Beverly Freeman, Dawn Shakti, Utkarsh Seth</td>
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</tr>
<tr>
<td>C23 When HCI Meets Neurotechnologies: What You Should Know about Brain-Computer Interfaces</td>
<td>09:30 / 106</td>
</tr>
<tr>
<td>Jeremy Frey, Camille Jeunet, Jelena Mladenovic, Léo Pilette, Fabien Lotte</td>
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<tr>
<td>C24 Automation: Danger or Opportunity? Designing and Assessing Automation for Interactive Systems</td>
<td>09:30 / 108</td>
</tr>
<tr>
<td>Philippe Palanque, Camille Fayolas, Célia Martinie</td>
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<tr>
<td>C25 Applying Color Theory to Digital Media and Visualization</td>
<td>09:30 / 303</td>
</tr>
<tr>
<td>Theresa Marie Rhyne</td>
<td></td>
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<tr>
<td>C26 Sketching User Experiences: Hands-on Course of Sketching Techniques for HCI Research</td>
<td>11:30 / 108</td>
</tr>
<tr>
<td>Nicola Marquardt</td>
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DOCTORAL CONSORTIUM

Selected doctoral students present and explore their research topics with senior researchers and other students in a two-day interdisciplinary workshop. Doctoral Consortium posters are displayed in Exhibit Hall F and brief descriptions appear in the CHI 2017 Extended Abstracts.

Saturday – Sunday

Doctoral Consortium Room 304

Tuesday

10:50 – 11:30 Meet the poster authors Exhibit Hall F

Tuesday – Thursday

Posters on display during opening hours Exhibit Hall F

Participants

DC01 Behind The Wikipedia Medical Knowledge Factory: Understanding the Knowledge Dynamic Over Time
Reham F Althubabi

DC02 Improving the Design and Usability of Password Creation Systems
Sajid Althubabi

DC03 Self-disclosure and Response Behaviors in Socially Stigmatized Contexts on Social Media: The Case of Miscarriage
Nazanin Andalibi

DC04 Method for Understanding Complex Human Routine Behaviors from Large Behavior Logs
Nikola Bonvic

DC05 Designing Virtual Avatars to Empower Social Participation among Older Adults
Ramina Camasco

DC06 The Onboarding Effect: Leveraging User Engagement And Retention In Crowdsourcing Platforms
Anna Maria Fenz

DC07 Contextually Relevant Gaze Representations for Remote Learning
Sarah D’Angelo

DC08 Computational Design of Input Methods
Anna Maria Fenz

DC09 The Social Complexities of Transgender Identity Disclosure on Social Network Sites
Oliver L. Haimson

DC10 More Than Numbers: Designing Effective Diabetes Decision Support
Dmitri S. Katz

DC11 Tangible Educational Toys for Children with Type-1 Diabetes
Charalampous Kyfanidis

DC12 Building Rapport through Dynamic Models of Acoustic-Prosodic Entrainment
Nicholas Lubold

DC13 Moving to Learn: Exploring the Impact of Physical Embodiment in Educational Programming Games
Edward F. Melcer

DC14 Accessible Touch Input for People with Motor Impairments
Marta E Mott

DC15 News Company’s Link Sharing on Twitter as Informative Advertising and Content Signaling
Chankyung Pak

DC16 Storytelling Tools in Support of User Experience Design
Qiang Peng

DC17 Intimate Design: Designing Intimacy As a Critical-Feminist Practice
Marie Louise Juhl Søndergaard

DC18 Critical Experience: Evaluating (with) Autistic Children and Technologies
Katharina Spiel

DC19 Supporting Visual Temporal Media Comparison
Atima Tharatipyakul

DC20 Using Data Visualisation to Tell Stories about Cultural Collections
Olivia Vane

DC21 Technology with Embodied Physical Actions: Understanding Interactions and Effectiveness Gains in Teams Working with Robots
Songsubek You

DC22 Designing for Ambivalence: Mothers, Transitional Objects and Smartphones
Paulina Yurman

STUDENT RESEARCH COMPETITION

The Student Research Competition (SRC) is a forum for undergraduate and graduate students to showcase their research, exchange ideas, and improve their communication skills while competing for prizes. Sponsored by Microsoft Research, the SRC is a branch of the ACM SRC. Winners are announced at the Closing Plenary.

Monday

16:30 – 17:50 Posters presentations open to all conference attendees Room 501/502

Tuesday

15:50 – 16:30 Posters highlighted during the afternoon break Exhibit Hall F

Finalists

SRC01 An Exploration of Self-Transcendence Through Solo-Travel
Runyan Chen, Aaron Jaya, Lee Nao Chai, Shin Young Choi

SRC02 Sketching for Ideation: A Structured Approach for Increasing Divergent Thinking
Courtney Lynn Galagher

SRC03 Improving Human Interfaces for Commercial Camera Drone Systems
Brian D Hall, Nicklaus Andalibi, Kristen Leef

SRC04 Symptomatic Diagnosis and Prognosis of Psychiatric Disorders through Personal Gadgets
Vithal Jain, Prakhar Agarwal

