Conference Program
**Monday – 23 April 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td><strong>Monday Morning Opening Plenary, Christian Rudder (Room 517D)</strong></td>
</tr>
<tr>
<td>10:30</td>
<td>Coffee Break (517 Foyer)</td>
</tr>
<tr>
<td>11:30</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>12:50</td>
<td>Lunch Break (on your own)</td>
</tr>
<tr>
<td>14:30</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>15:50</td>
<td>Coffee Break (517 Foyer)</td>
</tr>
<tr>
<td>16:30</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>18:00</td>
<td>CHI 2018 Reception and Expo featuring Demonstrations (Exhibit Hall/220BC)</td>
</tr>
</tbody>
</table>

**Tuesday – 24 April 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>Note:</td>
<td>Exhibit Hall open 10:20 – 18:00</td>
</tr>
<tr>
<td>10:20</td>
<td>Coffee Break (Exhibit Hall/220BC)</td>
</tr>
<tr>
<td>Late-Breaking Work Posters Rotation 1</td>
<td></td>
</tr>
<tr>
<td>Art Exhibitions (<em>VR Lounge</em>)</td>
<td></td>
</tr>
<tr>
<td>Gamejam Demonstrations</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>12:20</td>
<td>Lunch Break (on your own)</td>
</tr>
<tr>
<td>Diversity &amp; Inclusion Lunch (Preregistration required)</td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>15:20</td>
<td>Coffee Break (Exhibit Hall/220BC)</td>
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<tr>
<td>Late-Breaking Work Posters Rotation 1</td>
<td></td>
</tr>
<tr>
<td>Student Research Posters</td>
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<tr>
<td>Student Design Posters</td>
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<tr>
<td>Art Exhibitions (<em>VR Lounge</em>)</td>
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<tr>
<td>Sciencejam Lightning Talks</td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>17:30</td>
<td><strong>Tuesday Plenary, Choir! Choir! Choir!, Daveed and Nobu (Room 517D)</strong></td>
</tr>
<tr>
<td>18:00</td>
<td><strong>Job Fair (Exhibit Hall/220BC)</strong></td>
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</tbody>
</table>

**Wednesday – 25 April 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Technical Sessions</td>
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<tr>
<td>Note:</td>
<td>Exhibit Hall open 10:20 – 17:30</td>
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<tr>
<td>10:20</td>
<td>Coffee Break (Exhibit Hall/220BC)</td>
</tr>
<tr>
<td>Late-Breaking Work Posters Rotation 2</td>
<td></td>
</tr>
<tr>
<td>Art Exhibitions (<em>VR Lounge</em>)</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>12:20</td>
<td>ACM SIGCHI and CHI Joint Town Hall Lunch (Room 520)</td>
</tr>
<tr>
<td>14:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>15:20</td>
<td>Coffee Break (Exhibit Hall/220BC)</td>
</tr>
<tr>
<td>Art Exhibit: Live Coding YouTube</td>
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</tr>
<tr>
<td>Late-Breaking Work Posters Rotation 2</td>
<td></td>
</tr>
<tr>
<td>Art Exhibitions (<em>VR Lounge</em>)</td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>17:30</td>
<td><strong>Video Showcase (Room 517D)</strong></td>
</tr>
<tr>
<td>19:00</td>
<td><strong>Immersive Art Exhibition Reception Hosted at La SAT (Off site)</strong></td>
</tr>
</tbody>
</table>

**Thursday – 26 April 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:00</td>
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<td>Note:</td>
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<td>10:20</td>
<td>Coffee Break (Exhibit Hall/220BC)</td>
</tr>
<tr>
<td>Art Exhibitions (<em>VR Lounge</em>)</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>12:20</td>
<td>Lunch Break (on your own)</td>
</tr>
<tr>
<td>(Note: Exhibit Hall closes at 13:30)</td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Technical Sessions</td>
</tr>
<tr>
<td>15:20</td>
<td>Coffee Break (517 Foyer)</td>
</tr>
<tr>
<td>15:40</td>
<td><strong>Thursday Afternoon Closing Plenary, Sue Gardner (Room 517D)</strong></td>
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# CHI 2019 Save the Date

inside back cover
We are very pleased to welcome you to CHI 2018 in Montréal, Canada! This year, the theme is Engage. Our hope is that over the next six days, you engage with technology and world-class research, engage in discussions with your community of designers, researchers, students, and practitioners, and—most of all—that you engage with CHI!

The *engage* theme informed our planning and we are excited to present a vibrant program for you to experience. In 2018, we are celebrating the 50th anniversary of Douglas Engelbart's *Mother of all Demos*. To celebrate and honour this historic event, we are hosting the CHI Expo—a reception on Monday night that will give you the opportunity to engage with the technology of the future, as presented by your colleagues. We are also excited to present the CHI 2018 Art Exhibition in association with La SAT (La Société des Arts Technologiques). Much of the virtual and mixed-reality art can be seen in the Exhibit Hall; however, please attend the reception on Wednesday night at La SAT to experience the impressive Satosphere—a 360° digital dome environment with artworks that explore immersion. This year, we are launching the inaugural CHI Gamejam and Sciencejam, where participants can engage with mentors and peers in a two-day frenzy of activity and excitement. We are also bringing back the plenary Video Showcase session on Wednesday afternoon.

Additionally, we broadened the scope of who can engage with CHI content. We are pleased to launch the first-ever CHI with live-streaming of every paper session. Live-streaming paper presentations allows our authors to reach a diverse audience that includes the friends, family, and colleagues who have supported the presented research, but are unable to attend. We support people with disabilities or travel restrictions to remotely attend through telepresence robots. We are offering onsite childcare that helps people with caregiving responsibilities attend CHI. We also have several initiatives to support diversity, inclusion, and accessibility including a nursing room, gender-neutral bathrooms, badge pronouns, and a dedicated blackout (desensitization) room. Tiohtià:ke, (Montréal) is historically known as a gathering place for many First Nations, and we wish for our attendees to carry this spirit of connection into how we engage with each other at CHI 2018.

We are so grateful to our extraordinary volunteers who made CHI 2018 possible, especially to those who organized the venues and provided logistics support. We are greatly indebted to each of the 101 volunteers on our organizing committee for their service in making CHI 2018 happen. Thanks also to the more than 175 student volunteers who carry out on-the-ground efforts in helping CHI to run smoothly. Finally, we are deeply grateful to the ACM, to SIGCHI, and to the CHI Steering Committee for their support of CHI 2018.

We welcome you to Montréal and encourage you to *Engage with CHI!*

We are thrilled with our dynamic keynote speakers, who each bring unique perspectives to our theme. Christian Rudder (author of *Dataclysm*) opens CHI with his insights on what data from the dating site he co-founded (OkCupid) reveals about human behaviour. Sue Gardner (former executive director of Wikimedia Foundation, co-chair of the campaign to pardon Edward Snowden) closes CHI by discussing her desire to ensure that everybody in the world has access to the information they want and need. And Choir! Choir! Choir! leads us in a plenary session on Tuesday afternoon on achieving creativity through shared vulnerability.

**General Conference Chair**
Regan Mandryk
University of Saskatchewan

**General Conference Chair**
Mark Hancock
University of Waterloo
WELCOME FROM CHAIRS

FROM THE TECHNICAL PROGRAM CHAIRS

The CHI 2018 technical program consists of a weekend of 24 parallel workshops and symposia plus additional events such as the GameJam, ScienceJam and Doctoral Consortium. This is followed by four days that consist of 25 parallel sessions of exciting papers, panels, case studies, SIGs (Special Interest Groups), courses, video showcase, and the popular student research, and design competitions. The alt.chi venue, now in its fourteenth year, presents stimulating new and challenging ideas in HCI. The CHI Art Exhibition is also returning, and the CHI Expo will showcase demos of cutting-edge technology.

This ground-breaking work is archived in the ACM Digital Library (https://dl.acm.org). We distinguish between two categories of CHI material in the ACM Digital Library. Papers are the most rigorously peer reviewed and prestigious material presented at the conference, and are collected in the Conference Proceedings. The other categories of work are represented in the Extended Abstracts. These are peer-reviewed, juried, or curated, and reflect the breadth of education, research, design, artistic, scientific exploration and engineering activity within the HCI community.

Across all tracks, CHI received 3955 submissions and accepted 1208. For papers, the conference received 2592 submissions (a rise of 8% from the 2017 conference) which were rigorously reviewed, resulting in 666 accepted papers (acceptance rate 25.7%). In addition 47 journal articles will be presented.

We wish to give our heartfelt thanks to the 101 members of the organising committee who kept the boat afloat and moving in the right direction, the 489 members of the programme committees who wrote 6,321 reviews, and the 3837 external reviewers who wrote 6844 reviews. Our special thanks also go to the staff at Sheridan Publishing (particularly Lisa Tolles) who have worked extremely hard to ensure that all papers and extended abstracts were processed in time for the conference.

We hope you find the technical program engaging and inspiring.

TECHNICAL PROGRAM CHAIR
Anna Cox
University College
London UK

Mark Perry
Brunel University
London UK

TERRITORIAL ACKNOWLEDGEMENT

CHI 2018 is being hosted in the beautiful city of Montréal, Canada. We would like to acknowledge that the Palais des Congrès is located on unceded Indigenous lands. Tiohtià:ke—commonly known as Montréal—is historically known as a gathering place for many First Nations. Today, it is home to a diverse population of Indigenous and other peoples. We aim to respect the continued connections with the past, present and future in our relationships with Indigenous and other peoples within the Montréal community.

DIVERSITY AND INCLUSION STATEMENT

At CHI 2018 we want every participant to feel welcome, included, and safe at the conference. Moreover, we will do our best to accommodate specific needs such as accessibility, or dietary requirements. We cannot promise to solve every issue, but will try our best. We expect all interactions between CHI members to be respectful and constructive, including interactions during the review process, at the conference itself, and on social media and to abide by the ACM Policy Against Discrimination and Harassment.

CHI 2018 is an Association for Computing Machinery (“ACM”) Special Interest Group on Computer-Human Interaction (“SIGCHI”) sponsored conference. The open exchange of ideas and the freedom of thought and expression are central to the ACM’s aims and goals. These require an environment that recognizes the inherent worth of every person and group, that fosters dignity, understanding, and mutual respect, and that embraces diversity. For these reasons, ACM requires all ACM members and members of ACM Special Interest Groups (“SIGs”) to abide by their Policy Against Discrimination and Harassment with respect to their participation in ACM-related activities. ACM also expects registered attendees of ACM- or SIG-sponsored events such as CHI 2018 (“Event Attendees”) to abide by this Policy.

Anyone witnessing or subject to unacceptable behaviour should notify the CHI 2018 General Chairs immediately at generalchairs@chi2018.acm.org.

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Christian Rudder photo (page 25, 26): Victor G. Jeffreys II
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Youn-ah Kang, Yonsei University, Korea
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Anne Weibert, University of Siegen
Paweł Woźniak, Chalmers University of Technology
Haijun Xia, University of Toronto
Lillian Yang, Simon Fraser University
Yang Zhang, Carnegie Mellon University

Student Research Competition Jury
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Jonathan Lazar, Towson University
Wendy Moncur, University of Dundee
Albrecht Schmidt, Ludwig Maximilian University of Munich

Student Design Competition Jury
Madeline Balaam, Royal Institute of Technology
Margot Breteron, University of Queensland
Chris le Dantec, Georgia Tech
Daniel Saakes, KAIST
Things That Keep Us Busy
The Elements of Interaction
By Lars-Erik Janlert and Erik Stolterman
An investigation of interactivity, interfaces and their design, and the webs of complex interactions that result.
Hardcover | $35 | £27.95

Muriel Cooper
By David Reinfurt and Robert Wiesenberger
The career of the pioneering designer Muriel Cooper, whose work spanned media from printed book to software interface; generously illustrated in color.
Hardcover | $60 | £49.95

Architectural Intelligence
How Designers and Architects Created the Digital Landscape
By Molly Wright Steenson
Architects who engaged with cybernetics, artificial intelligence, and other technologies poured the foundation for digital interactivity.
Hardcover | $34.95 | £27.95

Critical Theory and Interaction Design
Edited by Jeffrey Bardzell, Shaowen Bardzell and Mark Blythe
Classic texts by thinkers from Althusser to Žižek alongside essays by leaders in interaction design and HCI show the relevance of critical theory to interaction design.
Hardcover | $60 | For sale only in the US and Canada.

The Materiality of Interaction
Notes on the Materials of Interaction Design
By Mikael Wiberg
A new approach to interaction design that moves beyond representation and metaphor to focus on the material manifestations of interaction.
Hardcover | $35 | £27.95

The Fabric of Interface
Mobile Media, Design, and Gender
By Stephen Monteiro
Tracing the genealogy of our physical interaction with mobile devices back to textile and needlecraft culture.
Hardcover | $30 | £24.95

Critical Fabulations
Reworking the Methods and Margins of Design
By Daniela K Rosner
A proposal to redefine design in a way that not only challenges the field’s dominant paradigms but also changes the practice of design itself.
Hardcover | $35 | £27.95

Making Design Theory
By Johan Redström
A new approach to theory development for practice-driven research, proposing that theory is something made in and through design.
Hardcover | $30 | £24.95

Visit our booth or use code MITCHI18 at mitpress.mit.edu for a 30% discount
mitpress.mit.edu
GENERAL INFORMATION

- ACM SIGCHI

CHI 2018 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 12:20-14:00 in Room 520 or visit www.sigchi.org to learn more about SIGCHI. We also have a Youtube channel www.youtube.com/user/acmsigchi and an active Tumblr at sigchi.tumblr.com where we document the discussion and process around the development of CHI.

