Conference Program

COEX Convention & Exhibition Center

18-23 April 2015

chi2015.acm.org
# SCHEDULE OF EVENTS

## Monday – 20 April 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 - 9:20</td>
<td>Opening Plenary Keynote, “Crossing: HCI, Design and Sustainability”</td>
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<tr>
<td></td>
<td>Lou Yongqi, Dean, College of Design and Innovation, Tongji University</td>
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<tr>
<td>10:00 – 11:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:30 - 12:50</td>
<td>Technical Sessions</td>
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<tr>
<td>12:50 - 14:30</td>
<td>Lunch Break (on your own)</td>
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<td>14:30 - 15:50</td>
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<td>15:50 - 16:30</td>
<td>Coffee Break</td>
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<tr>
<td>16:30 - 17:50</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>18:00 - 19:30</td>
<td>Opening Reception &amp; Exhibit Hall Grand Opening</td>
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## Tuesday – 21 April 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 - 9:20</td>
<td>Morning Keynote, “UX Design in the IoT Era”</td>
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<tr>
<td></td>
<td>Donghoon Chang, VP, Head of Design Strategy Team and UX Center in</td>
</tr>
<tr>
<td></td>
<td>Corporate Design Center, Samsung Electronics</td>
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<tr>
<td>09:30 - 10:50</td>
<td>Technical Sessions</td>
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<tr>
<td>18:00 - 19:30</td>
<td>Job Fair in Exhibit Hall</td>
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## Wednesday – 22 April 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 - 9:20</td>
<td>Morning Keynote, “Journey to a Better Life”</td>
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<td>David Min, Senior Research Fellow, LG Electronics</td>
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<tr>
<td>09:30 - 10:50</td>
<td>Technical Sessions</td>
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<td>10:50 - 11:30</td>
<td>Coffee Break</td>
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<td>Coffee Break</td>
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<tr>
<td>16:30 - 17:50</td>
<td>Technical Sessions</td>
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## Thursday – 23 April 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30 - 9:20</td>
<td>Morning Keynote, ACM-W Athena Lecture</td>
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<tr>
<td></td>
<td>“Large-Scale Behavioral Data: Potential and Pitfalls”</td>
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<tr>
<td></td>
<td>Susan T. Dumais, ACM Fellow, Distinguished Scientist, Microsoft</td>
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<tr>
<td>09:30 - 10:50</td>
<td>Technical Sessions</td>
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<td>16:30 - 17:50</td>
<td>Closing Plenary Keynote</td>
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<td></td>
<td>“Cultural Crossing from Local to Global through Music: Technology,</td>
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<td></td>
<td>Media and Future”</td>
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<td>PSY, Social Media Innovator</td>
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WIFI (please note: case sensitive):
  network name: CHI2015
  user name: chi2015
  password: chi2015
Welcome to CHI 2015

Welcome to CHI 2015, the premier international forum for human-computer interaction (HCI). The theme for the conference this year is CROSSINGS which represents our excitement about crossing into Asia for the first time and also reflects CHI's core principle of crossing disciplines, crossing people and technology, crossing research and business, crossing physical and digital, crossing you and me. The city of Seoul provides a fantastic location to showcase groundbreaking research and innovation from across Asia. In addition to a rich technical program with breakthroughs across a diversity of HCI topics, we are holding four special symposia devoted to insights from the Chinese, Japanese, and ASEAN HCI communities. Throughout the conference, you will hear fresh perspectives from exciting Asian speakers along with other special presentations from speakers of wide-ranging backgrounds and viewpoints. Enjoy your CROSSINGS!

사용자 경험 (UX)와 HCI (Human-Computer Interaction) 분야의 대표적인 학술회의 CHI 2015를 여러분은 그대를 초대합니다. CHI 2015는 30년 넘게 CHI 학회 역사상 처음으로 아시아에서 열리는 학회입니다. 우리 학회를 태생시킨 “고교학기 (CROSSINGS)”입니다. 이는 사람과 기술, 학교와 기업을 잇는 CHI의 핵심 원칙과 교를 상징합니다. 이번 CHI 2015는 전세계의 최신 UX 및 HCI 연구와 획기적이고 혁신적인 기술을 제시할 수 있는 최적의 장소입니다. 이와 더불어 중국, 일본 그리고 아시아 국가 HCI 커뮤니티들의 다양한 HCI 노하우, 인사이트를 경험할 수 있는 4개의 특별 심포지엄도 열립 예정입니다. 학회 기간동안 전세계 발표자의 폭넓은 경험과 관점을 듣고 새로운 아이디어와 시각을 체험할 수 있을 것입니다. 아프리코프 CHI 2015에서 저금까지 경험해보지 못했던 새로운 UX/HCI 기술을 경험하십시오 기회를 기회합니다.

Bienvenue à CHI 2015, le forum international majeur sur l'Interaction Homme-Machine (IHM). Cette année, le thème de la conférence est “CROSSINGS” (carrefores, passées), d’abord pour exprimer notre enthousiasme à franchir de nouvelles frontières et nous retrouver en Asie pour la première fois, mais aussi pour mettre en avant l’essence même de CHI, qui est à la croisée des disciplines, à la croisée des personnes et de la technologie, à la croisée des mondes académique et industriel, à la croisée des mondes physique et numérique, à la croisée de vous et moi. La ville de Séoul est l’endroit idéal pour mettre en avant la recherche et l’innovation de pointe issues de toutes les contrées d’Asie. Outre un programme riche en contributions scientifiques dans toutes les facettes de l’IHM, nous organisons quatre symposiums dédiés spécifiquement aux avancées des communautés IHM de Chine, du Japon et de l’ASEAN. Tout au long de la conférence, vous aurez le plaisir d’entendre des intervenants Asiatiques ouvrir de nouvelles perspectives, ainsi que de nombreuses présentations originales d’auroristes de tous horizons. Bonnes “CROSSINGS”!

Bienvenidos a CHI 2015, el principal foro internacional para la interacción humano-computadora (HCI). El tema de la conferencia este año es CROSSINGS (Travesías), que representa nuestro entusiasmo de emprender una travesía rumbo a Asia, por primera vez. También representa el principal fundamento de CHI: realizar travesías entre disciplinas, gente y tecnología, entre investigaciones y negocios, travesías entre lo físico y lo digital, de aquí a allá, travesías entre tú y yo. La ciudad de Seúl es una fantástica sede para mostrar la investigación más revolucionaria e innovadora que hay alrededor de Asia. Además de un amplio programa técnico con innovaciones en diversos temas de HCI, tendremos cuatro simposios dedicados a la comprensión de las comunidades de HCI que existen en China, Japón y ASEAN. A lo largo de la conferencia escucharás frescas perspectivas de fascinantes expositores asiáticos, así como presentaciones especiales con expositores que cuentan con una variedad inmensa de perspectivas y experiencias. ¡Disfruten sus travesías!

Mehdi, el ministro del gobierno del país, en su discurso, anunció que el país está implementando una serie de medidas para mejorar la situación de la educación en el país. Las medidas incluyen la creación de nuevas escuelas, la mejora de las condiciones de vida de los maestros y la implementación de nuevas tecnologías en el aula. El objetivo es mejorar la calidad de la educación y garantizar que todos los niños tengan la oportunidad de recibir una educación de alta calidad.

.general conference chairs
Bo Begole, Huawei Technologies
Jinwoo Kim, Yonsei University, Korea

.technical program chairs
Kori Inkpen, Microsoft Research
Woontack Woo, KAIST
### Opening Plenary Keynote (Hall D1)
Lou Yonqi - Crossing: HCI, Design and Sustainability

#### MONDAY

<table>
<thead>
<tr>
<th>Time</th>
<th>Papers</th>
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<tbody>
<tr>
<td>7:00 - 8:20</td>
<td>Women's Breakfast (Room 327ABC)</td>
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<tr>
<td>8:30 - 9:20</td>
<td>Tuesday Morning Keynote (Hall D1)</td>
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<tr>
<td>9:20 - 9:30</td>
<td>Break</td>
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#### 8:30 - 10:50

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<tr>
<th>401</th>
<th>402</th>
<th>E1/E2</th>
<th>E3</th>
<th>E4</th>
<th>E5</th>
<th>E6</th>
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#### 10:50 - 11:30

| Coffee Break | WIP Posters Rotation 1, Doctoral Consortium Posters | Interactivity (Hall C2/C3) |

#### 11:30 - 12:50

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#### 12:50 - 14:30

Lunch Break

#### 14:30 - 15:50

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### TUESDAY

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<tr>
<th>Time</th>
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<th>E3</th>
<th>E4</th>
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<th>E6</th>
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#### 10:50 - 11:30

| Coffee Break | WIP Posters Rotation 1, Student Design & Student Research Posters | Interactivity (Hall C2/C3) |

#### 11:30 - 12:50

|----------------------------------------------------------|--------------------------------------------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|---------------------------------|---------------------------------|----------------------------------|

#### 12:50 - 14:30

Lunch Break

#### 14:30 - 15:50

|----------------------------------------|-----------------------------------------------|-------------------------------------------------|---------------------------------|-----------------------------------------------|-----------------------------------|-----------------------------|----------------------------------|

#### 15:50 - 16:30

| Coffee Break | WIP Posters Rotation 1, Student Design & Student Research Posters | Interactivity (Hall C2/C3) |

#### 16:30 - 17:50

|----------------------------------------------------------|--------------------------------------------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|---------------------------------|---------------------------------|----------------------------------|

#### 18:00 - 19:30

| Job Fair & Recruiting Boards (Hall C2/C3) |

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**CONFERENCE AT A GLANCE**

- **Opening Plenary Keynote (Hall D1)**
- **Tuesday Morning Keynote (Hall D1)**
- **Wednesday Morning Keynote (Hall D1)**
- **Wednesday Afternoon Keynote (Hall D1)**
- **Special SIGCHI Social Impact Award**
- **SIGCHI Lifetime Research Award**
- **SIGCHI Design and Fabrication Award**

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**Papers**

- Non-Rigid Interaction Surfaces
- What Do I Hear? Communicating with Sound
- Rethinking Evaluation for Today’s HCI
- Improving Game Experiences
- Facebook Newsfeeds & Friendships
- Activism in Wikipedia & Beyond
- HMDs & Wearables to Overcome Disabilities
- Visualizing Data
- Interaction in 3D Space
- Understanding & Evaluating Performance
- Music & Art
- Supporting Change in Developing Countries
- Privacy, Security & Interruptions
- Making & Sharing Assistive Technologies
- Matching & Facilitating Social Interactions
- How Fast Can You Type on Your Phone?
- Understanding & Enhancing Learning
- Family Communication
- Crowdsourcing Fans & Friends
- Managing Personal Privacy
- Health Sensors & Monitoring
- Collaborative Tables, Walls & Rooms
- Muscle-Computer Interfaces
- Phones for More Than Just Talking & Text
- Search & Recommendations
- Haptic, Wearable, Tangible Learning
- Motivation & Participation
- Sustainability & Recycling
- The Value of the Village in Caregiving
- I Like What I See - Interface Aesthetics
- Smartwatch Interaction
- Tangible Interactions
- New Evaluation Approaches
- Special Foundations & Trends in HCI
- Evaluating Crowdsourcing
- Smartphone Authentication
- Healthcare Bias, Engagement & Adaptation
- Storytelling in InfoVis
- Grip, Move & Tit: Novel Interaction
- Interactive Video & Collaborative Annotations
- HCI for the Elderly
- The Impact of Crowd Work on Workers
- Social Media and Mobile Camera Privacy
- DIY Healthcare: Apps & Wearables
- Social Embodied Interaction
- Understanding & Extending Touch Interfaces
- Sharing & Collaboration @Work
- Families and Their Use of Technology
- Understanding Crowdswork in Many Domains
- Eco-Green: Encouraging Energy Conservation
- Sports-Tracking & Training
- Feeling & Communicating Emotions

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**Conference Reception & Exhibit Grand Opening**

**Conference Reception & Exhibit Grand Opening**

**Conference Reception & Exhibit Grand Opening**

**Conference Reception & Exhibit Grand Opening**

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**ACM Conference on Human Factors in Computing Systems**

**CHI 2015**
### CONFERENCE AT A GLANCE

#### TUESDAY

**9:20 - 9:30** – Break

- **E7 307**
  - Methods for Child Computer Interaction 1/2
  - Papers: Supporting Creativity through UX Design
  - Case Studies: Art & Life

- **317A**
  - Course (C09): Designing & Assessing Using Task Models 1/2
  - Course (C10): Learn to Sketch (Even if You Can’t Draw) 1/2

- **318A**
  - Course (C08): Practical UX Research Methodologies 1/2

- **318BC**
  - Course (C12): Sketching User Experiences 1/2

**10:50 - 11:30** – Coffee Break • WIP Posters Rotation 1, Doctoral Consortium Posters • Interactivity (Hall C2/C3)

- **Course (C11)**: Methods for Child Computer Interaction 1/2
- **Panel**: You’ve Been Acquired!
- **alt.chi**: HCI Methodology
- **Course (C09)**: Designing & Assessing Using Task Models 1/2
- **Course (C10)**: Learn to Sketch (Even if You Can’t Draw) 1/2
- **SIG**: Gender-Inclusive Software
- **Course (C12)**: Practical UX Research Methodologies 2/2

**12:50 - 14:30** – Lunch Break

- **Course (C15)**: HCI Lessons: From Earth to Outer Space 1/2
- **Papers**: Innovation in Theories & Products
- **Case Studies**: Education & Work
- **Course (C14)**: Mobile Human-Computer Interaction 1/2
- **Course (C13)**: Methods for HCI Research 1/2
- **Course (C16)**: Sketching User Experiences 2/2

**15:50 - 16:30** – Coffee Break • WIP Posters Rotation 1, Student Design & Student Research Posters • Interactivity (Hall C2/C3)

- **Course (C15)**: HCI Lessons: From Earth to Outer Space 2/2
- **Papers**: Critical Design
- **Special**: Human Computer Interaction Journal 1
- **Course (C14)**: Mobile Human-Computer Interaction 2/2
- **Course (C13)**: Methods for HCI Research 2/2
- **SIG**: Start and Run a SIGCHI Local Chapter
- **Course (C16)**: Sketching User Experiences 2/2

**18:00 - 19:30** • Job Fair & Recruiting Boards (Hall C2/C3)
### Wednesday Morning Keynote (Hall D1)

**David Min - Journey to a Better Life**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:20 - 9:30</td>
<td>Break</td>
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#### 401 (10:50 - 11:10)

- **Papers**
  - HMDs in Augmented & Virtual Reality
  - Tangible Interaction with Phones
  - Player Performance & Experience in Games
  - Bridging People & Beliefs with Social Media
  - Special Foundations & Trends in HCI 2
  - Quantified Self for Humans & Pets
  - Visualizing Statistics & Graphs

#### 402 (11:10 - 11:30)

- **Papers**
  - Digital & Materials Fabrication
  - Notifications for Phones & Wearables
  - Automation and Interactive Feedback
  - Bridging People & Beliefs with Social Media
  - HCI for Civic Engagement
  - Security Feedback & Warnings
  - Task Interruption & Resumption

#### 403 (11:30 - 11:50)

- **Papers**
  - Using Random Body Parts for Input
  - GUI Size, Resolution & Layout
  - Kids Social, Emotional & Special Needs
  - HCI for Civic Engagement
  - Health through Online Behavior

#### E1/E2 (11:50 - 12:10)

- **Papers**
  - Tangible Neighborhoods & Disadvantaged Communities
  - Performance & Experience in Games
  - Bridging People & Beliefs with Social Media
  - Critical Social Media
  - Understanding Nicotine by Kids
  - Accessing& Evaluating VR

#### E3 (12:10 - 12:30)

- **Papers**
  - Digital Collections, Practice & Legacy
  - Multilingual Communication
  - Empowering Users
  - Accessibility for Vision Impaired Users
  - Interactive & Multi-Surface Maps

#### E4 (12:30 - 12:50)

- **Papers**
  - Software Engineering Tools
  - HCI at Home
  - Voting & Volunteerism
  - Socio-Political Interactions
  - Understanding Health through Online Behavior

#### E5 (12:50 - 13:10)

- **Papers**
  - Brain & Physiological Data use for HCI
  - HCI at Home
  - HCI at Home
  - Understanding Health through Online Behavior
  - Understanding Health through Online Behavior
  - Interactive & Multi-Surface Maps

#### E6 (13:10 - 13:30)

- **Papers**
  - Gesture Elicitation & Recognition
  - Programming Environments
  - Multilingual Communication
  - Empowering Users
  - Interactive & Multi-Surface Maps

#### E7 (13:30 - 13:50)

- **Papers**
  - MOOCS & e-Learning
  - Understanding Gamers
  - Bridging Communities
  - Gender & Technology
  - Interacting with Floors & Situated Displays

#### E8 (13:50 - 14:10)

- **Papers**
  - Speech & Auditory Interfaces
  - Understanding & Protecting KidsTech Use
  - Social Media & Citizen Science
  - Disasters & Humanitarian Events
  - Interaction Techniques for Tables & Walls
### Wednesday

**8:30 - 9:20**
- **Closing Plenary Keynote** (Hall D1)
  - PSY - Cultural Crossing from Local to Global through Music, Technology, Media, and Future

**9:20 - 9:30 – Break**

**9:30 - 10:50**
- **Course (C18)**
  - Speech-based Interaction 1/2
  - Panels
  - Experience Design for Games

**10:50 - 11:30 – Coffee Break • WIP Posters Rotation 2 • Interactivity (Hall C2/C3)**

**11:30 - 12:50**
- **Course (C18)**
  - Speech-based Interaction 2/2
  - Panel
  - Transdisciplinary Design in Education

**12:50 - 14:30 – Lunch Break**

**14:30 - 15:50**
- **Course (C22)**
  - Rapid Design Labs - Design-Led Innovation 1/2
  - Papers
  - UX Methods 4

**15:50 - 16:30 – Coffee Break • WIP Posters Rotation 2 • Interactivity (Hall C2/C3)**

**16:30 - 17:50**
- **Course (C19)**
  - Designing Surveys for HCI Research 1/2

### Thursday

**8:30 - 9:20**
- **Thursday Morning Keynote**, ACM-W Athena Lecture (Hall D1)
  - Susan T. Dumais, ACM Fellow - Large-Scale Behavioral Data: Potential and Pitfalls

**9:20 - 9:30 – Break**

**9:30 - 10:50**
- **Course (C18)**
  - Speech-based Interaction 1/2
  - Panels
  - Experience Design for Games

**10:50 - 11:30 – Coffee Break • Interactivity (Hall C2/C3)**

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  - Speech-based Interaction 2/2
  - Panel
  - Transdisciplinary Design in Education

**12:50 - 14:30 – Lunch Break**

**14:30 - 15:50**
- **Course (C22)**
  - Rapid Design Labs - Design-Led Innovation 2/2
  - Course (C20)
  - Designing Wearable Interfaces 1/2

**15:50 - 16:30 – Coffee Break • WIP Posters Rotation 2 • Interactivity (Hall C2/C3)**

**16:30 - 17:50**
- **Course (C19)**
  - Designing Surveys for HCI Research 2/2
- **Course (C23)**
  - Conceptual Models: Core to Good Design 1/2

### Conference At A Glance

- **Wednesday Morning Keynote** (Hall D1)
  - David Min - Journey to a Better Life

- **Thursday Morning Keynote**, ACM-W Athena Lecture (Hall D1)
  - Susan T. Dumais, ACM Fellow - Large-Scale Behavioral Data: Potential and Pitfalls
Check out Google's CHI 2015 mobile site to see our schedule of events, accepted papers, who is attending and more!

http://goo.gl/Du2Ein
General Conference Chairs
Jinwoo Kim, Yonsei University, Korea
Bo Begole, Huawei, USA

Technical Program
Technical Program Chairs
Woon-tack Woo, KAIST, Korea
Kori Inkpen, Microsoft Research, USA

Papers and Notes
Andy Cockburn, University of Canterbury, New Zealand
Joanna McInerney, University of British Columbia, Canada
Jun Rekimoto, University of Tokyo, Japan

Best of CHI Awards
Mark Billinghurst, University of Canterbury, New Zealand

Panels
Khai Truong, UNC Charlotte, USA
Elaine M. Huang, University of Zurich, Switzerland

Case Studies
Danielle Cooley, USA
Joonhwan Lee, Seoul National University, Korea

Courses
Regina Bernhaupt, Ruwido, Austria
Matt Jones, Swansea University, United Kingdom

Interactivity
Julie Rico Williamson, University of Glasgow, United Kingdom
Juhyun Eune, Seoul National University, Korea

Video Showcase
Jinwook Seo, Seoul National University, Korea
Rodrigo de Oliveira, YouTube, USA

SIGs
Enrico Rukzio, Ulm University, Germany
Simone Barbosa, PUC-Rio, Brazil

Doctoral Consortium
Si-Jung “Juri” Kim, University of Nevada Las Vegas, USA
Jaime Tzevan, Microsoft Research, USA
Susan Fussell, Cornell University, USA

Workshops
Jürgen Steimle, Max Planck Institute for Informatics, Germany
Bongshin Lee, Microsoft Research, USA

Works in Progress
Shamsi Iqbal, Microsoft Research, USA
Shaun Lawson, University of Lincoln, UK
Shendong Zhao, National University of Singapore, Singapore

Student Design Competition
Youn-Kyung Lim, KAIST, Korea
Anirudha Joshi, IIT Bombay, India

Student Research Competition
Seungyon “Claire” Lee, Google, USA
Derek Reilly, Dalhousie University, Canada
Geethyuk Lee, KAIST, Korea

Student Game Competition
Floyd Muller, RMIT University, Australia
Alessandro Canossa, Northeastern University, USA
Soojin Jun, Yonsei University, Korea

alt.chi papers
Jeff Nichols, IBM, USA

TOCHI papers
Jeff Nichols, IBM, USA

Conference Theme/Local Heroes
Kyle Hyunsuk Kim, Hongik University, Korea

Operations
Student Volunteers Coordinators
Jon Haber, University of Calgary, Canada
Siroberto Scerbo, Virginia Tech, USA
Jean Wee, Seoul National University, Korea

Chair’s Assistants
Yoojin Lee, Yonsei University, Korea
Nikolas Martelaro, Stanford University, USA

Data Management
Max Van Kleek, University of Southampton, UK
BoYu Gao, Konkuk University, Korea

Design
Elizabeth Dykstra-Erikson, Splunk, Inc.
Jina Wu, Cisco Systems

Opening Animation Director
Chris Inkyong Whang, Hongik University, Korea

Technical Liaison
Sara Drenner, Bi Worldwide, USA
Scooter Morris, University of California, San Francisco, USA

Proceedings
Deana Brown, Georgia Tech, USA
Jaejeung Kim, KAIST, Korea

Posters
Hyunjoo Song, Seoul National University, Korea

Infrastructure Accessibility
Jongbae Kim, Yonsei University, Korea

Digital Accessibility
Jeff Bigham, Carnegie Mellon University, USA

Local Hospitality
Junho Choi, Yonsei University, Korea

Social Media
Max Wilson, University of Nottingham, UK
Kwangsu Cha, Yonsei University, Korea

Scheduling
Christophe Hurter, ENAC, France
Juho Kim, MIT, USA

Mobile Applications
Stephen Oney, Carnegie Mellon University, USA
Jason Wiese, Carnegie Mellon University, USA
Eiji Hayashi, Carnegie Mellon University, USA
Célia Martinie, Université Toulouse 3, France

Translations
Susan Fussell, Cornell University, USA
Naomi Yamashita, NTT, Japan

Webmaster
Juho Kim, MIT, USA
Toni-Jan Keith Monserrat, UPLB, Philippines

Conference Management
Janeé Pelletier, Conference & Logistics Consultants, USA
Allison Perrelli, Conference & Logistics Consultants, USA

Sponsors, Exhibits & Recruitment
Carol Klyver, Foundations of Excellence, USA

Registration
Yvonne Lopez, Executive Events Inc., USA
Brooke Daley, Executive Events Inc., USA

PCS Liaison
Max van Kleek, University of Southampton, UK
Carol Klyver, Foundations of Excellence, USA
Scooter Morris, University of California, San Francisco, USA

Women’s Breakfast Event
Allison Druin, University of Maryland, USA
Innovate to impact the world

research.microsoft.com/diversity
ACM SIGCHI

CHI 2015 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 in Room 308 or visit www.sigchi.org to learn more about SIGCHI.

Membership Information
Please contact ACM's Member Services Department
Online: www.acm.org
Tel: +1-800-342-6626 (USA/Canada)
+1-212-626-0500 (International)
Fax: +1-212-944-1318
Email: acmhelpl@acm.org
Write: Association for Computing Machinery, Inc.
General Post Office
P.O. Box 30777
New York, NY 10087-0777, USA

CHI 2015 OVERVIEW

The CHI 2015 technical program showcases presentations of outstanding research in human-computer interaction (HCI), demonstrations of new and innovative technology, discussions of timely and controversial issues, and presentations of the latest developments in HCI design and practice. The CHI technical program includes presentations in multiple formats, recorded in the CHI 2015 Proceedings and Extended Abstracts available from the ACM Digital Library and on the CHI 2015 USB key.

SATURDAY–SUNDAY EVENTS

Doctoral Consortium - Invitation Only  Room 308AB
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 2015 Extended Abstracts.

Doctoral Consortium Mentors:
Gregory Abowd, Mark Blythe, Susan Fussell (Co-Chair), Darren Gergle, Jim Hollan, Si-Jung “Juni” Kim (Co-Chair), Alice Oh, Jaime Teevan (Co-Chair)

Workshops - Invitation Only  Level 300
Workshops 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. Workshop participants are pre-selected based on submitted position papers and a brief description of each workshop appears in the CHI 2015 Extended Abstracts. Some workshops choose to display a poster in the Exhibit Hall E Poster Area.

Asian CHI Symposia - Open to Public  Level 300
CHI 2015 is offering a series of special symposia for topics pertinent to HCI communities across Asia. These symposia may contain content in English or in a regional language. Participants include both presenters and audience members. The symposia descriptions appear in the CHI 2015 Extended Abstracts.

TECHNICAL PROGRAM | MONDAY — THURSDAY

CHI 2015 received over 3200 submissions and accepted over 1000 presentations and events distributed across 15 parallel sessions over four days. With so many presentations happening at once, how do you choose? CHI 2015 offers the following resources to help you make the most of your conference experience:

Choosing sessions to attend

1. This CHI 2015 Conference Program describes the venues and offers at-a-glance summaries of all events in the main technical program, as well as times and locations.
2. The CHI 2015 USB key provided when you register includes the CHI 2015 Conference Proceedings and Extended Abstracts, also available in the ACM Digital Library, and the CHI 2015 Video Previews (see below). Extra USB keys are available for purchase at the Registration Desk.
3. The free CHI 2015 Mobile App contains the full CHI 2015 program as well as a personal interactive schedule to help you keep track of events you would like to see. The CHI 2015 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://chi2015.acm.org/mobileapp.
4. The CHI 2015 Video Previews are 30-second video overviews of most presentations in the main technical program. You can browse Video Previews on the CHI 2015 USB, the CHI 2015 web site and the CHI 2015 Mobile App.
5. CHI 2015 Student Volunteers (SVs) are available to point you in the right direction or answer questions about the program.
The CHI 2015 Conference Proceedings contain Papers and Notes, the most rigorously reviewed and prestigious material in the main technical program. The CHI 2015 Program Committee received 2125 submissions for Papers and Notes. Each was reviewed by one or more Associate Chairs, as well as three or more external reviewers. After a rebuttal phase, the 200+ senior Associate Chairs met in person within specialized subcommittees to discuss and select the accepted papers. The CHI 2015 acceptance rate was 23%.

The CHI 2015 Papers and Notes document research that makes a lasting and significant contribution to our knowledge and understanding of human-computer interaction. CHI Conference Proceedings are read and cited worldwide, with a broad impact on the development of HCI principles, theories, techniques, and their practical application.

The CHI 2015 Extended Abstracts record interactive events designed to provoke, intrigue, teach and inspire the CHI audience and capture a history of HCI practice.

Courses
Rooms 317A, 317BC, 318BC, E7
One or two 80-minute units
List on page 53
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.

Case Studies
Room 308ABC
20-minute presentations
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.

Panels
Room 307ABC
80-minute sessions
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 human-computer interaction.

alt.chi
Room 308ABC
20-minute presentations
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.

Special Interest Groups (SIGs)
Room 318A
80-minute sessions
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.

Video Showcase
Room 401
80-minute session
List on page 52
The CHI 2015 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 (10:00 – 11:30) followed by the Golden Mouse award ceremony. The People’s Choice Video award will be announced at the Closing Plenary.

Interactivity
Hall C2/C3
Hands-on demonstrations
List on page 62
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 2015 Conference Reception and Exhibits Grand Opening (Monday 18:00 – 19:30, Hall C2/C3) and during coffee breaks.
Works in Progress (WIP)  
*Hall C2/C3*

Works in Progress present work at an early stage that can benefit from one-on-one discussions with colleagues. WIP Posters will be displayed in two rotations; the first rotation on Tuesday (21st April) and the second on Wednesday (22nd April). Morning and afternoon coffee breaks on Tuesday and Wednesday are designated sessions during which WIP authors will be available at their posters to informally discuss their research with colleagues. These sessions will also feature some structured interactive activities where authors will describe their work. Please come and hear about their ground-breaking work at these times.