SRC05 CUPA: Cube Pal for Developing Children’s Emotional Intelligence and Parent-Child Relationship
Chin Chooi Liew

SRC06 Ply: Visual Regression Pruning for Web Design Source Inspection
Sarah Lim

SRC07 “It’s More Fun With My Phone”: A Replication Study of Cell Phone Presence and Task Performance
Ulrik Lyngs

SRC08 Reducing Cognitive Load and Supporting Memory in Visual Design for HCI
Dominique Mazza

SRC09 The Effects of User-Adaptability to Automation for a Robotic Art Box
Linda Morales, Carlos Morales, Juan López, Victor del Cad, Sebastian Enriquez

SRC10 A Multi-interface VR Platform For Rehabilitation Research
Yogendra Patisi

SRC11 Nonconscious Behaviour Change Technology/Targeting The Automatic Charlie Pinder

SRC12 Exploring the Empowerment of Older Adult Creative Groups Using Maker Technology
Olivia K. Richards

SRC13 Facilitating Peer Support for Recovery from Substance Use Disorders
Sabivat Rubya

SRC14 Using Space-Time Visualization in Learning Environment Design
Ben Rydal Shapiro

SRC15 Oli, Your Weight-Training Assistant
Karanbir S Toor, Ameet S Toor, Charlton M Smith, Alexander G Ouzoua

SRC16 Cognitive Presence in Minecraft Online Discussion Forums: How Question Framing Affects Subsequent Discussions
Runyuan Chen, Aaron Jaya, Lee Nao Chai, Shin Young Choi

SRC17 Improving App Look up speed on Mobile via User-defined Touch Gesture
Chi Zhang
STUDENT DESIGN COMPETITION

This is the 15th year of the CHI Student Design Competition (SDC), which has grown into a premiere place for students to demonstrate their skills in Interaction Design and User Experience. Our brief this year was entitled “Levelling the Playing Field,” and asked students to use inclusive design, universal design, and assistive technologies to address needs and uncover opportunities around oft-neglected members and sectors of society. The real-world topics chosen by the teams demanded that they use myriad approaches (design research, brainstorming, prototyping, implementation, and evaluation, for starters) to hone their submissions.

Come to the SDC poster and presentation sessions to see the top teams present their entries in this year’s competition! This year, there were over 70 international submissions (with more than 250 individual students) from about 15 countries. At the poster session, the top 12 entries will be pitching their work to attendees and jurors as we narrow the field to 4 super-finalists. The presentation session will be those top 4 teams vying to be named the winner of this year’s contest. These two sessions represent a place to see great new ideas and the hottest rising talent from our best schools around the world. The Student Design Competition is a fantastic venue to become inspired about the future of CHI!

Monday
14:30 – 16:30 Judging (Closed Jury Session) 501/502
Tuesday
15:50 – 16:30 Meet the Poster Authors Exhibit Hall F
Wednesday
14:30 – 15:50 Open Session Finalist Presentations 501/502
Tuesday-Thursday
16:30 – 17:50 Presentations and awards Room 501/502

Finalists

SDC01 “Clicks” App for Visually Impaired Children
Marion A. Vazquez, Do Young Lee
SDC02 ParentCircle: Helping Single Parents Build a Support Network
Sloan E. Aronson, Joe Frazer, Ryan Morgan, Anna Kracewicz, Lutefik Al-Naimi
SDC03 Freedge: Fighting Food Insecurity With Connected Infrastructure
Sahar Asaeri, Kyle Condiff, Maximilian Klein, Boris Uher
SDC04 GotYourBack: An Internet of Toilets for the Trans+ Community
Diana Beirl, Anya Zeechin, Jordan Go, Kai Jin, Alexa Lo, Xiaoliang Zhao
SDC05 Robin’s Enabling Independence For Individuals With Cognitive Disabilities Using Voice Assistive Technology
Claire Carroll, Catherine Chaos, Arden Xun Lin, Meg Nidever, Jayanth Prathipati
SDC06 PACo: An Educational Instrument to Transform Society
Josué Simón Gómez León, David Soto Ríos, Andrea García González, Ali Sánchez Sánchez
SDC07 Paisa Stick: Tangible Currency Interface for Cashless Transactions
Rohit Gupta, Lívia Viana Weyland, Silopa Murali
SDC08 VisualLink: Strengthening the Connection between Hearing-impaired Elderly and their Family
Hsiang Ting Hong, Tzu Yu Su, Po Hsun Lee, Ping Chun Hsieh, Mian Jhong Chiu
SDC09 AllergyBot: A Chatbot Technology Intervention For Young Adults With Food Allergies Dining Out
Pei-Ting Hsu, Jinghu Zhou, Kehan Liao, Tianyi Liu, Chen Wang
SDC10 Elevate: Ensuring Access to Food for Homeless Populations
Nisha Mohan, Abhineel Samra
SDC11 Empathy Up
Marcel Neuenhaus, Maha Almensen Aly
SDC12 StreetHeart: Empowering Homeless Through Art and Technology
Giovanna Nunes Waza, Johanna Möhlenkamp, Clement Hamon, Oleksandra Danilina

STUDENT GAME COMPETITION

The Games and Entertainment Special Community created this competition to showcase student work in areas of game design and development that connect strongly to the CHI community of research and practice. Students submitted games as well as extended abstracts clarifying innovative aspects of their work. The jury selected three finalist games in each category—Games for a Purpose, Innovative Interface and Innovative Game Design. Winners are announced at the Closing Plenary.