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: acmhelp@acm.org
Write: Association for Computing Machinery, Inc.
General Post Office
P.O. Box 30777
New York, NY 10087-0777, USA

- CHI STEERING COMMITTEE

The CHI Steering Committee is responsible for promoting and maintaining the ACM CHI Conference on Human Factors in Computing Systems as the premier international conference on the broad field of Human-Computer Interaction. It ensures that the strategic objectives defined by SIGCHI Executive Committees are met and provides support to CHI conference organizers. This committee establishes objectives and quality criteria for the CHI conference and ensures that the mechanisms for accomplishing these goals are put in place. It also serves as a focal point for communications between the CHI Conference Committee, CHI attendees, SIGCHI EC, and the ACM Headquarters Staff.

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# CHI INFORMATION AND POLICIES

**Name Badges**

Your CHI 2018 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 2018 name badge.

**CHI 2018 Info Desk** *(Booth 600) Exhibit Hall/220BC*

Student Volunteers staff the Info Desk (co-located with the ACM Booth) during Exhibit Hall hours. They are happy to help answer your questions or find someone who can. At other times, stop by the Registration Desk for information.

Information about café and lunch options, as well as things to do is also available at the Info Desk or you may reference https://chi2018.acm.org/things-to-do/ (which has a map), and the “Things to Do” app which is available to attendees at http://chi2018.uegroup.com.

**Student Volunteers** 513D–F

CHI 2018 has over 175 Student Volunteers, easily identified by their brightly colored SV t-shirts. Most are graduate students in HCI and some are seeking jobs or internships.

**Meeting People**

Arrange meetups with new and old colleagues in the MeetingZone, located in the Exhibit Hall. Numbered tables help you find each other. To meet new people with similar HCI topic interests, star sessions in the Confer conference program (http://confer.csail.mit.edu/chi2018), and then select My Meetings to contact and arrange meetings with colleagues who have shared interests.

**Charging Access** Exhibit Hall/220BC

Power up while chatting with colleagues during the breaks at the WorkZone, located in the Exhibit Hall.

**Wireless Access**

CHI 2018 offers wireless high-speed internet access throughout the convention center including in all meeting rooms. Please be considerate of your colleagues and limit your time spent online and any unnecessary bandwidth usage. See Table of Contents for network & password.

**Live Streaming**

CHI 2018 will be livestreaming all paper talks, widening the reach of paper presentations. Go to https://chi2018.acm.org/attending/stream/ to connect.

**Blogging & Photosharing**

CHI encourages attendees to blog, tweet and share photos using the hashtag #chi2018.

**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. It is prohibited to audio or video record any talks or presentations.

**Smoking Policy**

The convention center supports a mandated smokefree environment. No smoking is allowed inside of the facility.

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**Child Care**

CHI 2018 is committed to sponsoring childcare. For more information, please go to the registration desk.

**Nursing Room** 449

The nursing room is a quiet space for feeding and soothing babies and young children whose caregivers are attending CHI. It is also for nursing mothers who need to pump breast milk, and it is equipped with a kettle and a fridge. Please go to the conference office (Room 523) to ask for the key to this room.

**First Aid Room** 338

If you require first aid while attending CHI 2018, the infirmary is located on the 3rd floor and will be open during all show hours.

**In Case of Emergency** 523

In case of emergency, please dial 911 for help and then send someone to notify the Conference Office staff in room 523.

**Desensitization Room** 342

We know that attending conferences—especially those with more than 20 simultaneous tracks—can be a challenging experience for many. If you feel anxious or need some breathing room, this desensitization room is provided for that purpose. A place to be quiet and recover, the desensitization room is for those who need a break from all of the hustle and bustle of CHI.

**Telepresence Robots**

*Pre-registration required*

This year we are providing the opportunity for a small number of people to remotely attend the CHI conference via telepresence robots. Our goal is to increase access to the conference experience for remote participants who would otherwise be unable to attend due to mobility impairments, chronic health issues, or travel restrictions.

**Free Headshots for Students** Outside of 513F

*Sunday and Monday, 10:00 – 15:00*

Having a professional headshot on hand can prevent the need for taking last-minute selfies for use in book chapters, journal articles, biographies, or job applications. On Sunday and Monday (10:00-15:00), a professional photographer from Lorenzo Hill Photography will be available outside of 513F to take and provide free digital headshots for all students.
GENERAL INFORMATION

**TECHNICAL PROGRAM | MONDAY — THURSDAY**

CHI 2018 has a wide variety of technical content for you to attend at the conference. It includes: Papers, Journal Articles, Courses, Case Studies, Panels/Roundtable Discussions, alt.chi, SIGs, and Video Showcase. Also included are poster presentations of Late-Breaking Work, the Doctoral Consortium, the Student Research Competition, and the Student Design Competition, as well as Demonstrations and an Art Exhibition.

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

**Navigating CHI 2018: How do you choose?**

With so many presentations happening at once, how do you choose? CHI 2018 offers the following resources to help you make the most of your conference experience:

1. This [CHI 2018 Conference Program](http://chi2018.acm.org/technical-program) offers at-a-glance summaries and details of all events in the main technical program, as well as times and locations.

2. The [CHI 2018 Web Program](http://chi2018.acm.org/technical-program) is available online and offers interactive summaries of all events in the main technical program, as well as times and locations.

3. The [CHI 2018 Conference Proceedings and Extended Abstracts](http://dl.acm.org) are available in the ACM Digital Library, and these publications contain details of the work presented.

4. The free [SIGCHI Mobile App](http://sigchi.mobileapp) contains the full CHI 2018 program as well as a personal interactive schedule to help you keep track of events you would like to see. The app can be downloaded by searching for “SIGCHI” with the yellow icon in Apple’s App Store (http://appstore.com/sigchi) and on Google Play (http://play.google.com/store/apps/details?id=org.sigchi). To provide feedback on the app design, please go to: [http://bit.ly/sigchiapp](http://bit.ly/sigchiapp).

5. The [CHI 2018 Video Previews](http://www.youtube.com/user/acmsigchi) are 30-second video overviews of most presentations in the main technical program. You can browse Video Previews through the CHI 2018 Web Program and on YouTube (http://www.youtube.com/user/acmsigchi).


7. SVs or [CHI 2018 Student Volunteers](http://www.youtube.com/user/acmsigchi) are available to point you in the right direction or answer questions about the program.

**Presentation Length**

When there are multiple presentations in a session, each presentation is 20 minutes, making it possible for you to “session hop” if you wish. If there are particular presentations that you would like to attend in sessions occurring at the same time, you may be able to move between the sessions to see particular presentations in each.

**Audience Questions**

Plenaries, Invited Talks, and selected technical program sessions will use sli.do to organize and moderate questions. Visit [http://sli.do](http://sli.do), use the event code #chi2018, and select your room to ask or vote for questions.

**Standing Area**

CHI 2018 paper sessions will feature a chair-free area at the back and sides of most paper presentation rooms to facilitate standing as an alternative to sitting in the provided chairs.
TECHNICAL PROGRAM VENUES

Papers

20-minute presentations

These rigorously peer-reviewed presentations are equivalent to journal articles in other fields, and form the core of CHI’s technical program.

Journal Articles

20-minute presentations

Several HCI journals invite authors from papers published in the last year to present at CHI. This year, we feature papers from ACM TOCHI, HCI Journal, Foundations and Trends in HCI, and ACM TSC.

Case Studies

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 & Roundtable Discussions

80-minute sessions

Panels are an interactive, discussion-oriented forum in which panelists present and debate a chosen topic, whereas roundtable discussions are forums in which the moderators pose questions to the audience for discussion.

alt.chi

20-minute presentations

alt.chi is a forum for controversial, risk-taking, and boundary-pushing presentations at CHI. alt.chi presentations are often innovative in format as well as content.

Courses

One, two, or three 80-minute units

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.

Special Interest Groups (SIGs)

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

80-minute session

The CHI 2018 Video Showcase features engaging videos that offer a variety of perspectives on human-computer interaction, including novel interfaces, reflective pieces and future envisionments.

Demonstrations at CHI 2018 Expo

Hands-on demonstrations

2018 represents the 50th anniversary of Douglas Engelbart’s Mother of All Demos, and we are not going to let this occasion pass unnoticed. Demonstrations are a high-visibility, high-impact forum of the Technical Program that allow attendees to engage with research prototypes, novel interactive techniques, artworks, design experiences, and inspirational technologies. Come engage with Demonstrations at the CHI 2018 Expo (Monday 18:00 – 21:00, Exhibit Hall/220BC). Plan your experience using the Demonstrations map on page 92.

Doctoral Consortium

Posters

Doctoral Consortium posters will be on display. Doctoral Consortium students are available to discuss their research during the Tuesday morning coffee break.

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 highlighted during the Tuesday afternoon break and on display Tuesday – Thursday in Exhibit Hall/220BC. The SRC jury selects finalists who present their work and answer questions in a session on Monday (11:30 – 12:50, Room 520F). Final presentations are held on Wednesday (14:00 – 17:20, Room 514C), and winners are announced at the Closing Plenary.

Student Design Competition

Posters and 80-minute session

The Student Design Competition (SDC) challenges students from around the globe to contribute to the CHI 2018 theme, “Engage,” by “Engaging Communities.” Students were asked to use human-centered design approaches to develop a new way to support, empower, or change the behavior of a group around a shared area of interest. Monday (14:30 – 15:50, Room 520F) is the Closed Jury Session. Semifinalist posters are highlighted during the Tuesday afternoon break and on display Tuesday – Thursday in Exhibit Hall/220BC. The SDC jury selects four finalists to present on Wednesday (14:00 – 15:20, Room 516C), and the winner is announced at the Closing Plenary.

Late-Breaking Work (lbw)

Exhibit Hall/220BC

Posters

A Late-Breaking Work submission is a concise report of recent findings or other types of innovative or thought-provoking work relevant to the CHI community. Submissions report on cutting edge or emerging work that has not been fully realized or developed, for which empirical data may not yet be available, or that has not yet reached a level of maturity expected for the fully-refereed paper process. Rotation 1 posters appear on Tuesday; authors are available to discuss their work during the Tuesday morning and afternoon breaks. Rotation 2 posters appear on Wednesday; authors are available to discuss their work during the Wednesday morning and afternoon breaks.
Art Exhibition
The CHI 2018 Art Exhibition is presented at the conference, as well as in association with La Société des Arts Technologiques (La SAT).

**CHI 2018 Immersive Art Exhibition Reception Hosted at La SAT* (Dome Exhibition)**
Wednesday, 19:00 – 22:00
List on page 89
(*1201 St Laurent Blvd, Montreal, Phone: +1 514-844-2033)
On Wednesday night only, interactive art will be presented at La SAT as part of the CHI 2018 Hospitality Reception. As a Contributing Sponsor, La SAT is providing special support for this reception. Experience La SAT’s impressive Satosphere—a 360° digital dome environment—through the CHI 2018 Immersive Art Exhibition, artworks that explore the theme of immerse: the art of present t[s]ense.

**VR Lounge Art Exhibition**
**Exhibit Hall/220BC**
Tuesday – Thursday
List on page 89
The CHI 2018 VR Lounge houses immersive interactive virtual reality platforms. Immers[e] in the experience and explore your capacity to embody, live, design, explore and live within the uncountable abundance of data, meaning and representation that abounds around and within us – and becomes us.

**Video Showcase**
**517D**
Wednesday, 17:30 – 18:30
Come and enjoy the Video Showcase – a forum for human-computer interaction that leaps off the page: vision videos, reflective pieces, humor, novel interfaces, and studies will be presented through video in a plenary session, complete with popcorn and drinks! Three awards will be presented: the Golden Mouse award, the Best Design Study award, and the Best Design Exploration award.

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**SATURDAY– SUNDAY INVITATION ONLY EVENTS**

**Doctoral Consortium - Invitation Only**
520F
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 2018 Extended Abstracts.

**Workshops & Symposia - Invitation Only**
513A–524C
Workshops and Symposia provide a valuable opportunity for small communities of people with diverse perspectives to engage in rich one- and two-day discussions about a topic of common interest. Participants are pre-selected based on submitted position papers, and a brief description of each Workshop and Symposium appears in the CHI 2018 Extended Abstracts.

**GameJam - Open to all who register**
520BE
The CHI 2018 Gamejam brings members of the community together to make analog and/or digital games with the belief that creation is not only collaborative, but an underexplored area of research. CHI 2018 Gamejam participants will rapidly prototype new and innovative games, and are expected to create an entirely new game from beginning to end over the weekend. The brief time span is meant to help encourage creative thinking to result in small, but innovative and experimental games.

**ScienceJam - Open to all who register**
520A & 520D
Gamejams and Hackathons have emerged as high-intensity meetups where small groups engage in some rapid prototyping. In the CHI 2018 Sciencejam, participants apply this principle to the rapid conceptualization, execution, and analysis of small-scale experiments, studies, or other pieces of research that can provide exploratory evidence or function as an initial step in a future research project. The Sciencejam allows for the exploration of novel ideas without much prior investment in a relaxed, yet highly focused setting.
OPEN HOURS

Registration and Merchandise Desk  
Hall Viger
Register for the CHI 2018 Conference, Workshops and Courses (subject to availability) Saturday morning through Thursday at the Registration Desk located in the Hall Viger of the convention center. CHI 2018 Merchandise, including plush toy beavers and Trudeau-inspired socks, will be available for purchase (subject to availability).