**Doctoral Consortium**  
*Room 308AB*

Doctoral Consortium students are available to discuss their research in the DC Spotlight session Tuesday during morning coffee break (10:50 – 11:30).

**Student Research Competition**  
*Posters and 80-minute session*

The Student Research Competition (SRC) is a branch of the ACM Student Research Competition. Students’ posters are on display in Hall C2/C3 with author presentations during Tuesday’s afternoon break (15:50-16:30). Final presentations are held on Wednesday (11:30 – 12:50, Room 317BC). Winners are announced at the Closing Plenary.

**Student Design Competition**  
*Posters and 80-minute session*

The Student Design Competition (SDC) challenges students to design a product, application, technology, or service that enable people who are a new and completely unexplored user group in any country to appropriate things and technologies around them. Monday 10:00 – 11:30 (Room 327ABC) is the Closed Jury Session. Semi-finalist posters are displayed in the Hall C2/C3 poster area, and authors will be presenting their work to all attendees during Tuesday’s afternoon break (15:50 – 16:30). The SDC jury selects four finalists to present on Wednesday (14:30 – 15:50, Room 317BC). The winner is announced at the Closing Plenary.

**Student Game Competition**  
*Demonstrations and 80-minute session*

The Student Game Competition (SGC) challenges students to design games in three categories: Games for a Purpose, Innovative Interface, and Innovative Game Design. Students demonstrate their games on Monday (10:00 – 11:30, Hall E Foyer). The final presentations and ceremony is held on Wednesday (16:30 – 17:50, Room 317BC). Winners are also announced at the Closing Plenary.

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**SIMULTANEOUS TRANSLATION SUPPORT**

This year, CHI is planning to provide simultaneous translation from English to Chinese, Japanese and Korean in the main auditorium throughout the first and last day of conference, covering the Opening and Closing sessions along with other sessions. Additional translation support such as machine translation and closed captioning will be available for other sessions throughout the conference.

**Translation Chairs:**

- Susan Fussell, Cornell University, USA
- Naomi Yamashita, NTT, Japan

**Translation Support Committee:**

- Bo Begole, Huawei R&D, USA
- Fanny Chevalier, INRIA, France
- Henry Duh, University of Tasmania, Australia
- Stéphane Huo, Université Paris-Sud, France
- Walter Lasecki, University of Rochester, USA
- Yoojin Lee, Yonsei University, Korea
- Rodrigo de Oliveira, Google, USA
- Masayuki Otani, Kyoto University, Japan
- Eunice Sari, University of Western Australia, Australia
- Saiph Savage, Universidad Nacional Autonómica de México, México
- Juergen Steimle, MIT, TU Darmstadt, Germany
- Sakol Teeravarunyou, King Mongkut’s University of Technology, Thailand
- Bimlesh Wadhwa, National University of Singapore, Singapore
- Koji Yatani, University of Tokyo, Japan
**GENERAL INFORMATION**

### SPECIAL DAYTIME EVENTS

**Student Games Exhibition**

*Hall E Foyer*

Monday, 10:00 – 11:30

CHI attendees can try out the games from the Student Games Competition (listed on page 55) during this special morning break.

**Women’s Breakfast**

*Room 327ABC*

Tuesday, 7:00 – 8:30

This breakfast offers participants the opportunity to broaden personal professional networks in the field of HCI and to engage in discussions on such topics as mentoring networks, work-life balance, diverse success paths, and personal-branding. During this program participants share their stories of success and challenge which can inspire CHI women who may be longtime leaders or new to the field.

**ACM SIGCHI Town Hall Lunch**

*Room 308*

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.

### SPECIAL EVENING EVENTS

**Conference Reception & Exhibits Grand Opening**

*Hall C2/C3*

Monday, 18:00 – 19:30

Catch up with old friends and meet new ones at the CHI 2015 Conference Reception! Explore almost 50 hands-on demonstrations and performances at the Grand Opening of Exhibits and Interactivity. The reception features Korean themed food choices and live performances. 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**

*Hall C2/C3*

Tuesday, 18:00 – 19:30

Recruiters and job candidates are invited to take advantage of the CHI 2015 Job Fair on Tuesday evening. Visit the Recruiting Boards and designated exhibit booths throughout the conference to find out more about available positions.

**CHI 2015 Hero Sponsor Recruiters:**

- Samsung
- Booths 1-3

**CHI 2015 Champion Sponsor Recruiters:**

- Golfzon
- Booths 17 & 18
- Google
- Booths 21 & 22

**CHI 2015 Contributing Sponsor Recruiters:**

- Disney Research
- Recruiting Board
- Facebook
- Booth 16

**CHI 2015 Additional Recruiters:**

- Bentley University
- Recruiting Board
- Cisco Systems
- Recruiting Board
- Robert Bosch
- Recruiting Board
- GE
- Recruiting Board
- LG
- Recruiting Board
- Samsung SDS, CX Team
- Booth 11
- SAP
- Booths 34 & 35
- SMART Technologies
- Recruiting Board
- Splunk, Inc.
- Recruiting Board

**Hospitality Receptions**

*various locations*

Wednesday evening

Private and public receptions are often hosted by different companies, universities, and other organizations on Wednesday evening. Your badge is your ticket to enter if these are public, so please be sure to wear it.
OPENING HOURS

Registration and Merchandise Desk
Register for the CHI 2015 Conference and Workshops at the Registration Desk located on Saturday and Sunday morning in the Level 300 Foyer and for the CHI 2015 Conference and Courses (subject to availability) Sunday afternoon through Thursday in the Hall D1 Foyer of the Convention Center. CHI 2015 Merchandise, including plush toy tigers and T-shirts, will be available for purchase (subject to availability).

Saturday 07:30 – 12:00  Level 300 Foyer
Sunday 07:30 – 10:00  Level 300 Foyer
Sunday 16:00 – 18:00  Hall D1 Foyer
Monday 07:30 – 19:00  Hall D1 Foyer
Tuesday 07:30 – 19:00  Hall D1 Foyer
Wednesday 07:30 – 17:30  Hall D1 Foyer
Thursday 07:30 – 16:30  Hall D1 Foyer

The Commons (Exhibit Hall)
Hall C2/C3 is on Level 3F (3rd floor) of the COEX Convention and Exhibition Center. Here you can enjoy a beverage and light snack during coffee breaks, talk with colleagues or explore Exhibits, Posters and Interactivity demonstrations and performances. Opens on Monday evening.

Monday 18:00 – 19:30  Opening Reception
Tuesday 10:30 – 18:00  (18:00 – 19:30 Job Fair)
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 2015 attendees:

Monday 10:00 – 11:30  Level 300&400 Foyers
15:00 – 16:30  Level 300&400 Foyers
Tuesday-Wednesday 10:50 – 11:30  Hall C2/C3
15:50 – 16:30  Hall C2/C3
Thursday 10:50 – 11:30  Hall C2/C3
15:50 – 16:30  Level 300&400 Foyers

Speaker Ready Room
Room 306
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 309
CHI 2015 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 2015, SIGCHI, and future CHI conferences. CHI 2015 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.

CHI INFORMATION AND POLICIES

CHI 2015 Information Desk  Hall C2/C3
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  Room 301AB
CHI 2015 has well over 100 Student Volunteers, easily identified by their bright colored SV t-shirts. Most are graduate students in human-computer interaction and some are seeking jobs or internships.

Name Badges
Your CHI 2015 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 2015 name badge.

Internet Café
Hall C2/C3
Enjoy chatting with colleagues during the breaks at the Internet Café, located in the Exhibit Hall. CHI 2015 provides access to power for your mobile devices in addition to wireless access.

Wireless Access
CHI 2015 offers wireless high-speed internet access throughout the convention center including in all meeting rooms. Also, please be considerate of your colleagues and limit your time spent online.

Blogging & Photosharing
CHI encourages conference attendees to blog CHI. Please add the category or keyword “CHI 2015” to your blog entries so that others may find them easily. We encourage photosharing by services such as Flickr, but please add a “CHI 2015” tag to your photos and “#chi2015” to your tweets.

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 and ask permission before posting pictures of identifiable people. The use of any type of audio or video recording device is not permitted during any part of the conference.

Smoking Policy
The COEX Convention and Exhibition Center is a non-smoking facility and smoking is permitted outside only in designated areas.
ASIAN CHI SYMPOSIA

CHI 2015 is offering a series of special symposia for topics pertinent to HCI communities across Asia. These symposia may contain content in English or in a regional language. Participants include both presenters and audience members. The symposia descriptions appear in the CHI 2015 Extended Abstracts.

S01 Chinese CHI Symposium: Room 318AB
Chinese HCI Society
Saturday April 18th - Sunday April 19th http://chchi2015.icachi.org/
Chinese CHI is the Chinese leading forum for research in all areas of Human-Computer Interaction. It attracts an international community of practitioners, researchers, academics and students from a wide range of disciplines including user experience design, software engineering, human factors, information systems, social science and creative industries among other disciplines.

Organizers:
- Hao-Chuan Wang, National Tsing Hua University, Taiwan
- Gary Hsieh, University of Washington, USA
- Xiaojun Bi, Google, USA
- Henry Duh, University of Tasmania, Australia
- Yihiu Chen, HTC Creative Labs, USA

S02 Crossing HCI for Development in Asia Pacific Room 319
Sunday April 19th http://hci4d.uxindo.com/
Asia Pacific is well-known for its wide diversity in languages and cultures, which subsequently make the ICT landscapes in the region to be unique and diverse in many terms. This symposium provides an excellent opportunity for academia and professionals to showcase the latest HCI for Development (HCI4D) research, case studies, and industrial engagement in Asia Pacific.

As a part of Asian CHI Symposia (ACHIS) of CHI 2015 conference, we welcome participation from academia and professionals who are interested in the research and development of HCI in Asia Pacific. Under the big conference theme “CROSSINGS”, we would like to bring cross-exchange of information and transfer of knowledge in this multidisciplinary environment and socioeconomic aspects of research in Human-Computer Interaction (HCI).

This symposium is open to everyone interested in HCI and UX.

Organizers:
- Eunice Sari, University of Western Australia, Australia
- Bimlesh Wadhwa, National University of Singapore, Singapore
- Adi Tedjasaputra, UX Indonesia, Indonesia
- Masitah Ghazali, Universiti Teknologi Malaysia, Malaysia
- Anirudha Joshi, IIT Bombay, India

S03 Japanese CHI Symposium 1: Emerging Japanese HCI Research Collection Room 317B
Saturday April 18th http://hci.tokyo/
This symposium showcases the latest work from Japan on interactive systems and user interfaces that address under-explored problems and demonstrate unique approaches.

In addition to circulating ideas and sharing a vision of future research in human-computer interaction, this symposium aims to foster the social network among young researchers and create a fresh community.

Organizers:
- Jun Kato, National Institute of Advanced, Japan
- Hiromi Nakamura, The University of Tokyo, Japan
- Yuta Sugiuira, Keio University, Japan
- Taku Hachisu, University of Electro-Communications, Japan
- Daisuke Sakamoto, The University of Tokyo, Japan
- Koji Yatani, The University of Tokyo, Japan
- Yoshifumi Kitamura, Tohoku University, Japan

S04 Japanese CHI Symposium 2: Japanese Culture and Kansei Room 309
Sunday April 19th http://user-engineering.net/SIGCHI2015/index.html
Psychologically, «Kansei» is related to emotion and cognition and sociologically is related to culture and history. Historically, the origin of the concept of «Kansei» as a Japanese term goes back to «Aesthesis» by Aristotle and «Aesthetics» concepts by Baumgarten and Kant. When this concept was imported to Japan in Meiji era, about 150 years ago, the concept was translated as «Bigaku» or the science of beauty as well as was translated as «Kansei» or the concept with the connotation including sensitivity, sensibility, emotion and feeling. Hence Kansei is related to the science of beauty in its historical background in Japan.

JSKE (Japan Society of Kansei Engineering) started a series of KEER (Kansei Engineering and Emotion Research) conference and ISASE (International Symposium on Affective Science and Engineering) in the latter sense of aesthetics. This is a peculiar situation of the Japanese language. Similarly, the term «Kansei» can be interpreted differently from country to country, and from culture to culture. This symposium is organized to discuss the concept of «Kansei» from different cultural perspectives. For example, «kawaî» is now used internationally as can be found in Wikipedia (http://en.wikipedia.org/wiki/Kawaii) and OED. At the same time, this symposium aims not only to differentiate the differences among various cultures, but also expects to find out the common aspects based on the fact that we are all the human beings with the emotional system and the cognitive system.

Organizers:
- Hisao Shizuka, Fuzzy Logic System Institute, Japan
- Masaaki Kurosu, The Open University of Japan, Japan
- Michiko Ohkura, Shibaura Institute of Technology, Japan
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.

**Jim Hollan** is Professor of Cognitive Science & Computer Science and Engineering at UC San Diego, where he co-directs the Design Lab. Following a postdoc at AI at Stanford, Hollan led the UCSD Intelligent Systems Group in the Institute for Cognitive Science and the Future Technologies Group at NIPRD. He left UCSD to become Director of the MCC Human Interface Lab and subsequently established the Computer Graphics and Interactive Media Research Group at Belcore. He then moved to the University of New Mexico as Chair of the Computer Science Department. He returned to UC San Diego in 1997. Hollan’s early work explored graphical interfaces to aid understanding of complex dynamic systems. This work resulted in a series of training systems (e.g., Steamer and Moboard) and one of the first object-oriented graphics editors. The science that accompanied these development efforts made significant contributions to understanding direct manipulation interfaces and advancing research on mental models. The next phase of Hollan’s research focused on designing multimodal interfaces to high-functionality systems. He led the Human Interface Lab at MCC in creating the Human Interface Tool Suite (HITS), which was among the first prototyping systems to integrate gestures, graphics, sketching, and natural language. Other work begun at MCC on history-enriched digital objects, collaborative filtering, and beyond-being-there continued when he moved to Belcore, where he initiated a large scale project to explore multiscale information visualization. The resulting system, Pad++, was a precursor to current zoomable interfaces. When he returned to UCSD he focused on developing distributed cognition as a theoretical and methodological base for advancing HCI research. In recent work, Hollan and his students are developing tools (ChronoViz) to aid visualization and analysis of multiple streams of video and other time-based data and exploring techniques to help reestablish the context of interrupted activities.

**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. **Michel Beaudouin-Lafon** is Professor of Computer Science, Classe Exceptionnelle, at Université Paris-Sud (France) and a senior fellow of Institut Universitaire de France. He has worked in human-computer interaction for 30 years and was elected to the ACM SIGCHI Academy in 2006. His research interests include fundamental aspects of interaction, novel interaction techniques, computer-supported cooperative work and engineering of interactive systems. He has published over 150 papers and is an ACM Distinguished Speaker. His current research is conducted in the Ex Situ group, a joint lab between Université Paris-Sud, CNRS and Inria, where he heads the 22M€ Digiscope project. Michel is heavily involved in the management of research. He has been vice-president of the computer science department at Université Paris-Sud. He was director of LRI, the laboratory for computer science joint between Université Paris-Sud and CNRS (280 faculty staff, and Ph.D. students), where he heads the Human-Centered Computing lab. He participates in the evaluation of many research institutions and research proposals at the French, European and international levels. He currently sits on the Scientific Committee of CNRS for Computer Science. Michel has worked tirelessly to develop HCI in France. He has advised twenty-eight Ph.D. students and has served on more than 100 Ph.D. and French “habilitation” committees. He founded and co-directs two international masters in HCI, and is co-director of the graduate school in computer science. He founded ARI-PI, the Francophone association for human-computer interaction, and was its first president. Michel has also been active in ACM and SIGCHI for over 20 years. He has served on the program committees of many conferences, especially CHI and UIST, several times (7) as chair or co-chair: He was chair of UST 2001, co-chair of IHM 2004, co-chair of ECSW 2005, and Technical Program Co-chair for CHI 2013 in Paris. He sits on the editorial boards of ACM Books and ACM TOCHI. He has served on the ACM Council and the ACM Publications Board, and on several award and nominating committees of ACM and SIGCHI. He is currently serving chair of CHI Europe Council and on EUACM, the new European policy office of ACM.

**Jean Scholtz** worked as a student volunteer at her first CHI conference in 1988. Since then, she has volunteered at many CHI conferences in various positions including reviewer, session chair, associate reviewer, co-chair of late breaking submissions, co-chair of Technical notes, Co-chair of Organizational Overviews, Co-Industry Liaison, Co-chair of Panels, and Special Area Chair – robotics. She was also the Vice-Chair of Finance of the SIGCHI from 1997–2001. Jean was involved in starting a local SIGCHI in Portland, OR in 1991. CHIFOO (The Computer Human Interaction Forum of Oregon) is still going strong. She also was involved in starting a local Chapter in the District of Columbia in the late 90’s. Jean’s research in the CHI area started with studying transfer of skill in programming languages and identifying the elements needed for tutoring systems to help experienced programmers move to new languages. She continued this work as a faculty member at Portland State University where she developed a master’s degree track in HCI. She spent several years working at Intel where she ran an usability committee and did user requirements for audio and video conferencing systems. She moved to the east coast with her husband and worked at the National Institute of Standards (NIST) and Technology where she helped in developing test environments and metrics for Urban Search and Rescue Robots and Explosive Ordnance Disposal Robots. She was also the driving force behind the NIST Industry Usability Reporting (IUSR) Project. This project developed the Common Industry Format (CIF) that enabled companies to request usability data on software being considered for purchase. CIF became an ANSI/INCITS standard in 2001 and an ISO standard in 2006. Jean also served as a program manager at the Defense Advanced Research Projects Agency (DARPA) where she managed the Collaborative Computing Initiative. Today Jean is retired from NIST but is a chief scientist in the Visual Analytics Group at the Pacific Northwest National Laboratory in Richland, WA. She works part-time and spends the rest of her time gardening and creating mosaics at her home on the Oregon Coast.

**Bill Verplank** is an interaction designer and educator known for his diagrams and sketches. He studied engineering at Stanford and MIT. At Xerox, he participated in testing and refining (and presenting at CHI’83), the Xerox Star. He helped write (and diagram) the SIGCHI Curricula. At Stanford, he learned to teach visual thinking from Bob McKim and helped Terry Winograd create an HCI design course. He was hired by industrial designer Bill Moggridge at ID2 and started “interaction design”; and pioneered tangible user-interfaces (TEI) and experimented with haptic force-feedback. When Interval closed in 2000, he joined Max Mathews at Stanford’s CCRMA to develop a course on HCI for computer

**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.

**Susan M. Dray** has worked to advance human-centered design since 1979, initially in a human factors research group at Honeywell, and later championing usability of corporate systems at American Express. She was one of the founders of SIGCHI in 1982. Since 1993, her consulting firm, Dray & Associates, has provided user experience research for a long list of clients to help them create innovative products and services that are useful, usable, and desirable. Through her publications, teaching, mentoring, and many-speaking engagements, Susan has contributed significantly to the evolution of UX research practice, especially in field research, naturalistic usability evaluation, and international usability and user research. Extensive experience doing research in developing countries led to her involvement in forming a professional community focused on user-centered design for development (UCD4D), applying UCD to technological aspects of economic development. She is currently pursuing this interest as a Fulbright Scholar on the faculty at the Technological University of Panama. Susan is a Fellow of the Human Factors and Ergonomics Society, recipient of the SIGCHI Lifetime Service Award, member of the CHI Academy and an ACM Distinguished Engineer. She is a long-time Column/Forum editor for Interactions and served as Director of Publications on the Board of the User Experience Professionals Association. Susan holds a doctorate in Psychology from UCLA.

**COEX Convention & Exhibition Center | Seoul, Korea | CHI 2015**
SOCIAL IMPACT AWARD

This award is given to individuals who promote the application of human-computer interaction research to pressing social needs.

Leysia Palen is an Associate Professor of Computer Science, and Chair and Associate Professor of Information Science at the University of Colorado Boulder. She is also a Full Adjunct Professor at the University of Agder in Norway. Palen is a graduate of the University of California, San Diego with a BS in Cognitive Science, and of the University of California, Irvine with an MS and PhD in Information and Computer Science. Prof. Palen is the author of over 70 articles and a co-edited book in the areas of human computer interaction, computer supported cooperative work, mobility, and crisis informatics. She was awarded an NSF CAREER in 2006. She is an Associate Editor for the Human Computer Interaction Journal (Taylor and Francis) and for the Computer-Supported Cooperative Work Journal (Springer).

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 human-computer interaction.

Stephen Brewster is a Professor of Human-Computer Interaction in the School of Computing Science at the University of Glasgow. He got his PhD in auditory interfaces at the University of York. After a period spent working in Finland and Norway, he has worked in Glasgow since 1995. His research focuses on multimodal HCI, or using multiple sensory modalities and control mechanisms (particularly hearing, touch and gesture) to create a rich, natural interaction between human and computer. His work has a strong experimental focus, applying perceptual research to practical situations. A long-term focus has been on mobile interaction and how we can design better user interfaces for users who are on the move. He pioneered the study of non-speech audio and haptic interaction for mobile devices with work starting in the 1990s. According to Google Scholar, he has 375 publications. He has served as an Associate Chair, Sub-Committee Chair and Papers Chair, and has chaired the Interactivity, Doctoral Consortium and Student Design Competition tracks at CHI.

Andy Cockburn is a Professor in the Department of Computer Science and Software Engineering at the University of Canterbury in Christchurch, New Zealand, where he directs the Human Computer Interaction Lab. Andy’s research focuses on designing, evaluating and modelling user interfaces that exploit underlying human factors. His contributions include many interface designs that use human spatial memory to support expertise development in basic tasks such as file retrieval, command invocation, window switching and scrolling. With his colleagues and students he has published more than 150 papers, with several receiving best paper and honourable mention awards. Dr. Cockburn serves on the Editorial Board of ACM ToCHI, and he was papers co-chair for CHI 2014 and 2015.

Anind K. Dey is the Charles M. Geschke Chair and Director of the Human-Computer Interaction Institute at Carnegie Mellon University. He has spent much of his career doing research at the intersection of human-computer interaction, ubiquitous computing and machine learning, with a particular focus on context-aware computing. He has authored over 100 papers on these topics and serves on the editorial board of several journals. Before joining the faculty at Carnegie Mellon University, Anind was a Senior Researcher at Intel Labs in Berkeley. Anind received his PhD in computer science from Georgia Tech, along with a Masters of Science in both Computer Science and Aerospace Engineering. He received his Bachelors of Applied Science in Computer Engineering from Simon Fraser University.

Ernest Edmonds is a Research Professor specializing in creative technologies and interactive art systems and is based at the University of Technology, Sydney and at De Montfort University Leicester. His publications include nearly 300 books and papers, including some of the first articles about interactive art (1970), iterative design methods (1974), user interface architectures (1982) and the support of creativity (1989). He founded HCI research centres including Loughborough University Computer Human Interaction Research Centre and the Creativity and Cognition Studios at the University of Technology, Sydney. In 1993, he founded the Creativity & Cognition conference series, a SIGCHI sponsored event since 1999, and was a founding member of the Steering Committee of the ACM SIGART/SIGCHI Intelligent User Interface Conferences. He is well known for his pioneering use of computers in art and has exhibited artwork in many countries. The Victoria and Albert Museum London collects his art and archives. He is currently an active member of the Art.CHI community and will be the Arts Exhibit Chair at CHI2016.

Scott MacKenzie is an Associate Professor of Electrical Engineering and Computer Science at York University, Toronto. His research is in human-computer interaction with an emphasis on human performance measurement and modeling, experimental methods and evaluation, interaction devices and techniques, Fitts’ law, text entry, touch-based and sensor-based input, language modeling, mobile computing, and accessible computing. He earned a PhD in Education from the University of Toronto in 1991.

Sharon Oviatt is internationally known for her work on human-centered, multimodal, mobile, and educational interfaces, as well as interface design and evaluation. She has published over 150 articles in a multidisciplinary range of venues. She was recipient of the inaugural ACM Sustained Accomplishment Award for innovative, long-lasting, and influential contributions to defining the field of multimodal and multimedia interaction, interfaces, and systems. She also was recipient of an NSF Special Creativity Award for pioneering research on mobile multimodal interfaces. Sharon was one of the founders of the ACM International Conference on Multimodal Interfaces, and has served as General or Program Chair five times. She is an Associate Editor of the main journals and edited book collections in the field of human-centered interfaces. Sharon currently serves as President and Director of Inca Designs Nonprofit. For most of her career, she has been in academics, where she has been as a professor of Computer Science, Psychology, and also Linguistics. She received her PhD in Experimental Psychology at University of Toronto. In 2013, Sharon published The Paradigm Shift to Multimodality in Contemporary Computer Interfaces (co-authored with Phil Cohen) will be published in 2015.

Catherine Plaisant is a Senior Research Scientist at the University of Maryland Institute for Advanced Computer Studies, and Associate Director of Research of the Human-Computer Interaction Lab. She earned a PhD in industrial engineering in France. She enjoys working everyday with PhD students and nurturing the supportive environment of the Maryland HCLi community. Inspiration and fun have come from working closely with epidemiologists, engineers, librarians, geographers, intelligence analysts and teachers. Or was it when throwing ideas or polishing interfaces with physicians, literary scholars, social workers, families or persons with disabilities? Early pioneering work focused on touchscreen interfaces, search and browsing, then information visualization became a central theme of research, as well as evaluation strategies. Recent projects include novel designs for electronic health record systems and visual analytics environments for the analysis of temporal event sequences. She co-authored with Ben Shneiderman the 4th and 5th Editions of Designing the User Interface. She launched the Information Visualization and Visual Analytics Challenges, and has served on the editorial boards of Information Visualization and Interacting with Computers, and as guest editor of multiple special issues. Most happy outdoors, enjoying life with friends and family.
**PAST HONOREES**

**SIGCHI Lifetime Research Award**
- 2014 Steve Whittaker
- 2013 George G. Robertson
- 2012 Dan Olsen
- 2011 Terry Winograd
- 2010 Lucy Suchman

**SIGCHI Lifetime Practice Award**
- 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 Mary C. 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**
- 2014 Wendy Mackay, Tom Hewett
- 2013 Joseph A. Konstan
- 2012 Mike Atwood, Kevin Schofield
- 2011 Annie Lund, Jim Miller
- 2010 Mary Czerwinski
- 2009 Clare-Marie Karat, Steven Pemberton
- 2008 John Karat, Marian Williams
- 2007 Richard L. Anderson
- 2006 Susan M. Dray
- 2005 Sara Bly, John ‘Scooter’ Morris, Don Patterson, Gary Perlman, Marilyn Mantel Tremaine
- 2004 Robin Jeffries, Gene Lynch
- 2003 Lorraine Borman
- 2001 Austin Henderson

**SIGCHI Social Impact Award**
- 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

**CHI Academy Members**
- **Class of 2014**
- **Class of 2013**
  - Patrick Baudisch, Victoria Bellotti, Clarisse Sieckennius de Souza, Alan Dix, Rebecca E. Grinter, Eric Horvitz, Bonnie Nardi, Thomas S. Tullis

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**ACM/SIGCHI BEST OF CHI AWARDS**

The SIGCHI “Best of CHI” awards honor exceptional papers published at the CHI conference. The top 5% of submissions are chosen by the associate chairs to receive an award. Among these, the associate chairs and a separate Best Papers Committee select the very best 1% of submissions to receive a Best Paper award.

- The CHI Associate Chairs nominated 5% of the Paper and Notes submissions. 84 papers and notes received a Best Paper Mention, designated by a medallion logo.
- The separate Best Papers committee selected the top 1% of total submissions. 21 Papers and Notes received a Best Paper award, designated by a trophy logo.

**PEOPLE’S CHOICE BEST TALK AWARD**

The People’s Choice Best Talk Awards are meant to celebrate the very best of in-conference presentations. Did a presenter go the extra mile to make their talk genuinely interesting and informative? Did a speaker make you stop and think about something new? Did a presentation make an otherwise dull topic come alive? Nominate the speaker for a People’s Choice Best Talk Award! It takes only a moment, and helps to reward those who spend the extra time to make help make the conference truly memorable and extraordinary.

You may cast as many votes as you wish, provided they don’t occupy the same time slot (overlapping sessions are ok). Please, do not wait until the end of the conference to choose a single ‘best’. Think of your votes as nominations for awards made to the best that the conference has to offer. Vote using the CHI 2015 mobile application or the voting site: http://chi2015.acm.org/vote. Your Voter ID is on the back of your name badge. Winners of the People’s Choice Best Talk Awards will be announced at the CHI 2015 closing plenary!
Two great inventions that opened the era of human-computer interaction design—desktop and mouse—are now disappearing. Computers are becoming smaller and smaller, smarter and smarter. Everyone is now surrounded by many visible and invisible computers, which are all highly connected through the Internet ubiquitously. A new world of artificial intelligence is emerging. When the intelligence of human-being is expanded to his/her surroundings, condensed into a new kind of Intelligent life, the relationship between human-being and the rest of the world has been redefined. How to cross the boundaries and to enable the sustainable interaction between nature (the 1st system), human-beings (the 2nd system), artificial world (the 3rd system), and the cyber world (the 4th system), becomes an interesting proposition and merits new design. But before that, it’s necessary to rethink the anthropocentric view and even design itself. The most attractive feature of design is optimistic. What makes a human being human, lies in that one is not leading a kind of life which merely has needs to be fulfilled, but can also use his/her subjective initiative to control and conduct his/her behavior for a certain common value. Today sustainability is not only a value of ethics, but a value of surviving. How to use and encourage a new kind of HCI design, to generate sustainable behaviors and social changes, further, to redesign the commensalism of the four systems mentioned above will be the main focus of my talk.