CHI attendees can play the games during the Coffee Breaks on Monday, from 10:00 – 11:30 and from 15:50 – 16:30 in Lobby A. The SGC winners are announced at the Closing Plenary.

Games for a Purpose: Games submitted to this category are designed not just to entertain, but also to accomplish some end goal. Examples include games for health, learning games, journalistic games.

Innovative Interface: Games submitted to this category push the boundaries of current interface practice. Examples include the use of gesture, multi-touch, or haptics; voice input; use of sensors such as breathing or heart rate; and augmented reality games for mobile platforms.

Innovative Game Design: Games submitted to this category push the boundaries of current game mechanics and/or design. Examples include games that add novel mechanics that have not been used before, add new visual or audio themes/dynamics, explore new mixes of mechanics, story and character elements, automated techniques for adaptive designs, or explore new forms of interaction that are thought provoking.

Wednesday
16:30 – 17:50 Presentations and awards Room 501/502

Finalists

SGC01 Reduct: A Puzzle Game for Children About Evaluating Code
Ian Andringa, David Li, Kevin Ma
SGC02 You Better Eat to Survive: Exploring Edible Interactions in a Virtual Reality Game
Peter Arnold
SGC03 Phantasm: Using Player Communication as Key Source of Gameplay
James Bonnyman, James E. Mead-Collett, Jordan M. Calve, Vincent Ho, Jacob T. Robert, Stephen Adam, Jonathan Thompson, Alwan Edger Tjandra
SGC04 Geometris: A Collaborative Embodied Geometry Game
Elena Duran, Ganesh V Iyer, Leah F. Rosenbaum
SGC05 APES: An Application of Impossible Spaces for National Locomotion in VR
Amit Garg, Joshua A. Fisher, Wesley Wang, Karan Pratap Singh
SGC06 Party Animals: Creating Immersive Gaming Experience for Physically Co-present VR and Non-VR Players
Ming-Wei Hsu, Te-Yen Wu, Yu-Chen Wu, Yu Chen, Yu-Chih Lin, Pin-sung Ku
SGC07 Designing Multi-Gateway Interactions In A Multi-Player Strategy Game
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Patrick Bader, Huy Viet Le, Juliana Franz, Derek Reilly

lbw20603  Emotional Beasts: Visually Expressing Emotions through Avatars in VR
Guillermo Bernal, Patrice Moes

lbw20604  ABBAS: An Adaptive Bio-sensors Based Assistive System
Ma ElKamary, Yomna Abdelsalam, Markus Funk, Tilman Dingler, Abrecht Schmidt, Sim Abdennadher

lbw20605  TangWoZ: A Tangible Interface for Wizard of Oz Studies
Juliana Franz, Derek Reilly

lbw20606  Stylus Knife for Paper-cutting: A System for Controlling a Knife
Takafumi Higashii, Hideaki Kanai

lbw20607  Mobile Remote Presence Enhanced with Contactless Object Manipulation: An Exploratory Study
Victor Kapteijn, Patrik Björnö, Karin Danielsson, Mikael U. Wilberg

lbw20608  Interaction Methods and Use Cases for a Full-Touch Sensing Smartphone
Huy Viet Le, Sven Mayer, Patrick Bader, Frank Bastian, Niels Herze

lbw20609  ColorOdor: Odor Broadens the Color Identification of the Blind
Shuai Li, Jing Chen, Mengda Li, Lian Lin, Guanyun Wang

lbw20610  Towards Interaction Techniques for Social Media Data Exploration on Large High-Resolution Displays
Lars Lisichke, Jan Hoffmann, Robert Krüger, Patrick Bader, Pawel W. Wizniak, Abrecht Schmidt

lbw20611  A Comparison of Smooth Pursuit- and Dwell-based Selection at Multiple Levels of Spatial Accuracy
Dillon James Lohr, Oleg V. Kamorgastsev

lbw20612  A Fitts’ Law Evaluation of Video Game Controllers: Thumbstick, Touchpad and Gyrosensor
Adrian Ramcharitar, Robert John Teather

lbw20613  Virtual Reality Meets Smartwatch: Intuitive, Natural, and Multi-Modal Interaction
Franco Alexander Rupprecht, Andreas Schneider, Achim Ebert, Bernd Hamann

lbw20614  Exploring the Design Space of Automatically Synthesized Hints for Introductory Programming Assignments
Ryo Suzuki, Gustavo Soares, Elena Glassman, Andrew Head, Louis D’Antan, Björn Hartmann

lbw20615  Exploring the Use of Gesture in Collaborative Tasks
Isaac Wang, Pradyumna Narayana, Dhruba Patil, Gurang Mulyay, Rahul Bangar, Bruce Draper, Ross Beveridge, Jaime Ruiz

lbw20616  TITAN: Exploring Midair Text Entry using Freehand Input
Huy-It Huy Yee, Xiao-Shen Prang, Toejin Ha, Woontack Woo, Aaron Quigley