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<tr>
<th>Day</th>
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<tbody>
<tr>
<td>Saturday</td>
<td>07:30 – 16:00</td>
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<td>Sunday</td>
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<td>Monday</td>
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<td>Tuesday</td>
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<td>Thursday</td>
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Exhibit Hall  
220BC
The Exhibit Hall (Room 220BC) is on the 2nd floor of convention center. Here you can enjoy a beverage and light snack during coffee breaks, talk with colleagues or explore exhibits, posters and demonstrations (at CHI Expo). Opens on Monday evening.

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<tr>
<th>Day</th>
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<tbody>
<tr>
<td>Monday, Tuesday, Wednesday</td>
<td>18:00 – 21:00</td>
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<td>Monday, Tuesday, Wednesday</td>
<td>10:20 – 18:00</td>
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Coffee Breaks
Regularly scheduled morning and afternoon coffee breaks are complimentary for all registered CHI 2018 attendees:

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<tr>
<th>Day</th>
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<tbody>
<tr>
<td>Monday</td>
<td>10:30 – 11:30 517 Foyer</td>
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<td></td>
<td>15:50 – 16:30 517 Foyer</td>
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<tr>
<td>Tuesday-Wednesday</td>
<td>10:20 – 11:00 Exhibit Hall/220BC</td>
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<td>15:20 – 16:00 Exhibit Hall/220BC</td>
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<tr>
<td>Thursday</td>
<td>10:20 – 11:00 Exhibit Hall/220BC</td>
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<td></td>
<td>15:20 – 15:40 517 Foyer</td>
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</table>

Speaker Ready Room  
341
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.

<table>
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<th>Day</th>
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<tr>
<td>Sunday-Wednesday</td>
<td>08:00 – 17:00</td>
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<tr>
<td>Thursday</td>
<td>08:00 – 14:00</td>
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Media/Press Office  
522C
CHI 2018 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 2018, SIGCHI, and future CHI conferences. CHI 2018 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.

EXHIBIT HALL ZONES

MeetingZone  
Exhibit Hall/220BC
Monday, 18:00 – 21:00; Tuesday, 10:20 – 18:00; Wednesday, 10:20 – 17:30; Thursday, 10:20 – 13:30
Located near the commercial exhibits (see map on page 92-93), the MeetingZone is a collection of numbered tables that allow you to meet up with new colleagues and old friends. The MeetingZone will be available Monday through Thursday.

WorkZone  
Exhibit Hall/220BC
Tuesday, 10:20 – 18:00; Wednesday, 10:20 – 17:30; Thursday, 10:20 – 13:30
The WorkZone (see map on page 93) is available Tuesday through Thursday if you need a place to focus on your work. Charging access and work tables are provided.

PlayZone  
Exhibit Hall/220BC
Tuesday, 10:20 – 18:00; Wednesday, 10:20 – 17:30; Thursday, 10:20 – 13:30
The PlayZone features a number of game stations and seating so attendees can relax, observe, socialize, and ideate. The PlayZone Chairs have curated a variety of games they expect to be of interest to the CHI community. There is a selection of multiplayer, exertion, and audio-only games, and a choice of cooperative and/or competitive play. Some feature unusual and challenging interfaces—find out for yourself and Engage with Play in the Exhibit Hall Tuesday through Thursday.

ChillZone  
Exhibit Hall/220BC
Tuesday, 10:20 – 18:00; Wednesday, 10:20 – 17:30; Thursday, 10:20 – 13:30
Head to the Exhibit Hall Tuesday through Thursday to relax in the beanbag chairs of several ChillZones.

GraffitiZone  
Exhibit Hall/220BC
Tuesday, 10:20 – 18:00; Wednesday, 10:20 – 17:30; Thursday, 10:20 – 13:30
Find the graffiti columns in the Exhibit Hall and add to the story of CHI 2018. Use the prompts (which change daily) to express what CHI 2018 means to you.

CHI 2018 Letters  
Exhibit Hall/220BC
Tuesday, 10:20 – 18:00; Wednesday, 10:20 – 17:30; Thursday, 10:20 – 13:30
At the front of the Exhibit Hall, find the giant CHI 2018 letters. Take selfies and tweet them, tagged with #chi2018.
### SPECIAL DAYTIME EVENTS

**Diversity & Inclusion Lunch**

**520**

**Tuesday, 12:20 – 14:00**

Open to All Attendees, Online pre-registration required

The CHI 2018 Diversity & Inclusion Lunch is both an expansion of scope and deepening of engagement with multiple aspects of diversity and inclusion. These issues include but are not limited to race, ethnicity, geolocation, and culture; age and professional experience; gender identity and sexual orientation; (dis)ability and impairments; religious beliefs; work-life-balance and needs of parents and families at CHI. This lunch is intended as a social-peer platform to celebrate diversity, discuss challenges, and collaborate on strategies to bolster diversity and inclusion in the CHI community.

**GameJam Demonstrations**

**Exhibit Hall/220BC**

**Tuesday, 10:20 – 11:00**

During the Tuesday morning coffee break, play the games created in only 48 hours by the jam participants at the stage area in the Exhibit Hall. This is a change to engage with the most recent playful innovations of CHI 2018.

**ScienceJam Lightning Talks**

**Exhibit Hall/220BC**

**Tuesday, 15:20 – 16:00**

Head to the Exhibit Hall stage area in the afternoon break on Tuesday to hear the fast-paced microtalks from the Sciencejam participants. View their digital posters and find out what they discovered in their 48-hour research hackathon.

**ACM SIGCHI & Town Hall Lunch**

**520**

**Wednesday, 12:20 – 14:00**

SIGCHI officers and CHI Steering Committee members present ongoing programs, processes, activities, and plans. An audience Q&A session follows. Participants interested in shaping SIGCHI and CHI’s future are encouraged to attend. An informal lunch is available on a first-come, first-served basis.

**Daily Plenary Session**

**517D**

**Monday, Tuesday, Wednesday, and Thursday**

Each day, there is one plenary session at CHI. On Monday morning, we welcome our opening plenary speaker, Christian Rudder. On Tuesday afternoon, join Choir! Choir! Choir! for an interactive experience. Wednesday afternoon features the Video Showcase, and Thursday we cap off CHI 2018 with our closing plenary speaker, Sue Gardner.

### SPECIAL EVENING EVENTS

**CHI Expo & Reception**

**520**

**Monday, 18:00 – 21:00**

Catch up with old friends and meet new ones at the opening reception, featuring the CHI Expo! Explore over 70 hands-on demonstrations of the latest in innovative interactive technology and the grand opening of Exhibits. Admission and drinks tickets are included with your conference registration; additional entrance tickets may be purchased at the Registration Desk. Tickets are not available at the door.

**CHI Demo Bingo** is a fun app that aims to increase social activity at CHI. Your mission, if you choose to accept it, is to find nine demos and take ‘selfie’ photos with each of them at the CHI Expo on Monday night. The first 50 people to complete the Bingo will get a special CHI Prize (claim at the CHI Letters). CHI Bingo was inspired by the late Gary Marsden - a CHI veteran and dear friend.

**Job Fair & Recruiting Boards**

**Exhibit Hall/220BC**

**Tuesday, 18:00 – 19:30**

Recruiters and job candidates are invited to take advantage of the CHI 2018 Job Fair on Tuesday evening. Visit the recruiting booths and boards throughout the conference to find out more about available positions.

**Champion Sponsor Recruiters:**

Alibaba Group  
Facebook  
Google  
IBM Research  
Microsoft  
Oath:

**Contributing Sponsor Recruiters:**

Salesforce  
Salesforce Recruiting Board  
Salesforce Recruiting Board  
City University of Hong Kong - Department of Information Systems

**Hospitality Reception**

**LA SAT (off site)**

**Wednesday, 19:00 – 22:00**

CHI 2018 is excited to host a Hospitality Reception this year at La Société des Arts Technologiques (La SAT). Founded in 1996, the SAT is a non-profit organization that is internationally recognized for taking a leading role in developing immersive technologies, virtual reality, and the creative use of high-speed networks. With its dual mission as a center for the arts and research, SAT was created for a new generation of media creators/researchers in the digital age. A gathering place for diverse intelligence, curiosity, knowledge and talent, La SAT is a live creative laboratory whose unconventional experiences bring together the tangible and the unexpected, showcasing trends in technology as applied to art and design. As a Contributing Sponsor, La SAT is providing special support for this reception where attendees can experience La SAT’s impressive Satosphere—a 360° digital dome environment—through the CHI 2018 Immersive Art Exhibition.
SIGCHI AWARDS

**LIFETIME RESEARCH AWARD**
The SIGCHI Lifetime Research Award is presented to individuals for outstanding contributions to the study of human-computer interaction. This award recognizes the very best, most fundamental and influential research contributions. It is awarded for a lifetime of innovation and leadership and includes an honorarium of $5,000, the opportunity to give a talk about the awarded work at CHI, and lifetime invitations to the annual SIGCHI award banquet. The criteria for the award are:

- Cumulative contributions to the field.
- Influence on the work of others.
- Development of new research directions.
- Reasonably active participant in the ACM SIGCHI community, although people outside of this community with outstanding and relevant achievements are considered in exceptional circumstances.

**Steven K. Feiner** is a Professor of Computer Science at Columbia University, where he directs the Computer Graphics and User Interfaces Lab. A key theme underlying his research is how computers can help people perform skilled tasks, which he has addressed across a wide range of topics in human–computer interaction and computer graphics. These include automated generation of graphics and multimedia, 3D and 2D user interfaces, wearable computing, health applications, computer games, and information visualization. His lab has been conducting virtual reality (VR), augmented reality (AR), and wearable computing research for over 25 years, designing and evaluating novel 3D interaction and visualization techniques, creating the first outdoor mobile AR system using a see-through head-worn display with GPS tracking, automating the design and layout of augmentations to meet task goals and occlusion constraints, and developing “hybrid user interfaces” that combine heterogeneous displays and devices. Steve and his colleagues have pioneered applications of AR to fields as diverse as tourism, journalism, archaeology, maintenance, field guides, and construction. Steve is an IEEE Fellow, a member of the CHI Academy, and a recipient of numerous awards, including the IEEE VGTC Virtual Reality Career Award and the IEEE ISMAR Career Impact Award. Steve has served as general chair or program chair for over a dozen ACM and IEEE conferences.

**LIFETIME PRACTICE AWARD**
The SIGCHI Lifetime Practice Award is presented to individuals for outstanding contributions to the practice and understanding of human-computer interaction. This award recognizes the very best and most influential applications of human-computer interaction. It is awarded for a lifetime of innovation and leadership and includes an honorarium of $5,000, the opportunity to give a talk about the awarded work at CHI, and lifetime invitations to the annual SIGCHI award banquet. The criteria for the award are:

- Cumulative contributions to the field directly and through the leadership of others.
- Innovation and the stimulation of innovation through practice.
- Impact on the field, industry, and society.
- Influence on the work of others, and the growth of other HCI practitioners and researchers.
- Successful application of human-computer interaction to products, services, and systems.
- Reasonably active participant in the ACM SIGCHI community, although outstanding individuals active in other professional communities are considered.

**Arnold M. Lund** is the Computing & Software Systems Professor of Practice in the School of STEM at the University of Washington, Bothell. He has a BA from the University of Chicago, and a PhD from Northwestern University. He was inducted into the ACM SIGCHI Academy in 2010, and received the ACM SIGCHI Lifetime Service Award in 2011. He co-chaired the SIGCHI CHI Conferences in 1998 and 2008. He is a Fellow of the Human Factors and Ergonomics Society (HFES), and served on the HFES Executive Council. He served on numerous standards bodies and committees relating to software and ergonomics. Arnie began his career at AT&T Bell Laboratories, and helped build the science and technology organization at Ameritech where the work transformed the corporate branding and culture and was responsible for a rich set of innovative new products. He has managed user experience and exploratory software development teams at US West Advanced Technologies, Sapient, Microsoft and Amazon. As a Technology Leader at GE Global Research he managed their first set of labs devoted to human-computer interaction research, and their work on natural user interaction and intelligent agents has been covered widely in the press. He has been an accessibility advocate across the companies where he has worked. He also wrote the widely used book User Experience Management: Essential Skills for Leading Effective UX Teams.
**LIFETIME SERVICE AWARD**

The SIGCHI Lifetime Service Award goes to individuals who have contributed to the growth and success of SIGCHI in a variety of capacities. This award is for extended services to the community at large over a number of years and includes an honorarium of $5,000, and lifetime invitations to the annual SIGCHI award banquet. Criteria for this award are:

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

**Maria Francesca Costabile** is a full professor of Human-Computer Interaction (HCI) at the Computer Science Department of the University of Bari Aldo Moro (UNIBA). At UNIBA, Prof. Costabile created the IVU Lab (Interaction Visualization Usability & UX Laboratory). She has held academic appointments at many other universities, including Rensselaer Polytechnic Institute, the University of Munster, the University of Bonn, the University of Houston, and the University of Pittsburgh, PA. She has received research funds from many Italian and foreign organizations. Since 1989 her research addressed visual languages and HCI, aiming at reducing the semantic gap between computer and user by designing visual interfaces adequate to their users. In the early 2000s, she was one of the proposers of the EU Network of Excellence on End-User Development. The goal of her research is to create technology that allows (non-technical) people to pleasantly interact with it as well as to adapt that technology to their needs by modifying software artifacts during use. Prof. Costabile has held many leadership roles in the international community, including being one of the three founders and organizers of the Advanced Visual Interfaces (AVI) conference series, Program Co-Chair of INTERACT 2005, Program Co-Chair of ACM CHI 2008. In 1996 she founded the Italian Chapter of ACM SIGCHI, which she chaired from 1996-2000. She led the efforts to introduce HCI into the curriculum of most Italian universities.