**Biography**

Prof. Dr. Lou Yongqi is Dean of the College of Design and Innovation at Tongji University in Shanghai. He is a full professor at Tongji, Visiting Professor at the School of Art, Design, and Architecture at Aalto University in Finland, and Visiting Professor at the School of Design of Politecnico di Milano in Italy. Lou has been the pioneer in China for design-driven innovation education that connects design, business, and technology. He advances these issues through his leadership of two institutions at Tongji University: the College of Design and Innovation, and the Sino-Finnish Centre. He also furthers this agenda through international collaboration.

Lou is a leading figure in sustainable interdisciplinary design education, research, and practice. Lou was the first designer in China to connect social innovation and sustainable design thinking with rural development. This is the subject of his latest book, Design Harvests: An Acupunctural Design Approach Toward Sustainability. Lou’s design works include the United Nations Pavilion of World Expo 2010, the LiangPing New Jindai Sustainable School funded by the China-US Center for Sustainable Development, and the TsingTao Horticultural Expo 2014.

Lou is Vice President of CUMULUS, the International Association of Universities and Colleges of Art, Design, and Media. He is Founding Executive Editor of She Ji — the Journal of Design, Innovation, and Economics published by Tongji University and in cooperation with Elsevier. In 2014, the President of Finland honoured Lou with the Order of the Lion of Finland as a Knight, First Class.

**UX Design in the IoT Era**

Donghoon Chang

Tuesday 21 April, 9:00

Hall D1

The current advancement of IoT technology has accelerated the era of hyper-connectivity in our lives. This has vastly driven convergence among different fields along with the expansion of our thoughts and behaviors. However, to provide meaningful experiences, these relational expansions and unprecedented possibilities opened up by IoT need to be founded on core human values. Furthermore, harmonious integration between technology and design is also essential. Today, I would like to talk about what must be done in order to foster the IoT as a human-centered innovation and how UX design can realize the well-balanced and harmonious IoT environment.

**Biography**

Donghoon Chang is Executive VP, Head of Design Strategy Team and UX Center in Corporate Design Center, Samsung Electronics. Since joining Samsung in 2006, he has played a critical role in establishing the company’s design vision for the future which has gradually shifted from a focus on style and convenience to a holistic user experience design and has developed mid to long-term design strategies, including ‘Design 3.0’ which envisions design that delivers new meaning and delight to people and contributes to society by creating sustainable and innovative value.

Chang received two MFA degrees from the School of the Art Institute of Chicago (Chicago, USA) and Seoul National University (Seoul, Korea). He worked for IBM Korea and Time & Space Tech inc. as a communications specialist and art director respectively. Before joining Samsung, he was a professor at EWHA Womans University (Seoul, Korea) where he taught visual design, information design as well as user experience design. He was selected as ‘the 2nd most creative people in the world’ by Fast Company in 2013.
Biography

David Min is a Senior Research Fellow at LG Electronics and is head of the Software Center. He is known for spearheading one of the most successful SmartTV platforms in the industry, providing a superior user experience and an open API for 3rd party developers.

David studied computer science and statistics at Seoul National University for BS degree and computer science at Korea Advanced Institute of Science & Technology for MS degree. After four years work at Samsung Co., as an IT system analyst, he went to the USA to enroll in the computer science PhD program at the University of Illinois at Urbana-Champaign. After finishing his advanced studies at UIUC, he worked for many years at various companies in computer, software, and consumer electronics industries, including Digital Equipment Corp. (now HP), Microsoft, Samsung Electronics. David joined LG Electronics in 2006.

THURSDAY MORNING KEYNOTE

ACM-W Athena Lecture: Large-Scale Behavioral Data: Potential and Pitfalls
Susan Dumais

Thursday 23 April, 9:00 Hall D1

Over the last decade, the rise of web services has made it possible to gather traces of human behavior in situ at a scale and fidelity previously unimaginable. Large-scale behavioral data enables researchers and practitioners to detect adverse drug reactions and interactions, to understand how information diffuses through social networks, how people browse and search for information, how individual learning strategies are related to educational outcome, etc. Using examples from search, I will highlight how observational logs provide a rich new lens onto the diversity of searchers, tasks, and interactivity that characterize information systems today, and how experimental logs have revolutionized the way in which web-based systems are designed and evaluated. Although logs provide a great deal of information about what people are doing, they provide little insight about why they are doing so or whether they are satisfied. Complementary methods from observations, laboratory studies and panels are necessary to provide a more complete understanding of and support for search which is increasingly a core fabric of people’s everyday lives. The CHI community should lead the way in shaping best practices and policy in behavioral log studies.

Biography

Susan Dumais, ACM Fellow, a Distinguished Scientist at Microsoft, and Deputy Managing Director of the Microsoft Research Lab in Redmond. Prior to joining Microsoft Research, she was at Bell Labs and Bellcore, where she worked on Latent Semantic Analysis, techniques for combining search and navigation, and organizational impacts of new technology. Her current research focuses on user modeling and personalization, context and search and temporal dynamics of information. She has worked closely with several Microsoft groups (Bing, Windows Desktop Search, SharePoint, and Office Online Help) on search-related innovations. Susan has published widely in the fields of information science, human-computer interaction and cognitive science, and holds several patents on novel retrieval algorithms and interfaces. Susan is also an adjunct professor in the Information School at the University of Washington. She is Past-Chair of ACM’s Special Interest Group in Information Retrieval (SIGIR), and serves on several editorial boards, technical program committees, and government panels. She was elected to the CHI Academy in 2005, an ACM Fellow in 2006, received the SIGIR Gerard Salton Award for Lifetime Achievement 2009, was elected to the National Academy of Engineering (NAE) in 2011, and received the ACM Athena Lecturer Award, and Tony Kent Strix Award in 2014.

CLOSING PLENARY

Cultural Crossing from Local to Global through Music: Technology, Media, and Future

PSY

Thursday 23 April, 16:30 Hall D1

Many people think that the global success of the song Gangnam Style has contributed to the tremendous success of the Korean Wave. Being in front of experts in technology and human interactions, I’d like to share my thinking and story about questions like the following: What was the effect of global social media such as YouTube on the global crossing of local culture? How do I plan and utilize the new way of interacting with audience across national and cultural boundaries? Reflecting on the great success of Gangnam Style, what was the main trigger to the big bang of the spread of the Korean wave? As both a musician and an entrepreneur, what do I think is the new process from the ideation of a new song to a global distribution, publicity, and performance of that song? For the creativity that can be appreciated by global audience, how do I think about the technology and media of the future, in terms of creative works? I am looking forward to sharing my experience and opinion here at CHI 2015.

Biography

Jai Sang Park, better known as PSY, is a singer-songwriter, record producer, rapper and entrepreneur. He is best known for producing the first video on YouTube to have exceeded 1 billion views. Gangnam Style is still the most viewed video at over 2.14 billion views, breaking the software counter on the online service. His provocative and irreverent lyrics and style have led to dozens of music awards across the globe.

PSY is a recipient of Korea’s Ministry of Culture’s Okgwan Order of Cultural Merit. PSY studied at Boston University and Berklee College of Music. In addition to music performances, he has given speeches at Harvard and Oxford Universities. PSY speaks about creative processes and impact of social media on our modern cross-cultural society.
MONDAY 11:30 – 12:50

**Opening Plenary Keynote**
8:30 – 10:00
Lou Yonqi
Hall D1
Crossing: HCI, Design and Sustainability

10:00 – 11:30
Video Showcase Presentation
Preview games from Student Games Competition
Room 401
Hall E Foyer

**Room 401**
**Papers: Non-Rigid Interaction Surfaces**

**CHAIR:** JÖRG MÜLLER

BioLogic: Natto Cells as Nanoactuators for Shape Changing Interfaces
Lining Yao, Jiefe Ou, Chin-Yi Cheng, Helene Steiner, Wen Wang, Guanyun Wang, Hiroshi Ishii

Control of Non-Solid Diffusers by Electrostatic Charging
Deepak R. Sohoo, Diego Martinez Plasencia, Srim Subramanian

Investigation of Material Properties for Thermal Imaging-Based Interaction
Yonna Abdelrahman, Alireza Sahami Shirazi, Niels Henze, Albrecht Schmidt

ShapeClip: Towards Rapid Prototyping with Shape-Changing Displays for Designers
John Hardy, Christian Weichel, Faisal Taher, John Vidler, Jason Alexander

FluxPaper: Reinventing Paper with Dynamic Actuation Powered by Magnetic Flux
Masa Ogata, Masaaki Fukumoto

**Room 403**
**Papers: Rethinking Evaluation for Today’s HCI**

**CHAIR:** WENDY E. MACKAY

Remote Paper Prototype Testing
Kevin Chen, Haoqi Zhang

Controlling In-The-Wild Evaluation Studies
Sandy Cloes, Niels Wouters, Karin Siegers, Andrew Vande Moere

Evaluation Probes
Anna Lausua, Johanna Ylipulki, Marka Jumru, Hemrika Pihlajaniemi, Pia Markkanen, Timo Ojala

Gunnar Harboe, Elaine M. Huang

Situational Ethics: Re-thinking Approaches to Formal Ethics Requirements for Human-Computer Interaction
Cosmin Munteanu, Heather Molyneaux, Wendy Moncur, Maria Romero, Susan O’Donnell, John Vines

**Room 402**
**Papers: What do I hear? Communicating with Sound**

**CHAIR:** IAN OAKLEY

TabLETs Get Physical: Non-Visual Text Entry on Tablet Devices
João Guerreiro, André Rodrigues, Kyle Montague, Tiago Guerreiro, Hugo Nicolau, Daniel Gonçalves

VocalSketch: Vocally Imitating Audio Concepts
Mark Cartwright, Bryan Pardo

An Evaluation of Multidimensional Controllers for Sound Design Tasks
Robert Tubb, Simon Dixon

AnnoTone: Record-time Audio Watermarking for Context-aware Video Editing
Ryohei Suzuki, Daisuke Sakamoto, Tokei (garashi)

Exploring Gesture Sonification to Support Reflective Craft Practice
Thomas Smith, Simon J Bowen, Bettina Nissen, Jonathan Hook, Arno Verhoeven, John Bowers, Peter Wright, Patrick Olivier

**Room E1/E2**
**Papers: Improving Game Experiences**

**CHAIR:** LENNART E. NACKE

The Royal Corgi: Exploring Social Gaze Interaction for Immersive Gameplay
Melodie Vidal, Renn Borruth, Andreas Bulling, Hans Gellersen

Exploring 3D User Interface Technologies for Improving the Gaming Experience
Arun Kulshreshth, Joseph LaVoia Jr.

Quantifying and Mitigating the Negative Effects of Local Latencies on Aiming in 3D Shooter Games
Zenja Ivkovic, Ian Stavness, Carl Gutwin, Steven Sutcliffe

First Person vs. Third Person Perspective in Digital Games: Do Player Preferences Affect Immersion?
Alena Denisova, Paul Cairns

VIZMO Game Browser: Accessing Video Games by Visual Style and Mood
Jin Ha Lee, Sungsoo (Ray) Hong, Hyerim Cho, Yea-Seul Kim
MONDAY 11:30 – 12:50

E3 Papers: Facebook Newsfeeds & Friendships
CHAIR: DAVID SHAMMA

“I Always Assumed That I Wasn’t Really That Close to [Her]”: Reasoning About Invisible Algorithms in the News Feed
Motahhare Eslami, Annee N. Rokman, Kristen Vakkaro, Arne Hovland Alesyans, Andy Vuong, Karrie G. Karahalios, Kevin Hamilton, Christian Sandvig

News Feed: What’s in it for Me?
Paul Lapides, Aparna Chokshi, Sheelagh Carpendale, Saul Greenberg

Understanding User Beliefs About Algorithmic Curation in the Facebook News Feed
Emilee Rader, Rebecca Gray

Modelling What Friendship Patterns on Facebook Reveal about Personality and Social Capital
Yang Liu, Joyant Verkatanathan, Jorge A. Goncalves, Evangelos Karapanos, Vassilis Kostakos

E4 Papers: Activism in Wikipedia & Beyond
CHAIR: GARY HSIEH

Cross-language Wikipedia Editing of Okinawa, Japan
Scott A. Hale

Societal Controversies in Wikipedia Articles
Erik Born, Esther Weltevrede, Paolo Cucurulli, Andreas Kaltenbrunner, David Lamad, Giovanni Magini, Michele Mauri, Richard Rogers, Tommaso Venturini

The Heart Work of Wikipedia: Gendered, Emotional Labor in the World’s Largest Online Encyclopedia
Amanda Menking, Ingrid Erickson

Barriers to the Localness of Volunteered Geographic Information
Shilad W. Sen, Heather Ford, David R. Musciant, Mark Graharn, Oliver S. Keyes, Brent Hecht

How Activists Are Both Born and Made: An Analysis of Users on Change.org
Shih-Wen Huang, Minhyang (Mia) Suh, Benjamin Mako Hill, Gary Hsieh

E5 Papers: HMDs & Wearables to Overcome Disabilities
CHAIR: SHALIN K. KANE

Personalized, Wearable Control of a Head-mounted Display for Users with Upper Body Motor Impairments
Meethu Malu, Leah Findlater

Designing Conversation Cues on a Head-Mounted Display to Support Persons with Aphasia
Krasin Williams, Karyn Moffatt, Denise McCaill, Leah Findlater

Head-Mounted Display Visualizations to Support Sound Awareness for the Deaf and Hard of Hearing
Dhruv Jain, Leah Findlater, Jamie Gikason, Benjamin Holland, Ramani Duraiswami, Dmitry Zotkin, Christian Vogler, Ian Freethich

Using Interactive Machine Learning to Support Interface Development Through Workshops with Disabled People
Simon Kastan, Mick Grierson, Rebecca Fiebrink

Tongue-in-Cheek: Using Wireless Signals to Enable Non-Intrusive and Flexible Facial Gestures Detection
Mayank Goel, Chen Zhao, Ruth Vinisha, Swetosh N. Patel

E6 Papers: Visualizing Data
CHAIR: CHRISTOPHE HURTER

MatrixWave: Visual Comparison of Event Sequence Data
Jian Zhao, Zhicheng Liu, Mro Dontaeva, Aaron Hertzmann, Alan Wilson

The Effects of Representation and Juxtaposition on Graphical Perception of Matrix Visualization
Xiaotong Liu, Han-Wei Shen

g-Miner: Interactive Visual Group Mining on Multivariate Graphs
Nan Cao, Yu-Ru Lin, Liangyou Li, Hanghang Tong

Trajectory Bundling for Animated Transitions
Fan Du, Nan Cao, Jian Zhao, Yu-Ru Lin

307 Panel: Transfer of HCI Research Innovations
Technology Transfer of HCI Research Innovations: Challenges and Opportunities
Parmit K. Chilana, Mary P. Czerwinski, Tovi Grossman, Chris Harrison, Ranjitha Kumar, Tapari S. Parkh, Shumin Zhai

308 alt.chi: Augmentation
CHAIR: AARON QUIGLEY

ChameleonMask: Embodied Physical and Social Telepresence Using Human Surrogates
Kana Misawa, Jun Rekimoto

Consider the Moon. Human-Computer Bricolage of Extended Objects
Cosma Rughinis, Razvan Rughinis

The Broken Dream of Pervasive Sentient Ambient Calm
Invisible Ubiquitous Computing
Matthew P. Aylett, Aaron Quigley

A Formal Analysis of the ISO 9241-210 Definition of User Experience
Alexander Mirng, Alexander Meschtscherjakov, Danielo Warhofer, Thomas Meneweger, Manfred Tscheligi

317A C01: Designing Websites for Adults 55+ 1/1
Designing Websites for Adults 55+: Toward Universal Design
Jeff A. Johnson

317BC C02: Cross-Device, Context-dependent UI 1/1
Design and Adaptation for Cross-Device, Context-dependent User Interfaces
Fabio Paternò

318BC C04: Body, Whys & Videotape: Somatic Approaches 1/1
Body, Whys & Videotape: Somatic Approaches to Experience in HCI
Thecla Schiphorst, Lian Lake

12:50 – 14:30
Lunch Break
Restaurants, bars & cafés available nearby
MONDAY 14:30 – 15:50

401 Special: SIGCHI Social Impact Award
CHAIR: LOREN TERVEEN
SIGCHI Social Impact Award Talk
Leysia Palen

402 Papers: Interaction in 3D Space
CHAIR: KENING ZHU
Physical Loci: Leveraging Spatial, Object and Semantic Memory for Command Selection
Simon T. Perrault, Eric Lécotinett, Yoann Pascual Bourse, Shenglong Zhao, Yves Guérard
LeviPath: Modular Acoustic Levitation for 3D Path Visualisations
Thémis Omrani, Aser Marzo, Sue Ann Seath, Sriniv Subramanian
Twist and Learn: Interface Learning in 3DOF Exploration of 3D Scatterplots
Mark Shovman, James Bown, Andrea Szynkowiak, Kenneth C. Scott-Brown
THING: Introducing a Tablet-based Interaction Technique for controlling 3D Hand Models
Merwan Achibet, Géry Casiez, Anatole Lécuyer, Maud Marchal

403 Papers: Understanding & Evaluating Performance
CHAIR: RICHARD C. DAVIS
ModelTracker: Redesigning Performance Analysis Tools for Machine Learning
Saleema Amershi, Max Chickering, Steven M. Drucker, Bongshin Lee, Patrice Simard, Jina Suh
How Good is 85%? A Survey Tool to Connect Classifier Evaluation to Acceptability of Accuracy
Matthew Kay, Shwetak N. Patel, Julie A. Kientz
Examining the Peak-End Effects of Subjective Experience
Andy Cockburn, Philip Quinn, Carl Gutwin
Survival Analysis: Objective assessment of Wait Time in HCI
Siddhartha Asthana, Pushpinder Singh, Parul Gupta

404/E2 Papers: Music & Art
CHAIR: JONATHAN HOOK
Deformable Interfaces for Performing Music
Giavanni Maria Traiano, Esben W. Pedersen, Kasper Hornbæk
Sculpting a Mobile Musical Soundtrack
Adrian Hazzard, Steve Benford, Gary Burnett
Walking by Drawing
Daniela K. Rosner, Alison Chambless, Jeremy Friedland, Hidekazu Saegusa
ArtMaps: Interpreting the Spatial Footprints of Artworks
Tim Coughlan, Laura Carletti, Gabriella Gannachi, Steve Benford, Derek McAuley, Dominic Price, Cristina Locastelli, Rebecca Sinker, John Stack

405 Papers: Supporting Change in Developing Countries
CHAIR: ANIRUDHA JOSHI
Sangeet Swara: A Community-Moderated Voice Forum in Rural India
Aditya Vashishta, Edward Cutrell, Goetano Borrione, William Thies
Mobile Phones for Maternal Health in Rural India
Nehe Kumar, Richard J Anderson
Residual Mobilities: Infrastructural Displacement and Post-Colonial Computing in Bangladesh
Syed Ihsaioque Ahmed, Nusrat Johan Min, Steven J. Jackson
Más Tecnología, Más Cambio? Investigating an Educational Technology Project in Rural Peru
Emeline Therias, Jon Bird, Paul Marshall

406 Papers: Privacy, Security & Interruptions
CHAIR: EMILEE RADER
Playing the Legal Card: Using Ideation Cards to Raise Data Protection Issues within the Design Process
Ewa Luger, Lachlan Urquhart, Tom Rodden, Michael Golembewski
Crowdsourced Exploration of Security Configurations
Qatrunnada Ismail, Taous/Ahmed, Apu Kopusoa, Michael Reiter
Open Book: A Socially-inspired Cloaking Technique that Uses Lexical Abstraction to Transform Messages
Eric Gilbert
Sensors Know When to Interrupt You In the Car: Detecting Driver Interruptibility Through Monitoring of Peripheral Interactions
Seungyun Kim, Jaemin Chun, Anind K. Dey

407 Papers: Making & Sharing Assistive Technologies
CHAIR: SURANGA NANAYAKKARA
Being Seen: Co-Interpreting Parkinson’s Patient’s Movement Ability in Deep Brain Stimulation Programming
Helena M. Mentis, Rita Shewbridge, Sharon Powell, Paul Fishman, Lisa Shulman
Designing for and with People with Parkinson’s: A Focus on Exergaming
Roisin McNaney, Madeline Balaam, Amey Holden, Guy Schofield, Daniel Jackson, Mary Webster, brook galna, gillian barry, Darinyi Mhiripiri, Lynn Rochester, Patrick Olivier
LApp: A Speech Loudness Application for People with Parkinson’s on Google Glass
Roisin McNaney, Ivan Poliakov, John Vines, Madeline Balaam, Pengfei Zhang, Patrick Olivier
The Virtual Meditative Walk: Virtual Reality Therapy for Chronic Pain Management
Diane Gromala, Xin Tong, Amber Choa, Mehdi Karanmoghat, Chris D. Shaw
Sharing is Caring: Assistive Technology Designs on Thingiverse
Erin Buehler, Stacy Branham, Abdullah Ali, Jeremy J. Chang, Megan Kelly Hoffman, Amy Hurst, Shaun K. Kane
E6 Papers: Matching & Facilitating Social Interactions

CHAIR: JOFISH KAYE

Understanding the Role of Community in Online Dating
Christina Masden, W. Keith Edwards

Making Social Matching Context-Aware - Design Concepts and Open Challenges
Julia M. Moyer, Starr Roxanne Hiltz, Quentin Jones

The Known Stranger: Supporting Conversations between Strangers with Personalized Topic Suggestions
Tien T. Nguyen, Duyen T. Nguyen, Shamsi T. Iqbal, Eyal Ofek

Augmenting Social Interactions: Realtime Behavioural Feedback using Social Signal Processing Techniques
Ionut Damian, Chiew Seng Sean Tan, Tobias Baur, Johannes Schöning, Kris Luyster, Elisabeth Andre

E7 C07: Actionable Inexpensive Games Research 1/2

Actionable Inexpensive Games User Research
Lennart E. Nacke, Steve Engels, Pejman Mirza-Babaei

307 Papers: Reflecting Upon Design Reflection

CHAIR: RON WAKKARY

Understanding Long-Term Interactions with a Slow Technology: An Investigation of Experiences with FutureMe
William Odom

Reflective Informatics: Conceptual Dimensions for Designing Technologies of Reflection
Eric P. S. Baumer

Stock Lamp: An Engagement-Versatile Visualization Design
Yuzuru Tanahashi, Kwan-Liu Ma

Real-Time Representation Versus Response Elicitation in Biosensor Data
Mark Matthews, Jaime Snyder, Lindsay Reynolds, Jacqueline T. Chien, Adam Shih, Jonathan W. Lee, Geri Gay

308 Case Studies: Industrial Innovation

CHAIR: DONGWHAN KIM

12 Way Mirror – Reflecting on Window Displays.
Lida Theodorou, Patrick G. T. Healey

Industry Is Changing, And So Must We
Umer Farooq, Joseph T. Munka

BodyGuard: A Case Study of Telecare Product Innovation and Development
Andrea Taylor, Lorna Bernard, Hugh Pacey, Craig Whittet, Samantha Davies, David Hammond, Julian Edge

Volvo Single View of Vehicle: Building a Big Data Service from Scratch in the Automotive Industry
 Pawel Wozniak, Robert Walton, Morten Fjeld

317A C06: Intro to Human-Computer Interaction 1/2

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

317BC C05: Design for Searching & Finding 1/2

Design for Searching & Finding
Daniel Russell, Jaime Teevan, Meredith Ringel Morris, Marti Hearst, Ed H. Chi

318A SIG: Interactive Childhood

CCI SIG: Interactive Childhood - Crossing Cultures and Continents
Janet C. Read, Juan Pablo Hourcade, Allison Druin, Panos Markopoulos, Tilde Bekker, Ole Sejer Iversen

318BC C08: Design for Online Video & Television 1/2

Interaction Design for Online Video and Television
David Geerts, Pablo Cesar
401 Papers: Makers & Hackers

CHAIR: ELLEN-YI-LUEN DO

Tutorial Authorship and Hybrid Designers: The Joy (and Frustration) of DIY Tutorials
Ron Waldkamp, Markus Lorenz Schilling, Matthew A. Dalton, Sabrina Hauser, Audrey Desjardins, Xiao Zhang, Henry W. J. Lin

Hybrid Practice in the Kalahari: Design Collaboration through Digital Tools and Hunter-Gatherer Craft
Jennifer Jacobs, Amit Zoran

The Proper Care and Feeding of Hackerspaces: Care Ethics and Cultures of Making
Austin L. Toombs, Shaowen Bardzell, Jeffrey Bardzell

Patterns of Physical Design Remixing in Online Maker Communities
Lora Oehlberg, Wesley Willett, Wendy E. Mackay

402 Papers: How Fast Can you Type on your Phone?

CHAIR: MICHAEL ROHS

Effects of Language Modeling and its Personalization on Touchscreen Typing Performance
Andrew Fowler, Kurt Partridge, Ciprian Chelba, Xiaojun Bi, Tom Ouyang, Shumin Zhai

VelociTap: Investigating Fast Mobile Text Entry using Sentence-Based Decoding of Touchscreen Keyboard Input
Keith Vertanen, Haythem Memri, Justin Emge, Shyam Reyal, Per Ola Kristensson

Text Entry on Tiny QWERTY Keyboards
Luis A. Leiva, Alireza Sahami, Alejandro Catalá, Niels Henze, Albrecht Schmidt

Performance and User Experience of Touchscreen and Gesture Keyboards in a Lab Setting and in the Wild
Shyam Reyal, Shumin Zhai, Per Ola Kristensson

403 Papers: Understand & Enhancing Learning

CHAIR: CHRIS QUINTANA

Using Time-Anchored Peer Comments to Enhance Social Interaction in Online Educational Videos
Yi-Chieh Lee, Wen-Chieh Lin, Fu-Yin Cherng, Hao-Chuan Wang, Ching-Ying Sung, Jeng-Tai King

Designing a Physical Aid to Support Active Reading on Tablets
Andrea Bianchi, So-Ryang Ban, Ian Oakley

Motivation as a Lens to Understand Online Learners: Towards Data-Driven Design with the OLE! Scale
René F. Kizilcec, Emily Schneider

Large-Scale Educational Campaigns
Yun-En Liu, Christy Ballweber, Eleanor O’Rourke, Eric Butler, Phanaphie Thummaphan, Zoran Popović

E1/E2 Papers: Family Communication

CHAIR: SIÂN E. LINDLEY

Couples’ Communication Channels: What, When & Why?
Henriette Cramer, Maia L. Jacobs

The Messaging Kettle: Prototyping Connection over a Distance between Adult Children and Older Parents
Margot Breneton, Alessandro Sara, Kate Visutis, Paul Rae

The Effect of Signal Expense and Dependability on Family Communication in Rural and Northern Canada
Roberta M. Melvin, Andrea Bunt, Erick Oduor, Carmen Neustaedter

Texting while Parenting: How Adults Use Mobile Phones while Caring for Children at the Playground
Alexis Hinker, Kiley Sobel, Hyewon Suh, Yi-Chen Sung, Charlotte P. Lee, Julie A. Kientz

Exploring Time-Dependent Concerns about Pregnancy and Childbirth from Search Logs
Adam Faumey, Ryan W. White, Eric Horvitz

E3 Papers: Crowdsourcing Fans & Friends

CHAIR: SHAUN LAWSON

Run Spot Run: Capturing and Tagging Footage of a Race by Crowds of Spectators
Martin D. Finnthom, Raphael Veit, Max L. Wilson, Edward J. Anstead, Steve Berndorf, Anthony Brown, Timothy Pearce, Dominic Price, James Sprinks

Crowdsourcing Synchronous Spectator Support: (go on, go on, you’re the best) n-1
Franca Currà, Maria Angela Ferrara, Jon Whittle, Florian Mueller

Bootlegger: Turning Fans into Film Crew
Guy Schofield, Tom Bartindale, Peter Wright

In-group Questions and Out-group Answers: Crowdsourcing Daily Living Advice for Individuals with Autism
Hwajung Hong, Eric Gilbert, Gregory D. Abowd, Rosa L. Amiaga

E4 Papers: Managing Personal Privacy

CHAIR: SAMEER PATIL

Your Location has been Shared 5,398 Times! A Field Study on Mobile App Privacy Nudging
Hazim Almuhmedi, Florian Schaub, Norman Sadegh, Idris Adjerd, Alessandro Acquisti, Joshua Gluck, Lorrie Cranor, Yuvraj Agarwal

Can an Algorithm Know the “Real You”?: Understanding People’s Reactions to Hyper-personal Analytics Systems
Jeffrey Warshaw, Tara Matthews, Steve Whittaker, Chris Kau, Mateo Bengualid, Barton A. Smith