PRIVACY, SECURITY, AND VISUALIZATION

lbw20701  “My Bank Already Gets this Data”: Exposure Minimization and Company Relationships in Privacy Decision-Making
Reuben Bins, Jun Zhao, Max Van Klee, Ilaria Liccardi, Daniel Weitzner, Nigel Shadbolt

lbw20702  Graphical Authentication Resistance to Over-the-Shoulder Attacks
Ashley A. Cain, Steffen Werner, Jeremiah D. Still

lbw20703  Baseline Measurements of Shoulder Surfing Analysis and Comparability for Smartphone Unlock Authentication
John T. Davin, Adam J. Avin, Ravi A. Kubier, Fynn Wolf

lbw20704  Influences of Users’ Cognitive Strategies on Graphical Password Composition
Christina Katsou, Christos Fidas, Marios Bek, Nikolaos Avaris, George Samaras

SPECIFIC APPLICATION AREAS

lbw20801  WillSense: Adherence Barriers for Passive Sensing Systems That Track Eating Behavior
Rawan Aftabi, Angelo Piammetta, Bannie Spring, Nabi Alikharoo

lbw20802  IN360: A 360-Degree-Video Platform to Change Students’ Preconceived Notions on Their Career
Fatima Asalimna, Yun Suen Poi, Kesko Okawa, Kai Kanze

lbw20803  popHistory: Animated Visualization of Personal Web Browsing History
Matthew Carasso, Eunyee Koh, Sana Malik

lbw20804  A Probabilistic Approach to Group Decision Making
Sajy-Charterjee, Malay Bhattacharyya

lbw20805  Examining Instructor Use of Learning Analytics
Suzanne L. Doza, Nicholas R Stepasnek, Azjaa Chauhan, Brian Dom

lbw20806  Self-Directed Learning in Teacher-Lead Minecraft Classrooms
Travis Faas, Chastain Liu

lbw20807  Mining Visual Evolution in 21 Years of Web Design
Ali Jahamian, Philip Isaia, Dongli Wei

lbw20808  Sensors Know Which Photos Are Memorable
Sayoung Kim, Evelyn Patricia Kizener Aska, Auk. Kim, Kun-Yoo Lee, Aviv Segev, Uichin Lee

lbw20809  It’s More than Just Sharing Game Play Videos! Understanding User Motives in Mobile Game Social Media
Huyan Kim, Lebogang Wame Malef, Auk. Kim, Woontack Woo, Aviv Segev, Uichin Lee

lbw20810  Inheriting Landmarks for Pedestrian Navigation from Mobile Eye-Tracking Data and Google Street View
Christian Lander, Frederik Wehr, Antonio Krüger, Nico Herbig, Markus Lächtefeld

lbw20811  On the Automatic Assessment of Computational Thinking Skills: A Comparison with Human Experts
Jesús Moreno-León, Marcos Román-González, Casper Harteveld, Gregorio Rubles

lbw20812  Towards Supporting Remote Cheering during Running Races with Drone Technology
Andrzej Romanowski, Sven Mayer, Lars Lisichke, Kzayyotf Grudziei, Izabela Perenc, Przemyslaw Kucharski, Tomasz Jaworski, Mohammad Obaid, Tomasz Kosinski, Pawel Wizniak

lbw20813  Evaluating VR Driving Simulation from a Player Experience Perspective
Manuel Welch, Julian Frommel, Katja Rogers, Felix Schüessel, Philipp Hock, David Dobbelstein, Michael Weber

lbw20814  Connecting Instructors and Learning Scientists via Collaborative Dynamic Experimentation
Joseph Williams, Anna N Rafferty, Andrew Ang, Dustin Tingley, Walter Losecki, Juho Kim

UNDERSTANDING PEOPLE:

THEORY, CONCEPTS, METHODS

lbw20901  Examining the Quality of Crowdsourced Deliberation: Respect, Reciprocity and Lack of Common-Good Orientation
Tanja Atsumura, Jorge Sakdakov

lbw20902  Human Perception of Swarm Robot Motion
Griffin Dietz, Jane L. E. Peter Y Washington, Lowrence H Kim, Sean Follmer
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<td>Jane Gruning</td>
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<td>An Houtassou, Naomi Yamashita, Takashi Kudo</td>
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<td>Jermain Kaminski, Yian Jiang, Christian Hopp, Frank Piller</td>
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<td>lbw20915 Face to Face Matters: Communication Modality, Perceived Social Support, and Psychological Wellbeing</td>
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**USER EXPERIENCE AND USABILITY 21001 – 21013**

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<td>Fraser Allison, Ewa Luger, Katja Hofmann</td>
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<td>lbw21005 Discrete Time Specifications in Temporal Queries</td>
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<td>Stephan Huber, Jan Preßler, Nam Tung Ly, Jörm Hurstienne</td>
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INTERACTIVITY: INSTALLATIONS & RESEARCH DEMOS

Interactivity offers hands-on demonstrations that let you see, hear and touch interactive visions of the future. They take the form of prototypes, demonstrations, artworks, design experiences and inspirational technologies. Interactivity offers an alternative to CHI’s traditional text format to disseminate advances in the field. Interactivity promotes and provokes discussion about the role of technology by actively engaging attendees one-on-one.