**John C. Thomas** has been involved in service to SIGCHI since the original 1982 conference in Gaithersburg where he was on the organizing committee and publications co-chair. John has served in numerous major roles in the CHI and other SIGCHI conferences, including co-chairing the CHI conference in 1991, and serving on the SIGCHI EC, as a VP at Large and as Adjunct Chair for Mentoring (2009-2015), as well as on the EC’s Conference Management Committee from 1992-1995. John has also served on numerous conference and technical committees. His track record of championing HCI issues in industry is extensive. For example, at IBM Research, he explained to top Research management about the importance of fostering the study of human computer interaction for the continued growth of the computer industry. After leaving IBM, he managed the Artificial Intelligence Lab at NVYNE where he convinced management to add a group in Human Computer Interaction and institute a partnership with the University of Colorado HCI group. In his role as Executive Director, he was partly responsible for the program for two major annual technical conferences in telecommunications, the Eastern Communications Forum and the National Communications Forum. Here, he began tracks in usability that introduced hundreds of engineers to the importance of HCI. He also worked on strategy development at IBM, supporting HCI components in the “Smarter Cities” initiative, “IT for the Next Billions” and “Cognitive Computing.”

**SOCIAL IMPACT AWARD**

This award is given to mid-level or senior individuals who promote the application of human-computer interaction research to pressing social needs and includes an honorarium of $5,000, the opportunity to give a talk at the awarded work at CHI, and lifetime invitations to the annual SIGCHI award banquet. The recipient will have past or current work within the HCI profession that demonstrates social benefit. Example criteria include:

- facilitating use of computer and telecommunication technology by diverse populations
- increasing access to technology for those with limited educational opportunities
- reducing economic barriers for access to information and communication technologies
- promoting privacy, security, trust, and safety
- improving medical care, education, housing, water supplies, and nutrition
- supporting technologies for international development and conflict resolution
- improving human communication and reducing isolation
- Supporting civic applications such as community engagement, political action, social justice, citizen science/journalism, and community safety.
- Reasonably active participant in the ACM SIGCHI community, although outstanding individuals active in other professional communities are considered.

**Lorrie Faith Cranor** is the FORE Systems Professor of Computer Science and of Engineering and Public Policy at Carnegie Mellon University where she is director of the CyLab Usable Privacy and Security Laboratory (CUPS). She is associate department head of the Engineering and Public Policy Department and co-director of the MSIT-Privacy Engineering masters program. In 2016 she served as Chief Technologist at the US Federal Trade Commission, working in the office of Chairwoman Ramirez. She is also a co-founder of Wombat Security Technologies, Inc, a security awareness training company. She has played a key role in building the usable privacy and security research community, having co-edited the seminal book Security and Usability (O’Reilly 2005) and founded the Symposium On Usable Privacy and Security (SOUPS). She also chaired the Platform for Privacy Preferences Project (P3P) Specification Working Group at the W3C and authored the book Web Privacy with P3P (O’Reilly 2002). She has served on a number of boards, including the Electronic Frontier Foundation Board of Directors, and on the editorial boards of several journals. In her younger days she was honored as one of the top 100 innovators 35 or younger by Technology Review magazine. More recently she was elected to the ACM CHI Academy, named an ACM Fellow for her contributions to usable privacy and security research and education, and named an IEEE Fellow for her contributions to privacy engineering.
■ OUTSTANDING DISSERTATION AWARD
This award recognizes excellent thesis research by recent Ph.D. recipients in Human-Computer Interaction. The SIGCHI Outstanding Dissertation Award will be given annually with up to 3 winners. Winners of the award will receive an honorarium of $1,000, and will be invited to give a talk at the CHI conference describing their dissertation. Criteria for this award are:

• technical depth
• significance of the research contribution
• potential impact on the field of Human-Computer Interaction
• quality of presentation

Stefanie Mueller’s dissertation (‘Interacting with Personal Fabrication Devices’) on interactive fabrication represents a major milestone in the field of personal fabrication, a recent sub field of HCI. Personal fabrication devices, such as 3D-printers, let end-users create custom objects, but it is notably difficult to create such designs. Today, users first have to create blueprints. Then, slow 3D printing technology often takes overnight. It is not only a long process from design to result, but the process is also error-prone – the resulting objects often have mistakes requiring redrawing the model and waiting again to see it printed. Mueller’s idea is to let non-technical users design and print in an interactive manner. Her inspiration came from the history of personal computing that went from machines that executed whole programs in one go, to decreasing the interaction unit to single requests, all the way to contemporary direct manipulation interfaces. Instead of printing high-fi objects, low-fidelity fabrication allows users to quickly print a low-fi model of their object to see whether it ‘works’. In her turn-taking systems for fabrication, users ‘draw’ sketches in the material that can then be modified once before or during printing. In her third-level exploration of fabrication, users modify the object while it is being printed – a direct-manipulation model of sorts. Mueller’s thesis work was done at the HCI lab at Hasso Plattner Institute in Berlin, Germany.

Blase Ur’s dissertation (‘Supporting Password-Security Decisions with Data’) presents a thorough, aware, detailed, nuanced, and coherent examination of passwords and their problems – a high impact issue. Despite decades of research into developing abstract security advice and improving interfaces, users still struggle to make passwords. In a series of large studies, Ur shows that users frequently create passwords that are predictable for attackers or make other decisions that harm their security, yet can be guided toward better passwords using data-driven methods. Ur’s thesis is an excellent use of multiple perspectives – understanding how users respond to interfaces (password meters), identifying problems with how password-guessing attacks are modeled, and unpacking people’s beliefs about what makes passwords secure. This work culminates in the design of a novel, open-source password meter that leads users to create more secure passwords without sacrificing usability. This meter uses neural networks and numerous carefully combined heuristics to score passwords and generate data-driven text feedback about a given password. Ur evaluated the meter both qualitatively and quantitatively. Ur’s thesis work was advised by Lorrie Cranor (with close collaboration from Lujo Bauer and Nicolas Christin) at Carnegie Mellon University in Pittsburgh, PA, US. He recently joined the University of Chicago as Neubauer Family Assistant Professor of Computer Science.

■ SPECIAL RECOGNITION AWARD
The SIGCHI Special Recognition Award is presented to individuals whose vision or works or achievements have significantly influenced and broadly shaped our conceptions of human-computer interaction. Recipients come from a broader population than other SIGCHI awards. For example, they need not be members of the ACM SIGCHI community, and they may not consider human-computer interaction to be their primary field. Recipients’ contributions are not restricted to specific categories: any academic, applied, educational or other achievements will be considered as long as they comprise a significant influence on HCI. Unlike other awards, the Special Recognition Award is awarded intermittently, where possible nominees are suggested and discussed by the awards committee. Awardees are given lifetime invitations to the annual SIGCHI award banquet.
The CHI Academy is an honorary group of individuals who have made substantial contributions to the field of human-computer interaction, and awardees are given lifetime invitations to the annual SIGCHI award banquet. 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. The criteria for election to the CHI Academy are:

- Cumulative contributions to the field.
- Impact on the field through development of new research directions and/or innovations.
- Influence on the work of others.
- Reasonably active participant in the ACM SIGCHI community.

Amy S. Bruckman is Professor and Associate Chair in the School of Interactive Computing at the Georgia Institute of Technology. Her research focuses on social computing, with interests in online collaboration and creativity, social movements, and online moderation. Her early work applied social computing technology to create constructionist educational environments. She and her students study existing groups on the internet, and design new tools to support collaboration. Bruckman also studies and writes about internet research ethics. She is founding chair of the ACM SIGCHI Research Ethics Committee. She is also a member of the ACM Ethics & Plagiarism Committee, and contributed to the revised ACM Code of Conduct as part of the Code 2018 project. Bruckman is currently chair-elect of the CSCW community. She served as Co-General Chair of CSCW 2013, and Program Chair of Wikisym 2009. Bruckman received her Ph.D. from the MIT Media Lab’s Epistemology and Learning group in 1997, her M.S. from the Media Lab’s Interactive Cinema Group in 1991, and a B.A. in physics from Harvard University in 1987. More information about her work is available at: http://www.cc.gatech.edu/~asb

Sheelagh Carpendale is a full professor in the Department of Computer Science at the University of Calgary. She holds a Canada Research Chair in Information Visualization and an Industrial Research Chair in Interactive Technologies. She is the recipient of several major awards including the prestigious E.W.R. Steacie Memorial Fellowship from the Natural Sciences and Engineering Research Council of Canada. She received the British Academy of Film and Television Arts Award (BAFTA) for Interactive Learning for the project, Antarctic Waves. She has also received Alberta's ASTech Award for Innovation in Information and Communications Technology and the Canadian Human Computer Communications Society (CHCCS) Achievement Award. Sheelagh Carpendale is a founding director of Calgary’s Interactions Lab; she directs the Innovations in Visualization (InnoVis) research group and initiated the establishment of the interdisciplinary graduate program, Computational Media Design. Her research focuses on information visualization, interaction design, and qualitative empirical work. It includes such projects as: visualizing energy data, decision support for medical diagnosis, constructive visualization, personal visualization, visualizing ecological dynamics, visualizing uncertainty, visualizing social activities, and multi-touch and tabletop interaction. Dr. Carpendale’s work draws upon her backgrounds in fine arts, design and computer science.

Ed H. Chi is a Principal Scientist at Google, directing and leading a machine learning research group focused on recommendation systems and social computing research. Prior to Google, he was an Area Manager and a Principal Scientist at Xerox PARC from 1999 to 2011. Ed completed his B.S., M.S., and Ph.D. degrees in Computer Science in from University of Minnesota, Twin Cities. With 39 patents and over 110 research articles, he is known for research on Web and online social systems, and the effects of social signals on user behavior. Ed's HCI research contribution include two major areas. For web information analytics and visualization (1994-2006), he developed both information visualization frameworks and systems for web and data analytics, as well as information scent theories and algorithms for understanding information seeking and sensemaking behavior. For social computing (2006-2017), he pioneered social media modeling and crowdsourcing methodologies for HCI research, as well as developing and applying techniques from information retrieval and machine learning to social search and recommendation systems. For example, he has directed research leading to significant improvements of recommenders for YouTube, Google Play Store and Google+. Ed was the Technical Program Co-Chair for CHI2012, and is on the editorial boards of ACM TOCHI, ACM TIIS, and ACM TSC, and recognized as an ACM Distinguished Scientist in 2014. In his spare time, Ed is an avid photographer and snowboarder.

Michael Muller is an internationally recognized expert in participatory design and participatory analysis. He helped to bring the methods and theory of participatory design from Europe to North America. His work in this area includes the development of methods (CARD, PICTIVE, participatory heuristic evaluation) and theory (ethnocritical heuristics), as well as the creation of taxonomies and encyclopedic descriptions of participatory methodology in handbook chapters. At IBM's Collaborative User Experience group, Michael studied workplace collaboration, including organizational social media systems for social-networking, file-sharing, bookmarking, and online communities. Later, Michael and colleagues extended this work into one of the first organizational forms of crowdfunding for innovation and community. Michael also contributed findings and theories regarding distinct self-selected roles that employees have chosen in relation to these systems, including new work to show the contributions of lurkers. In addition to papers about technical and social phenomena, Michael has also made contributions to professional society social justice work. He organized the “HCI for All” paper sessions at the CHI conference, convened workshops oriented toward human needs and social responsibility, and was recently invited to moderate a CSCW panel on social justice. Michael is a member of the SIGCHI Research Ethics committee. ACM has recognized Michael as an ACM Distinguished Scientist.
Albrecht Schmidt is professor for Human-Centered Ubiquitous Media in the computer science department of the Ludwig Maximilians Universität München in Germany. He held several prior academic positions at different universities, including Stuttgart, Cambridge, Duisburg-Essen, and Bonn. He also worked as a researcher at the Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS) and at Microsoft Research in Cambridge. He investigates the inherent complexity of HCI in ubiquitous computing environments, particularly in view of increasing computer intelligence and system autonomy. His early experimental work addressed the use of diverse sensors to recognize situations and interactions - influencing our current understanding of context-awareness and situated computing. He proposed and developed implicit human-computer interaction, which considers sensing and machine perception as an integral part of the interaction process. He has worked on automotive user interfaces, tangible interaction, interactive public display systems, interaction with large high-resolution screens, and physiological interfaces. He currently focuses on how to provide cognitive and perceptual support to amplify the human mind. Albrecht has co-chaired several SIGCHI conferences; is in the editorial board of ACM TOCHI, edits a forum in ACM interactions, a column of human augmentation in IEEE Pervasive, and formerly edited a column on interaction technologies in IEEE Computer.