Privacy Tipping Points in Smartphones Privacy Preferences
Fuming Shih, Ilaria Liccardi, Daniel Weitzner

VeiMe: An Interactive Visualization Tool for Privacy Configuration of Using Personality Traits
Yang Wang, Liang Gou, Anbang Xu, Michelle X. Zhou, Huashan Yang, Hernan Badenes
E5 Papers: Health Sensors & Monitoring

CHAIR: REGAN L. MANDRYK

No News is Good News: Remote Monitoring of Implantable Cardioverter-Defibrillator Patients
Mikael B. Skov, Pauline G. Johansen, Charlotte S. Skov, Astrid Lauberg

Smart Homes that Monitor Breathing and Heart Rate
Fadel Adib, Hongzi Mao, Zachary Kabelac, Dina Katabi, Robert C. Miller

Balancing Accuracy and Fun: Designing Camera Based Mobile Games for Implicit Heart Rate Monitoring
Teng Han, Xiang Xiao, Lanfei Shi, John Canny, Jingtao Wang

Measuring Photoplethysmogram-Based Stress-Induced Vascular Response Index to Assess Cognitive Load and Stress
Yongqiang Lyu, Xiaomin Luo, Jun Zhou, Chun Fu, Congcong Miao, Tong Wang, Yuanchun Shi, Ken-ichi Kameyama

E6 Papers: Collaborative Tables, Walls & Rooms

CHAIR: HARALD REITERER

Fluid Grouping: Quantifying Group Engagement around Interactive Tabletop Exhibits in the Wild
Florian Block, James Hammerman, Michael Horn, Amy Spiegel, Jonathan Christiansen, Brenda Phillips, Judy Diamond, E. Margaret Evans, Chia Shen

Up Close and Personal: Collaborative Work on a High-Resolution Multitouch Wall Display
Mikkel R. Jakobsen, Kasper Hornbæk

Flexible Ecologies And Incongruent Locations
Paul K. Luff, Naomi Yamashita, Hideaki Kuzuoka, Christian Heath

Mapping out Work in a Mixed Reality Project Room
Derek Reilly, Andy Echenique, Andy Wu, Anthony Tong, W. Keith Edwards

E7 C07: Actionable Inexpensive Games Research 2/2

Actionable Inexpensive Games User Research
Lennart E. Nacke, Steve Engels, Peyman Mirza-Babaei

307 Papers: The Value of Things

CHAIR: MARK BLYTHE

The Challenges of Using Biodata in Promotional Filmmaking
Stuart Reeves, Sarah E. Martindale, Paul Tennent, Steve Benford, Joe Marshall, Brendan Walker

On Vintage Values: The Experience of Secondhand Fashion Reacquisition
Anne E. Bowser, Oliver L. Hornson, Edward F. Melker, Elizabeth F. Churchill

Your Money’s No Good Here: The Elimination of Cash Payment on London Buses
Gary Pritchard, John Vines, Patrick Oliver

Informing and Improving Retirement Saving Performance using Behavioral Economics Theory-driven User Interfaces
Junius Gunaratne, Oded Nov

308 alt.chi: New User Interfaces

CHAIR: TOVI GROSSMAN

Emergent Interfaces: Constructive Assembly of Identical Units
Alexandru Dancu, Stig Anton Nielsen, Kening Zhu, Ayça Ünlüer, Max Witt, Catherine Hedler, Hanna Frank, Axel Pelling, Christian Carlsson, Morten Fjeld

Your Paper is Dead Bringing Life to Research Articles with Animated Figures
Tovi Grossman, Fanny Chevalier, Rubaib Habib Kazi

“I Woke Up as a Newspaper”: Designing-in Interaction Analytics
Michael Evans, Lianne Kerlin, Caroline Jay

Not all Days are Equal: Investigating The Meaning In The Digital Calendar
Daniel Buzzo, Nicolò Merendino

317A C06: Intro to Human-Computer Interaction 2/2

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

317BC C05: Design for Searching & Finding 2/2

Design for Searching & Finding
Daniel Russell, Jaime Tevan, Meredith Ringel Morris, Marti Hearst, Ed H. Chi

318BC C08: Design for Online Video & Television 2/2

Interaction Design for Online Video and Television
David Geerts, Pablo Cesar

18:00 – 19:30 Conference Reception and Exhibit Grand Opening
Interactivity
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Hall C2/C3

Hall C2/C3
TUESDAY 9:30 – 10:50

7:00 – 8:20  Women’s Breakfast  Room 327ABC

Tuesday Morning Keynote
8:30 – 9:20  Donghoon Chang
Hall D1  UX Design in the IoT Era

401 Papers: Muscle-Computer Interfaces
Chair: Chris Harrison

Understanding Gesture Expressivity through Muscle Sensing
Baptiste Caramiaux, Marco Donnarumma, Atau Tanaka

Informing the Design of Novel Input Methods with Muscle Coactivation Clustering
Myroslav Bachynskyi, Gregorio Palmas, Antti Oulasvirta, Tino Weinkauf

Advancing Muscle-Computer Interfaces with High-Density Electromyography
Christoph Amma, Thomas Krings, Jonas Böer, Tanja Schultz

Proprioceptive Interaction
Pedro Lopes, Alexandra Ion, Wil Mueller, Daniel Hoffmann, Patrick Jonell, Patrick Baudisch

402 Papers: Phones for more than Just Talking & Text
Chair: Naomi Yamashita

AudioScope: Smartphones as Directional Microphones in Mobile Audio Augmented Reality Systems
Florian Heller, Jan Borchers

ScanShot: Detecting Document Capture Moments and Correcting Device Orientation
Jeungmin Oh, Wooheeok Chai, Jaehyun Kim, Uichin Lee

Mechanics of Camera Work in Mobile Video Collaboration
Brennan Jones, Anna Witcraft, Scott Bateman, Carman Neustaedter, Anthony Tang

User Interfaces for Smart Things - A Generative Approach with Semantic Interaction Descriptions
Simon Mayer, Andreas Tschöfen, Anind K. Dey, Friedemann Mattern

Reducing the Stress of Coordination: Sharing Travel Time Information Between Contacts on Mobile Phones
Frank R. Bentley, Ying-Yu Chen, Christian Holz

You Can’t Smoke Here: Towards Support for Space Usage Rules in Location-aware Technologies
Patr@ANDreiCz Samsanova, Xun Tang, Johannes Schäning, Werner Kuhn, Brent Hecht

403 Papers: Search & Recommendations
Chair: Susan Dumais

Blended Recommending: Integrating Interactive Information Filtering and Algorithmic Recommender Techniques
Benedikt Loepf, Katja Hermanny, Juergen Ziegler

A Large-Scale Study of User Image Search Behavior on the Web
Jamie F. Park, Neil O’Hare, Rossano Schifanella, Alejandro Jaimes, Chi-Wan Chung

DynamicMaps: Similarity-based Browsing through a Massive Set of Images
Yanir Kleiman, Joel Lave, Dav Dorian, Yoann Felberbaum, Daniel Cohen-Or

S.O.S.: Does Your Search Engine Results Page (SERP) Need Help?
Maximilian Speicher, Andreas Ball, Martin Gaedke

E1/E2 Papers: Kids Haptic, Wearable, Tangible Learning
Chair: Kori Inkpen

FeelSleeve: Haptic Feedback to Enhance Early Reading
Nesra Yannier, Ali Israr, Jill Fan, Remy, Roberta L. Klitsky

BodyVis: A New Approach to Body Learning Through Wearable Sensing and Visualization
Leylo Norooz, Matthew Louis Mauriello, Anita Jorgensen, Brenna Mcnally, Jon E. Froehlich

Exploring Expressive Augmented Reality: The FingAR Puppet System for Social Pretend Play
Zhen Bai, Alan F. Blackwell, George Coulouris

Learning from Mixed-Reality Games: Is Shaking a Tablet as Effective as Physical Observation?
Nesra Yannier, Kenneth R. Koedinger, Scott E. Hudson

E3 Papers: Motivation & Participation
Chair: Meredith R. Morris

Gauging Receptiveness to Social Microvolunteering
Erin L. Brody, Meredith Ringel Morris, Jeffrey P. Biggam

Mobile Gamification for Crowdsourcing Data Collection: Leveraging the Freemium Model
Kristen Dergousoff, Regan Mandryk

Unequal Time for Unequal Value: Implications of Differing Motivations for Participation in Timebanking
Patrick C. Shih, Victoria Bellotti, Kyungjik Han, John M. Carroll

A Muddle of Models of Motivation For Using Peer-to-Peer Economy Systems
Victoria Bellotti, Alexander Ambard, Daniel Turner, Christina Goissmann, Kamila Demkova, John M. Carroll

You Can’t Smoke Here: Towards Support for Space Usage Rules in Location-aware Technologies
Patr@ANDreiCz Samsanova, Xun Tang, Johannes Schäning, Werner Kuhn, Brent Hecht
Papers: Sustainability & Recycling

**CHAIR:** ADRIAN K. CLEAR

- Analysis of Recycling Capabilities of Individuals and Crowds to Encourage and Educate People to Separate Their Garbage Playfully
  Pascal Lessel, Maximilian Altmeyer, Antonio Krüger
- Why and what did we throw out? Probing on Reflection through the Food Waste Diary
  Eva Ganglbauer, Geraldine Fitzpatrick, Florian Gündelkopf
- Energy Babble: Mixing Environmentally-Oriented Internet Content to Engage Community Groups
  William Gaver, Mike Michael, Tabe Kerridge, Alex Wilkie, Andy Boucher, Liliana Ovalle, Matthew Plummer Fernández
- Beyond the Individual: The Contextual Wheel of Practice as a Research Framework for Sustainable HCI
  Johanne Mose Entwistle, Mia Kruse Rasmussen, Nervo Verdezoto, Robert S. Brewer, Mads Schaarup Andersen

Papers: The Value of the Village in Caregiving

**CHAIR:** LENA MAMYKINA

- Effects of Public Commitments and Accountability in a Technology-Supported Physical Activity Intervention
  Sean A. Munson, Erin Krupka, Caroline Richardson, Paul Resnick
- Rare World: Towards Technology for Rare Diseases
  Haley MacLeod, Kim Oakes, Donika Gessler, Kay Connely, Katie Siek
- Health Vlogs as Social Support for Chronic Illness Management
  Jina Huh, Leslie S. Li, Tina Neogi, Kari M. Irkipen, Wanda Pratt
- Looking for Respite and Support: Technological Opportunities for Spousal Caregivers
  Matthias Tiwier, Myriam Lewkowicz
- Barriers and Negative Nudges: Exploring Challenges in Food Journaling
  Felicia Cordeiro, Daniel A. Epstein, Edison Thomaz, Elizabeth Bales, Arvind K. Jagannathan, Gregory D. Abowd, James Fogarty

Papers: I Like What I See - Interface Aesthetics

**CHAIR:** SIMON J. BOWEN

- Computation of Interface Aesthetics
  Aliaksas Minukovich, Antonella De Angelis
- Patina Engraver: Visualizing Activity Logs as Patina in Fashionable Trackers
  Moon-Hwan Lee, Sejin Cha, Tek-Jin Nam
- Real-time Guidance Camera Interface to Enhance Photo Aesthetic Quality
  Yan Xu, Joshua Ratcliffe, James Scovell, Gheric Speigler, Ronald Azuma
- Infographic Aesthetics: Designing for the First Impression
  Lane Harrison, Katharina Reinecke, Remco Ongsh
- ISOTYPE Visualization – Working Memory, Performance, and Engagement with Pictographs
  Steve Haroz, Robert Kosara, Steven Franconeri

WIP Posters Rotation 1

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Hall C2/C3

Doctoral Consortium Posters

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Hall C2/C3

Interactivity

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Hall C2/C3
TUESDAY 11:30 – 12:50

401 Papers: Smartwatch Interaction
CHAIR: DANIEL ASHBROOK

Investigating the Information Transfer Efficiency of a 3x3 Watch-back Tactile Display
Jaeyeon Lee, Jaehyun Han, Geethyuk Lee

SplitBoard: A Simple Split Soft Keyboard for Wristwatch-sized Touch Screens
Jonggi Hong, Seungkyoo Ha, Poku Isokoski, Geethyuk Lee

Beats: Tapping Gestures for Smartwatches
Ian Oakley, DoYoung Lee, MD. Rasel Islam, Augusto Esteves

WatchConnect: A Toolkit for Prototyping Smartwatch-Centric Cross-Device Applications
Steven Hauben, Nikolai Marquardt

It's About Time: Smartwatches as Public Displays
Jennifer Pearson, Simon Robinson, Matt Jones

402 Papers: Tangible Interactions
CHAIR: OTMAR HILLIGES

TUIkit: Evaluating Physical and Functional Experiences of Tangible User Interface Prototypes
Jorick Vissers, David Geerts

Lamello: Passive Acoustic Sensing for Tangible Input Components
Valkyrie Savage, Andrew Head, Björn Hartmann, Don B. Goldman, Gautham Mysore, Wilmot Li

WonderLens: Optical Lenses and Mirrors for Tangible Interactions on Printed Paper
Rong-Hao Liang, Chao Shen, Yu-Chen Chan, Guan-Ting Chou, Liwei Chan, De-Nian Yang, Mike Y. Chen, Bing-Yu Chen

FugaciousFilm: Exploring Attentive Interaction with Ephemeral Material
Hyosun Kwon, Shashank Jaiswal, Steve Benford, Sue Ann Seah, Peter Bennett, Boriana Kaleva, Holger Schrödelbach

3D Printing Pneumatic Device Controls with Variable Activation Force Capabilities
Marynel Vázquez, Eric Brockmeyer, Ruta Desai, Chris Harrison, Scott E. Hudson

403 Papers: New Evaluation Approaches
CHAIR: DAVID ENGLAND

Bridging the Theory-Practice Gap: Lessons and Challenges of Applying the Attachment Framework for Sustainable HCI Design
Christian Remy, Silke Gegenbauer, Elaine M. Huang

The Transfer of Learning as HCI Similarity: Towards an Objective Assessment of the Sensory-Motor Basis of Naturalness
François Bérard, Amélie Rochet-Capellan

Formalizing Agreement Analysis for Elicitation Studies: New Measures, Significance Test, and Toolkit
Radu-Daniel Vatava, Jacob O. Wobbrock

Exploring the Effect of Pre-operational Priming Intervention on Number Entry Errors
Yunqiu Li, Patrick Odlopmey, Harold Thimbleby

E1/E2 Special: Foundations & Trends in HCI I
CHAIR: GREGORY ABOWD

A Survey of Augmented Reality
Mark Billinghurst, Adrian Clark, Gun Lee

Augmented Reality Expert Panel Discussion
Mark Billinghurst, Wootsak Wao, Thad Stamer, Shabnam Izadi

404 Papers: Smart Smartphone Authentication
CHAIR: ANDREA BIANCHI

I Know What You Did Last Week! Do You? Dynamic Security Questions for Fallback Authentication on Smartphones
Alina Hang, Alexander De Luca, Heinrich Hussmann

Improving Accuracy, Applicability and Usability of Keystroke Biometrics on Mobile Touchscreen Devices
Daniel Buschek, Alexander De Luca, Florian Alt

SwiPIN - Fast and Secure PIN-Entry on Smartphones
Emmanuel van Zeeschitz, Alexander De Luca, Bruno Brunkow, Heinrich Hussmann

Glass Unlock: Enhancing Security of Smartphone Unlocking through Leveraging a Private Near-eye Display
Christian Winkler, Jan Gugenheimer, Alexander De Luca, Gabriel Haas, Philipp Speidel, David Dobbelstein, Enrico Rukzio

I Feel Like I'm Taking Selfies All Day! Towards Understanding Biometric Authentication on Smartphones
Alexander De Luca, Alina Hang, Emmanuel van Zeeschitz, Heinrich Hussmann

Interrupt Now or Inform Later?: Comparing Immediate and Delayed Privacy Feedback
Sameer Patil, Roberto Hoyle, Raman Schlegel, Apu Kapadia, Adam J. Lee

E3 Papers: Evaluating Crowdsourcing
CHAIR: BONGWON SUH

Comparing Person- and Process-centric Strategies for Obtaining Quality Data on Amazon Mechanical Turk
Tanushree Mitra, C.J. Hutto, Eric Gilbert

Crowdsourced Feedback With Imagery Rather Than Text: Would Designers Use It?
David A. Robb, Stefano Patiklo, Britta Kalkreuter, Mike J. Chantler

Measuring Crowdsourcing Effort with Error-Time Curves
Justin Cheng, Jame Teven, Michael S. Bernstein

The Effects of Sequence and Delay on Crowd Work
Walter S. Laskeci, Jeffrey M. Rzeszotarski, Adam Marcus, Jeffrey P. Bigham

Crowd Size, Diversity and Performance
Lionel Robert, Daniel M. Romero

E4 Papers: Smart Smartphone Authentication
CHAIR: ANDREA BIANCHI

I Know What You Did Last Week! Do You? Dynamic Security Questions for Fallback Authentication on Smartphones
Alina Hang, Alexander De Luca, Heinrich Hussmann

Improving Accuracy, Applicability and Usability of Keystroke Biometrics on Mobile Touchscreen Devices
Daniel Buschek, Alexander De Luca, Florian Alt

SwiPIN - Fast and Secure PIN-Entry on Smartphones
Emmanuel van Zeeschitz, Alexander De Luca, Bruno Brunkow, Heinrich Hussmann

Glass Unlock: Enhancing Security of Smartphone Unlocking through Leveraging a Private Near-eye Display
Christian Winkler, Jan Gugenheimer, Alexander De Luca, Gabriel Haas, Philipp Speidel, David Dobbelstein, Enrico Rukzio

I Feel Like I’m Taking Selfies All Day! Towards Understanding Biometric Authentication on Smartphones
Alexander De Luca, Alina Hang, Emmanuel van Zeeschitz, Heinrich Hussmann

Interrupt Now or Inform Later?: Comparing Immediate and Delayed Privacy Feedback
Sameer Patil, Roberto Hoyle, Raman Schlegel, Apu Kapadia, Adam J. Lee
TUESDAY 11:30 – 12:50

E5 | Papers: Healthcare Bias, Engagement & Adaptation
CHAIR: TAE-JUNG YUN

From Care Plans to Care Coordination: Opportunities for Computer Support of Teamwork in Complex Healthcare
Ofra Amir, Barbara J. Grosz, Krzysztof Z. Gajos, Sonya M. Swersens, Lee M. Sanders

Technological and Organizational Adaptation of EMR Implementation in an Emergency Department
Sun Young Park, Yoonan Chen, Scott Rudkin

Engaging Pregnant Women in Kenya with a Hybrid Computer-Human SMS Communication System
Trevor Perrier, Nicola Dell, Brian DeRenzi, Richard Anderson, John Knuthia, Jennifer Unger, Grace John-Stewart

It Is All About Perspective: An Exploration of Mitigating Selective Exposure with Aspect Indicators
Q. Vera Liao, Wai-Tat Fu, Sri Shilpa Mamidi

E6 | Papers: Storytelling in InfoVis
CHAIR: CHARLES PERIN

Storytelling in Information Visualizations: Does it Engage Users to Explore Data?
Jeremy Boy, Jean-Daniel Fekete, Françoise Detienne

Understanding Data Videos: Looking at Narrative Visualization through the Cinematography Lens
Fereshteh Amini, Nathalie Henry Riche, Christophe Hurter, Bongshin Lee, Pourang Irani

How Deceptive are Deceptive Visualizations?: An Empirical Analysis of Common Distortion Techniques
Anshul Vikram Pandey, Katharina Rall, Margaret L. Satterthwaite, Oded Noy, Enrico Bertini

STRATOS: Using Visualization to Support Decisions in Strategic Software Release Planning
Bon Adriell Aserienio, Tiffany Wun, David Leda, Guenther Ruhe, Anthony Tang, Sheelagh Carpendale

E7 | C11: Methods for Child Computer Interaction 2/2
Research Methods for Child Computer Interaction
Janet C. Read, Shuli Gilutz

307 | Panel: You’ve Been Acquired!
You’ve Been Acquired!
Iram W. Mirza, Meng Chee

12:50 – 14:30
Lunch Break
Restaurants, bars & cafés available nearby

TUESDAY
**TUESDAY 14:30 – 15:50**

**401 Special: SIGCHI Lifetime Research Award**

**CHAIR:** SCOTT R. KLEMMER  
SIGCHI Lifetime Research Award Talk  
James Hollan

**402 Papers: Grip, Move & Tilt: Novel Interaction**

**CHAIR:** JESSICA CAUCHARD

- Supporting Subtlety with Deceptive Devices and Illusory Interactions  
  Fraser Anderson, Tovi Grossman, Daniel Wigdor, George Fitzmaurice

- Understanding Users’ Touch Behavior on Large Mobile Touch-Screens and Assisted Targeting by Tilting Gesture  
  Yuuki Chang, Sehi Li Yi, Kyle Koh, Jinwook Seo

- One-Handed Bend Interactions with Deformable Smartphones  
  Audrey Grouard, Jessica La, Md Riyadh, Farshad Daliri, Alexander Keith Eady, Jerome Pasquero

- Grip Change as an Information Side Channel for Mobile Touch Interaction  
  Matei Negulescu, Joanna McGrenere

- An Experimental Comparison of Vertical and Horizontal Dynamic Peephole Navigation  
  Jens Müller, Roman Rädle, Hans-Christian Jetter, Harald Reiterer

**403 Papers: Interactive Video & Collaborative Annotations**

**CHAIR:** AMY OGAN

- RIMES: Embedding Interactive Multimedia Exercises in Lecture Videos  
  Juho Kim, Elena L. Glassman, Andres Monroy-Hernandez, Meredith Ringel Morris

- A Framework for Automatically Generating Interactive Instructional Scaffolding  
  Eleanor O’Rourke, Erik Andersen, Sumit Gulwani, Zoran Popovic

- Mudslide: A Spatially Anchored Census of Student Confusion for Online Lecture Videos  
  Elena L. Glassman, Juho Kim, Andres Monroy-Hernandez, Meredith Ringel Morris

- Making Software Tutorial Video Responsive  
  Cuong Nguyen, Feng Liu

- Gaze-Based Annotations for Reading Comprehension  
  Shiwei Cheng, Zhiqiang Sun, Lingyun Sun, Kirsten Yee, Anind K. Dey

**E1/E2 Papers: HCI for the Elderly**

**CHAIR:** MARIA K. WOLTERS

- An Age Old Problem: Examining the Discourses of Ageing in HCI and Strategies for Future Research  
  John Vines, Gary Pritchard, Peter C. Wright, Patrick O’Reilly, Katie Brittain

- Long-Term Use of Motion-Based Video Games in Care Home Settings  
  Kathrin M. Gerling, Regan L. Mandryk, Conor Linehan

- CoFaçade: A Customizable Assistive Approach for Elders and Their Helpers  
  Jason Chen Zhao, Richard C. Davis, Pin Syn Faong, Shengdong Zhao

- “My hand doesn’t listen to me!”: Adoption and Evaluation of a Communication Technology for the ‘Oldest Old’  
  Barbara Barbara Neves, Rachel L. Franz, Cosmin Munteanu, Roland Boecker

**E3 Papers: The Impact of Crowd Work on Workers**

**CHAIR:** JAIME TEEVAN

- Working with Machines: The Impact of Algorithmic and Data-Driven Management on Human Workers  
  Min Kyung Lee, Daniel Kusbit, Evan Metsky, Laura Dabbish

- TurkBench: Rendering the Market for Turkers  
  Benjamin V. Hannah, Justin K. Williamowski, Saiganesh Swaminathan, David B. Martin

- Exploring the Role of Activity Trace Design on Evaluations of Online Worker Quality  
  Jennifer Martow, Laura A. Dabbish, Jodi L. Forlizzi

- We Are Dynamo: Overcoming Stalling and Friction in Collective Action for Crowd Workers  
  Nilesh Sathish, Lily C. Iran, Michael S. Bernstein, Ali Akhbat, Eva Ogbe, Kristy Millan, ClickHappier

- Understanding Malicious Behavior in Crowdsourcing Platforms: The Case of Online Surveys  
  Ujwal Gadiraju, Ricardo Kowase, Stefan Dietze, Gianluca Demartini

**E4 Papers: Social Media and Mobile Camera Privacy**

**CHAIR:** PAM BRIGGS

- “I Saw Images I Didn’t Even Know I Had” Understanding User Perceptions of Cloud Storage Privacy  
  Jason W. Clark, Peter Edwin Snyder, Darnell McCoy, Chris Kaniech

- Sensitive Lifelogs: A Privacy Analysis of Photos from Wearable Cameras  
  Roberto Hayle, Robert Templeman, Denise Anthony, David Crandall, Apu Kapadia

- Somebody’s Watching Me? Assessing the Effectiveness of Webcam Indicator Lights  
  Rebecca S. Parnoff, Linda N. Lee, Serge Egelman, Pratyush Mishra, Derek Leung, David Wagner

- From Third to Surveilled Place: The Mobile in Irish Pubs  
  Norman Makoto Su, Lulu Wang

- Is This Thing On? Crowdsourcing Privacy Indicators for Ubiquitous Sensing Platforms  
  Sergei Egelman, Raghudeep Karnavara, Richard Chow
E5 Papers: DIY Healthcare: Apps & Wearables
CHAIR: DAVID COYLE

- Blood Pressure Beyond the Clinic: Rethinking a Health Metric for Everyone
  Logan Kendall, Dan Morris, Desney Tan

- Concealing or Revealing Mobile Medical Devices?
  Designing for Onstage and Offstage Presentation
  Aisling O’Kane, Yvonne Rogers, Ann E. Blundford

- Understanding Individual Differences for Tailored Smoking Cessation Apps
  Jeni Paay, Jesper Kjeldskov, Mikael B. Skov, Lars Lichan, Stephan Rasmussen

- FeedFinder: A Location-Mapping Mobile Application for Breastfeeding Women
  Madeline Balaam, Rob Comber, Selina Sutton, Ed Jenkins, Andy Garbett

E6 Papers: Social Embodied Interaction
CHAIR: GINA VENOLIA

- Using an Interactive Avatar’s Facial Expressiveness to Increase Persuasiveness and Socialialness
  Jennifer Hyde, Elizabeth J. Carter, Sara Kiesler, Jessica K. Hodgins

- Study on Gaze Direction Perception of Face Image Displayed on Rotatable Flat Display
  Ikkaku Kawaguchi, Hideaki Kuzuoka, Yusuke Suzuki

- DynamicDuo: Co-presenting with Virtual Agents
  Ho Trinh, Lazio Ring, Timothy Bickmore

- My Self and You: Tension in Bodily Sharing of Experience
  Menta M. Mentis, Jarmo Laaksolahti, Kristina Höök

E7 C15: HCI Lessons: From Earth to Outer Space 1/2

- HCI Lessons: From Earth to Outer Space... and Back
  Guy André Boy, Jeffrey M. Bradshaw, Soyeon Yi

307 Papers: Innovation in Theories & Products
CHAIR: VOLKER WULF

- From User-Centered to Adoption-Centered Design: A Case Study of an HCI Research Innovation Becoming a Product
  Parmit K. Chilana, Andrew J. Ko, Jacob Wobbrock

- Creating Sustainable Cyberinfrastructures
  David P. Randall, Eliona Diamant, Charlotte P. Lee

- Standards and/or Innovation: Protocols, Creativity, and Interactive Systems Development in Ecology
  Steven J. Jackson, Sarah Barbrow

- Does Distance Still Matter? Revisiting the CSCW Fundamentals on Distributed Collaboration
  Pernille Bjorn, Morten Ebbensen, Rasmus Eskild Jensen, Sina Matthiessen
TUESDAY 16:30 – 17:50

401  Papers: Design and 3D Object Fabrication
CHAIR: DAVID KIM

- **Tactum: A Skin-Centric Approach to Digital Design and Fabrication**
  Madeleine Gannon, Tovi Grossman, George Fitzmaurice

- **A Layered Fabric 3D Printer for Soft Interactive Objects**
  Huashu Peng, Jennifer Mankoff, Scott E. Hudson, James McCarthy

- **Platener: Low-Fidelity Fabrication of 3D Objects by Substituting 3D Print with Laser-Cut Plates**
  Dustin Beyer, Sara Guevich, Stefanie Mueller, Hsiang-Ting Chen, Patrick Baudisch

- **D-Coil: A Hands-on Approach to Digital 3D Models Design**
  Huashu Peng, Amit Zoran, Francois V. Guimbretière

402  Papers: Understanding & Extending Touch Interfaces
CHAIR: THEOPHANIS TSANDILAS

- **Performance and Ergonomics of Touch Surfaces: A Comparative Study using Biomechanical Simulation**
  Myroslav Bachynskyi, Gregorio Palmas, Antti Oulasvirta, Jürgen Steimle, Tino Weinkauf

- **How Much Faster is Fast Enough? User Perception of Latency & Latency Improvements in Direct and Indirect Touch**
  Jonathan Deber, Ricardo Jota, Clifton Forlines, Daniel Wigdor