Interactivity demonstrations are available from the Monday evening Conference Reception through the Thursday morning break. Presenters will be stationed at their exhibits throughout the Monday evening session and during coffee breaks on Tuesday, Wednesday and Thursday morning, 11:30 – 12:15.

Tuesday – Wednesday
10:50 – 11:30 Presenters available during the morning break
15:50 – 16:30 Presenters available during the afternoon break

Thursday
10:50 – 11:30 Presenters available during the morning break
11:30 Interactivity closes

INSTALLATIONS
01 FusePrint: A DIY 3D Printing Technique for Good-fit Fabrication with Daily Objects
Kening Zhu, Alex Decu, Shengdong Zhao

02 Game of Light: Modeling Diversity Through Participatory Interaction
Clement Zheng, James Hatem, Noah Posner, Heydn Ericson, Matthew Swarts, Yi-Luen Ellen Do

03 HoloART: Painting with Holograms in Mixed Reality
Judith Arnaores, Jaron Lanier

04 Holograms without Headsets: Projected Augmented Reality with the RoomAlive Toolkit
Andrew D Wilson, Hiraje Benko

05 Virtual Interactive Human Anatomy: Dissecting the Domain, Navigating the Politics, Creating the Impossible
Weiquan Lu, Suresh Pillai, Konagayamatharam Rajendran, Yoshifumi Kitamura, Ching-Chiu Yan, Ellen Yi-Luen Do

06 Tactile Drones - Providing Immersive Tactile Feedback in Virtual Reality through Quadcopters
Pascal Krerim, Thomas Kasch, Valentin Schwein, Markus Funk, Francisco Kiss, Stefan Schneegass, Niels Henze

07 Audiovisual Playground: A Music Sequencing Tool for 3D Virtual Worlds
Anne Kelly, Kristoffer Kipfelt

08 Tea with Crows: Towards Socially Engaging Digital Interaction
Young Suk Lee

09 Demonstrating TrussFab: Fabricating Sturdy Large-Scale Structures on Desktop 3D Printers
Robert Kovacs, Anna Seufert, Ludwig Wilhelm Wall, Hsiang-Ting Chen, Florian Meinert, Willi Müller, Yannis Kommana, Sijing You, Patrick Baudisch

10 The Living Net: A Haptic Experience of Personal Data
Jessica J Rajkowski, Jacqueline Wernimont, Stjepan Rajkowski

RESEARCH DEMOS
D01 Changing the Appearance of Real-World Objects by Modifying Their Surroundings
David Lindbauer, Joerg Mueller, Marc Alexa

D02 Crafting Tools for Textile Electronic Making
Irene Pasch

D04 Para: Expressive Procedural Art Creation through Direct Manipulation
Jennifer Jacobs, Suniet Gogia, Rodolfo Mez, Joel R. Brandt

D05 A Collaborative 3D Manipulation Challenge
Jerdinno Grandi, Henrique Galvan Debarba, Luciana Nedel, Anderson Mocz

D06 Scientific Outreach with Teegi, a Tangible EEG Interface to Talk about Neurotechnologies
Jeremy Frey, Renaud Gervais, Tribaut Lainé, Maxime Duluc, Hugo Germain, Stéphanie Peck, Fabien Lotte

D08 bioSync: A Paired Wearable Device for Blending Kinesthetic Experiences
Jun Nishida, Kenji Suzuki

D09 E-vita, a Tactile Feedback Based Tablet with Programmable Friction
Yasser Rekik, Eric Vezzoli, Laurent Grisoni, Frédéric Giraud

D10 Digital and Analog Metamaterial Mechanisms
Alexandra Ioan, Ludwig Wilhelm Wall, Robert Kovacs, Patrick Baudisch

D11 Morphology Extension Kit: Towards General-Purpose Sensing
San-Ting Li, Paolo G. De Giorgi, Yuanzheng Niu, Hieun Kim, HyeonSeok Lee

D12 Calm Automaton: A DIY Toolkit for Ambient Displays
Daniel Sackes, Minjae Cho, Daniel Sackes

D13 The Club of The Future: Participatory Clubbing Experiences
Thomas Raggi, Sergio Cabrera, Demosthenis Katavounis, Zhiyuan Zheng, Amritpal Singh Gill, Jack Jansen, Judith A. Redi

D14 Deus EM Machina: On-Touch Contextual Functionality for Smart IoT Appliances
Robert Xiao, Gerard Laput, Yang Zhang, Chris Harrison

D15 Guidelines to Incorporate a Clinician User Experience (UX) into the Design of Patient-Operated mHealth
Harry Tunnell, Anthony Fiaola, David Bolchini