Jean Scholtz has worked as a Chief Scientist in the Visual Analytics Division of the Pacific Northwest National Laboratory (PNNL) since retiring from the National Institute of Standards and Technology (NIST) in 2006. While at NIST, Jean worked on Human-Robot Interaction (HRI) and User-Centered Evaluation Methodologies for Usability. She started the IUSR (Industry Usability Report) project that developed a standard report format for reporting usability test (CIF – Common Industry Format) that became an ISO standard. She also worked for 3 years at the Defense Advanced Research Projects Agency (DARPA) where she managed project in Invisible Computing, Information Retrieval, Collaboration and started a project in Human-Robot Interaction. Her work at PNNL has been focused on developing methodologies and metrics for user-centered evaluation in projects such as the Visual Analytics Science and Technology (VAST) Challenge, metrics for Visual Analytics, and Situation Awareness for the Power Grid. Morgan Claypool published her synthesis lecture on User-Centered Evaluation of Visual Analytics this fall. She was honored by SIGCHI in 2015 with the SIGCHI Lifetime Service award for her work with SIGCHI and numerous SIGCHI conferences. She has a Ph.D. in Computer Science from the University of Nebraska, an MS from Stevens University, and a B.A. from the University of Iowa.

Andrew D. Wilson is a Principal Researcher and Research Manager at Microsoft Research. Andy has pioneered new modes of human-computer interaction beyond traditional desktop computing, including gesture-based interfaces, touch screens, augmented and virtual reality, and display technologies. Before joining Microsoft in 2001, he obtained his PhD in Computer Science at the MIT Media Laboratory. Andy’s research focuses on using sensing and signal processing techniques to increase the bandwidth of the human-computer interface. With colleagues, Andy built the first Surface interactive tabletop prototype, founding the Surface Computing group at Microsoft. He developed the first interactive prototypes using depth cameras at Microsoft, ultimately leading to their commercialization as Kinect. He has a history of publishing simple, useful techniques that have become widely adopted and extended, such as the “$1 recognizer,” the gesture elicitation methodology, and multiple image-based gesture recognition techniques. After coauthoring several spatial augmented reality innovations such as IllumiRoom, in 2015 he open-sourced the RoomAlive Toolkit, enabling others to build novel interactive projection mapping systems. Andy first demoed at CHI in 1994. He has served as SIGCHI and ACM conference and committee chairs several times. In 2014, he received a Ten-Year Technical Impact Award for his 2004 ACM ICMI paper on “TouchLight.”

Volker Wulf is a professor of the University of Siegen and the director of its School of Media and Information (iSchool). He also heads a research group at Fraunhofer FIT in Sankt Augustin (Germany). He has degrees in computer science and business administration from RWTH Aachen, the University of Dortmund, and the University of Hamburg (Germany). He worked at MIT and later became a Fulbright Scholar visiting University of Michigan and Stanford University. Standing in the tradition of the European CSCW community, Volker Wulf has grounded the design of innovative IT artefacts in an appropriate understanding of social practices. He conceptualized a practice-based perspective to computer science in general and to HCI specifically. His work is structured by Design Case Studies which look at innovative IT artefacts from the perspectives of context studies, participatory design, and appropriation in a long term perspective. Recently, Volker also initiated a meta-research agenda to study practice-oriented research in order to improve and sustain cooperation inside the academic community and towards practitioners. Practice-orientation also requires a focus on flexible software architectures which can be tailored by users at run time (see, e.g., co-edited books on “End User Development”). He has written several other books, including “Expertise Sharing: Beyond Knowledge Management” and “Social Capital and Information Technology,” both with MIT Press.

PAST HONOREES:
SIGCHI has a long tradition of recognizing the accomplishments of our members. You can find the long list of past honorees going back to 1998 at https://sigchi.org/awards/.
ACM/SIGCHI BEST OF CHI AWARDS
The SIGCHI “Best of CHI” awards honor exceptional submissions to SIGCHI sponsored conferences.

!’ Papers receiving Honorable Mention awards are designated by a medallion icon.

!’ Papers receiving a Best Paper award are designated by a trophy icon.

Winners of Student Competitions are announced in the Closing Plenary session. Congratulations to the 2018 award winners and nominees for their outstanding contributions to CHI 2018 and to our field.

VIDEO SHOWCASE AWARDS
The Golden Mouse Award has been awarded annually since the creation of the Video Showcase in 2009. It is a “best of show” award and recognizes the best overall submission to the showcase in terms of both content and presentation value.

The Best Design Study Award is this year’s “jury’s choice” award and recognizes a video for making a potential design feel sensitive, real, and vivid.

The Best Design Exploration Award is also this year’s “jury’s choice” award and recognizes a video that explores a device design with a very different approach.
Christian Rudder

Monday April 23, 09:00 – 10:30

In the age of Big Data, Christian Rudder stands out. Rudder is in possession of one of the richest data sets in the world, accumulated from the dating site he co-founded, OkCupid. In his 2014 book, Dataclysm, he uses this (and other) data to show us the human behaviour behind the numbers: a revolutionary look at who we truly are.

He still runs OkCupid (which was sold to IAC in 2011) day-to-day, while also heading a small data-mining team that scours the digital universe for meaningful trends on important sites. The original outlet for Rudder’s research took place on OKCupid’s blog, OKTrends, which was not only read by millions of people, but also changed the way companies approach data as a media-relations strategy. His research and findings have been featured repeatedly in The New York Times, Harper’s, The Atlantic, and were the subject of a twice-weekly event with 12,000 members that invites revolving participation from over one million people. As the result—an usually unheard of amount for a first time author.

Nobu Adilman is an artist with many television, film, and music credits (including co-creating and starring in Food Jammers, hosting Discovery Science USA’s Invention Nation, and hosting national TV shows SmartAsk! and ZeD). He is also a journalist, podcaster, and interactive web content creator. Daveed Goldman is a singer, songwriter, and community creator. He can be heard on television, at the popular live-music dance party “Loving in the Name Of,” and performing at the Toronto International Film Festival. He wrote the Jack Layton memorial song “Nothing But Time to Give” and was recognized by the Globe and Mail as a Catalyst for co-founding Choir! Choir! Choir!.

Sue Gardner

Thursday April 26, 15:40 – 17:10

Sue Gardner’s work is motivated by the desire to ensure that everybody in the world has access to the information they want and need, so they are equipped to make the best-possible decisions. When she started her career, her tool for that was journalism; now it is the internet.

Gardner spent the first decade of her career as a journalist, working in radio, TV, print and online. In 2003 she was appointed head of CBC.CA, the website of one of Canada’s best-loved cultural institutions, the Canadian Broadcasting Corporation. In 2007, Gardner became executive director of the Wikimedia Foundation, the non-profit that operates Wikipedia, the world’s largest and most popular encyclopedia. In her six years with Wikimedia she grew it into a healthy sustainable organisation with 70 million in annual revenues, and established Wikipedia as a reputable global information source that stood strong against attempts at censorship.

Gardner serves as an advisor and board member for a variety of non-profit, grantmaking and policy organizations, mostly related to technology, media, gender, and digital freedoms. She was co-chair of the campaign to persuade President Obama to pardon NSA whistleblower Edward Snowden. She is special advisor to the Wikimedia Foundation, a board member of Global Voices, the Ada Initiative, the Wiki Education Foundation, and the Sunlight Foundation, and is advisor to Creative Commons and the Committee to Protect Journalists.

Gardner has an honorary doctorate of laws from Ryerson University, was named a Technology Pioneer for the World Economic Forum at Davos, has been ranked by Forbes magazine as the world’s 70th most powerful woman, was the inaugural recipient of the Knight Foundation’s Innovation Award, received the Cultural Humanist of the Year award from the Harvard Humanist Association, and is a proud recipient of the Nyan Cat Medal of Internet Awesomeness for Defending Internet Freedom.

Choir! Choir! Choir!

Tuesday April 24, 17:30 – 18:30

Choir! Choir! Choir! show how being vulnerable together can lead to creativity and achievement. In 2011, they co-founded Choir! Choir! Choir! in Toronto, a twice-weekly event with revolving participation from over 12,000 members that invites non-professional singers to collaboratively belt out pop hits.

Blurring the lines of audience and artist, Daveed and Nobu (AKA DaBu) have performed in holes, on hills, and on big stages at the Polaris Music Prize Gala, Carnegie Hall, Radio City Music Hall, Massey Hall, The Juno Awards, Art Gallery of Ontario, Parliament Hill in Ottawa, Luminato Festival and at TEDx Toronto. And they’ve included guest singers such as Rufus Wainwright, Tegan and Sara, Patti Smith, Bruce Cockburn, Kathleen Edwards, Colin Hay (Men At Work), Joel Plaskett, Sarah Harmer, and Chris Murphy (Sloan). The choir has been featured in the Globe and Mail, Fast Company, and on NPR and CBC’s The National and has brought their collaborative magic to team-building and corporate events around the nation.
### 513AB Papers: Devices and Interactions for Care

**CHAIR:** ELIZABETH L. MURNAKE

- **Exploring the Design of Tailored Virtual Reality Experiences for People with Dementia**
  - James Hodge, Madeline Balaam, Sandra Hastings, Kellie Morrissey

- **Fast & Furious: Detecting Stress with a Car Steering Wheel**
  - Pablo E. Paredes, Francisco Ordonez, Wendy Ju, James A. Landay

- **Feel My Pain: Design and Evaluation of Painpad, a Tangible Device for Supporting Inpatient Self-Logging of Pain**
  - Blaine Price, Ryan Kelly, Vikram Mehta, Ciaran McCormick, Hanad Ahmed, Oliver Pearce

- **Seismo: Blood Pressure Monitoring using Built-in Smartphone Accelerometer and Camera**
  - Edward Jay Wang, Junyi Zhu, Mohit Jain, Tien-ji Lee, Elliot Saba, Lama Nachman, Shwetak N Patel

### 514A SIG: Potentials of HCI for Prisons and Incarcerated Individuals

**POTENTIALS OF HCI FOR PRISONS AND INCARCERATED INDIVIDUALS**

**Sanne Verbaan, Clair Aldington, Roisin McNaney, Jayne Wallace**

### 514B Papers: Stay Safe Out There!

**CHAIR:** STACY BRANHAM

- **“A Stalker’s Paradise”: How Intimate Partner Abusers Exploit Technology**
  - Diana Freed, Jackeline Palmer, Diana Minchala, Karen Levy, Thomas Ristenpart, Nicola Dell

- **Keeping a Low Profile? Technology, Risk and Privacy among Undocumented Immigrants**
  - Tamy Guberek, Allison McDonald, Sylvia Simoni, Abraham H. Mhaidli, Kentaro Toyama, Florian Schaub

- **“That Really Pushes My Buttons”: Designing Bullying and Harassment Training for the Workplace**
  - Rosanna Bellini, Patrick Olivier, Rob Comber

- **Unpacking Perceptions of Data-Driven Inferences Underlying Online Targeting and Personalization**
  - Claire Dolin, Ben Weisshel, Shawn Shan, Chang Min Hohn, Euirim Choi, Michelle L. Mazurek, Blase Ur

### 514C Case Studies: Bringing Data to Life

**CHAIR:** MARIA WOLTERS

- **HCI Interventions for Science Communication**
  - Vicki Moulder, Lorna R. Boschman, Ron Wakkary, Carman Neustaedter, Hiroki Hill Kobayashi

- **Bringing AI to BI: Enabling Visual Analytics of Unstructured Data in a Modern Business Intelligence Platform**
  - Darren Edge, Jonathan Larson, Christopher White

- **Designing the Club of the Future with Data: A Case Study on Collaboration of Creative Industries**
  - Sergio Cabrero, Thomas Röggl, Jack Jansen, David A. Shamma, Pablo Cesar

- **Characterizing Scalability Issues in Spreadsheet Software using Online Forums**
  - Kelly Mack, John Lee, Kevin Chang, Karrie Karahalios, Aditya Prameswaran

### 515ABC Papers: Design for Emotion and Anticipation

**CHAIR:** WAI-TAT FU

- **“An Odd Kind of Pleasure”: Differentiating Emotional Challenge in Digital Games**
  - Julia Ayumi Bopp, Klaus Opwis, Elisa D. Mekler

- **All Work and No Play? Conversations with a Question-and-Answer Chatbot in the Wild**
  - Q. Vera Liao, Muhammed Mas-ud Hussain, Praveen Chandar, Matthew Davis, Yasaman Khazaeni, Marco Patricio Crasso, Dakuo Wang, Michael Muller, N. Sadat Shami, Werner Geyer

- **Choosing to Help Monsters: A Mixed-Method Examination of Meaningful Choices in Narrative-Rich Games and Interactive Narratives**
  - Gina H. Iten, Sharon T. Steinemann, Klaus Opwis

- **Playing to Wait: A Taxonomy of Idle Games**
  - Sultan A. Alhorthi, Olaa Alsaedi, Zachary O. Toups, Joshua Tonenaum, Jessica Hammer
516E Papers: Future Currencies and Banking

CHAIR: MIKE HAZAS

An Experimental Study of Cryptocurrency Market Dynamics
Peter M. Krafft, Nicolas Della Penna, Alex Pentland

Moneywork: Practices of Use and Social Interaction around Digital and Analog Money
Mark Perry, Jennifer Ferreira

Making Sense of Blockchain Applications: A Typology for HCI
Chris Elsden, Arthi Manohar, Jo Briggs, Mike Harding, Chris Speed, John Vines

Digital Payment and its Discontents: Street Shops and the Indian Government’s Push for Cashless Transactions
Joyojeet Pal, Priyank Chandra, Vaishnav Kameswaran, Aakanksha Parameshwar, Sneha Joshi, Aditya Jothi