- **The Effect of Edge Targets on Touch Performance**
  Daniel Avrahami

- **FlickBoard: Enabling Trackpad Interaction with Automatic Mode Switching on a Capacitive-sensing Keyboard**
  Ying-Chao Tung, Ta Yang Cheng, Ning-Hao Yu, Chuan Wang, Mike Y. Chen

- **ExtensionSticker: A Proposal for a Striped Pattern Sticker to Extend Touch Interfaces and its Assessment**
  Kunihiro Kato, Homei Miyashita

403  Papers: Sharing & Collaboration @ Work
CHAIR: STEVEN M. DRUCKER

- **MUBox: Multi-User Aware Personal Cloud Storage**
  Michael Nebeling, Matthias Geel, Oleksiy Syvatskin, Maria Nannicelli

- **DocuViz: Visualizing Collaborative Writing**
  Doksun Wang, Judith S. Olson, Jingwen Zhang, Trung Nguyen, Gary M. Olson

- **Communication through Boundary Objects in Distributed Agile Teams**
  Johan Kaj Blomkvist, Johan Persson, Johan Aberg

- **How to Drive a London Bus: Measuring Performance in a Mobile and Remote Workplace**
  Gary W. Pritchard, Pam Briggs, John Vines, Patrick Olivier

E1/E2  Papers: Families and Their Use of Technology
CHAIR: JENNIFER MARLOW

- **Managing Children’s Online Identities: How Parents Decide what to Disclose about their Children Online**
  Tawfiq Ammar, Priya Kumar, Clift Lampe, Sarita Schoenebeck

- **Understanding and Supporting Fathers and Fatherhood on Social Media Sites**
  Tawfiq Ammar, Sarita Schoenebeck

- **Family Rituals and the Potential For Interaction Design: A Study of Christmas**
  Daniele Petrelli, Ann Light

- **Look, My Baby Is Using an iPad! An Analysis of YouTube Videos of Infants and Toddlers Using Tablets**
  Juan Pablo Hourcade, Sarah L. Mascher, David C. Wu, Luiza Pantoja

E3  Papers: Understanding Crowdwork in Many Domains
CHAIR: UICHIN LEE

- **Apparition: Crowdsourced User Interfaces That Come To Life As You Sketch Them**
  Walter S. Lasecki, Juho Kim, Nick Rafter, Onkur Sen, Jeffrey P. Bigham, Michael S. Bernstein

- **Zensors: Adaptive, Rapidly Deployable, Human-Intelligent Sensor Feeds**
  Gierad Laput, Walter S. Lasecki, Jason Wiese, Robert Xiao, Jeffrey P. Bigham, Chris Harrison

- **Exploring Privacy and Accuracy Trade-Offs in Crowdsourced Behavioral Video Coding**
  Walter S. Lasecki, Mitchell Gordon, Winnie Leung, Ellen Lim, Jeffrey P. Bigham, Steven P. Dow

- **Crowdsourcing Stereotypes: Linguistic Bias in Metadata Generated via GWAP**
  Johana Ottebacher
E4 | Papers: Eco-Green: Encouraging Energy Conservation

CHAIR: GERMAINE IRWIN

Will Simm, Maria Angela Ferrara, Adrian Friday, Peter Newman, Stephen Forshaw, Mike Hazas, Alan Dix

Designing Persuasive Technology to Manage Peak Electricity Demand in Ontario Homes
Valerie Sugarman, Edward Lank

Eco-Forecasting for Domestic Electricity Use
Jesper Kjeldskov, Mikael B. Skov, Jens Paay, Dennis Lund, Tue Madsen, Michael Nielsen

Beyond Eco-Feedback: Adding Online Manual and Automated Controls to Promote Workplace Sustainability
Roy Yu, Azizan Aziz, Peter Scupelli, Bertrand Lostemars, Chenzhu Zhang, Vivian Lofthus

Understanding the Role of Thermography in Energy Auditing: Practical Concepts and the Potential for Automated Solutions
Matthew Louis Maunella, Leyla Norooz, Jon E. Froehlich

E5 | Papers: Sports Tracking & Training

CHAIR: HAO-HUA CHU

Keepin’ it Real: Challenges when Designing Sports-Training Games
Mads Møller Jensen, Majken K. Rasmussen, Florian Mueller, Kaj “Floyd” Grønbæk

Flow is Not Enough: Understanding the Needs of Advanced Amateur Runners to Design Motivation Technology
Kristina M. Knuaning, Paweł W. Ważniak, Morten Fjeld, Staffan L. Björk

Jogging with a Quadcopter
Florian Mueller, Matthew Munhead

ClimbSense - Automatic Climbing Route Recognition using Wrist-worn Inertia Measurement Units
Felix Kosmalla, Florian Daber, Antonio Krüger

E6 | Papers: Feeling & Communicating Emotions

CHAIR: RONGRONG WANG

Towards Multimodal Affective Feedback - Interaction between Visual and Haptic Modalities
Akshita Akshita, Harini Atagarai Sampath, Bipin Indukuri, Eunhwa Lee, Yudong Bae

Emotions Mediated Through Mid-Air Haptics
Marianna Obrist, Srinam Subramanian, Eko Gatti, Benjamin Lang, Thomas Carter

In the Heat of the Moment: Subjective Interpretations of Thermal Feedback During Interaction
Graham Wilson, Gavin Davidson, Stephen Brewster

EnviroPulse: Providing Feedback about the Expected Affective Valence of the Environment
Deltcho Vatchanov, Mark Hancock

E7 | C15: HCI Lessons: From Earth to Outer Space 2/2

TUEcI Lessons: From Earth to Outer Space... and Back
Guy André Boy, Jeffrey M. Bradshaw, Soyeon Yi

307 | Papers: Critical Design

CHAIR: GIULIO JACUCCI

Expanding and Refining Design and Criticality in HCI
James Pierce, Phoebe J. Sengers, Tod Hirsch, Tom Jenkins, William W. Gaver, Carl DiSalvo

Immodest Proposals: Research Through Design and Knowledge
Jeffrey Bardzell, Shoosro Bandezi, Lane Koefed Hansen

Making Multiple Uses of the Obscursa 1C Digital Camera: Reflecting on the Design, Production, Packaging and Distribution of a Counterfunctional Device
James Pierce, Eric Paulos

Pause Moment Experience in SNS Communication
Jae-eul Bae, Youn-kyung Lim, Jin-boe Bong, Myung-suk Kim

308 | Special: Human Computer Interaction Journal 1

CHAIR: SHARON OVIATT

Providing Adaptive Health Updates Across the Personal Social Network
Wendy Marucel, Judith Masthoff, Ehud Reiter, Yvonne Freer, Hien Nguyen

User Experience of On-Screen Interaction Techniques: An Experimental Investigation of Clicking, Sliding, Zooming, Hovering, Dragging, and Flipping
S. Shyam Sundar, Saraworth Beluk, Jeeyun Oh, Qian Xu, Haiyan Jia

WallTop: Managing Overflowing Windows on a Large Display
Xiaojun Bi, Seok-Hyung Bae, Ravn Balakrishnan

317A | C14: Mobile Human-Computer Interaction 2/2

Mobile Human-Computer Interaction
Niels Henriët, Enrico Rukzio

317BC | C13: Methods for HCI Research 2/2

Methods for Human-Computer Interaction Research
Sandy J. Gould, Duncan P. Brumby, Anna L. Cox, Geraldine Fitzpatrick, Jodie Hootnout, David Lomas, Effie Law

318A | SIG: Start and Run a SIGCHI Local Chapter

How and Why to Start and Run a SIGCHI Local Chapter
Tuomo Kujala

318BC | C16: Sketching User Experiences 2/2

Sketching User Experiences: The Hands-on Course
Nicola Manurard, Saul Greenberg
401 Papers: HMDs in Augmented & Virtual Reality
CHAIR: SHAHARAM IZADI

Eye-Wearable Technology for Machine Maintenance: Effects of Display Position and Hands-free Operation
Xianjun Sam Zheng, Cedric Foucault, Patrik Matos da Silva, Siddharth Dasari, Tao Yang, Stuart Goose

Belt: An Unobtrusive Touch Input Device for Head-worn Displays
David Dobbelstein, Philipp Hock, Enrico Rukzio

Content Destabilization for Head-Mounted Displays
Felix Lauber, Sophie Cook, Andreas Butz

A Dose of Reality: Overcoming Usability Challenges in VR Head-Mounted Displays
Mark McGill, Daniel Boland, Roderick Murray-Smith, Stephen A. Brewster

Accuracy of Pedometry on a Head-mounted Display
Ilias Apostolopoulos, Dan Comming, Eelke Folmer

Level-Ups: Motorized Stilts that Simulate Stair Steps in Virtual Reality
Dominik Schmidt, Rob Kovacs, Vikram Mehta, Udayan Unnopathi, Sven Kühler, Lung-Pan Cheng, Patrick Baudisch

402 Papers: Tangible Interaction with Phones
CHAIR: SHENGDONG ZHAO

Acoustroments: Passive, Acoustically-Driven, Interactive Controls for Handheld Devices
Gierad Laput, Eric Brockmeyer, Scott E. Hudson, Chris Harrison

HaptiCase: Back-of-Device Tactile Landmarks for Eyes-Free Absolute Indirect Touch
Christian Corsten, Christian Cherek, Thorsten Karrer, Jan Borchers

The Trial of Bendi in a Coffeehouse: Use of a Shape-Changing Device for a Tactile-Visual Phone Conversation
Young-Woo Park, Joohee Park, Tek-Jin Nam

SpecTrans: Versatile Material Classification for Interaction with Textureless, Specular and Transparent Surfaces
Munehiko Sato, Shigeo Takahashi, Alex Olwal, Boxin Shi, Atsushi Hiyama, Tamohiro Tankawa, Michitaka Hirose, Ramesh Raskar

403 Papers: UI Impact on Performance & Decisions
CHAIR: TOM GROSS

Displayed Uncertainty Improves Driving Experience and Behavior: The Case of Range Anxiety in an Electric Car
Malte F. Jung, David Srnik, Turgut M. Güç, Martin Steiner

Designing Information for Remediating Cognitive Biases in Decision-Making
Yunfeng Zhang, Rachel K. E. Bettany, Wendy A. Kellogg

Quick Affective Judgments: Validation of a Method for Primed Product Comparisons
Jussi P. Jokinen, Johanna Maria Silvennoinen, Pia M. Pentilä, Perri O. Saariluoma

Effects of Ad Quality & Content-Relevance on Perceived Content Quality
Henriette Cramer

E1/E2 Papers: Player Performance & Experience in Games
CHAIR: JAN D. SMEDDINCK

The Goal of Scoring: Exploring the Role of Game Performance in Educational Games
Casper Harteveld, Steven C. Sutherland

Moving Beyond Fun: Evaluating Serious Experience in Digital Games
Ioanna Iacovides, Anna L. Cox

Now You Can Compete With Anyone: Balancing Players of Different Skill Levels in a First-Person Shooter Game
Rodrigo Vicencio-Moreira, Regan L. Mandryk, Carl Gutwin

All about that Base: Differing Player Experiences in Video Game Genres and the Unique Case of MOBA Games
Daniel Jarvinen, Lennart E. Nacke, Peta A. Wyeth

E3 Papers: Neighborhoods & Disadvantaged Communities
CHAIR: KATHARINA REINECKE

Exploring Learning Ecologies among People Experiencing Homelessness
Angelika Strohmayer, Rob Comber, Madeline Balaam

The Promise of the Sharing Economy among Disadvantaged Communities
Tawanna R. Dillahunt, Amelia R. Malone

Practice-based Design of a Neighborhood Portal: Focusing on Elderly Tenants in a City Quarter Living Lab
Claudia Müller, Dominik Hornung, Theodor Ham, Walker Wulf

This Digital Life: A Neighborhood-Based Study of Adolescents’ Lives Online
Jessica A. Pater, Andrew D. Miller, Elizabeth D. Mynatt
**E4** Papers: Enhanced Security with Passwords & CAPTCHAs  
**CHAIR:** SERGE EGELMAN

Towards Making Random Passwords Memorable: Leveraging Users’ Cognitive Ability Through Multiple Cues  
Mahdi Nasrullah Al-Ameen, Matthew Wright, Shannon Scielzo

ActivPass: Your Daily Activity is Your Password  
Sourav Kumar Dandapat, Swadhin Pradhan, Bivas Mitra, Remit Ray Choudhury, Nitay Gargyul

Constructing Secure Audio CAPTCHAs by Exploiting Differences between Humans and Machines  
Hendrik Meutzner, Santosh Gupta, Dorothea Kolossa

Easy to Draw, but Hard to Trace? On the Observability of Grid-based (Un)lock Patterns  
Emanuel von Zezschwitz, Alexander De Luca, Philipp Janssen, Heinrich Hussmann

On the Effectiveness of Pattern Lock Strength Meters — Measuring the Strength of Real World Pattern Locks  
Youngbae Song, Geumhwan Cho, Seongyeol Oh, Hyojuhchinn Kim, Jun Ho Huh

**E5** Papers: Accessibility at Home & on The Go  
**CHAIR:** HIRONOBU TAKAGI

RegionSpeak: Quick Comprehensive Spatial Descriptions of Complex Images for Blind Users  
Yu Zhong, Walter S. Lasecki, Erin Brady, Jeffrey P. Bigham

An Assisted Photography Framework to Help Visually Impaired Users Properly Aim a Camera  
Marynel Vázquez, Aaron Steinfeld

FingerReader: A Wearable Device to Explore Printed Text on the Go  
Roy Shilkrot, Jochen Huber, Wong Meng Ee, Patti Moes, Surangga Chandino Nanajokatara

Collaborative Accessibility: How Blind and Sighted Companions Co-Create Accessible Home Spaces  
Stacy M. Branham, Shaun K. Kane

**E6** Papers: Telepresence Video, Robots, and Walls  
**CHAIR:** JOHN TANG

ImmerseBoard: Immersive Telepresence Experience using a Digital Whiteboard  
Keita Higuchi, Yinpeng Chen, Philip A. Chou, Zhengyou Zhang, Zicheng Liu

Can You See Me Now? How Field of View Affects Collaboration in Robotic Telepresence  
Steven J. Johnson, Irene Rae, Bilge Mutlu, Leila A. Takayama

Sharing Domestic Life through Long-Term Video Connections  
Carman Neustaedter, Carolyn Pong, Azadeh Forghani, Erick Oduor, Serena Hillman, Tejinder K. Judge, Michael Massimi, Saul Greenberg

Accuracy of Deictic Gestures to Support Telepresence on Wall-sized Displays  
Ignacio Avellino, Cédric Fleury, Michel Beaudouin-Lafon

**E7** C18: Speech-based Interaction 1/2

Speech-based Interaction: Myths, Challenges, and Opportunities  
Cosmin Munteanu, Gerald Penn

**307** Papers: Experience Design for Games  
**CHAIR:** FLORIAN MUELLER

Automatic Game Progression Design through Analysis of Solution Features  
Eric Butler, Erik Andersen, Adam M. Smith, Sumit Gulwani, Zoran Popovic

Pass the Ball: Enforced Turn-Taking in Activity Tracking  
John Roosby, Mattias Rast, Alistair Morrison, Matthew Chalmers

The Data Driven Lives of Wargaming Miniatures  
Dimitrios Paris Darzentas, Michael A. Brown, Martin Flintham, Steve Benford

Provenance for the People: An HCI Perspective on the W3C PROV Standard through an Online Game  
Khaled Bachour, Richard Wetzel, Martin Flintham, Trung Dang Huynh, Tom Rodden, Luc Moreau

**308** alt.chi: Arts and Philosophy  
**CHAIR:** MORGAN AMES

Reimagining Digital Fabrication as Performance Art  
Laura Devendorf, Daniela K. Rosner

Behind The Scenes at HCI’s Turn To The Arts  
Rachel Jacobs, Steve Benford, Ewa A. Lugier

Touch OfThe Eye: Does Observation Reflect Haptic Metaphors In Art Drawing?  
Suk Kyung Choi, Steve DiPaolo

Games Against Health: A Player-Centered Design Philosophy  
Conor Linehan, Sabine Harrer, Ben J. Kirman, Shaun W. Lawson, Marcus Carter

317A C17: Intro to Creating Musical Interfaces 1/2

Introduction to Creating Musical Interfaces  
Michael J. Lyons, Sidney S. Fels

318BC C19: Designing Surveys for HCI Research 1/2

Designing Surveys for HCI Research  
Hendrik Müller, Aaron Sedley
**Papers: Digital & Materials Fabrication**

**Chair:** STEFANIE MUELLER

Foundations of Materials Experience: An Approach for HCI
Elisa Giaccardi, Elvin Karana

Raf Romkens, Kashyap Tod, Kris Luyten

Data-Things: Digital Fabrication Situated within Participatory Data Translation Activities
Betina Nissen, John Bowers

Being the Machine: Reconfiguring Agency and Control in Hybrid Fabrication
Lauro Devendorf, Kimiko Ryokai

**Papers: Tactile Notifications for Phones & Wearables**

**Chair:** MAX WILSON

OmniVib: Towards Cross-body Spatiotemporal Vibrotactile Notifications for Mobile Phones
Jesselyn Alvina, Simon T. Perrault, Thijs Ruumen, Shengdong Zhao, Maryam Azh, Morten Fjeld

NotiRing: A Comparative Study of Notification Channels for Wearable Interactive Rings
Thijs Ruumen, Simon T. Perrault, Shengdong Zhao

Skin Drag Displays: Dragging a Physical Tactor across the User’s Skin Produces a Stronger Tactile Stimulus than Vibrotactile
Alexandra Ion, Edward Jay Wang, Patrick Baudisch

Cruise Control for Pedestrians: Controlling Walking Direction using Electrical Muscle Stimulation
Max Pfeiffer, Tim Dünte, Stefan Schneegass, Florian Alt, Michael Rohs

Affordance++: Allowing Objects to Communicate Dynamic Use
Pedro Lopes, Patrik Jonell, Patrick Baudisch

**Papers: Automation and Interactive Feedback**

**Chair:** DAVIDE SPANO

“Automation Surprise” in Aviation: Real-Time Solutions
Frederic Dehais, Vsevolod Pysakhrivich, Sébastien Scannella, Jennifer Fangue, Tribault Gouteau

The Role of Environmental Predictability and Costs in Relying on Automation
Steven C. Sutherland, Casper Harteveld, Michael E. Young

An Architecture for Generating Interactive Feedback in Probabilistic User Interfaces
Julia Schwarz, Jennifer Mankoff, Scott E. Hudson

IDSense: A Human Object Interaction Detection System Based on Passive UHF RFID
Hanchuan Li, Can Ye, Alanson P. Sample

**Papers: Art & Performance**

**Chair:** THECLA SCHIPHORST

What if HCI Becomes a Fashion Driven Discipline?
Yue Pan, Erik Stolterman

The Smartphone Project - An Augmented Dance Performance
Leif Oppermann, Clemens Putschi, Constantin Brasela, Oleksandr Lobunets, Fabien Proville

I’d Hide You: Performing Live Broadcasting in Public
Stuart Reeves, Christian Greiffenhagen, Martin Finnham, Steve Benford, Matt Adams, Ju Raw Fan, Nicholas Tandavanitj

Making the Invisible Visible: Design to Support the Documentation of Participatory Arts Experiences
Jonathan Hook, Rachel Clarke, John McCarthy, Kate Anderson, Jane Dudman, Peter Wright

Trap it! : A Playful Human-Biology Interaction for a Museum Installation

**Papers: Bridging People & Beliefs with Social Media**

**Chair:** N. SADAT SHAMI

Modeling Ideology and Predicting Policy Change with Social Media: Case of Same-Sex Marriage
Amy X. Zhang, Scott Counts

“Is it Weird to Still Be a Virgin?:” Anonymous, Locally Targeted Questions on Facebook Confession Boards
Jeremy Birnholtz, Nicholas Aaron Ross Merola, Arindam Paul

Social Media Dynamics of Global Co-presence During the 2014 FIFA World Cup
Jae Won Kim, Dongwoo Kim, Brian Keegan, Joan Hee Kim, Sijn Kim, Alice Oh

Bridges into the Unknown: Personalizing Connections to Little-known Countries
Yelena Mejova, Javier Borge-Hallhoefer, Ingmar Weber

**Special: Foundations & Trends in HCI 2**

**Chair:** YVONNE ROGERS

Choice Architecture for Human-Computer Interaction
Anthony Jameson, Bettina Berendt, Silvia Gabrielli, Federico Cena, Cristina Gena, Fabiana Venera, Katharina Reinecke

Designing for Healthy Lifestyles: Design Considerations for Mobile Technologies to Encourage Consumer Health and Wellness
Sunny Consolvo, Predrag V. Kluznya, David W. McDonald, James A. Landay
E5  Papers: Quantified Self for Humans & Pets  
CHAIR: RODRIGO DE OLIVEIRA

Change of Heart: Emotion Tracking to Promote Behavior Change  
Victoria Hollis, Artie Konrad, Steve Whittaker

Beyond Self-Tracking and Reminders: Designing Smartphone Apps That Support Habit Formation  
Katarzyna Stawarz, Anna L. Cox, Ann Blandford

Problematising Upstream Technology through Speculative Design: The Case of Quantified Cats and Dogs  
Shaun Lawson, Ben Kimman, Conar Linehan, Tom Feltwell, Lisa Hopkins

Re-Centering Multispecies Practices: A Canine Interface for Cancer Detection Dogs  
Clara Mancini, Rob Harris, Brendan Aengenheister, Claire Guest

E6  Papers: Visualizing Statistics & Graphs  
CHAIR: BENJAMIN BACH

(s|qu)eries: Visual Regular Expressions for Querying and Exploring Event Sequences  
Emanuel Zgraggen, Steven M. Drucker, Danyel Fisher, Robert DeLine

Statsplorer: Guiding Novices in Statistical Analysis  
Chat Wacharamanotham, Krishna Subramanian, Sarah Theres Völkel, Jan Borchers

Investigating the Direct Manipulation of Ranking Tables for Time Navigation  
Romain Vuillemin, Charles Perin

Dynamic Opacity Optimization for Scatter Plots  
Justin Matejka, Fraser Anderson, George Fitzmaurice

Evaluating How Level of Detail of Visual History Affects Process Memory  
Eric D. Ragan, John R. Goodall, Albert Tang

E7  C18: Speech-based Interaction 2/2

Speech-based Interaction: Myths, Challenges, and Opportunities  
Cosmin Munteanu, Gerald Perri

307  Panel: Transdisciplinary Design in Education  
Transdisciplinary Interaction Design in Design Education  
Eli Blevis, Ilpo K. Kaskinen, Kun Pyo Lee, Susanne Bødker, Lin-Lin Chen, Youn-kyung Lim, Huaxin Wei, Ron Wakkary

308  Special: Human Computer Interaction Journal 2  
CHAIR: SCOTT R. KLEMMER

What Designers Talk About When They Talk About Context  
Jared S. Bauer, Mark W. Newman, Julie A. Kientz

Multi-sited Design: An Analytical Lens for Transnational HCI  
Amanda M. Williams, Silvia Lindtner, Kent Anderson, Paul Dourish

A Design Thinking Rationality Framework: Framing and Solving Design Problems in Early Concept Generation  
Jieun Kim, Hokyong Ryu

A Situated Approach of Roles and Participation in Open Source Software Communities  
Flore Barcellini, Francoise Deterne, Jean-marie Burkhardt

317A  C17: Intro to Creating Musical Interfaces 2/2

Introduction to Creating Musical Interfaces  
Michael J. Lyons, Sidney S. Fels

317BC Special: Student Research Competition Finals  
Student Research Competition  
Thad Stamer, Regan L. Mandryk, Tilde Bekker, John Tang, Xiangshi Ren

318A  SIG: Online Deliberative Processes and Tech  
Design for Online Deliberative Processes and Technologies: Towards a Multidisciplinary Research Agenda  
Weiyu Zhang, Lu Xia, Anna Przybylska, Anna De Liddo, Gregorio Convertino, Todd Davies, Mark Klein

318BC C19: Designing Surveys for HCI Research 2/2

Designing Surveys for HCI Research  
Hendrik Müller, Aaron Sedley
WEDNESDAY 14:30 – 15:50

401  Special: SIGCHI Lifetime Practice Award

**CHAIR:** JACOB ROBERT

SIGCHI Lifetime Practice Award Talk
Susan Dray

402  Papers: Understanding Everyday Use of Mobile Phones

**CHAIR:** MATT JONES

Demand in My Pocket: Mobile Devices and the Data Connectivity Marshalled in Support of Everyday Practice
Carolynne Lord, Mike Hazas, Adrian K. Cear, Oliver Bates, Rosalind Whitton, Janine Morley, Adrian Friday

An In-Situ Study of Mobile App & Mobile Search Interactions
Juan Pablo Carrascal, Karen Church

The Composition and Use of Modern Mobile Phonebooks
Frank R. Bentley, Ying-Yu Chen

To Call or to Recall? That’s the Research Question
Juan Pablo Carrascal, Rodrigo de Oliveira, Mauro Cherubini

403  Papers: GUI Size, Resolution & Layout

**CHAIR:** ENRICO RUKZIO

Effects of Display Size and Resolution on User Behavior and Insight Acquisition in Visual Exploration
Khairi Reda, Andrew E. Johnson, Michael E. Papka, Jason Leigh

Subjective and Objective Effects of Tablet’s Pixel Density
Lars Lischke, Sven Mayer, Katrin Wolf, Alireza Sahami, Niels Henze

Push-Edge and Slide-Edge: Scrolling by Pushing Against the Viewport Edge
Sylvain Malacria, Jonathan Aceituno, Philip Quinn, Géry Casiez, Andy Cockburn, Nicolas Roussel

Investigating Visual Feedforward for Target Expansion Techniques
Maxime Guillot, François Lettiner, Laurence Nigay

GACA: Group-Aware Command-based Arrangement of Graphic Elements
Pengfei Xu, Hongbo Fu, Chew-Lan Tai, Tokeo Igoshin

411  Papers: Kids Social, Emotional & Special Needs

**CHAIR:** KONSTANTINOS KAZAKOS

Designing Social and Emotional Skills Training: The Challenges and Opportunities for Technology Support
Petr Slovák, Ran Glad-Bachrodt, Geraldine Fitzpatrick

Designing Autism Research for Maximum Impact
Elizabeth J. Carter, Jennifer Hyke

Networked Empowerment on Facebook Groups for Parents of Children with Special Needs
Tawfiq Ammar, Santa Schoenebeck

Toward 3D-Printed Movable Tactile Pictures for Children with Visual Impairments
Jeeun Kim, Tom Yeh

Multimodal Analysis in Participatory Design with Children: A Primary School Case Study
Jan Derboven, Maarten Van Mechelen, Karin Segers

The Fun-Serious Ambiguity in Educational Game
Jan Derboven, Beke Zaman, Jorick Vissers, David Geerts, Dirk De Grooff

412  Papers: HCI for Civic Engagement

**CHAIR:** JOHN VINES

HCl, Civic Engagement & Trust
Mike Harding, Bran Knowles, Nigel Davies, Mark Rouncefield

Factful: Engaging Taxpayers in the Public Discussion of a Government Budget
Juho Kim, Eun-Young Ko, Jonghyuk Jung, Chang Won Lee, Nam Woak Kim, Jhee Kim

Contesting the City: Enacting the Political Through Digitally Supported Urban Walks
Clara Crivellaro, Rob Comber, Martyn Dade-Robertson, Simon J. Bowen, Peter Wright, Patrick Olivier

Data-in-Place: Thinking through the Relations Between Data and Community
Alex S. Taylor, Siân E. Lindley, Tim Regan, David Sweeney, Vasillis Vlachokyriakos, Lilie Granger, Jessica Lingel
E4 Papers: Security Feedback & Warnings

CHAIR: ALEXANDER DE LUCA

Scaling the Security Wall: Developing a Security Behavior Intentions Scale (SeBIS)
Serge Egelman, Eyal Peer

How Polymorphic Warnings Reduce Habituation in the Brain—Insights from an fMRI Study
Bonnie Brinton Anderson, C. Brock Kirwan, David Eagle, Jeffrey L. Jenkins, Seth Howard, Anthony Vance

Improving SSL Warnings: Comprehension and Adherence
Adrienne Porter Felt, Alex Ainslie, Robert W. Reeder, Sunny Consolvo, Somas Thyagaraja, Alan Bestes, Helen Harris, Jeff Grimes

A Spoonful of Sugar? The Impact of Guidance and Feedback on Password-Creation Behavior
Richard Shoy, Lujo Bauer, Nicolas Christin, Lorrie Faith Cranor, Alain Forget, Saranga Komanduri, Michelle L. Mkaurek, William Melicher, Sean M. Segreti, Blase Ur

E5 Papers: Wellness & Wearables

CHAIR: MARIANNA OBRIST

Snot, Sweat, Pain, Mud, and Snow - Performance and Experience in the Use of Sports Watches
Jakob Tholander, Stina Nylander

Contextual Influences on the Use and Non-Use of Digital Technology While Exercising at the Gym
Misha Patel, Aisling Ann O'Kane

TastyBeats: Designing Palatable Representations of Physical Activity
Rohit Ashok Khot, Jeewon Lee, Deepthi Aggarwal, Larissa Hjorth, Florian ‘Floyd’ Mueller