D16 Synthetic Sensors: Towards General-Purpose Sensing
Gerard Laput, Yang Zhang, Chris Harrison

D17 Electric: Low-Cost Touch Sensing Using Electric Field Tomography
Yang Zhang, Gerard Laput, Chris Harrison

D18 Motion Log Skateboard: Visualizing Pressure Distribution of Skateboarding
Hyung Kun Park, Hyosun Lee

D19 TJBot: An Open Source DIY Cardboard Robot for Programming Cognitive Systems
Victor Dibia, Maryam Ashoori, Aaron Cox, Justin Weisz

D20 VersaPen: Exploring Multimodal Interactions with a Programmable Modular Pen
Marc Teysier, Gilles Bailly, Eric Lecolinet

D21 Sharing Tea over a Distance with the Messaging Kettle
Alloha Hufana (May) Ambe, Margot Bereton, Alexandra Sara, Paul Roe

D22 SoPhy: A Wearable Technology for Video Consultations of Physiotherapy
Deepti Aggarwal, Weiyi Zhang, Thuong Hoang, Bernd Ploedrer, Frank Vetere, Mark Bradford

INTERACTIVITY INSTALLATIONS (SEE MAP ON PAGE 80)

INTERACTIVITY RESEARCH DEMOS (SEE MAP ON PAGE 80)
D23  Illumination Aesthetics: Light as a Creative Material within Computational Design
Cesar Torres, Jasper O’Leary, Molly Nicholas, Eric Paulos

D24  Demonstrating IllumiPaper: Illuminated Interactive Paper
Konstantin Krioukov, Raimund Dachselt

D25  Providing Haptics to Walls & Heavy Objects in Virtual Reality by Means of Electrical Muscle Stimulation
Pedro Lopes, Shing Yu, Lung-Pan Cheng, Sebastian Manesis, Patrick Baudisch

D26  Selection and Manipulation Methods for a Menu Widget on the Human Forearm
Takumi Aoki, Shuhei Ogawa, Mai Otsuki, Furimina Shibota, Asako Kimura

D27  Keep in Touch: Portable Haptic Display With 192 High Speed Taxels
Juan Zarate, Olexandr Gudozhnik, Anthony Ruch, Herbert Shea

D28  Calibration Methods for Effective Fish Tank VR in Multi-screen Displays
Dylan Fafard, Qian Zhou, Andrew Wagemakers, Ian Stavness, Gregor Miller, Sidney Fels

D29  Quietto: An Interactive Timepiece Molded in Concrete and Milled Wood
Kyung-Ryong Lee, Geonil Goh, Young-Woo Park

D30  HeadPhones: Ad Hoc Mobile Multi-Display Environments through Head Tracking
Jens Grubert, Matthias Kranz

D31  Conveyor World: Mixed Reality Game on Physically Actuated Game Stage
Jiwoo Hong, Hyun Park, Woohun Lee

D32  FaceDisplay: Enabling Multi-User Interaction for Mobile Virtual Reality
Jan Gugenheimer, Evgeny Sternov, Harpreet Sareen, Enrico Rukzio

D33  Close the Circuit ‘N Play the Electrons: Learning Electricity with an Augmented Circuit Exhibit
Elham Beheshti, David Kim, Gabrielle Ecanow, Michael S. Horn

D34  Play With Temperature: Exploring Functions of Thermal Feedback in Virtual Reality Experience
Roshan Lalintha Peiris, Wei Peng, Zicun Chen, Liwei Chan, Kouta Minamizawa

D35  Mapping Memory Routes: a Multisensory Interface for Sensorial Urbanism and Critical Heritage Studies
Alda Terracciano, Manito Dimo, Marina Cavalli, Monica Bordegoni

D36  StatPla yground: Exploring Statistics through Visualizations
Krishna Subramanian, Jan Borchers

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**CHI STORIES**

“People think that stories are shaped by people. In fact, it’s the other way around.”
~ Terry Pratchett, Witches Abroad

When we attend a conference, we hear the research, but often know little about the personalities that drove the research. CHI Stories are a live personal narrative of significant experiences that transformed, inspired and challenged individuals, while also engaging with ideas and themes important to the discipline. These stories are performed live on stage in Exhibit Hall F on Tuesday evening. We are very excited in this premier event to hear the personal and fascinating narratives of ten individuals who will relay stories ranging from “Breaking the Silence” to midwifery, DJ’ing, Tinder experiences, and much, much more. In our professional lives we aim at the behavioral level; in CHI Stories, we hope to find something more at the reflective, and perhaps the visceral, levels.