516C Papers: Craft, Fabrication, Making

CHAIR: ALEXANDRA ION

Digital Joinery For Hybrid Carpentry
Shiran Magrisso, Moran Mizrahi, Amit Zoran

Mechanism Perfboard: An Augmented Reality Environment for Linkage Mechanism Design and Fabrication
Yunwoo Jeong, Han-Jong Kim, Tek-Jin Nam

Chibitronics in the Wild: Engaging New Communities in Creating Technology with Paper Electronics
Jie Qi, Leah Buechley, Andrew Huang, Patricia Ng, Sean Cross, Joseph A. Paradiso

PEP (3D Printed Electronic Papercrafts): An Integrated Approach for 3D Sculpting Paper-Based Electronic Devices
Hyunjoo Oh, Tung D. To, Ryo Suzuki, Mark D. Gross, Yoshihiro Kawahara, Lining Yao

516D Papers: Augmenting Augmented Reality

CHAIR: LARS ERIK HOLMQUIST

Understanding Users’ Capability to Transfer Information between Mixed and Virtual Reality: Position Estimation across Modalities and Perspectives
Joan Sol Roo, Jean Basset, Pierre-Antoine Cinquin, Martin Hachet

Two Kinds of Novel Multi-user Immersive Display Systems
Dongdong Guan, Chenglei Yang, WeiSi Sun, Yuan Wei, Wei Gai, Yulong Bian, Juan Liu, Qianhui Sun, Siwei Zhao, Xiangyu Meng

iTurk: Turning Passive Haptics into Active Haptics by Making Users Reconfigure Props in Virtual Reality
Lung-Pan Cheng, Li Chang, Sebastian Marwecki, Patrick Baudisch

Whiskers: Exploring the Use of Ultrasonic Haptic Cues on the Face
Hyunjoo Gil, Hyungki Son, Jin Ryong Kim, Ian Oakley

516AB Papers: Illusions in VR

CHAIR: DAVID LINDLBAPER

Breaking the Tracking: Enabling Weight Perception using Perceivable Tracking Offsets
Michael Rietzler, Florian Geiselhart, Jan Gugenheimer, Enrico Rukzio

Conveying the Perception of Kinesthetic Feedback in Virtual Reality using State-of-the-Art Hardware
Michael Rietzler, Florian Geiselhart, Julian Frommel, Enrico Rukzio

Object Manipulation in Virtual Reality Under Increasing Levels of Translational Gain
Graham Wilson, Mark McGill, Matthew Jamieson, Julie R. Williamson, Stephen A. Brewster

The Dream is Collapsing: The Experience of Exiting VR
Jarrold Knibbe, Jonas Schjerlund, Mathias Petraeus, Kasper Hornbæk

518AB Papers: Cross Device Interaction

CHAIR: NITESH GOYAL

Pocket Transfers: Interaction Techniques for Transferring Content from Situated Displays to Mobile Devices
Ville Mäkelä, Mohamed Khamis, Lukas Mecke, John James, Markku Turunen, Florian Alt

Designing Consistent Gestures Across Device Types: Eliciting RSVP Controls for Phone, Watch, and Glasses
Tilman Dingler, Rufat Rzayev, Alireza Sahami Shirazi, Niels Henze

SurfaceConstellations: A Modular Hardware Platform for Ad-Hoc Reconfigurable Cross-Device Workspaces
Nicolai Marquardt, Frederik Brudy, Can Liu, Ben Bengler, Christian Holz

AdaM: Adapting Multi-User Interfaces for Collaborative Environments in Real-Time
Seonwook Park, Christoph Gebhardt, Roman Rädle, Anna Maria Feit, Hana Vrzakova, Niraj Ramesh Dayama, Hui-Shyong Yeo, Clemens N. Klokose, Aaron Quigley, Antti Oulasvirta, Otmar Hilliges
**MONDAY 11:30 – 12:50**

### 518C Papers: Learning to Program

**CHAIR:** PEI-YU (PEGGY) CHI

- Mismatch of Expectations: How Modern Learning Resources Fail Conversational Programmers
  
  *April Y. Wang, Ryan Mitts, Philip J. Guo, Parmit K. Chilana*

- Non-Native English Speakers Learning Computer Programming: Barriers, Desires, and Design Opportunities
  
  *Philip J. Guo*

- Empowering Families Facing English Literacy Challenges to Jointly Engage in Computer Programming
  
  *Rahul Banerjee, Leanne Liu, Kiley Sobel, Caroline Pitt, Kung Jin Lee, Meng Wang, Sijin Chen, Lydia Davison, Jason C. Yip, Andrew J. Ko, Zoran Popović*

- How “Wide Walls” Can Increase Engagement: Evidence From a Natural Experiment in Scratch
  
  *Sayamindu Dasgupta, Benjamin Mako Hill*

### 519AB Papers: Interactivity in Autonomous Vehicles

**CHAIR:** XIAOJUAN MA

- Feel the Movement: Real Motion Influences Responses to Take-over Requests in Highly Automated Vehicles
  
  *Shadan Sadeghian Borojeni, Susanne Cj Boll, Wilko Heuten, Heinrich H. Bulthoff, Lewis Chuang*

- What Makes an Automated Vehicle a Good Driver? Exploring Lane Change Announcements in Dense Traffic Situations
  
  *Nina Kauffmann, Franz Winkler, Mark Vollrath*

- Communicating Awareness and Intent in Autonomous Vehicle-Pedestrian Interaction
  
  *Karthik Mahadevan, Sowmya Somanath, Ehud Sharlin*

- The Meaning of Interactivity—Some Proposals for Definitions and Measures
  
  *Lars-Erik Janlert, Erik Stolterman*

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**12:50 – 14:30   Lunch Break**

Restaurants, bars & cafés available nearby
513AB Papers: Fabrication

CHAIR: LAURA DEVENDORF

- MatchSticks: Woodworking through Improvisational Digital Fabrication
  Ran Dong Tian, Sarah Serman, Ethan Chiou, Jeremy Warner, Eric Paulus

- ColorMod: Recoloring 3D Printed Objects using Photochromic Inks
  Parinya Punponsanon, Xin Wen, David S. Kim, Stefanie Mueller

- Greater than the Sum of its PARTs: Expressing and Reusing Design Intention in 3D Models
  Megan K. Hofmann, Gabriella Han, Scott E. Hudson, Jennifer Mankoff

- Medley: A Library of Embeddables to Explore Rich Material Properties for 3D Printed Objects
  Xiang ‘Anthony’ Chen, Stellan Coros, Scott E. Hudson

514C Papers: Tools for Designing

CHAIR: PAUL PARSONS

- Methods for Intentional Encoding of High Capacity Human-Designable Visual Markers
  Joshua D. A. Jung, Daniel Vogel

- Towards Design Principles for Visual Analytics in Operations Contexts
  Matthew Conlen, Sara Stalla, Chelly Jin, Maggie Hendrie, Hillary Mushkin, Santiago Lombeida, Scott Davidoff

- c.light: A Tool for Exploring Light Properties in Early Design Stage
  Kyeong Ah Jeong, Eunjin Kim, Toesu Kim, Hyeon-Jeong Suk

- Rewire: Interface Design Assistance from Examples
  Amanda M. Swearingin, Mira Dontcheva, Wilmot Li, Morgan Dixon, Joel Brandt, Andrew Ko

515ABC Papers: Different Realities: Space and Experience

CHAIR: JAN GUGENHEIMER

- VirtualSpace - Overloading Physical Space with Multiple Virtual Reality Users
  Sebastian Marwecki, Maximillian Brehm, Lukos Wagner, Lung-Pan Cheng, Florian Mueller, Patrick Baudisch

- Exploring the Weak Association between Flow Experience and Performance in Virtual Environments
  Yulong Bian, Chenglei Yang, Chao Zhou, Juan Liu, Wei Gai, Xiangxu Meng, Feng Tian, Chia Shen

- Interactive Feedforward for Improving Performance and Maintaining Intrinsic Motivation in VR Exergaming
  Soumya C. Barathi, Daniel J. Finnegan, Matthew Farrow, Alexander Whaley, Pippa Heath, Jude Buckey, Peter W. Dowrick, Burkhard C. Wuensche, James L. J. Bilzon, Eamonn O’Neill, Christof Lutteroth

- The Privilege of Immersion: Racial and Ethnic Experiences, Perceptions, and Beliefs in Digital Gaming
  Cale J. Passmore, Max V. Birk, Regan L. Mandryk

516AB alt.chi: Stop

CHAIR: DHARMA DAILEY

- In the Data Kitchen: A Review (A Design Fiction on Data Science)
  Michael Muller, Thomas E. Erickson

- Ross-Chernoff Glyphs Or: How Do We Kill Bad Ideas in Visualization?
  Michael Correll

- Sketch & The Lizard King: Supporting Image Inclusion in HCI Publishing
  Miriam Sturdee, Jason Alexander, Paul Coulton, Sheelagh Carpendale

- In the Eye of a Hurricane There is Quiet, for Just a Moment, —
  Vanessa Thomas, Manu J. Brueggemann, Ding Wang, Andy G. Darby, Benjamin Wohl, Lindsay MacDonald Vermeulen, Oliver Bates, David Feldman
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| 516C | Papers: Privacy and Public Media | **CHAIR:** ELISSA M. REDMILES  
  Breaking! A Typology of Security and Privacy News and How It's Shared  
  Sauvik Das, Joanne Lo, Laura Dabbish, Jason I. Hong  
  “We Are the Product”: Public Reactions to Online Data Sharing and Privacy Controversies in the Media  
  Casey Fiesler, Blake Hallinan  
  Not Even Past: Information Aging and Temporal Privacy in Online Social Networks  
  Oshrat Ayalon, Eran Toch  
  The Use of Private Mobile Phones at War: Accounts From the Donbas Conflict  
  Irina Shklovski, Volker Wulf  |
| 516D | Papers: Object/Functionality Selection | **CHAIR:** SARAH WISEMAN  
  Steering through Successive Objects  
  Shota Yamanaka, Wolfgang Stuerzlinger, Homei Miyashita  
  Motion Correlation: Selecting Objects by Matching Their Movement  
  Eduardo Velloso, Marcus Carter, Joshua Newn, Augusto Esteves, Christopher Clarke, Hans Gellersen  
  Computational Support for Functionality Selection in Interaction Design  
  Antti Oulasvirta, Anna Maria Feit, Perttu Lähteenlahti, Andreas Karrenbauer  
  The Illusion of Control: Placebo Effects of Control Settings  
  Kristen Vaccaro, Dylan Huang, Motahhare Eslami, Christian Sandvig, Kevin Hamilton, Karrie Karahalios  |
| 516E | SIGCHI Awards 1: Lifetime Practice & Social Impact | **SIGCHI Lifetime Practice Award Talk – Riding the Wave**  
  Arnold M. Lund  
  **SIGCHI Social Impact Award Talk – Making Privacy and Security More Usable**  
  Lorrie Faith Cranor  |
| 517A | Papers: Modelling AR & VR | **CHAIR:** STEVEN FEINER  
  SymbiosisSketch: Combining 2D & 3D Sketching for Designing Detailed 3D Objects in Situ  
  Rahul Arora, Rubaibat Habib Kazi, Tovi Grossman, George Fitzmaurice, Karan Singh  
  Depth Conflict Reduction for Stereo VR Video Interfaces  
  Cuong Nguyen, Stephen DiVerdi, Aaron Hertzmann, Feng Liu  
  Projective Windows: Bringing Windows in Space to the Fingertip  
  Joon Hyub Lee, Sang-Gyun An, Yongkwan Kim, Seok-Hyung Bae  
  Season Traveller: Multisensory Narration for Enhancing the Virtual Reality Experience  
  Nimesha Ranasinghe, Pravar Jain, Nguyen Thi Ngoc Tram, Koon Chuan Raymond Koh, David Tolley, Shienny Karwita, Lin Lien-Ya, Yan Liangkun, Kala Shamaiah, Chow Eason Wai Tung, Ching Chuan Yin, Ellen Yi-Luen Do  |
| 517B | Papers: Group Collaboration | **CHAIR:** HIMANSHU VERMA  
  Investigating the Role of an Overview Device in Multi-Device Collaboration  
  Frederik Brudy, Joshua Kevin Budiman, Steven Houben, Nicolai Marquardt  
  Group vs Individual: Impact of TOUCH and TILT Cross-Device Interactions on Mixed-Focus Collaboration  
  Leila Homaeian, Nippun Goyal, James R. Wallace, Stacey D. Scott  
  Collaborating Around Digital Tabletops: Children’s Physical Strategies From India, The UK And Finland  
  Izdihar Jamil, Calkin Montero, Mark Perry, Kenton P. O’Hara, Abhijit Karnik, Kaisa Pihlainen, Mark T. Marshall, Swathi Jha, Sanjay Gupta, Sriram Subramanian  
  CommunityCrit: Inviting the Public to Improve and Evaluate Urban Design Ideas through Micro-Activities  
  Narges Mahyar, Michael R. James, Michelle M. Ng, Reginald A. Wu, Steven P. Dow |
517C Papers: Civic Engagement

CHAIR: CHRISTOPHER A. LE DANTEC

Streets for People: Engaging Children in Placemaking Through a Socio-technical Process
Sean Peacock, Robert Anderson, Clara Crivellaro