As Light as your Footsteps: Altering Walking Sounds to Change Perceived Body-Weight, Emotional State and Gait
Ana Tejedor Jimenez, Maria Busia, Ophelia Deroy, Merle Fairhurst, Nicole Marquardt, Nadia Bianchi-Berthouze

E6 Papers: Task Interruption & Resumption

CHAIR: MARTIN HALVEY

SwitchBack: Using Focus and Saccade Tracking to Guide Users’ Attention for Mobile Task Resumption
Alexander Mariakakis, Mayank Goel, Md Tanvir Islam Aumi, Shwetak N. Patel, Jacob O. Wobbrock

EyeBookmark: Assisting Recovery from Interruption during Reading
Jaemin Ja, Bohyoung Kim, Jinwook Seo

The Effects of Chronic Multitasking on Analytical Writing
Danielle M. Lattimore, Christine Rosaler, Catherine S. Oh, Sean J. Westwood, Katherine A. Baldoni, Abrey S. Mann, Clifford J. Nass

What Makes Interruptions Disruptive? A Process-Model Account of the Effects of the Problem State Bottleneck on Task Interruption and Resumption
Jelmer P. Borst, Niels A. Taatgen, Hedderik van Rijn

Interruptibility of Software Developers and its Prediction Using Psycho-Physiological Sensors
Manuela Züger, Thomas Fritz

E7 C22: Rapid Design Labs - Design-Led Innovation 1/2

Rapid Design Labs—A Tool to Turbocharge Design-Led Innovation
Jim E. Nieters, Carola Felzen Thompson

307 Panel: 10 Years of alt.chi

10 Years of alt.chi: Reflections and Outlook
Morgan G. Ames, Silvia Lindner, Barry Brown, Daniela K. Rosner, Sidney S. Feis, Roel Vertegaal

308 C20: Designing Wearable Interfaces 1/2

The Glass Class: Designing Wearable Interfaces
Mark Billinghurst, Dr. Thad Starner

317A C21: Experience Sampling to Collect Deep Data 1/2

Using Experience Sampling Methodology to Collect Deep Data About Your Users
Kathy K. Baxter, Anna Avrekh, Bob Evans

317BC Special: Student Design Competition Finals

Student Design Competition
Elisa Giaccardi, Will Odom, Zhiyong Fu, Jung-Joo Lee

318BC C23: Conceptual Models: Core to Good Design 1/2

Conceptual Models: Core to Good Design
Jeff A. Johnson
401 Papers: Using Random Body Parts for Input

Chair: Patrick Baudisch

Skin: Flexible, Stretchable and Visually Customizable On-Body Touch Sensors for Mobile Computing
Martin Weigel, Tong Lu, Giles Bolly, Artti Oulasvirta, Carmel Majid, Jürgen Steinle

Cyclops: Wearable and Single-Piece Full-Body Gesture Input Devices
Liuwei Chen, Chi-Hiao Hsieh, Yi-Ling Chen, Shuo Yang, Da-Yuan Huang, Rong-Hao Liang, Bing Yu Chen

Bodyprint: Biometric User Identification on Mobile Devices Using the Capacitive Touchscreen to Scan Body Parts
Christian Holz, Senaka Buthpitiya, Manus Knaust

NailO: Fingernails as an Input Surface
Hsin-Liu (Cindy) Kao, Artem Demenjey, Joseph A. Paradiso, Chris Schmandt

Exploring Subtle Foot Plantar-based Gestures with Sock-placed Pressure Sensors
Koumei Fukahori, Daizuke Sakamoto, Takeo Igarashi

402 Papers: Brain & Physiological Data use for HCI

Chair: Jacob Robert

Classification Accuracy from the Perspective of the User: Real-Time Interaction with Physiological Computing
Stephen H. Fairclough, Alexander J. Kanan, Kiel Gillesde

Measurable Decision Making with GSR and Pupillary Analysis for Intelligent User Interface
Jianlong Zhou, Jinjun Sun, Fang Chen, Yang Wang, Rannie Tab, Ahmad Khojaj, Zhidong Li

Designing Implicit Interfaces for Physiological Computing: Guidelines and Lessons Learned using fNIRS
ErinTreacy Solovey, Daniel A. Afbergan, Evan M. Peck, Samuel W. Hincks, Robert J.K. Jacob

Examining the Reliability of Using fNIRS in Realistic HCI Settings for Spatial and Verbal Tasks
Horia A. Maior, Matthew Pike, Sarah Sharpies, Max L. Wilson

403 Papers: Software Engineering Tools

Chair: Feng Tian

StructJump: A Tool to Help Blind Programmers Navigate and Understand the Structure of Code
Catherine M. Baker, Lauren R. Milne, Richard E. Ladner

OverCode: Visualizing Variation in Student Solutions to Programming Problems at Scale
Elena L. Glassman, Jeremy Scott, Rishabh Singh, Philip J. Guo, Robert C. Miller

An Interactive System for Data Structure Development
Jian Ou, Martin Vechev, Osnar Hilliges

Polymorphic Blocks: Formalism-Inspired UI for Structured Connectors
Sarin Lerner, Stephen R. Foster, William G. Griswold

E1/E2 Papers: HCI at Home

Chair: David Geertts

Investigating Genres and Perspectives in HCI Research on the Home
Audrey Desjardins, Ron Wakkary, William Odom

Building Change: Constructive Design of Smart Domestic Environments for Goal Achievement
Ryan Brotman, Winslow Burksen, Jack Fontzi, William Heywood, JiSoo Lee

uCap: An Internet Data Management Tool for the Home
Marshini Chetty, Hyojoon Kim, Srikanth Sundaresan, Sam Burnett, Nick Feamster, W. Keith Edwards

Mediating Attention for Second Screen Companion Content
Timothy Neate, Matt Jones, Michael Evans

E3 Papers: Voting & Volunteerism

Chair: Andres Monroy-Hernandez

Social Media Effectiveness for Public Engagement: Example of Small Nonprofits
Youyang Hou, Cliff Lampe

Exploring Barriers to the Adoption of Mobile Technologies for Volunteer Data Collection Campaigns
Sunyoung Kim, Jennifer Markoff, Eric Pulos

“Everyone Is Talking about It!”: A Distributed Approach to Urban Voting Technology and Visualisations
Lisa Koeman, Voivo Kahlkaitë, Yvonne Rogers

Design Challenges in Supporting Distributed Knowledge: An Examination of Organizing Elections
Nina Boulus-Radje, Pernille Bjorn

E4 Papers: Socio-Political Interactions

Chair: Liang Gou

The Politics of Measurement and Action
Kathleen H. Pine, Max Liborion

Beyond Participatory Production: Digitally Supporting Grassroots Documentary
David Philip Green, Simon J. Bowen, Christopher Newell, Guy Schofield, Tom Bartindale, Clara Crivellaro, Alia Sheikh, Peter C. Wright, Patrick Olivier

Designing Political Deliberation Environments to Support Interactions in the Public Sphere
Bryan Semaan, Heather Faucett, Scott P. Robertson, Miso Morayana, Sara Douglas

Debating Poverty Porn on Twitter: Social Media as a Place for Everyday Socio-Political Talk
Phil Brooker, John Vines, Selina Sutton, Julie Barnett, Tom Feltwell, Shaun Lawson
E5 Papers: Understanding Health through Online Behavior

**CHAIR:** MARY P.CZERWINSKI

Recognizing Depression from Twitter Activity
Sho Tsugawa, Yusuke Kikuchi, Fumio Kishima, Kasuke Nakajima, Yuchi Itoh, Hiroyuki Ohnoki

You Tweet What You Eat: Studying Food Consumption Through Twitter
Sofiane Abbar, Elena Mejova, Ingmar Weber

Rethinking the Mobile Food Journal: Exploring Opportunities for Lightweight Photo-Based Capture
Felicia Cardeira, Elizabeth Bates, Erin Cherry, James Fogarty

Collective Sensemaking in Online Health Forums
Lena Mamykina, Drasko Nakić, Noemie Elhadad

E6 Papers: Natural User Interfaces for InfoVis

**CHAIR:** BONGSHIN LEE

Opportunities and Challenges for Data Physicalization
Yvonne Jansen, Pierre Dragicevic, Petra Isenberg, Jason Alexander, Abhijit Karnik, Johan Kildal, Srinav Subramanian, Kasper Hornbæk

Exploring Interactions with Physically Dynamic Bar Charts
Faisal Taher, John Hardy, Abhijit Karnik, Christian Weichel, Yvonne Jansen, Kasper Hornbæk, Jason Alexander

Evaluating the Memorability of Physical Visualizations
Simon Stusak, Jeannette Schwarz, Andreas Butz

Personality as a Predictor of User Strategy: How Locus of Control Affects Search Strategies on Tree Visualizations
Alvitta Ottley, Huahai Yang, Remco Chang

SketchSiders: Sketching Widgets for Visual Exploration on Wall Displays
Theophanis Tsandilas, Anastasia Bezerianos, Thibaut Jacob

E7 C22: Rapid Design Labs - Design-Led Innovation 2/2

Rapid Design Labs—A Tool to Turbocharge Design-Led Innovation
Jim E. Nieters, Carola Felkenz Thompson

307 Papers: UX Methods 4

**CHAIR:** BENJAMIN V. HANRAHAN

Two-Level Personas for Nested Design Spaces
Anke Dittmar, Maximilian Hensch

The Work of Mad Men that Makes the Methods of Math Men Work: Practically Occasioned Segment Design
Michael F. Clarke

Flow of Competence in UX Design Practice
Colin M. Gray, Austin L. Toombs, Shad D. Gross

E7 C20: Designing Wearable Interfaces 2/2

The Glass Class: Designing Wearable Interfaces
Mark Billinghurst, Dr. Thad Starner

317A C21: Experience Sampling to Collect Deep Data 2/2

Using Experience Sampling Methodology to Collect Deep Data About Your Users
Kathy K. Baxter, Anna Avrekh, Bob Evans

317BC Special: Student Game Competition Finals

Student Game Competition
Casper Harteveld, Peter Lee, Seth Cooper

318A SIG: Understanding Sports

Understanding Sports-HCI by Going Jogging at CH
Florian Mueller, Joe Marshall, Rohit Ashok Khot, Stina Nylander, Jakob Tholander

318BC C23: Conceptual Models: Core to Good Design 2/2

Conceptual Models: Core to Good Design
Jeff A. Johnson
### 401 Papers: Augmented & Virtual Reality in the Real World

**Chair:** Morten Fjeld

- **Substitutional Reality: Using the Physical Environment to Design Virtual Reality Experiences**  
  Adalberto L. Simeone, Eduardo Velloso, Hans Gellersen

- **The Semantic Paintbrush: Interactive 3D Mapping and Recognition in Large Outdoor Spaces**  
  Ondrej Miksik, Vibhav Vineet, Morten Lidgard, Ram Prasaath, Matthias Niessner, Stuart Golodetz, Stephen L. Hicks, Patrick Perez, Shatranj Izadi, Philip HS Torr

- **User-Defined Game Input for Smart Glasses in Public Space**  
  Ying-Chao Tung, Chun-Yen Hsu, Han-Yu Wang, Silva Chyou, Jhe-Wei Lin, PEI-JUNG WU, Andries Valstar, Mike Y. Chen

- **Retargeting Technical Documentation to Augmented Reality**  
  Peter Mohr, Bernhard Kerbl, Michael Donoser, Dieter Schmalstieg, Dennis Kalkofen

### 402 Papers: Gesture Elicitation & Recognition

**Chair:** Niels Henze

- **Using Soft-Constraints to Reduce Legacy and Performance Bias in Gesture Elicitation Studies**  
  Jaime Ruiz, Daniel Vogel

- **Unistroke Gesture Recognition Through Polyline Approximation and Alignment**  
  Vittorio Fuccella, Gennaro Costagliola

- **Gesture On: Enabling Always-On Touch Gestures for Fast Mobile Access from the Device Standby Mode**  
  Hao Lu, Yang Li

- **Optimizing Touchscreen Keyboards for Gesture Typing**  
  Brian A. Smith, Xiaojun Bi, Shumin Zhai

- **Design and Evaluation of a Self-Correcting Gesture Interface based on Error Potentials from EEG**  
  Felix Pulze, Christoph Ayma, Tanja Schultz

### 403 Papers: Programming Environments

**Chair:** Joonhwan Lee

- **Constructing Conceptual Knowledge Artefacts: Activity Patterns in the Ontology Authoring Process**  
  Markel Vigo, Caroline Jay, Robert Stevens

- **Helping Users Bootstrap Ontologies: An Empirical Investigation**  
  Yuhao Zhang, Tania Tudorache, Matthew Hornidge, Mark A. Musen

- **A Spreadsheet Model for Handling Streaming Data**  
  Kerry Shih-Ping Chang, Brad A. Myers

- **TextAlive: Integrated Design Environment for Kinetic Typography**  
  Jun Kato, Tomoyasu Nakano, Masataka Goto

- **Power: Empowerment and Open Source Usability**  
  Mikko Rajanen, Netta Iivari

### E1/E2 Papers: Digital Collections, Practice & Legacy

**Chair:** Will Odom

- **Digital Collections and Digital Collecting Practices**  
  Rebecca D. Watkins, Abigail Selten, Sön E. Lindley

- **Medium, Access, and Obsolescence: What Kinds of Objects are Lasting Objects?**  
  Jane Gruning, Julia Bulard, Melissa Oospak

- **Things That Make Us Reminisce: Everyday Memory Cues as Opportunities for Interaction Design**  
  Doménique van Gennip, Elise van den Hoven, Panos Markopoulos

- **Curatorial Agents: How Systems Shape Our Understanding of Personal and Familial Digital Information**  
  Rebecca Gulotta, Alex Sciuto, Aisling G. Kelliher, Jodi L. Forlizzi

### E3 Papers: Multilingual Communication

**Chair:** Hao-Chuan Wang

- **Improving Multilingual Collaboration by Displaying How Non-native Speakers Use Automated Transcripts and Bilingual Dictionaries**  
  Ge Gao, Naomi Yamasita, Ari MJ Hautasaari, Susan R. Fussell

- **Effect of Machine Translation in Interlingual Conversation: Lessons from a Formative Study**  
  Kataro Hara, Shams T. Iqbal

- **Supporting the Modern Polyglot - A Comparison of Multilingual Search Interfaces**  
  Ben Steichen, Luanna Freund

- **New Interaction Tools for Preserving an Old Language**  
  Beryl Pimmer, Liang He, Tanjiz Zamani, Kasun Karunanayaka, Alvin W. Yeo, Garen Jengon, Rachel Bragajevic, Ellen Yi-Luen Do
**E4 Papers: Empowering Users**

**Chair:** MAARTENTHISSEN

- **Quantifying the Creativity Support of Digital Tools through the Creativity Support Index**
  Erin Cherry, Celine Latulipe

- **Mixed-Initiative Approaches to Global Editing in Slideshowware**
  Darren Edge, Sumit Guwah, Natasa Milc-Frayling, Mohammad Raza, Reza Ashrafi, Sunta, Chao Wang, Kay Yatani

- **“For Telling” the Present: Using the Delphi Method to Understand Personal Information Management Practices**
  William Jones, Robert Capra, Anne Diekema, Jaime Teven, Manuel Pérez-Quiliones, Jesse David Inneen, Bradley Hemminger

- On the benefits of providing versioning support for end users: An empirical study
  Sandeep Kaur Kutta, Anita Sarna, Gregg Rothermel

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**E5 Papers: Accessibility for Vision Impaired Users**

**Chair:** XIAOJUAN MA

- **Privacy Concerns and Behaviors of People with Visual Impairments**
  Toufik Ahmed, Roberto Hoyle, Kay Connelly, David Crandall, Apar Kapadia

- **Participatory Design of Therapeutic Video Games for Young People with Neurological Vision Impairment**
  Jonathan Waddington, Conor Linehan, Kathrin Gerling, Kieran Hicks, Timothy L. Hodgson

- **ColourID: Improving Colour Identification for People with Impaired Colour Vision**
  David R. Ratka, Alan R. Andrade, Ross D. Tewodrose, Dylan L. Knowles, Craig Stewart

- **ColorBless: Augmenting Visual Information for Colorblind People with Binocular Luster Effect**
  Soon Hau Chua, Hairoo Zhang, Muhammad Hammad, Shengdong Zhao, Sahil Goyal, Karan Singh

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**E6 Papers: Interactive & Multi-Surface Maps**

**Chair:** BRENT HECHT

- **TerraGuide: Design and Evaluation of a Multi-Surface Environment for Terrain Visibility Analysis**
  Matthew Oskamp, Christophe Bortolazo, Robin Harrop, T.C. Nicholas Graham

- **Lightweight Relief Shearing for Enhanced Terrain Perception on Interactive Maps**
  Wesley Willett, Bernhard Jenny, Tobias Isenberg, Pierre Dragicevic

- **An Evaluation of Interactive Map Comparison Techniques**
  Maria-Jesús Lobo, Emmanuel Pietriga, Caroline Appert

- **Ethermap - Real-time Collaborative Map Editing**
  Thore Necha, Dennis Wilhelm, Christian Kray

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**E7 C25: Interaction Design for Reading Devices I/1**

**Interaction Design for Reading Devices and Apps**
Jennifer Pearson, Simon Robinson

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**Panel: Mobile Devices Revolutionizing UI**

**How Mobile Devices are Revolutionizing User Interaction**
Hwanyong Lee, Victor Erukhimov, Neil Trevett, Alon Oh-bach, Tom Olson

**Case Studies: Observation & Interaction**

**Chair:** FRANK R. BENTLEY

- **The 6th Finger: Practical Challenges in the Design of a Multitouch Audio Appliance**
  Wolfgang Beer, Christian Salomon, Mario Winterer, Karl Putzhammer, Bernhard Schauer, Thomas Rechberger

- **Photo Based Observation Method: How to quickly observe the behavior of the user**
  Heejeong Son, Hyunsoo Kim, Hyajung Kim

- **Representation Strategies Adopted by Participants in a Population Stereotype Hunt: A Case Study for Icon Design**
  Arijit Sengupta, Klarissa T.T. Chang, Muffee Peng-Hui Won, Wen Yong Chua

- **When Value is Greater than Money: A Micropayment System in Uganda**
  Rasmus Prentow, Rasmus Steinicke, Simone D. Johansen, Jienn Pooy, Ivan Aasen, Jesper Kjeldskov

**Vision-Driven: Beyond Tangible Bits I/1**

**Vision-Drivers: Beyond Tangible Bits, Towards Radical Atoms**
Hiroshi Ishii, Daniel Leithinger, Sean Follmer, Lining Yao, Jifei Ou

**Introduction to Positive Computing I/1**

**Introduction to Positive Computing – Technology that fosters wellbeing**
Rafael A. Calvo, Dorian Peters
401 Papers: Robot Personalities

CHAIR: MALTE F. JUNG

Too Much Humanness for Human-Robot Interaction: Exposure to Highly Humanlike Robots Elicits Aversive Responding in Observers
Megan Staat, Lara Vujovic, Victoria Foerke, Matthias Schuetz, Heather Urry

Look Like Me: Matching Robot Personality via Gaze to Increase Motivation
Sean Andrist, Bilge Mutlu, Adriana Topus

The Social Impact of a Robot Co-Worker in Industrial Settings
Allison Sauppé, Bilge Mutlu

Robots, Pancakes, and Computer Games: Designing Serious Games for Robot Imitation Learning
Benjamin Walther-Franks, Jan, David Smeddinck, Peter Szmidt, Andrei Haidu, Michael Beetz, Rainer Malaka

402 Papers: Mid-Air Gestures and Interaction

CHAIR: YANG LI

Accurate, Robust, and Flexible Real-time Hand Tracking
Toby Sharp, Cem Keskin, Duncan Robertson, Jonathan Taylor, Jamie Shotton, David Kim, Christoph Rhemann, Ida Leichter, Alan Vinnikov, Yichen Wei, Daniel Freedman, Pushmeet Kohli, Eyal Krupka, Andrew Fitzgibbon, Shahram Izadi

Investigating the Dexterity of Multi-Finger Input for Mid-Air Text Entry
Srinath Sridhar, Anna Maria Feit, Christian Theobalt, Antti Oulasvirta

Myopoint: Pointing and Clicking Using Forearm Mounted Electromyography and Inertial Motion Sensors
Faizan Haque, Mathieu Nancel, Daniel Vogel

Joint Estimation of 3D Hand Position and Gestures from Monocular-Video for Mobile Interaction
Jie Song, Fabrizio Pece, Gábor Sörös, Marion Koele, Otmar Hilliges

zSense: Enabling Shallow Depth Gesture Recognition for Greater Input Expressivity on Smart Wearables
Anusha Withana, Rashan Peris, Nipuna Samarasekara, Sunanga Nanayakkara

403 Papers: MOOCs & e-Learning

CHAIR: JUHO KIM

Providing Adaptive Support in an Interactive Simulation for Learning: An Experimental Evaluation
Samad Kardan, Cristina Conati

Interactive Cloud Experimentation for Biology: An Online Education Case Study

Mining Memories: Designing a Platform to Support Social Media Based Writing
John Sadasukas, Danagh Byrne, Robert K. Atkinson

Wait-Learning: Leveraging Wait Time for Second Language Education
Carrie J. Cai, Philip J. Guo, James Gass, Robert C. Miller

E1/E2 Papers: Understanding Gamers

CHAIR: TONI-JAN KEITH MONSERRAT

Masters of Control: Behavioral Patterns of Simultaneous Unit Group Manipulation in StarCraft 2
Eddie Q. Yan, Jeff Huang, Gifford K. Cheung

Cooperative Game Play with Avatars and Agents: Differences in Brain Activity and the Experience of Play
Daniel Johnson, Pete Wyeth, Madison Clark, Christopher Waight

Examining Game World Topology Personalization
Saurav Das, Alexander E. Zook, Mark O. Reid

The Use of Games as Extrinsic Motivation in Education
Chris Preist, Robert Jones

Exploring Cyberbullying and Other Toxic Behavior in Team Competition Online Games
Haewoon Kwak, Jeremy Blackburn, Seungyeop Han

E3 Papers: Bridging Communities

CHAIR: EDWARD CUTRELL

Computer-Enabled Project Spaces: Connecting with Palestinian Refugees across Camp Boundaries
George Yerousis, Konstantin Antl, Thomas von Rekowski, David William Randall, Markus Rohde, Volker Wulf

Transnationalism, Indigenous Knowledge and Technology: Insights from the Kenyan Diaspora
Kagonya Awori, Wally Smith, Frank Vetere

Collective Intelligence in Computer-Mediated Collaboration Emerges in Different Contexts and Cultures
David Engel, Anita Williams Woolley, Ishani Aggarwal, Christopher F. Chabris, Mosamichi Takahashi, Keeschi Nermoto, Carolin Kaiser, Young J. Kim, Thomas W. Malone

Google+ Communities as Plazas and Topic Boards
Michael J. Bzozowski, Phil Adams, Ed H. Chi
THURSDAY 11:30 – 12:50

**E4 Papers: Gender & Technology**

**CHAIR: ANTONELLA DE ANGELI**

Gender and Tenure Diversity in GitHub Teams
Bogdan Vasilescu, Daryl Posnett, Basushri Ray, Mark G.J. van den Brand, Alexander Serebrenik, Prem Devanbu, Vladimir Filkov

Offline Strangers, Online Friends: Bridging Classroom Gender Segregation with WhatsApp
Preeti Mudiar, Nimmi Rangaswamy

Online Inspiration and Exploration for Identity Reinvestment
Oliver L. Haimson, Anne E. Bowser, Edward F. Melzer, Elizabeth F. Churchill

Unequal Representation and Gender Stereotypes in Image Search Results for Occupations
Matthew Kay, Cynthia Motuszek, Sean A. Murson

**E5 Papers: Coping & Wellbeing Through HCI**

**CHAIR: JINA HUH**

Finding the Adaptive Sweet Spot: Balancing Compliance and Achievement in Automated Stress Reduction
Artie Konrad, Victoria Bellotti, Nicole Crenshaw, Simon Tucker, Les Nelson, Honglu Du, Peter Pirolli, Steve Whittaker

SoberDiary: A Phone-based Support System for Assisting Recovery from Alcohol Dependence
Chuang-wen You, Kuo-Cheng Wang, Ming-Chyi Huang, Yin-Chang Chen, Cheng-Lin Lin, Po-Shun Ho, Hao-Chuan Wang, Polly Huang, Hao-Hua Chu

Solutionism, the Game: Design Fictions for Positive Aging
Mark Blythe, Jamie Steane, Jenny Roe, Caroline Oliver

Design Considerations for Patient Portal Adoption by Low-Income, Older Adults
Celine Latulipe, Amy Gatto, Ha T. Nguyen, David P. Miller, Sara A. Quandt, Alan G. Bertschi, Aiden Smith, Thomas A. Arcury

**E6 Papers: Interacting with Floors & Situated Displays**

**CHAIR: DIEGO MARTINEZ PLAENSECA**

BaseLase: An Interactive Focus+Context Laser Floor
Jörg Müller, Dieter Eberle, Constantin Schmidt

Ergonomic Interaction for Touch Floors
Dominik Schmidt, Johannes Frohnhofen, Sven Knebel, Florian Meinel, Manya Perchyk, Julian Risch, Jonathan Striebel, Julia Wachtel, Patrick Baudisch

Display Blindness? Looking Again at the Visibility of Situated Displays using Eye-tracking
Nicholas S. Dalton, Emily Collins, Paul Marshall

Detecting User Intention at Public Displays from Foot Positions
Bernl Huber, Joong Ho Lee, Ji-Hyang Park

**E7 C28: Benefit from Using ISO Standards I/1**

How You Could Benefit from Using ISO Standards
Nigel Bevan

**307 Panel: Why Google Cannot Be the #1 in Korea?**

Why Google Cannot Be the #1 in Korea?: In Search for Critical Success Factors from Local User Experience
Jinsoo Kim, Sungwon Beck, Sungjean Kim, Kihyun Jung

**308 alt.chi: Mindfulness and Care**

**CHAIR: SILVIA LINDTNER**

Being Reasonable: A Manifesto for the Inclusion of Disabled People in SIGCHI Conferences
Reuben Kirkham, John Vines, Patrick Olivier

Crossing Cultural and Theoretical Borders: Towards Mindfulness through a Cigarette and a Torii Gate
Yoko Akama, Ann Light

Communication in the Changing Dyadic Interaction of Diverse Players
Mark Rice, Hong Huei Tay, Jamie NG, Ranieri Koh

Captchat: A Messaging Tool to Frustrate Ubiquitous Surveillance
Paul Dunphy, Johannes Schöning, James Nicholson, Patrick Olivier

**317BC C27: Designing with the Mind in Mind I/1**

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

12:50 – 14:30
Lunch Break
Restaurants, bars & cafés available nearby

**THURSDAY**
THURSDAY 14:30 – 15:50

401 Papers: Multi-Device Interaction

CHAIR: MICHAEL NEBELING

A Diary Study on Combining Multiple Information Devices in Everyday Activities and Tasks
Tero Jokela, Jarno Ojala, Thomas Olsson

Spatially-aware or spatially-agnostic? Elicitation and Evaluation of User-Defined Cross-Device Interactions
Roman Rödle, Hans-Christian Jetter, Maria Schreiner, Zhihao Lu, Harald Reiterer, Yvonne Rogers

Weave: Scripting Cross-Device Wearable Interaction
Pei-Yu Chi, Yang Li

Multi*i Multi*idelit*nteraction *itL Displa*s around the Body
Jens Grubert, Matthias Heinisch, Aaron Quigley, Dieter Schmalstieg

402 Papers: Speech & Auditory Interfaces

CHAIR: COSMIN MUNTEANU

Form Follows Sound: Designing Interactions from Sonic Memories
Baptiste Caramiaux, Alessandro Altavilla, Scott G. Pobiner, Atau Tanaka

Repurposing Conversation: Experiments with the Continuous Speech Stream
Donald McMillan, Antoine Lorette, Barry Brown

The CADENCE Corpus: A New Resource for Inclusive Voice Interface Design
Maria K. Walters, Jonathan Kilgour, Sarah E. MacPherson, Myroslova Dzokovska, Johanna D. Moore

Empirical Evidence for a Diminished Sense of Agency in Speech Interfaces
Hannah Limerick, James W. Moore, David Coyle

To Beep or Not to Beep? Comparing Abstract versus Language-Based Multimodal Driver Displays
Ioannis Politis, Stephen A. Brewer, Frank Pollick

403 Papers: Email & Social Media at Work

CHAIR: PERNILLE BJORN

Lost in Email: Pulling Users Down a Path of Interaction
Benjamin V. Hanrahan, Manuel A. Perez-Quinones

Balancing Boundaries: Using Multiple Devices to Manage Work-Life Balance
Rowanne Fleck, Anna L. Cox, Rosalyn A V Robison

Working 9-5? Professional Differences in Email and Boundary Management Practices
Marta E. Cecchinato, Anna L. Cox, Jon Bird

Inferring Employee Engagement from Social Media
N. Sadat Shami, Michael Muller, Aditya Pal, Mëkhi Mosl, Werner Geyer

Mailing Lists: Why Are They Still Here, What’s Wrong With Them, and How Can We Fix Them?
Amy X. Zhang, Mark S. Ackerman, David R. Kagar