**Tuesday Exhibit Hall F**

18:00 – 19:30

**Breaking the Silence**
“In this story, I want to share how silence was broken when I was working on a project related to sexual harassment...” ~ Nova Ahmed

**Favorite Researcher**
“This is a story about one specific moment when I grew up...”
~ Hrvoje Benko

**Birthing SIGCHI: A Personal History**
“The organizers had expected about 200 people to come, and instead, 900 showed up...” ~ Susan Dray

**Midwifery, Babies, HCI: “Doktormutter”hood and Sustainable Academic Life**
“What can and can’t we control...” ~ Geraldine Fitzpatrick

**From an Aspiring Cartoonist to an HCI Researcher**
“A picture is worth a thousand words...” ~ Rubaiat Habib

**Full Circle**
“I have a story about how the craft of DJing, and the tangible experience of working with vinyl and turntables, made me first conscious about user interface design...” ~ Björn Hortmann

**One Woman’s Journey in High Tech: Passion and Partnership**
“Understanding human behavior and experience has always been my passion since I started coaching people at 8 years old...” ~ Karen Holzblatt

**Creating the First Interactive Video Product**
“It started as a skunkworks project, and turned into a major enterprise...” ~ Wendy Mackay

**Being the Best You Can Be**
“Dreams provide us with a goal and a direction to take our lives, but sometimes we misinterpret the signs along our path...” ~ Elizabeth Rosenzweig

**When a Phone Call Caused Code Blue**
“Hospital intensive care units (ICUs) are intensely complicated environments...” ~ Preethi Srinivas

**How Tinder Girls in Taiwan Taught Me Semi-Structured Interview Skills**
“Want to brush up on your qualitative research skills? Travel alone to a foreign country, get your heart broken, and then start making friends through a dating app...” ~ Doug Zytko
EXHIBITORS

CHAMPION SPONSOR EXHIBITORS

Facebook Booths 408-410
Giving people the power to share and connect requires constant innovation. At Facebook, research permeates everything we do. We believe the most interesting research questions are derived from real world problems. Working on cutting edge research with a practical focus, we push product boundaries every day. At the same time, we are publishing papers, giving talks, and hosting conferences, and collaborating with the academic community.

Google Booths 506-510
Google’s mission is to organize the world’s information, making it universally accessible and useful. Every day, we bring our spirit of innovation and entrepreneurship to work. Come by our booth, meet our engineers and researchers, demo some new products and learn about some of the great opportunities we have at Google.

IBM Booth 500
We live in a moment of remarkable change and opportunity. Data and technology are transforming industries and societies, ushering in a new era of Cognitive Computing. IBM is a leader in this worldwide transformation, building on a long history of innovation. At IBM, you can achieve what others think is impossible. Join us and discover what you can make of this moment.

Microsoft Booths 100-102
At Microsoft, we aim to empower every person and every organization on the planet to achieve more. We care deeply about having a global perspective and making a difference in all corners of the planet. This involves playing a small part in the most fundamental of human activities: Creating tools that enable each of us along our journey to become something more.

Yahoo Booths 200-202
Yahoo is a guide focused on informing, connecting, and entertaining our users. The UXRA team helps our product teams create products that offer indispensable user experiences which are key to customer usage, retention and product success. We partner with teams to provide timely, believable and actionable insights into how users are using our products and services. Visit our booth to meet our researchers, discuss our current opportunities, and take home some fun swag.

ADDITIONAL EXHIBITORS

Apple, Inc. Booth 310
The people here at Apple don’t just create products, they create wonder that’s revolutionized entire industries. It’s the diversity of those people and their ideas that inspires the innovation that runs through everything we do, from amazing technology to industry leading environmental efforts. Join Apple and help us leave the world better then we found it. Where do you see yourself at Apple?

Cambridge University Press Booth 504
Cambridge University Press’ publishing in books and journals combines state-of-the-art content with the highest standards of scholarship, writing and production. Visit our stand to browse new titles, available at 20% discount, and to pick up sample copies of our journals. Visit our website to find out more about what we do: www.cambridge.org/academic.

Elsevier Booth 104
Elsevier will be presenting key titles across Human Factors in Computing Systems. Visit us at booth number 500. Meet the publishers and editors to ask any questions you may have about submitting research to our journals. In addition, learn more about our author services, open access options and content innovation.

MeasuringU Booth 206
MeasuringU is a full-service UX research firm that provides quantitative and qualitative solutions. We are the leaders in UX measurement with 5 books and weekly articles available on MeasuringU.com. See our presentation From Snake-Oil to Science: Measuring UX Maturity, come by our booth to meet our team, and check out our MU-IQ platform for benchmarking desktop and mobile user experiences.

Metropolitan State University Recruiting Board
FuturePlay is a company-building company, strongly focused in creating tech-centric startups. By combining incubator, accelerator and investor, we have created a sanctuary for you to find necessary elements to launch and grow your tech into a successful business. Join our Inventor Program to receive hands-on support along with work space, salary, biz consultation, and even seed-funding.

MIT Press Booth 312
The MIT Press is the only university press in the United States whose list is based in science and technology. We publish about 200 new books a year and over 30 journals. Our goal is to create books and journals that are challenging, creative, attractive, and yet affordable to individual readers.

Morgan & Claypool publishes the Synthesis Digital Library, including our HCI series and Assistive Technologies series. 30 day guest access to the site is provided to any attendee that signs up!

National Center for Women & Information Technology (NCWIT)
Booth 210
The National Center for Women & Information Technology (NCWIT) is a non-profit community of nearly 900 universities, companies, non-profits, and government organizations nationwide working to increase girls’ and women’s meaningful participation in computing.