Social Computing-Driven Activism in Youth Empowerment Organizations: Challenges and Opportunities
Farnaz Irannejad Bisafar, Lina Itzel Martinez, Andrea G. Parker

‘It’s Reducing a Human Being to a Percentage”; Perceptions of Justice in Algorithmic Decisions
Reuben Binns, Max Van Kleek, Michael Veale, Ulrik Lyngs, Jun Zhao, Nigel Shadbolt

Amplifying Quiet Voices: Challenges and Opportunities for Participatory Design at an Urban Scale
Daniel J. Gooch, Matthew James Barker, Lorraine Hudson, Ryan M. Kelly, Gerd Kortuem, Janet van der Linden, Marvan Petre, Rebecca Brown, Anna Klis-Davies, Hannah Forbes, Jessica MacKinnon, Robbie Macpherson, Clare Walton

517D Papers: Quantifying and Predicting Performance

CHAIR: QUENTIN ROY

Pointing All Around You: Selection Performance of Mouse and Ray-Cast Pointing in Full-Coverage Displays
Julian Petford, Miguel A. Nacenta, Carl Gutwin

Predicting Human Performance in Vertical Menu Selection Using Deep Learning
Yang Li, Samy Bengio, Gilles Bailly

Cognitive Load Estimation in the Wild
Lex Fridman, Bryan Reimer, Bruce Mehler, William T. Freeman

ExtraSensory App: Data Collection In-the-Wild with Rich User Interface to Self-Report Behavior
Yonatan Vaizman, Katherine Ellis, Gert Lanckriet, Nadir Weibel

518A Papers: Children’s Technology Use and Safety

CHAIR: XU WANG

Coco’s Videos: An Empirical Investigation of Video-Player Design Features and Children’s Media Use
Alexis Hiniker, Sharon S. Heung, Sungsoo (Ray) Hong, Julie A. Kientz

A Matter of Control or Safety? Examining Parental Use of Technical Monitoring Apps on Teens’ Mobile Devices
Arup Kumar Ghosh, Karla Badillo-Urquiola, Mary Beth Rosson, Heng Xu, John M. Carroll, Pamela J. Wisniewski

MABLE: Mediating Young Children’s Smart Media Usage with Augmented Reality
Gohgene Gweon, Bugeun Kim, Jinyoung Kim, Kung Jin Lee, Jungwook Rhim, Jueun Choi

Co-designing Mobile Online Safety Applications with Children
Brenna McNally, Priya Kumar, Chelsea Hordatt, Matthew Louis Mauriello, Shalmali Naik, Leyla Norooz, Alazandra Shorter, Evan Golub, Allison Druin

518B Papers: Presenting Health Information

CHAIR: JAMES CLAWSON

Pictures Worth a Thousand Words: Reflections on Visualizing Personal Blood Glucose Forecasts for Individuals with Type 2 Diabetes
Pooga M. Desai, Matthew E. Levine, David J. Albers, Lena Mamykina

ECGLens: Interactive Visual Exploration of Large Scale ECG Data for Arrhythmia Detection
Ke Xu, Shun man Guo, Nan Cao, David Gotz, Aiwen Xu, Huamin Qu, Zhenjie Yao, Yixin Chen

More Text Please! Understanding and Supporting the Use of Visualization for Clinical Text Overview
Nicole Sultanum, Michael Brudno, Daniel Wigdor, Fanny Chevalier

Interactive Interior and Proxemics Thresholds: Empowering Participants in Sensitive Conversations
Josephine Raun Thomsen, Peter Gail Krogh, Jacob Albaek Schnedler, Hanne Linnet
MONDAY 14:30 – 15:50

519AB Papers: Design & Design Research 1
CHAIR: DAN LOCKTON

Time-Turner: Designing for Reflection and Remembrance of Moments in the Home
Samarth Singhal, Carman Neustaedter, William Odom, Lyn Bartram, Yasamin Heshmat

The SelfReflector: Design, IoT and the High Street
Joyne Wallace, Jon Rogers, Michael Shorter, Pete Thomas, Martin Skelly, Richard Cook

Addressing Network Anxieties with Alternative Design Metaphors
James Pierce, Carl DiSalvo

A Case for Design Localization: Diversity of Website Aesthetics in 44 Countries
Manuel Nordhoff, Tol August, Nigini A. Oliveira, Katharina Reinecke

521ABC Course (C01): Mobile UX Course (2/2)
Mobile UX – The Next Ten Years?
Simon Robinson, Jennifer Pearson, Matt Jones

522AB Course (C02): Balanced Interaction Design (2/3)
Balanced Interaction Design
Gilbert Cockton

524A Course (C03): Introduction to Human-Computer Interaction (2/3)
Introduction to Human-Computer Interaction
Jonathan K. Lazar, Simone D. J. Barbosa

524B Course (C06): Communicating with the Public & the Press 1 (1/2)
Communicating with the Public and Press
Helen Pilcher

524C Course (C05): How to Write CHI Papers - Second Edition (2/3)
How to Write CHI Papers -- Second Edition
Lennart E. Nacke

15:50 – 16:30
Coffee Break
517 Foyer
513AB Papers: Designing with Meta-Data

**CHAIR:** MAX L. WILSON

- Admixed Portrait: Design to Understand Facebook Portrayals in New Parenthood
  Abigail C. Durrant, David S. Kirk, Diego Trujillo Pisanty, Sarah Martindale

- On the Design of OLO Radio: Investigating Metadata as a Design Material
  William Odom, Tijjs Duel

- Exploring New File Metaphors for a Networked World through the File Biography
  Siân E. Lindley, Gavin Smyth, Robert Corish, Anastasia Loukianov, Michael Golembewski, Ewa A. Luger, Abigail Sellen

- Media of Things: Supporting The Production of Metadata Rich Media Through IoT Sensing
  Gerard Wilkinson, Tom Bartindale, Tom Nappay, Michael Evans, Peter Wright, Patrick Olivier

514A SIG: Feminist HCI

**Feminist HCI: Taking Stock, Moving Forward, and Engaging Community**
Rosanna Bellini, Angelika Strohmayer, Ebtisam Alabdulqader, Alex A. Ahmed, Katta Spiel, Shaowen Bardzell, Madeline Balaam

514B Papers: Large Displays & Interactive Floors

**CHAIR:** JULIE WILLIAMSON

- Pac-Many: Movement Behavior when Playing Collaborative and Competitive Games on Large Displays

- Traces: Studying a Public Reactive Floor-Projection of Walking Trajectories to Support Social Awareness
  Beatrice Monasteroa, David K. McGookin

- Designing for Bodily Interplay in Social Exertion Games
  Florian Mueller, Martin R. Gibbs, Frank Vetere, Darren Edge

- OptiSpace: Automated Placement of Interactive 3D Projection Mapping Content
  Andreas Fender, Philipp Herholz, Marc Alexa, Jörg Müller

514C Papers: User Experience and Acceptance

**CHAIR:** ELISA D. MEKLER

- Acceptability and Acceptance of Autonomous Mobility on Demand: The Impact of an Immersive Experience
  Verena Dister, Carine Lallemant, Thierry Bellet

- Designing the Desirable Smart Home: A Study of Household Experiences and Energy Consumption Impacts
  Rikke Hagensen Jensen, Yolande Strengers, Jesper Kjeldskov, Larissa Nicholls, Mikael B. Skov

- Ripple Thermostat: Affecting the Emotional Experience through Interactive Force Feedback and Shape Change
  Anke van Oosterhout, Miguel Bruns Alonso, Satu Jumisko-Pyykkö

- Technology Acceptance and User Experience: A Review of the Experiential Component in HCI
  Kasper Hornbaek, Morten Hertzum

515ABC Papers: Serious Games

**CHAIR:** SULTAN A. ALHARTHI

- Improving The Efficacy Of Games for Change Using Personalization Models
  Rita Orji, Regan L. Mandryk, Julita Vassileva

- Educational Game and Intelligent Tutoring System: A Classroom Study and Comparative Design Analysis
  Yanjin Long, Vincent Alevin

- Speak Up: A Multi-Year Deployment of Games to Motivate Speech Therapy in India
  Amol Nanavati, M. Bernardine Dias, Aaron Steinfeld

- The Effects of Badges and Avatar Identification on Play and Making in Educational Games
  Dominic Kao, D. Fox Harrell

516AB Papers: (e)Reading and Study

**CHAIR:** TILMAN DINGLER

- Metatation: Annotation as Implicit Interaction to Bridge Close and Distant Reading
  Hrim R. Mehta, Adam J. Bradley, Mark Hancock, Chris Collins

- Displaying Invisible Objects: Why People Rarely Re-read E-books
  Jane Gruning

- As We May Study: Towards the Web as a Personalized Language Textbook
  Mircea F. Lungu, Luc van den Brand, Dan Chirtoaca, Martin Avogyan

- Using Visual Histories to Reconstruct the Mental Context of Suspended Activities
  Adam Rule, Aurélien Tabard, James D. Hollan
MONDAY 16:30 – 17:50

516C Papers: HCI for Emotional Support

CHAIR: STEPHEN SCHUELLER

Regulating Feelings During Interpersonal Conflicts by Changing Voice Self-perception
Jean Costa, Malte F. Jung, Mary Czerwinski, François Guimbretière, Trinh Le, Tanzeem Choudhury

MindNavigator: Exploring the Stress and Self-Interventions for Mental Wellness
Kwangyoung Lee, Hwajung Hong

Toward Health Information Technology that Supports Overweight/Obese Women in Addressing Emotion- and Stress-Related Eating
Andrea M. Barbarin, Laura R. Saslow, Mark S. Ackerman, Tiffany C. Veinot

Mental Health Support and its Relationship to Linguistic Accommodation in Online Communities
Eva Sharma, Munnun De Choudhury

516D Papers: Work, Work, Work

CHAIR: GE GAO

The Application and Its Consequences for Non-Standard Knowledge Work
Midas Nouwens, Clemens Nylandsted Klokmose

Accountability in the Blue-Collar Data-Driven Workplace
Kristian Helbo Kristiansen, Mathias A. Valeur-Meller, Lynn Dombrowski, Naja L. Holten Moller

Measuring Employment Demand Using Internet Search Data
Stevie Chancellor, Scott Counts

Challenges and Opportunities for Technology-Supported Activity Reporting in the Workplace
Di Lu, Jennifer Marlow, Rafal Kocielnik, Daniel Avrahami

516E Papers: Interaction Under Pressure

CHAIR: AARON QUIGLEY

Christian Corsten, Simon Voelker, Andreas Link, Jan Borchers

Impact Activation Improves Rapid Button Pressing
Sunjun Kim, Byungjoo Lee, Anti Oulasvirta

ForceBoard: Subtle Text Entry Leveraging Pressure
Mingyuan Zhong, Chun Yu, Qian Wang, Xuhai Xu, Yuanchun Shi

Improving Discoverability and Expert Performance in Force-Sensitive Text Selection for Touch Devices with Mode Gauges
Alix Goguey, Sylvain Malacria, Carl Gutwin

517A Papers: Mobility and Orientation for Visually Impaired People

CHAIR: OUSSAMA METATLA

Towards a Multisensory Augmented Reality Map for Blind and Low Vision People: a Participatory Design Approach
Jérémie Albouys-Perrois, Jeremy Laviole, Carine Briant, Anke M. Brock

Easy Return: An App for Indoor Backtracking Assistance
German Flores, Roberto Manduchi

Environmental Factors in Indoor Navigation Based on Real-World Trajectories of Blind Users
Hernisa Kacorri, Eshed Ohn-Bar, Kris M. Kitani, Chieko Asakawa

Accessible Maps for the Blind: Comparing 3D Printed Models with Tactile Graphics
Leona Holloway, Kim Marriott, Matthew Butler

517B Papers: How to Say I Love You

CHAIR: NAZANIN ANDALIBI

Do You Think What I Think: Perceptions of Delayed Instant Messages in Computer-Mediated Communication of Romantic Relations
Pei-Yun Tu, Chien Wen Yuan, Hao-Chuan Wang

Repurposing Emoji for Personalised Communication: Why 🖤 means “I Love You”
Sarah Wiseman, Sandy J. J. Gould

Full-Body Ownership Illusion Can Change Our Emotion
Joohee Jun, Myeongul Jung, So- Yeon Kim, Kwanguk Kenny Kim

Safety vs. Surveillance: What Children Have to Say about Mobile Apps for Parental Control
Arup Kumar Ghosh, Karla Badillo-Urquiola, Shion Guha, Joseph J. LaViola Jr., Pamela J. Wisniewski

517C Papers: Visualizations in Health

CHAIR: PIN SYM FOONG

Making as Expression: Informing Design with People with Complex Communication Needs through Art Therapy
Amanda Lazar, Jessica L. Feuston, Caroline Edasis, Anne Marie Piper

Visual ODLs: Co-Designing Patient-Generated Observations of Daily Living to Support Data-Driven Conversations in Pediatric Care
Matthew K. Hong, Udaya Lakshmi, Thomas A. Olson, Lauren Wilcox

Common Barriers to the Use of Patient-Generated Data Across Clinical Settings
Peter West, Max Van Kleek, Richard Giordano, Mark J. Weal, Nigel Shadbolt

Back to Analogue: Self-Reporting for Parkinson’s Disease
Julio Vega, Samuel Couth, Ellen Poliakoff, Sonja Kotz, Matthew Sullivan, Caroline Jay, Markel Vigo, Simon Harper
517D Papers: Creativity, Sketching & Animation