404 Papers: Understanding & Protecting Kids Tech Use

CHAIR: SVETLANA YAROSH

Regulating Access to Adult Content (with Privacy Preservation)
Karen Renaud, Joseph Moguire

Resilience Mitigates the Negative Effects of Adolescent Internet Addiction and Online Risk Exposure
Pamela J. Wisiewski, Haiyan Jia, Na Wang, Saiping Zheng, Heng Xu, Mary Beth Rossan, John M. Carroll

Generation Like: Comparative Characteristics in Instagram
Jin Yea Jang, Kyungsik Han, Patrick C. Shih, Dongwon Lee

Investigating High School Students’ Perceptions of Digital Badges in Afterschool Learning
Katie Davis, Eve Klein

E3 Papers: Social Media & Citizen Science

CHAIR: ELENA L. GLASSMAN

Piggyback Prototyping: Using Existing, Large-Scale Social Computing Systems To Prototype New Ones
Catherine Grever, Eric Gilbert

Situated Social Media Use: A Methodological Approach to Locating Social Media Practices and Trajectories
Thomas Hillman, Alexandra Weißenmann

Break It Down: A Comparison of Macro- and Microtasks
Justin Cheng, Jaime Teven, Shams T. Iqbal, Michael S. Bernstein

Designing for Citizen Data Analysis: A Cross-Sectional Case Study of a Multi-Domain Citizen Science Platform
Ramine Tinati, Max Van Kleek, Elena Simperl, Markus Lück-Zösch, Robert Simpson, Nigel Shadbolt

DIYbio Things: Open Source Biology Tools as Platforms for Hybrid Knowledge Production and Scientific Participation
Stacey Kuznetsov, Carrie Doonan, Nathan Wilson, Swarna Mohan, Scott E. Hudson, Eric Paulos

Is This How We (All) Do It?: Butler Lies and Ambiguity Through a Broader Lens
Megan French, Madeline E. Smith, Jeremy Birnholtz, Jeff T. Hancock

E4 Papers: Disasters & Humanitarian Events

CHAIR: TAWANNA R. DILLAHUNT

CrowdMonitor: Mobile Crowd Sensing for Assessing Physical and Digital Activities of Citizens during Emergencies
Thomas Ludwig, Christian Reuter, Tom Siebigteroth, Volkmar Pöppel

XHELP: Design of a Cross-Platform Social-Media Application to Support Volunteer Moderators in Disasters
Christian Reuter, Thomas Ludwig, Marc-André Kauffold, Volkmar Pöppel

Building a Birds Eye View: Collaborative Work in Disaster Response
Joel E. Fischer, Stuart Reeves, Tom Rodden, Steve Reece, Saraepohl D. Ramchurn, David Jones

Success & Scale in a Data-Producing Organization: The Socio-Technical Evolution of OpenStreetMap in Response to Humanitarian Events
Leyvia Palen, Robert Soden, T. Jennings Anderson, Mario Banasheva
**E5 Papers: Home Physiotherapy & Rehabilitation**

**CHAIR:** YI-PING HUNG

- Physio@Home: Exploring Visual Guidance and Feedback Techniques for Physiotherapy Exercises
  Richard Tang, Xing-Dong Yang, Scott Bateman, Joaquim Jorge, Anthony Tong

- Lessons Learnt from Deploying an End-User Development Platform for Physical Rehabilitation
  Daniel Tettersen, Paul Veugelen, Ilvar Griesl, Marc Michielsen, Eis Kuppers, Diana Vannumkler, Panos Markopoulos

- Exergames for Physiotherapy and Rehabilitation: A Medium-term Situated Study of Motivational Aspects and Impact on Functional Reach
  Jan David Smeddinck, Marc Herrlich, Rainer Malaka

- Resilience Ex Machina: Learning a Complex Medical Device for Haemodialysis Self-Treatment
  Paul Noble

- Understanding Design Tradeoffs for Health Technologies: A Mixed-Methods Approach
  Katie O'Leary, Jordan Eschler, Logan Kendall, Lisa M. Vizer, James D. Ralston, Wanda Pratt

**307 Papers: Interacting with GUIs**

**CHAIR:** DAVID R. FLATLA

- Clutching Is Not (Necessarily) the Enemy
  Mathieu Nancel, Daniel Vogel, Edward Lank

- Visual Grouping in Menu Interfaces
  Duncan P. Brumby, Susan Zhang

- Color Portraits: From Color Picking to Interacting with Color
  Greta Juel, Noiwen Maudet, Wendy E. Mackay

- The Emergence of Interactive Behavior: A Model of Rational Menu Search
  Xiuli Chen, Giles Bally, Duncan P. Brumby, AnTu Oulasvirta, Andrew Howes

- Selective Undo Support for Painting Applications
  Brad A. Myers, Ashley Lai, Tom Minh Le, YoungSeok Yoon, Andrew R. Faulring, Joel R. Brandt

**E6 Papers: Interaction Techniques for Tables & Walls**

**CHAIR:** TOM BARTINDALE

- G-raft: An Elevating Tangible Block for Spatial Tabletop Interaction
  Chang Min Kim, Tek-Jin Nam

- Modeling Distant Pointing for Compensating Systematic Displacements
  Sven Mayer, Katrin Wolf, Stefan Schneegass, Niels Henze

- Is Moving Improving? Some Effects of Locomotion in Wall-Display Interaction
  Mikkel R. Jakobsen, Kasper Hornbæk

- Gaze+RST: Integrating Gaze and Multitouch for Remote Rotate-Translate-Translate Tasks
  Jayson Turner, Jason Alexander, Andreas Bulling, Hans Gellersen

- Designing for Exploratory Search on Touch Devices
  Khalil Krauche, Tsukka Ruotsalo, Diogo Cabral, Salvatore Andolina, Andrea Bellucci, Giulio Jacucci

**308 Case Studies: Special Environments**

**CHAIR:** FRANCESCA SAMSEL

- Voice or Gesture in the Operating Room
  Helena M. Menta, Kenton P. O’Hara, Gerardo Gonzalez, Abigail Sellen, Robert Corish, Antonio Criminisi, Rikin Trivedi, Pierre Theodore

- Can Androids Be Salespeople in the Real World?
  Miki Watonabe, Kohei Ogawa, Hiroshi Ishiguro

- An Outlook for Content UX in TV: The Emergence of Augmented Content
  Sung Woo Kim, Eun Hye Park, Yae Eun Lee, Jung Sung Lee, Da Hee Lee, Eun Jin Kim

- A consensual and non-ambiguous set of gestures to interact with UAV in infantrymen
  Florent Taxile, Alexis Poliz, Sotiris Manitasiris, Jordane Grenier, Christophe Guettier

**Closing Plenary Keynote**

16:30 – 17:50

**PSY**

**Hall D 1**

Cultural Crossing from Local to Global through Music: Technology, Media, and Future
## WORKSHOPS

CHI 2015 workshops take place on Level 300 at the Convention Center. Workshops are accessible only to pre-registered attendees.

### Saturday 18 April – Sunday 19 April (2 days)

| W01 | ArtCHI | Room | David England, Linda Candy, Celine Latulippe, Theo Schiphorst, Ernest a Edmonds, Younghui Kim, Sean Clark, Andreux Kerne |
| W02 | Designing Alternative Systems for local Communities | 311 | Vasillis Wachowskyos, Rob Comber, Carla Crivelaro, Nick Taylor, Stacey Kuznetsov, Andrea Kavuncuah, Christopher A. Le Dantec, Joan Kim |
| W03 | Between the Lines: Reevaluating the Online/Offline Binary | 312 | Sarah Vievew, Oliver L. Horman, Michael Massim, Kenton O'Hara, Elizabeth F. Churchill |
| W04 | Beyond Personal Informatics: Designing for Experiences with Data | 317A | Chris Eldred, David Kirk, Mark Selby, Chris Speed |
| W05 | Collaborating with Intelligent Machines: Interfaces for Creative Sound | 320 | Florian Grote, Kristina Andersen, Peter Knees |
| W06 | Crossing Domains: Diverse Perspectives on Players | 313 | Gregory R. White, Joonhwan Lee, Daniel Johnson, Petra Weyth, Peyman Mirza-Babaei |
| W07 | Crossing HCI and Health: Advancing Health and Wellness Technology Research in Home and Community Settings | 314 | Sarah Vieweg, Oliver L. Haimson, Michael Massim, Kenton O'Hara, Elizabeth F. Churchill |
| W08 | Developing HCI Education Crossing Asia | 315 | Lone Malmborg, Ann Light, Geraldine Fitzpatrick, Victoria Bellotti, Margot Berenten |
| W09 | Developing HCI and Health: Advancing Health and Wellness Technology Research in Home and Community Settings | 316 | Sarah Vieweg, Oliver L. Haimson, Michael Massim, Kenton O'Hara, Elizabeth F. Churchill |
| W10 | Embarrassing Interactions | 321 | Sebastian Dettering, Andrés Lucera, Jussi Holopainen, Chouhong Min, Adrian Cheek, Anrika Wise, Stefien Wolz |
| W11 | Ethical Encounters in HCI: Research in Sensitive Settings | 324 | Jenny Waycott, Hilary Davis, Anja Thierme, Stacy Branhman, John Vines, Consin Manteau |
| W12 | Expanding the Boundaries: A SIGCHI HCI & Sustainability Workshop | 322 | Adrian K. Clear, Chris Preist, Sonja Jordan, Lisa P. Nathan, Simon Mann, Bonne A. Nardi |
| W13 | Smart for Life: Designing Smart Home Technologies that Evolve with Users | 323 | Sarah Mennekken, Amy Hwang, Rayoung Yang, Jesse Hoey, Alex Mihailikids, Elaine K Huang |
| W14 | Text Entry on the Edge | 325 | James Clawson, Ahmed Sobir Anif, Stephen Brewer, Mark Dunlop, Per Ol Kristensen, Anit Gulsavista |
| W15 | What to Study in HCI? | 326 | Kasper Hornbæk, Ani Gulsavista, Stuart Reeves, Susanne Bedker |

### Saturday 18 April (1 day)

| W17 | Design-Led Inquiry for Mobile Lives | 312 | Konstantinos Kozakos, David Kirk, Abigail Durrant, David Chatting, Paulina Yumman, Jo-Anne Richard, Joeri Rok |
| W18 | Developing Skills for Social and Emotional Wellbeing | 314 | Peter Slovik, Greg Wilcoy, David Coyle, Anja Thierme, Naomi Yamashita, Reeva M. Lederman, Stefan Schult, Mia Doves |
| W20 | End-User Development in the Internet of Things Era | 315 | Daniel Tettono, Fanos Markopoulos, Stefano Valotina, Fabio Paternò, Volkmar Pipek, Margaret Burnett |
| W21 | Everyday Telepresence: Emerging Practices and Future Research | 320 | Irene Rue, Bilge Mutlu, Gary M. Olson, Judith S. Olson, Leila A. Tokyona, Giri Venkata |
| W22 | Experiencing Autonomous Vehicles: Crossing the Boundaries between a Drive and a Ride | 316 | Alexander Mischenchovsky, Manfred Tscheligi, Dalios Sazstok, Robanda Ratan, Roderick McCall, Joannas Polis, Sven Kramer |
| W23 | Exploring the Challenges of Making Data Physical | 321 | Jason Alexander, Yvonne Jansen, Kasper Hombæk, Johan Kidda, Abhish Karn |
| W24 | Gamifying Research: Strategies, Opportunities, Challenges, Ethics | 322 | Sebastian Dettering, Seth Cooper, Alexandre Canossa, Lennart E. Nake, Casper Hartvedt, Jennifer R. Whitson |
| W25 | How WEIRD is HCI? Extending HCI Principles to Other Countries and Cultures | 323 | Christian Starm, Alice Oh, Sebastian Linnex, Jose Abdelnour Nocera, Susan M. Dray, Katharina Reinecke |
| W26 | Knowledge Production in Interaction Design | 317A | Kristina Håk, Peter Dalgaard, Stuart Reeves, Jeffrey Bardzill, Jonas Löweng, Erik Stallterman, Yvonne Rogers |
| W27 | Leveraging and Integrating Eastern and Western Insights for Human Engagement Studies in HCI | 326 | Elfie Lu-Chang Law, Chakrani Sthsawarchuch, Xiangyi Ren, Jeffrey Bardzill, Torkil Clemmensen, Yon Liu |
| W28 | Mobile Collocated Interactions: From Smartphones to Wearables | 317B | James Clawson, Kevin Lyons, Joel E. Fischer, Daniel Ashbrook, Simon Robinson |
| W29 | Principles, Techniques and Perspectives on Optimization and HCI | 324 | Per Ol Kristensen, Xiaojun B, Andrew Howes, Anni Gulsavista, Roderick Murray-Smith, Harald Thimbleby, John Williamson, Shumin Zhao |
| W30 | Supporting Children to Engage in Play for Wellbeing | 325 | Kevin Marshall, Gowan Wood, Janet C. Read, Stefiana (Lana) Yanas, Madeline Balaam, Jung-Joo Lee |
ASIAN CHI SYMPOSIA

CHI 2015 is offering a series of special symposia for topics pertinent to HCI communities across Asia. These symposia may contain content in English or in a regional language. Participants include both presenters and audience members. The symposia descriptions appear in the CHI 2015 Extended Abstracts.

Saturday 18 April – Sunday 19 April (2 days) Room 318AB
S01 Chinese CHI Symposium in CHI 2015
Hao-Chuan Wang, Gary Hsieh, Xiaojun & Henry Duh, Yhsi Chen

Sunday 19 April (1 day) Room 319
S02 ASEAN CHI Symposium: Crossing HCI for Development in Asia Pacific
Eunice Sari, Bimlesh Wadhwa, Adi Tedjasaputra, Masitah Ghazali, Anirudha N Joshi

S03 Japanese CHI Symposium: Emerging Japanese HCI Research Collection
Jun Kato, Hironi Nakamura, Yuta Sugimoto, Takahiro Hachisu, Daisuke Sakamoto, Koji Yatani, Yoshifumi Kishimura

S04 Japanese CHI Symposium: Japanese Culture and Kansei
Hisao Shinzake, Masakazu Kanai, Michiko Ohkura

VIDEO SHOWCASE

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 followed by the Golden Mouse award ceremony.

Monday 10:00 – 11:30 Video Showcase Room 401

Videos
VS01 TagMe: An Easy-to-Use Toolkit for Turning the Personal Environment into an Extended Communications Interface
Judith Amores, Xavier Benavides, Pattie Maes

VS02 Cyclops: Wearable and Single-Piece Full-Body Gesture Input Devices
Liyin Chen, Chi-Hao Hsieh, Yi-Ling Chen, Shuo Yang, Dao-Yuan Huang, Rong-Hao Liang, Bing-Yu Chen

VS03 TakeTwo: Using Google Glass for Augmented Memory
Scott W. Greenwald, Christian D. Vazquez, Pattie Maes

VS04 MagCubes: Magnetically Driven Tangible Widgets for Children
Sungjae Hwang, Kwangyun Wohn

VS05 Touch+: Expanding Touch Input Vocabulary using a Smartphone and a Smartwatch
Sungjae Hwang, Junghyeon Gim

VS06 Contextual Drag: Context-based Dynamic Friction for Dragging Interaction
Sungjae Hwang, Jungyoon Gim, Junwoo Yoo, Andrea Bianchi

VS07 The Smart Steering Wheel Cover: Motivating Safe and Efficient Driving
Eleonora Ibragimova, Nick Mueller, Arnold Vermeeren, Peter Vink

VS08 G-raff: An Elevating Tangible Block for Spatial Tabletop Interaction
Chang Min Kim, Tek-Jin Nam

VS09 Reminiance of Form: Interactive Narratives with Augmented Shadows
Sang-won Leigh, Asia Roseway, Ann Paradiso

VS10 Proprioceptive Interaction
Pedro Lopes, Alexandra Lou, Will M Daniel Hoffmann, Patrik Janell, Patrick Bauersch

VS11 A Dose of Reality: Overcoming Usability Challenges in VR Head-Mounted Displays
Mark McGill, Daniel Boland, Roderick Mumy-Smith, Stephen A Brewster

VS12 “Hello World”: A Digital Quandary And The Apotheosis Of The Human
Kyle Overton

VS13 Bend: Shape-Changing Mobile Device for a Tactile-Visual Phone Conversation
Young-Woo Park, Joohee Park, Tek-Jin Nam

VS14 TRANSFORM as Adaptive and Dynamic Furniture
Luke Vink, Wei-Kai, Ken Nakagaki, Daniel Leithinger, Sean Follmer, Philipp Schoessler, Amir Zoran, Hiroshi Ishii

VS15 Cutting Edge Vision: Metal Embedded Optics for Smart Knives
Amir Zoran, Nan-Wei Gong, Raj Shikarat, Shuo Yan, Pattie Maes
COURSES

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.

Monday Courses, 20 April

C01 Designing Websites for Adults 55+: Toward Universal Design
   Jeff A. Johnson

C02 Design and Adaptation for Cross-Device, Context-dependent User Interfaces
   Fabio Paternò

C04 Body, Why & Videotape: Somatic Approaches to Experience in HCI
   Thecla Schiphorst, Lian Loke

C05 Design for Searching & Finding
   Daniel M. Russell, Jaime Teevan, Meredith Ringel Morris, Mari Hearn, Ed H. Chi

C06 Introduction to Human-Computer Interaction
   Jonathan Lazar, Simone D. J. Barbosa

C07 Actionable Inexpensive Games User Research
   Lennart E. Nacke, Steve Engels, Reymon Mirza-Babaei

C08 Interaction Design for Online Video and Television
   David Geerts, Pablo Cesar

Tuesday Courses, 21 April

C09 Designing and Assessing Interactive Systems Using Task Models
   Philippe Palanque, Célia Martinie

C10 Learn to Sketch (Even if You Can’t Draw): Hands-on Sketching Course
   Stephanie Faehrenbach

C11 Research Methods for Child Computer Interaction
   Janet C. Read, Shuli Glantz

C12 Practical UX Research Methodologies
   Sarah E. Garcia

C13 Methods for Human-Computer Interaction Research
   Sandy J. J. Gould, Duncan P. Brumby, Anna L. Cox, Geraldine Fitzpatrick, Jettie Hooenout, David Lomas, Effie Law

C14 Mobile Human-Computer Interaction
   Niels Henze, Enrico Rukzio

C15 HCI Lessons: From Earth to Outer Space... and Back
   Guy Andé Bay, Jeffrey M Bradshaw, Soyeon YI

C16 Sketching User Experiences: The Hands-on Course
   Nicola Marquandt, Saul Greenberg

Wednesday Courses, 22 April

C17 Introduction to Creating Musical Interfaces
   Michael J. Lyons, Sidney S. Fels

C18 Speech-based Interaction: Myths, Challenges, and Opportunities
   Cosmin Munteanu, Gerald Penn

C19 Designing Surveys for HCI Research
   Hendrik Möller, Aaron Sedley

C20 The Glass Class: Designing Wearable Interfaces
   Mark Billinghurst, Dr. Thad Starner

C21 Using Experience Sampling Methodology to Collect Deep Data About Your Users
   Kathy K. Baxter, Anna Arevhi, Bob Evans

C22 Rapid Design Labs: A Tool to Turbocharge Design-Led Innovation
   Jim E. Nieters, Carola Fehrenbach

C23 Conceptual Models: Core to Good Design
   Jeff A. Johnson

Thursday Courses, 23 April

C24 Vision-Driven: Beyond Tangible Bits, Towards Radical Atoms
   Hiroaki Imai, Daniel Leithinger, Sean Follmer, Lining Yao, Jifei Ou

C25 Interaction Design for Reading Devices and Apps
   Jennifer Pearson, Simon Robinson

C26 Introduction to Positive Computing: Technology That Fosters Wellbeing
   Rafael A. Calvo, Dorian Peters

C27 Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines
   Jeff A. Johnson

C28 How You Could Benefit from Using ISO Standards
   Nigel Bevan
STUDENT EVENTS

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 E and brief descriptions appear in the CHI 2015 Extended Abstracts.

Saturday – Sunday

Doctoral Consortium

(Room 308AB)

Tuesday

10:50 – 11:30 Meet the poster authors

(Hall C2/C3)

Tuesday – Thursday

Posters on display during opening hours

(Hall C2/C3)

Doctoral Consortium Faculty

Gregory Abowd, Georgia Tech
Mark Blythe, Northumbria University
Susan Fussell (Co-Chair), Cornell University
Darren Gergle, Northwestern University
Jim Hollan, University of California, San Diego
S.J. Kim (Co-Chair), University of Nevada, Las Vegas
Alice Oh, KAIST
Jaime Teevan (Co-Chair), Microsoft Research

Participants

DC01 Transmigrant Saudi Arabian Youth and Social Media: Privacy, Intimacy and Freedom of Expression
Norah Abokhodair

DC02 Apps with Habits: Adaptive Interfaces for News Apps
Marios Constantinides

DC03 Technology at Mealtime: Beyond the Ordinary
Hasan Shahid Ferdous

DC04 Aligning the Social Interaction Spaces of Intergenerational Family Members
Francisco J. Gutierrez

DC05 Social Equity and Ecological Sustainability in HCI: An Ecofeminist Perspective
Gopinaath Kannabiran

DC06 Engage People in Pro-Environmental Behaviors through Online Prosocial Interaction and Pro-Health Intervention
Pei-Yi Kuo

DC07 Practical Sensory Substitution In Real and Virtual Worlds: Development, Accessibility And Neuroscience
Shachar Maidenbaum

DC08 Designing Self-care Technologies for Everyday Life: A Practice Approach
Francisco Nunes

DC09 Scalable Webcam Eye Tracking by Learning from User Interactions
Alexandra Papoutsaki

DC10 Casual Interaction: Scaling Interaction for Multiple Levels of Engagement
Hening Pu

DC11 Addressing Obsolescence of Consumer Electronics through Sustainable Interaction Design
Christian Remy

DC12 Support Environment for Co-designing Micro Tasks in Suburban Communities
Tomoyo Sasao

DC13 Whole Body Interaction with Public Displays
Robert Walter

DC14 Enhancing User Experience to Design Enjoyable Exhibition Events
Nan Wang

DC15 Designing with Emerging Publics: The Case of Physician-Assisted Suicide
Daisy Yoo

DC16 Retention in MOOCs: Understanding Users Motivations, Perceptions and Activity Trajectories
Sajing Zheng

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.

Tuesday

15:50 – 16:30 Posters highlighted during the afternoon break

(Hall C2/C3)

Wednesday

11:30 – 12:50 Posters presentations open to all conference attendees

(Room 317BC)

Jury

Thad Starner, Georgia Institute of Technology, USA
John Tang, Microsoft Research, USA
Xiangshi Ren, Kochi University of Technology, Japan
Regan Mandryk, University of Saskatchewan, Canada
Tilde Bekker, Eindhoven University of Technology, The Netherlands

Finalists

SRC01 GAZE: Using Mobile Devices to Promote Discovery and Data Collection
Zachary Allen

SRC02 Blowatch: Blowable and Hands-free Interaction for Smartwatches
Wei-Hung Chen

SRC03 Cyrafour: How Two Human Avatars Communicate With Each Other
Enrique Encinas

SRC04 Realism in Interactive Tutors
Nicholas Hynes

SRC05 Libero: On-the-go Crowdsourcing for Package Delivery
Yongsung Kim

SRC06 Can Specialised Electronic Musical Instruments Aid Stroke Rehabilitation?
Pedro Kirk

SRC07 QuizCrâm: A Question-Driven Video Studying Interface
Geza Kovacs

SRC08 Challenges for Wearable Camera: Understanding of the Meaning behind Photo-taking
Ahreum Lee

SRC09 Pull-To-Refresh and Learn: Leveraging Mobile Email Load Time for Education
Anji Ren

SRC10 Assessing the Supportiveness of Gift Emoticons in Care Scenarios
Kirsten A. Smith
This is the 13th year of the CHI Student Design Competition. The Student Design Competition continues to grow each year with increased international representation. The competition always draws a large audience at CHI and has also become a major recruiting opportunity for identifying talented students. The CHI 2015’s theme is “crossings” which focuses on crossing the boundaries for meaningful new creations and possibilities. In this year’s Student Design Competition, we adapt this theme of “crossings” and open up the opportunities for students in the areas of HCI and Design from all over the world to show their visions and competence on enabling people from different cultures to be connected and to be heard and appreciated. In the last few years, smart devices have become more or less standardized in their physical and graphical forms. While new groups of users are constantly emerging, quite a few people still stay away from the benefits of technology. The theme of this year's Student Design Competition is “Appropriating Technologies for New Cultures”. We have 10 finalist student teams who have succeeded to proceed the competition at CHI 2015 out of 69 submissions from 11 different countries.

**Monday**

10:00 – 11:30 Judging (Closed Jury session)  
(Room 327ABC)

**Tuesday**

15:50 – 16:30 Meet the poster authors  
(Hall C2/C3)

**Wednesday**

14:30 – 15:50 Open Finalist presentations  
(Room 317BC)

**Tuesday-Thursday**

Posters on display during opening hours  
(Room 327C)

**Jury**

Zhiyong Fu, Tsinghua University, China  
Elisa Giarcardi, TU Delft, Netherlands  
Jung-Joo Lee, National University of Singapore, Singapore  
Will Odom, Simon Fraser University, Canada

**Finalists**

**SDC02**  
Am I Native Enough? Exploring American Indian Identity Through Language Learning  
Junana Alamahmoud, Mallory Anderson, Abhishek Dewan, Sofia Gutierrez, Ram Kumarasubramaniam

**SDC03**  
Lantern: Empowering Refugees Through Community-Generated Guidance Using Near Field Communication  
Jennifer Baronoff, R. Isael Gonzales, Jay Liu, Heid Yang, Jinmin Zheng

**SDC05**  
FamComm: a Communication Service Enhancing Conversation Quality Between Elders Residing in Care Hospital and Their Family Member  
Mingyu Kang, Taewon Kim, Youngjoe Kim, Juhyun Ahn

**SDC06**  
BlindNavig: A Navigation App for the Visually Impaired Smartphone User  
Yi-Ying Lin, Hsuang-Eng Chen, Chen-Hsiang Chen, I-Fang Weng

**SDC07**  
sight: Kick-Starting Communications for Elderslies Ageing In Place  
Zhide Loh, Edmund Zhiqiang, Lin Zhi Ying

**SDC08**  
Sleepstellar: A Safety Kit and Digital Storyteller for Sleepwalkers  
Jashanjeet Kaur, Nehal Malasa, Niyati Gupta, Shejnie Zhang, Wei Wang

**SDC09**  
Bikor: Warm-Hearted Movements  
Yunnoo Park, Hjeojoon Lee, Gu Lee, Myeongzkug Cho, Soyoung Kim

**SDC10**  
CityMockUp Co-Creating the Urban Space  
Jonas Frich Pedersen, Marie Louise Juel Sgaard

**SDC11**  
Enabling Context for Traditional Chinese Paintings with “Rice Paper”  
Hanhoran Subramaniam, Yuncheng Shen, Samantha Lauren Jones

**SDC12**  
GoodGuide: Reconnecting The Homeless and Others  
Chen-Chun Wu, Shih-Min Hong, Yu-Han Huang

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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 on Monday morning in Hall E Foyer. 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 317BC)

**Jury**

Casper Harteveld, Northeastern University  
Seth Cooper, Northeastern University  
Peter Lee, Nolgong  
Sebastian Deterding, Northeastern University

**Finalists**

**SGC01**  
Keyewai: Looking at Cooperation in a Holographic Projection Screen  
Paulo Boda, Lucila Nobrega, Guilherme Neves, Luis Lopes, Joana Mora, Cristiano Freitas, Jobo Camacho

**SGC02**  
Fighting Gulliver: An Experiment with Cross-Platform Players Fighting a Body-Controlled Giant  
Kun-Ting Chiu, Min-Cheh Hsu, Chuan Wang

**SGC03**  
Crystalize: Simulating Language Immersion through Gameplay  
Gabriel Cuberbon

**SGC04**  
TranSection: Hand-Based Interaction for Playing a Game within a Virtual Reality Game  
Pui-Wai Lee, Hon-Yu Wong, Ying-Chao Tung, Jie-Wei Lin, Andreas Völstar

**SGC05**  
Atomatic: An Inclusive Game to Learn Concepts of Atoms and Elements  
Syvan Lobo

**SGC06**  
Get Creative With Learning: Word Out! A Full Body Interactive Game  
Felicia Clare Paul, Christabel Goh, Kelly Xip

**SGC07**  
Jelly Polo: True Sport-Like Competition Using Small-Scale Exertion  
Mike Sheinin, Carl Gutwin

**SGC08**  
Towering Defense - An Augmented Reality Multi-Device Game  
Paul Tolstoi, Andreas Dippon

**SGC09**  
Purrfect Crime: Exploring Animal Computer Interaction  
Rui Trindade, Micaela Sousa, Cristina Hart, Roberto Rodrigues, Nicky Vieira, Joo Frana
WORKS IN PROGRESS

Authors are scheduled to stand by their posters during “meet the author” sessions indicated below. Please visit both rotations to see all of the exciting work being done and discuss new ideas with Poster authors. Authors present their posters during the morning and afternoon breaks.