Oxford University Press Booth 204
Oxford University Press is pleased to publish Interacting with Computers on behalf of BCS, The Chartered Institute for IT and Interaction, a specialist group from BCS. Visit the Oxford University Press stand for free journal copies and discounted books! For more information visit www.iwc.oxfordjournals.org and look at our related books at www.oup.com.
PLUX  Booth 502
Low-cost wireless biosignal acquisition toolkit designed to enable students and researchers to collect and analyse reliable, high definition, physiological data.

Smart Eye  Booth 404
Smart Eye is regarded as a global leader in the development of remote multi-camera head and eye tracking solutions enabling complete freedom of movement within any given application environment while retaining impressive levels of gaze accuracy, field of view and robustness. Our real-time and completely non-invasive solutions are used in areas including HCI, Human Factors, Neuroscience, Psychology.

Springer  Booths 400-402
Looking to publish your research? Discover Springer’s print and electronic publication services, including open access! Get high-quality review, maximum readership and rapid distribution. Visit our booth or springer.com/authors. You can also browse key titles in your field and buy (e)books at discount prices. With Springer you are in good company.

Tobii Pro  Booths 106-108
Tobii Pro, being a world leader in eye tracking products and services, helps business and science professionals gain valuable insights into human behavior. Our innovative and high-quality eye tracking solutions capture human behavior in a natural way, ultimately affording users access to valuable, objective data about real responses to stimuli.

Ultraphics  Booth 314
Ultraphics has developed a unique technology that enables users to receive tactile feedback without needing to wear or touch anything. The technology uses ultrasound to project sensations through the air and directly onto the user. Users can ‘feel’ touch-less buttons, get feedback for mid-air gestures or interact with virtual objects. Ultraphics was founded in 2013 and secured Seed Funding in 2014. The company also raised one of the UK’s largest technology A rounds in 2015 of £10.1m and received a European Commission Grant of €1.49m. Ultraphics is currently engaged with tier 1 customers, from multiple markets, with their Evaluation Program.

ART EXHIBITS (SEE MAP NEXT PAGE)
A1  Live Writing: Gloomy Streets
    Song Won Lee
A2  Fukushima Audio Census
    Hiroki Kobayashi
A3  Wayfinding
    Raphael Anar
A4  Banana Kiss: A Participatory Interactive Installation to Enhance Intimacy with Kiss Interaction
    Sanghyun Yoo
A5  Project Florence: A Plant to Human Experience
    Paul Johns
A6  Never Alone: a Video Agents Based Generative Video-Sound Installation
    Thecia Schiphorst
A7  Prey: De/composing Memory and Experience
    Tiffany Sanchez
A8  California Drought Impact v2: Interactive Data Visualization and Sonification using Advanced Multimodal Interaction
    Yoon-Chung Han
A9  Shaping Form Sussex
    Ernest Edmonds
A10  Karen - an app
    Blast Theory
A11  Artist Pointer
    Katrin Wolf
A12  Invisible: A Critical Digital Artwork as Performance
    Hye Yeon Nam
A13  Vote With Your Feet: Street-Sourced Answers To Crowd-Sourced Questions
    Cheng Xu
D23 Illumination Aesthetics: Light as a Creative Material within Computational Design
D24 Demonstrating IllumiPaper: Illuminated Interactive Paper
D25 Providing Haptics to Walls & Heavy Objects in Virtual Reality by Means of Electrical Muscle Stimulation
D26 Selection and Manipulation Methods for a Menu Widget on the Human Forearm
D27 Keep in Touch: Portable Haptic Display With 192 High Speed Taxels
D28 Calibration Methods forEffective Fish Tank VR in Multi-screen Displays
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D33 Close the Circuit 'N Play the Electrons: Learning Electricity with an Augmented Circuit Exhibit
D34 Play With Temperature: Exploring Functions of Thermal Feedback in Virtual Reality Experience
D35 Mapping Memory Routes: a Multisensory Interface for Sensorial Urbanism and Critical Heritage Studies
D36 StatPlayground: Exploring Statistics through Visualizations
E01 FusePrint: A DIY 2.5D Printing Technique for Good-fit Fabrication with Daily Objects
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E06 Tactile Drones - Providing Immersive Tactile Feedback in Virtual Reality through Quadcopters
E07 Audiovisual Playground: A Music Sequencing Tool for 3D Virtual Worlds
E08 Tea with Crows: Towards Socially Engaging Digital Interaction
E09 Demonstrating TrussFab: Fabricating Sturdy Large-Scale Structures on Desktop 3D Printers
E10 The Living Net: A Haptic Experience of Personal Data
Weekend Jams
CHI 2018 will feature a Game Jam, where participants can engage with games by designing and implementing their own (no programming experience needed), and a Science Jam, where students can engage with science by designing and running an experiment.

Tech and Art Expo
One of the core aspects of CHI research is the ability to engage with technology. At CHI 2018, Demonstrations will be front and center on day one of the conference, and together with the Art Exhibition, will provide attendees an opportunity to engage directly with the technology we build.
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