The following poster collections are on display:

**First Rotation: Tuesday all day**

- **Accessibility**
  10101 – 10106
- **AI and HCI**
  10201 – 10204
- **Augmented Reality**
  10301 – 10309
- **Children and Teens**
  10401 – 10404
- **Cognition in HCI**
  10501 – 10505
- **Communities**
  10601 – 10611
- **Displays**
  10701 – 10709
- **Gaming**
  10801 – 10809
- **Gesture and Multimodal Interactions**
  10901 – 10925
- **Healthcare and Wellbeing**
  11001 – 11013
- **Learning**
  11101 – 11106
- **Lifestyle**
  11201 – 11207
- **Mobile Interactions**
  11301 – 11312

**Second Rotation: Wednesday all day**

- **Novel Interfaces and Interaction Techniques**
  20101 – 20126
- **Productivity and Awareness**
  20201 – 20206
- **Search and InfoVis**
  20301 – 20314
- **Social Computing**
  20401 – 20413
- **Trust, Privacy, and Emotions**
  20501 – 20515
- **Ubicomp, Robots, and Wearables**
  20601 – 20624
- **Users and UI Design**
  20701 – 20724

**FIRST ROTATION – TUESDAY 21 APRIL**

### ACCESSIBILITY

**wip10101** Understanding Interactive Interface Design Requirements for the Visually Impaired
Joongin Park, Beomtaek Jeong, Seungjae Jeon, Sehyung Han, Jundong Cho, JeongQi Ke

**wip10102** DOWELL: Dwell-time Based Smartphone Control Solution for People with Upper Limb Disabilities
Hyungjin Ahn, Joojeok Yoon, Guji Chung, Kibum Kim, Jyeon Ma, Hyunbin Choi, Donguk Jung, Jeongseok Lee

**wip10103** Touchology: Towards Interactive Plant Design for Children with Autism and Older Adults in Senior Housing
Jinil Hawoyoung, Se Annie Sungkyun, Jinhyo Suk

**wip10104** The Elders Preference for Skeuomorphism as App Icon Style
Minja Cho, Sayoung Kwon, Noreen N. KunPyo Lee, Hyeonjo Jang, Suk

**wip10105** First Insights with a Vibrotactile Interface for Children with Multiple Disabilities
Cristina Marreosa-Yee, Ann Morrison, Joan Jard Muntaner

**wip10106** TopoTiles: Storytelling in Care Homes with Topographic Tangibles
Peter Bennett, Heidi Hinder, Seoana Koaz, Christopher Bowdler, Elaine Masiung Tim Cole, Helen Manchester, Kirsten Cater

### AI AND HCI

**wip10201** Deploying AI Methods to Support Collaborative Writing: a Preliminary Investigation
Sebastian Gehrmann, Laurent Urhe, Olga Amic Barbara, J Grosz

**wip10202** Be Informed and Be Involved: Effects of Uncertainty and Correlation on User’s Confidence in Decision Making
Jianlong Zhou, Constant Brik, Fang Chen, Ahmad Khwaja, Yang Weng

**wip10203** Effects of Agent Appearance on Customer Buying Motivations on Online Shopping Sites
Kazunori Terasa, Jing Liang, Seiji Yamada

**wip10204** Ethics and Social Responsibility: Case Study of a Journal Cover Design Under Fire
Arisa Ema, Hitokoto Osawa, Hitomitsu Hattori, Naonari Akiya

### AUGMENTED REALITY

**wip10301** AfterMath: Visualizing Consequences of Actions through Augmented Reality
Sang-won Leigh, Pottie Moea

**wip10302** Largibles: Large Tangible Interaction in Mobile Augmented Reality
Aisir Moarzo

**wip10303** Parallel Web Browsing in Tangible Augmented Reality Environments
Mohammed AlSado, Tatsumi Nakagawa

**wip10304** User Defined Gestures for Augmented Virtual Mirrors: A Guessability Study
Gun Lee, Jonathan Wong, Hye Sun Park, Jin Sung Choi, Chang Joan Park, Mark Billinghurst

**wip10305** OutsideMe: Augmenting Dancer’s External Self-Image by Using A Mixed Reality System
Shuo Yan, Gongyi Ding, Zheng Guan, Ningxiao Sun, Hongsong Li, Longfei Zhang

**wip10306** Development of an Inexpensive Augmented Reality (AR) Headset
Daniele De Angelis, Eamonn J. O’Neill

**wip10307** Augmenting Affect from Speech with Generative Music
Gerhard Johann Hagerer, Michael Lux, Stefan Ertlich, Gordon Cheng

**wip10308** On the Spot Information in Augmented Reality for Teams in the Security Domain
Stephan Lukosch, Heide Lukosch, Dragos Duta, Marina Codato

**wip10309** Augmenting Indirect Multi-Touch Interaction with 3D Hand Contours and Skeletons
Ilya Efanov, Joel Lanz

### CHILDREN AND TEENS

**wip10401** GNomon: Enabling Dynamic One-Switch Games for Children with Severe Motor Disabilities
Sebastian Acero Lopez, Fulvio Corra, Luigi De Russis

**wip10402** TanProStory: A Tangible Programming System for Children’s Storytelling
Yunfeng Qi, Danli Wang, Lan Zhang, Yining Shi

**wip10403** Kids in Fairytales: Experiential and Interactive Storytelling in Children’s Libraries
Seokbin Kang, Youngwoo Lee, Suwong Lee

**wip10404** Supporting the Disney Method with an Interactive Feedback System
Sarah Tausch, Fabian Nüller, Henrik Husmann

### COGNITION IN HCI

**wip10501** CogniMouser: On Detecting Users’ Task Completion Difficulty through Computer Mouse Interaction
Manos Bek, David Portugal, Eleonora Cirendocodek, George Samaras

**wip10502** Interactive Mouse Stream as Real-Time Indicator of User’s Cognitive Load
Seyed Arabshah, Yang Wang, Fang Chen

**wip10503** Working Memory and the Detection of Different Error Types – Novel Predictions for Error Detection
Sze-yuen Yau, Simon Y.W. Li

**wip10504** So, Who Exactly IS The HCI Professional?
Ann Austin, Jose Abdelnour Nocera

**wip10505** Utilizing the Effects of Priming to Facilitate Text Comprehension
Katarina Angerbauer, Tilman Dingler, Dagmar Kern, Albrecht Schmidt
COMMUNITIES 10601 – 10611

wp10601 The Gauntlet: The Design of a Community Challenge Platform
Daniel Hawkins, Clarissa Ishak, Mao-Yong Li, Jason Proctor, Cameron Neustaedter, Serena Ahman

wp10602 BeWell: A Sentiment Aggregator for Proactive Community Management
Andreas Linchev, Margarete Hall, Claudia Niermeier, Simon Caton

wp10603 Testing in the Field: Voice Based Interaction for Citizen Reporting in Uganda
Asreen Rostami, Valesh Savino, Louise Bankhouse

wp10604 Bringing the Farmer Perspective to Agricultural Robots
Fiona Redhead, Stephen Snow, Dhoud Yates, Owen Bowdler, Ray Russell, Tristan Perez, Magot Bereton

wp10605 Passing On: Reader-Sourcing Gender Diversity in Wikipedia
J. Nathan Matias, Sophie Dieterle, Zachary Zimmerman

wp10606 What Makes a Place More Familiar?: Implications of Geospatial Information Format and Content
Myeong Lee, Luis S. Santos, Wei Zhao, Prerit Lakhote, Brian S. Butler

wp10607 Perceived Risk and Self-Efficacy Regarding Internet Security in a Marginalized Community
Eunjin Jung, Evelyn Y. Ha, Hyewon Chung, Mark Sinclair

wp10608 Towards a Gender HCI Curriculum
Samantha Breslin, Binileah Wathwa

wp10609 BudgetMap: Issue-Driven Navigation for a Government Budget
Nam-Wook Kim, Chang-Won Lee, Jonghyuk Jung, Eun-Young Ko, Junho Kim, Jihee Kim

wp10610 Every Little Helps: Understanding Donor Behavior in a Crowdfunding Platform for Non-profits
Aekje Song, Hong-In Lee, Minsum Ko, Uichin Lee

wp10611 Understanding the Needs of Pakistani Farmers and the Prospects of an ICT Intervention
Omar Mulkin, Joshua Tabib, Maurice Novaro, Mustaphi Naseem, Sana Razaq

DISPLAYS 10701 – 10709

wp10701 HoVerTable: Dual-sided Vertical Mid-air Images on Horizontal Tabletop Display
Hanjoo Ko, Hiroki Yamamoto, Naoya Kazumoto, Satoshi Maekawa, Takehiko Naemura

wp10702 Shape Display Shader Language (SDSL): A New Programming Model for Shape Changing Displays
Christian Weisha, John Hard, Jason Alexander

wp10703 StackTop: Hybrid Physical-Digital Stacking on Interactive Tabletops
Jeri Riemann, Mahommedreza Khakbeigi, Nioofar Dezfali, Max Mühlsäuser

wp10704 The Tickler: A Compliant Wearable Tactile Display for Stroking and Tickling
Esper Knoop, Jonathan Rassier

wp10705 Bioidget: An Exploration of Plant-Based Information Displays
Jacqueline T. Chi, François V. Goubertrelle, Tsunidra Rahman, Gert Goy, Mark Matthews

wp10706 Atypical Visual Display for Monitoring Multiple CCTV Feeds
Serge Pelletier, Joel Suss, Francois Vachon, Sebastien Tremblay

wp10707 Finding Satisfactory Transparency: An Empirical Study on Public Transparent Displays in a Shop Context
Heesun Kim, Bo Kyung Huh, Seung Hyun Im, Hoe Young Jaung, Gyu Hyun Kwon, Ji-Hyun Park

wp10708 Enabling Human Micro-Presence through Small-Screen Head-up Display Devices
Scott Greenwald, Minjo Kwon, Pattie Maes

wp10709 A Concept for 3D Interaction on a Curved Touch Display
Henri Pailleis, Mirjam Mickisch, Heinrich Hussmann

GAMING 10801 – 10809

wp10801 Therapeutic Gaming in Context: Observing Game Use for Brain Injury Rehabilitation
Jinghui Cheng, Cynthia Putnam

wp10802 Toward Telemetry-driven Analytics for Understanding Players and their Avatars in Videogames
Chung-U Lim, D. Fox Harrell

wp10803 How to Measure the Game Experience? Analysis of the Factor Structure of Two Questionnaires
Florian Brähmann, Gian-Marc Schmid

wp10804 Having Fun Over a Distance: Supporting Multiplayer Online Ball Passing Using Multiple Sets of Kinect
Tiffany Y. Tong, Pinata Winoto, Riel Yongfu Wong

wp10805 “It Was Sad But Still Good: Gratifications of Emotionally Moving Game Experiences
Julia Ayumi Bopp, Elsa D. Mekler, Klaus Opwis

wp10806 Designing Games with Procedural Content Generation – An Authorial Approach
Rui Cervinhes, Lúcia Roque

wp10807 KidCraft: Co-Design within a Game Environment
Greg Walsh, Craig Donahue, Emily E. Rhodes

wp10808 Mind Reader: Designing for More Intimate Social Play in Video Games
Ryan Courtney, Lori L. Sclarats

wp10809 Leaderboard Position Psychology: Counterfactual Thinking
Emily Sun, Brooke Jones, Stefano Traca, Maarten W. Bos

GESTURE AND MULTIMODAL INTERACTIONS 10901 – 10925

wp10901 Cutting Edge Vision: Metal Embedded Optics for Smart Knives
Amit Zoran, Nan-Wei Gao, Roy Shilkrot, Shuo Yan, Patric Maes

wp10902 Marionette: a Multi-Finger-Tilt Feedback Device for Curvatures and Haptic Images Perception
Diana Kusteva, Deepak Sahoo, Asier Marzo, Sriram Subramanian, David Coyle

wp10903 Multi-finger AR Typing Interface for Mobile Devices Using High-Speed Hand Motion Recognition
Masakazu Higuchi, Takashi Komuro

wp10904 Single-Pixel Eye Tracking via Patterned Contact Lenses: Design and Evaluation in HCI Domain
Ioannis Rigas, Olek Kornogorske

wp10905 StreetSauce: Taste Interaction and Empathy with Homeless People
Marketa Dolejsova, Tereza Libkova

wp10906 Shop-it: Gaze based Interaction in the Physical World for In-Store Social Shopping Experience
Miree Kim, Min Kyung Lee, Laura A. Dobbish

wp10907 Pretty Pelvis: A Virtual Pet Application That Breaks Sedentary Time by Promoting Gestural Interaction
Deedee A. Min, Yaejin Kim, Sung A. Jang, Keun Young Kim, Sung-Eun Jung, Ji-Hyun Lee

wp10908 User Eye Fatigue Detection via Eye Movement Behavior
Evgeniy Abduln, Olek Kornogorske

wp10909 Giance Awareness and Gaze Interaction in Smartwatches
Deepak Akkil, Jari Kangas, Jussi Rantala, Poika Isokoski, Oleg Spakov, Roope Raisamo

wp10910 Use of Sound to Provide Occluded Visual Information in Touch Gestural Interface
Bo Yu Gao, HyungSeok Kim, Hasup Lee, Jooyoung Lee, Jee-In Kim

wp10911 BESDE: Body Experience and Sense of Immersion in Digital paleontological Environment
Ryusuke Iwashida, Ryohi Ezusa, Maki Saita, Mik Maditame, Masanori Sugimoto, Fusako Kasunoki, Etsuji Yamaguchi, Shigeru Inagaki, Yosuke Takeda, Hiroshi Miazguh

wp10912 InTouch Tactile Tales: Haptic Feedback and Long-Distance Storytelling
Elaine Massung, Victoria Bates, Sarah Dickins, James Torbett, James Holmes, Kirsten Cater

wp10913 Transture: Continuing a Touch Gesture on a Small Screen into the Air
Jasothy Han, Sunggeun Ahn, Geethuk Lee
SECOND ROTATION – WEDNESDAY 22 APRIL

NOVEL INTERFACES AND INTERACTION TECHNIQUES 20101 – 20126

wip20101 Palette: Enhancing E-Commerce Product Description by Leveraging Spectrophotometry to Represent Garment Color and Airiness
Shogo Yamashita, Aditya Majjaya

wip20102 Transporters: Vision & Touch Transitive Widgets for Capacitive Screens
Florian Heiler, Simon Voelter, Chat Wacharamanotham, John Borchers

wip20103 Linked-Stick: Conveying a Physical Experience using a Shape-Shifting Stick
Ken Nakagaki, Chikara Inamura, Pasquale Totaro, Thariq Shihipar, Florian Heller, Simon Voelker, Chat Wacharamanotham, Jan Borchers

wip20104 Enhanced Depth Discrimination Using Dynamic Stereoscopic 3D Parameters
Arun Kulshreshth, Joseph J. LaViola Jr.

wip20105 A Tablettop Projector-camera System for Remote and Nearby Pointing Operation
Shin Sekiguchi, Takashi Komuro

wip20106 Atmosphere: Representing Space and Movement Using Sand Traces in an Interactive Zen Garden
Rufiji Du, Kent R. Wills, Max Potasznik, Jon E. Froehlich

wip20107 Tilt[ing the Tablet: The Effect of Tablet Tilt on Hand Occlusion
Emily B. Moore

wip20108 Flex-Beam: A Versatile Video Projection Interface for Digital Performance
Dae-gun Jung, Yi-Kyoung Kim, Seunghun Kim

wip20109 Effects of Sound Type on Recreating the Trajectory of a Moving Source
Graham Wilson, Stephen Brevettor, Hector Callexta, Charlotte Magnusson, Sara Finocchietti, Gabriel Baud-Bovy, Monica Gori

wip20110 HoverLink: Joint Interactions using Hover Sensing Capability
Takuro Kubotara, Buntarou Shizuki, Jiro Tanaka

wip20111 Sounds like it Works: Music-based Navigation to Improve the Clearroom Experience
Ihan Askon, Barbara Weibelbommer, Bernhard Maure, Daniela Wurhaf, Alexander Meschtschek, Manfred Tscheligi

wip20112 Toward Designing a NewVirtual Keyboard When All Finger Movements Are Known
Daewong Choi, Hyoenyoong Cho, Joona Cheong

wip20113 Automatically Freezing Live-Video for Annotation during Remote Collaboration
Seungwon Kim, Gun Lee, Sangtae Ha, Nobuchika Sakata, Mark Billinghurst

wip20114 Jomo Beat: Shower-Tactile Stimulation Device in the Bathroom
Keisuke Hoshina, Masahiro Koge, Taku Hachisu, Ryu Koda, Hayuki Kimoto

wip20115 Beyond Command & Control: Sketching Embodied Interaction
Gunnar Ekut, Anu Rojula-Ekut

wip20116 The Cage: A 6-Dof Remote Control with Force Feedback for Advanced UAV Interaction
Charlie Anderson, Beni Barash, Charlie Mellett, Denis Ogisu, Michael Wray, Jamal Krabb, Christopher H. Morris, Sue Ann Seoh

wip20117 TellTale: Adding a Polygraph to Everyday Life

wip20118 SIGCHI: Magic Mirror - Embodied Interactions for the Quantifiable Self
Hanhiroh Subramonyam

wip20119 PiLight: User-Centered Lighting Control Interface for Residential Space
Jeongmin Lee, Kyungsah Choi, Hyoen-Jeong Suk

wip20120 EmbodiedTechnology: Unraveling Bodily Action with Normative Types
Lauren Boer, Rabb Mitchell, Agnese Caglia, Andréis Lucero

wip20121 Evaluating Stereoscopic 3D for Automotive User Interfaces in a Real-World Driving Study
Nora Bray, Stefan Schneegass, Mengbing Guo, Florian AK, Albrecht Schmidt

wip20122 Hover Cursor: Improving Touchscreen Acquisition Of Small Targets With Hover-enabled Pre-selection
Anna Ostberg, Nada Matic

wip20123 Delegation Impossible! Towards Novel Interfaces for Camera Motion
Axel Hoesl, Julie Wagner, Andreas Butz

wip20124 Director: A Remote Guidance Mechanism
Liam Betsworth, Matt Jones

wip20125 The Appropriation Paradox: Benefits and Burdens of Appropriating Collaboration Technologies
Songseok You, Lare P. Robert, Soo Young Rieh

wip20126 Beyond Binary Gestures: Exploring Documents using Touch Interfaces
Ziqi Huang, Juan Felipe Beltran, Azza Abouzied, Arnab Nandi

PRODUCTIVITY AND AWARENESS 20201 – 20206

wip20201 The Do Not Disturb Challenge: A Day Without Notifications
Martin Peiot, Luz Reil

wip20202 Beyond *Geofencing: Specifying Location in Location-Based Reminder Applications
Yoo Wang, Manuel A. Perez-Quinones

wip20203 Tipper: Contextual Tooltips that Provide Seniors with Clear, Reliable Help for Web Tasks
Saba Kowsi, Yao Dai, George Karalis, Chris Olsen
wip20204 Automatic Delivery/Time-Control of Incoming Email based on User Interruptibility
Yasumasa Kobayashi, Takahiro Tanaka, Kazuaki Aoki, Kenyo Fujita

wip20205 Task Lookouts Induce Crowdcoders to Switch to Other Activities
Sandy J. J. Gould, Anna L. Cox, Duncan P. Brumby

wip20206 Tag & Link: Supporting Regional and Relational Tagging in Images with Direct Annotation
Hsiung-Lin Tsai, Cheng-Hsien Han, En-Hsin Wu, Chi-Lan Yang, Hsin-Chuan Wang

SEARCH AND INFOVIS

wip20301 TaskEnvironment: A Study in Personal Task Management Visualization
Sheriff Jolossa, Manuel A. Perez-Quiones

wip20302 Usable Transparency with the Data Track – A Tool for Visualizing Data Disclosures
Julio Angulo, Simone Fischer-Hübner, Tobias Pullu, Erik Wüstlund

wip20303 Towards a Novel Issue Tracking System for Industry 4.0 Environments
Pascal Lessel, Marc Müller, Antonio Kröger

wip20304 Bicentric Diagrams: Design of a Graph-Based Relational Set Visualization Technique
Hyunwoo Park, Rahul C. Bosile

wip20305 Towards Text Search for Information Visualization Retrieval
Romain Vuillemot, Muli Akrami

wip20306 Exploring the Effect of Word-Scale Visualizations on Reading Behavior
Pascal Goffin, Wesley J. Willett, Anastasia Bezenarios, Petra Isenberg

wip20307 Ariadne's Thread - Interactive Navigation in a World of Networked Information
Rob Kooman, Shenghua Wang, Andra Schanzer, Guenn Englebienne

wip20308 Design Implications of Casual Health Visualization on Tangible Displays
Sandy Cloes, Jorges Caenen, Karin Steggers, Andrew Wande Moere

wip20309 Using Space: Effect of Display Size on Users' Search Performance
Lars Lischke, Sven Mayer, Katrina Wolf, Niels Henze, Albrecht Schmidt, Svenja Leifert, Harald Reiserer

wip20310 Detecting and Visualizing Filter Bubbles in Google and Bing
Tawanna R. Delahun, Christopher A. Brooks, Samarth Gulati

wip20311 Understanding Requirements of Place in Local Search
Karen Church, Henriette Cramer

wip20312 Visual characteristics' inherent impact on people's strategic orientation
Tawanna R. Delahun, Christopher A. Brooks, Samarth Gulati

wip20313 Visual characteristics' inherent impact on people's strategic orientation
Tawanna R. Delahun, Christopher A. Brooks, Samarth Gulati

wip20314 Quarry: Picking From Examples to Explore Big Data
Rhema Linder, Eunyee Koh

SOCIAL COMPUTING

wip20401 Generating Narratives from Personal Digital Data: Triptychs
Matthew P. Aylett, Elaine Farrow, Larissa Pacheter, Thomas Dickinson

wip20402 PicThru: a Mobile Application to Foster Creative Thinking with Pictures and Social Mechanics
Oscar Andújar, Oleh Kudinov, Asier Marzo

wip20403 Ranking Designs and Users in Online Social Networks
Biplab Debu, Hao Xu, Devin Hao, Zifeng Huang, Jerry O’Toole, Ranjitha Kumar

wip20404 The Price of the Priceless: Understanding Estimated Costs of Work in Friendsourcing
Joey Choo-Yin Hsiao, Mei-Hua Han, Hsin-Chuan Wang, Jane Yung Jien Hsu

wip20405 Exploring Embedded Haptics for Social Networking and Interactions
Ali Iara, Siyan Zhao, Oliver Schneider

wip20406 Using Socio-ecological Model to Inform the Design of Persuasive Applications
Hozaini Mohd Mohd, Nazliilah Mahamad Ali

wip20407 Understanding Perceived Social Support through Communication Time, Frequency, and Media Multiplexity
Donghee Yvette Wahn, Wei Peng

wip20408 From the Deposit to the Exhibit Floor: An Exploration on Giving Museum Objects Personality and Social Life
Mark T. Marshall, Nik Adolphe, Daniele Petrelli, Hub Kockxkkorn

wip20409 Collaborative Video Challenges: A Playful Concept of Proximity-Based Social Interaction
Susanna Paasavasa, Ekateryna Olshannikava, Thomas Olsson

wip20410 “Like This Shirt”: Exploring the Translation of Social Mechanisms in the Virtual World into Physical Experiences
Ladan Najafzadeh, Seokhun Kang, Jan E. Froehlich

wip20411 Frustrations with Pursuing Casual Encounters through Online Dating
Douglas Zytko, Sulestibni A. Grandh, Quentin Jones

wip20412 Exploring Tag-based Like Networks
Kyunjik Hong, Jin Yoo, Dongwon Lee

wip20413 A Taxonomy for Classifying Questions Asked in Social Question and Answering
Zhe Liu, Bernad J. Jensen

TRUST, PRIVACY, AND EMOTIONS

wip20501 SmileTracker: Automatically and Unobtrusively Recording Smiles and their Context
Natsuki Itaka, Weihsuan ‘Vincent’ Chen, Rasaland Picard

wip20502 Laughin’Cam: Active Camera System To Induce Natural Smiles
Yoshihito Fushimi, Shogo Fukushima, Takeshi Naoemura

wip20503 Factors Related to Privacy Concerns and Protection Behaviors Regarding Behavioral Advertising
Donghee Yvette Wahn, Jacob Solomon, Dan Sarkas, Kami E. Vaniea

wip20504 Somebody Is Peking! A Proximity and Privacy Aware Tablet Interface
Huyuan Zhou, Vinicio Ferrera, Thamara Alves, Kristie Howkey, Derek Reilly

wip20505 A Study Relating Computational Textile Textural Expression to Emotion
Felicia Davis

wip20506 Lexical Representation of Emotions for High Functioning Autism (HFA) via Emotional Story Intervention using Smart Media
Hin Kyeong Jeong, YoungTae Kim, DongSoo Yim, Seokjeong Yeon, Seokwoo Song, John Kim

wip20507 Using Galvanic Skin Response (GSR) to Measure Trust and Cognitive Load in the Text-Chat Environment
Ahmad Khawaj, Jianrong Zhou, Fang Chen, Nadine Marcus

wip20508 Emotion Evoked by Texture and Application to Emotional Communication
Yurke Eke, Hiyuki Umemura

wip20509 Creating the Mood: Design for a Cognitive Meeting Room
Maryam Ashoori, Rachel K. E. Bellamy, Justin D. Weisz

wip20510 CoSense: Creating Shared Emotional Experiences
Sudhindra S. D. Ayyagari, Kunal Gupta, Matt sailor, Mark Billinghurst

wip20511 Self-Defining Memory Cues: Creative Expression and Emotional Meaning
Corina Sas, Scott Challoner, Christopher Clarke, Ross Wilson, Alina Carnan, Sarah Clinch, Mike Harding, Nigel Davies

wip20512 Seamless And Always-on Security in a Bring-Your-Own-Application World
SungHyuk Yoon, Soyoung Kwon, KunPyo Lee

wip20513 Emotional Interaction and Notification of Flexible Handheld Devices
Jung Min Lee, So Yon Jeong, Da Young Ju

wip20514 Understanding User’s Behavior for Developing Webtoon Rating System Based on Laugh Reaction Sensing through Smartphone
Donghee Yvette Wahn, Wei Peng

wip20515 Growth, Change & Decay: Plants & Interaction Possibilities
Cameron Steer, Simon Robinson, Matt Jones
UBICOMP, ROBOTS, AND WEARABLES 20601 – 20621

wip20601  ApplianceReader: A Wearable, Crowdsourced, Vision-based System to Make Appliances Accessible
Anhong Guo, Xiang ‘Anthony’ Chen, Jeffrey P. Bigham

wip20602  Ethnographic Research With Wearable Cameras
Katja C. Thongr, Roland M. Mueller, Petra Balke-Schub

wip20603  Listen To Your Footsteps: Wearable Device for Measuring Walking Quality
Sungju Hong, Hyungyeon Gim

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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.

**Monday**
- 18:00 – 19:30 Grand opening

**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

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**Tuesday – Wednesday**
- 10:50 – 11:30 Presenters available during the morning break
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The CHI Info Booth in the exhibit hall is staffed by Student Volunteers. The Info Booth can help with directions, room location, and schedule questions. It is also the place you may bring your resume with a completed CHI 2015 cover sheet if you respond to a job position posted on a recruiting board.

See the map on page 65 for the location of each booth
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- **Samsung**
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- **Nexon Computer Museum**
  Booth 4 & 5
- **FuturePlay**
  Booth 6
- **Elsevier**
  Booth 7
- **Vtouch**
  Booth 8
- **Aproposse**
  Booth 9
- **IUEditor**
  Booth 10
- **Samsung SDS, CX Team**
  Booth 11
- **Springer**
  Booth 12 & 13
- **NEOFECT**
  Booth 14
- **Oxford University Press**
  Booth 15
- **Facebook**
  Booth 16
- **Golfzon**
  Booth 17
- **CHI Information Desk**
  Booth 18
- **Smart Eye**
  Booth 19
- **Morgan & Claypool Publishers**
  Booth 20
- **Google**
  Booth 21 & 22
- **SK Planet**
  Booth 23
- **John Wiley & Sons**
  Booth 24
- **Tobii Pro**
  Booth 25
- **EyeTracking, Inc.**
  Booth 26
- **Seoul Tourism Organization (STO)**
  Booth 27 & 28
- **Letsee**
  Booth 31
- **Neo smartpen N2**
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25 September 2015
Papers, Notes

9 October 2015
Case Studies, Workshops, Courses, Interactivity, Doctoral Consortium

11-13 December 2015
Program Committee meeting

14 December 2015
Acceptance Notifications, Registration Opens

13 January 2016
Works-in-Progress, Panels, Student Design Competition, Student Game Competition, Student Research Competition, Video Showcase, SIG Meetings, Interactivity Research Demos, alt.chi

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8 May 2016
Join us to bring HCI teaching, design ideas, hacking and more to local non-profit arts and education organizations.

Diversity Lunch
10 May 2016
The Women's Breakfast is now the Diversity Lunch. All are invited to discuss challenges, opportunities and support for underrepresented minorities in the CHI community.

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