CHAIR: CHRIS QUINTANA

Agile 3D Sketching with Air Scaffolding
Yongkwan Kim, Sang-Gyun An, Joon Hyub Lee, Seok-Hyung Bae

OptiMo: Optimization-Guided Motion Editing for Keyframe Character Animation
Yuki Koyama, Masataka Goto

Live Sketch: Video-driven Dynamic Deformation of Static Drawings
Qingkun Su, Xue Bai, Hongbo Fu, Chiew-Lan Tai, Yue Wang

Expressive Time Series Querying with Hand-Drawn Scale-Free Sketches
Miro Mannino, Azza Abouzied

518B Papers: Privacy & Trust in Context

CHAIR: JASON WIESE

Contextualizing Privacy Decisions for Better Prediction (and Protection)
Primal Wijesekera, Joel Reardon, Irwin Reyes, Lynn Tsai, Jung-Wei Chen, Nathan Good, David Wagner, Konstantin Beznosov, Serge Egelman

Privacy Lies: Understanding How, When, and Why People Lie to Protect Their Privacy in Multiple Online Contexts
Shruti Sannon, Natalya N. Bazarova, Dan Cosley

“This App Would Like to Use Your Current Location to Better Serve You”: Importance of User Assent and System Transparency in Personalized Mobile Services
Tsai-Wei Chen, S. Shyam Sundar

Improving User Confidence in Concept Maps: Exploring Data Driven Explanations
Pierre Le Bras, David A. Robb, Thomas S. Methven, Stefano Padilla, Mike J. Chantler

518C Papers: Ubiquitous Technology for Learning

CHAIR: FRANCESCO CAFARO

Digital Exhibit Labels in Museums: Promoting Visitor Engagement with Cultural Artifacts
Jessica Roberts, Amartya Banerjee, Annette Hong, Steven McGee, Michael Horn, Matt Matcuk

Science Everywhere: Designing Public, Tangible Displays to Connect Youth Learning Across Settings
June Ahn, Tamara Clegg, Jason Yip, Elizabeth Bonsignore, Daniel Pauw, Lautaro Cabrera, Kenna Hernly, Caroline Pitt, Kelly Mills, Arturo Salazar, Diana Griffing, Jeff Rick, Rachael C. Marr

Designing for Student Interactions: The Role of Embodied Interactions in Mediating Collective Inquiry in an Immersive Simulation
Michelle Lui

Wearables for Learning: Examining the Smartwatch as a Tool for Situated Science Reflection
Brittany Garcia, Sharon Lynn Chu, Beth Nam, Colin Banigan

519B Papers: Smart Homes & Sustainable Places

CHAIR: ADRIAN CLEAR

Exploring DIY Practices of Complex Home Technologies
Corina Sas, Carman Neustaedter

Exploring End User Programming Needs in Home Automation
Julia Brich, Marcel Walch, Michael Rietzler, Florian Schaub, Michael Weber

Transforming Last-mile Logistics: Opportunities for more Sustainable Deliveries
Oliver Bates, Adrian Friday, Julian Allen, Tom Cherrett, Fraser McLeod, Tolga Bektas, ThuBao Nguyen, Maja Piecyk, Marzena Piotrowska, Sarah Wise, Nigel Davies

A Study of Urban Heat: Understanding the Challenges and Opportunities for Addressing Wicked Problems in HCI
Stacey Kuznetsov, Martin Tomitsch
## Monday 16:30 – 17:50

### 520A Panel: Daring to Change: Sustainable Academic Life

**Daring to Change: Creating a Slower More Sustainable Academic Life**  
Geraldine Fitzpatrick, Batya Friedman, Kristina Höök, Judith S. Olson, Daniel M. Russell

### 520B Panel: Voice Assistants, UX Design and Research

**Panel: Voice Assistants, UX Design and Research**  
Jofish Kaye, Joel Fischer, Jason Hong, Frank R. Bentley, Cosmin Munteanu, Alexis Hiniker, Janice Y. Tsai, Tawfiq Ammari

### 522AB Course (C02): Balanced Interaction Design (3/3)

**Balanced Interaction Design**  
Gilbert Cockton

### 524A Course (C03): Introduction to Human-Computer Interaction (3/3)

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

### 524B Course (C06): Communicating with the Public & the Press 1 (2/2)

** Communicating with the Public and Press**  
Helen Pilcher

### 524C Course (C05): How to Write CHI Papers - Second Edition (3/3)

**How to Write CHI Papers -- Second Edition**  
Lennart E. Nacke

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**18:00 – 21:00**  
**CHI 2018 Expo and Reception**  
**Exhibit Hall/220BC**
513AB Papers: Explaining and Explainable Systems

CHAIR: MICHAEL VEALE

CraftML: 3D Modeling is Web Programming
Tom Yeh, Jeeun Kim

I Lead, You Help But Only with Enough Details: Understanding User Experience of Co-Creation with Artificial Intelligence
Changhoon Oh, Jungwoo Song, Jinhan Choi, Seonghyeon Kim, Sungwoo Lee, Bongwon Suh

Trends and Trajectories for Explainable, Accountable and Intelligible Systems: An HCI Research Agenda
Ashraf Abdul, Jo Vermeulen, Danding Wang, Brian Y. Lim, Mohan Kankanhalli

Flexible Learning with Semantic Visual Exploration and Sequence-Based Recommendation of MOOC Videos
Jian Zhao, Chidansh Bhatt, Matthew Cooper, David A. Shamma

514A SIG: Participatory Planning

Information Visualisation, Gamification and Immersive Technologies in Participatory Planning
Nektarios Christodoulou, Andreas Papalias, Zona Kostic, Lennart E. Nacke

514B SIG: Human Computer Interaction & Health Activism

Human Computer Interaction & Health Activism
Reem Talhouk, Kellie Morrissey, Sarah Fox, Nadia Pantidi, Emma Simpson, Lydia Emma Miche, Madeline Balaam

514C Case Studies: Meditation and Movement

CHAIR: NADIR WEIBEL

Meditation: A Performance Booster for BCI Applications
Lin Liang, Dvijesh J. Shastri

Participatory Design of a Virtual Reality Exercise for People with Mild Cognitive Impairment
Mahzar Eisapour, Shi Cao, Laura Domenicucci, Jennifer Boger

Let's Walk and Talk: A Design Case to Integrate an Active Lifestyle in Daily Office Life
Ida Damen, Rens Brankaert, Carl Megens, Pieter van Wesemael, Aarnout Brombacher, Steven Vos

Towards Ultra Personalized 4D Printed Shoes
Troy Robert Nachtigall, Oscar Tomico, Ron Wakkary, Stephan Wensveen, Pauline van Dongen, Leonie Tentoff van Norten

515ABC Papers: Play and Game Design

CHAIR: MATTHEW LOUIS MAURIELLO

Digital Educational Games: Methodologies for Evaluating the Impact of Game Type
Stephanie Heintz, Effie L.-C. Law

Designing for Transformative Play
Jon Back, Elena Márquez Seguera, Annika Waern

Experiencing the Body as Play
Florian Mueller, Richard Byrne, Josh Andres, Rakesh Patibanda

Combating Attrition in Digital Self-Improvement Programs using Avatar Customization
Max V. Birk, Regan L. Mandryk

516AB alt.chi: Spice Up Your Life

CHAIR: LOUISE BARKHUUS

Dormio: Interfacing with Dreams
Adam Haar Horowitz, Ishaan Grover, Pedro Reynolds-Cuèllar

Building A Better Bumphone: Designing Around Prison Phone Use
Sanne Verbaan, John Bowers

Edible Speculations in the Parlour of Food Futures
Marketa Dolejsova

Lickable Cities: Lick Everything in Sight and on Site
Manu J. Brueggemann, Vanessa Thomas, Ding Wang

516C Papers: Sharing/New Economy

CHAIR: SIÂN E. LINDLEY

Using Stakeholder Theory to Examine Drivers’ Stake in Uber
Ning F. Ma, Chien Wen Yuan, Moojan Ghafurian, Benjamin V. Hanrahan

Algorithmic Anxiety and Coping Strategies of Airbnb Hosts
Shagun Jhaver, Yoni Karpfen, Judd Antin

Running Out of Time: The Impact and Value of Flexibility in On-Demand Crowdwork
Ming Yin, Siddharth Suri, Mary L. Gray

Toward a Geographic Understanding of the Sharing Economy: Systemic Biases in UberX and TaskRabbit
Jacob Thebault-Spieker, Loren G. Terveen, Brent Hecht
TUESDAY 9:00 – 10:20

516D Papers: Task Communication

CHAIR: MOHIT JAIN

Face Value? Exploring the Effects of Embodiment for a Group Facilitation Agent
Ameneh Shamekhi, Q. Vera Liao, Dakuo Wang, Rachel K. E. Bellamy, Thomas Erickson

Inaccuracy Blindness in Collaboration Persists, even with an Evaluation Prompt
Aimee A. Kane, Sara Kiesler, Ruogu Kang

Understanding Chatbot-mediated Task Management
Carlos Toxtli, Justin Cranshaw, Andres Monroy-Hernandez

Workload Alerts - Using Physiological Measures of Mental Workload to Provide Feedback during Tasks
Horia Alexandru Maior, Max L. Wilson, Sarah C. Sharples

516E Papers: Design & Design Research 2

CHAIR: JO BRIGGS

Analogy Mining for Specific Design Needs
Karni Gilon, Felicia Y Ng, Joel Chan, Hila Lifshitz-Assоф, Aniket Kittur, Dafna Shahaf

Mapping Machine Learning Advances from HCI Research to Reveal Starting Places for Design Innovation
Qian Yang, Nikola Banovic, John Zimmerman

Utopias of Participation: Feminism, Design, and the Futures
Shaowen Bardzell

Participatory Design that Matters – Facing the Big Issues
Susanne Bodker, Morten Kyng

517B Papers: Text Me

CHAIR: JASON ALEXANDER

FingerT9: Leveraging Thumb-to-finger Interaction for Same-side-hand Text Entry on Smartwatches
Pui Chung Wong, Kening Zhu, Hongbo Fu

WrisText: One-handed Text Entry on Smartwatch using Wrist Gestures
Jun Gong, Zheer Xu, Qifan Guo, Teddy Seyed, Xiang ‘Anthony’ Chen, Xiaojun Bi, Xing-Dong Yang

PageFlip: Leveraging Page-Flipping Gestures for Efficient Command and Value Selection on Smartwatches
Teng Han, Jiannan Li, Khalad Hasan, Keisuke Nakamura, Randy Gomez, Rovin Balakrishnan, Pourang Irani

The Impact of Word, Multiple Word, and Sentence Input on Virtual Keyboard Decoding Performance
Keith Vertanen, Crystal Fletcher, Dylan Gaines, Jacob Gould, Per Ola Kristensson

517C Papers: Gestures and Postures

CHAIR: JEAN VANDERDONCKT

User-Driven Design Principles for Gesture Representations
Erin McAweeney, Hahhua Zhang, Michael Nebeling

Control Theoretic Models of Pointing
Jörg Müller, Antti Oulasvirta, Roderick Murray-Smith

How Relevant are Incidental Power Poses for HCI?
Yvonne Jansen, Kasper Hornbæk

Investigating How Smartphone Movement is Affected by Body Posture
Rachel Eardley, Anne Roudaut, Steve Gill, Stephen J. Thompson

517D Papers: Learning and Training

CHAIR: OLIVIER ST-CYR

Understanding the Effect of In-Video Prompting on Learners and Instructors
Hyungyu Shin, Eun-Young Ko, Joseph Jay Williams, Juho Kim

How to Design a Digital Storytelling Authoring Tool for Developing Pre-reading and Pre-writing Skills
Elisa Rubegni, Monica Landoni

Tangible Tens: Evaluating a Training of Basic Numerical Competencies with an Interactive Tabletop
Taciana Pontual Falcão, Tanja Dockermann, Madeleine Schuler, Christine Ulirich, Andre Klemke, Korbinian Moeller

Investigating the Post-Training Persistence of Expert Interaction Techniques
Benjamin Lafreniere, Carl Gutwin, Andy Cockburn
518AB Papers: Storytelling and Presentation with Visualization

**CHAIR: EVAN M. PECK**

- Design Patterns for Data Comics
  Benjamin Bach, Zezhong Wang, Matteo Farinella, Dave Murray-Rust, Nathalie Henry Riche

- Frames and Slants in Titles of Visualizations on Controversial Topics
  Ha-Kyung Kong, Karrie Karahalios, Zhicheng Liu

- Investigating the Effect of the Multiple Comparisons Problem in Visual Analysis
  Emanuel Zgraggen, Zheguang Zhao, Robert Zeleznik, Tim Kraska

- What's the Difference?: Evaluating Variations of Multi-Series Bar Charts for Visual Comparison Tasks
  Arjun Srinivasan, Matthew Brehmer, Bongshin Lee, Steven M. Drucker

518C Papers: Methods & Measurement

**CHAIR: XI NIU**

- Self-Reflection and Personal Physicalization Construction
  Alice Thudt, Uta Hinrichs, Samuel Huron, Sheelagh Carpendale

- Eliciting Users’ Demand for Interface Features
  Oded Nov, Han Su

- The Index of Pupillary Activity: Measuring Cognitive Load vis-à-vis Task Difficulty with Pupil Oscillation
  Andrew Duchowski, Krzysztof Krejtz, Izabela Krejtz, Cezary Biele, Anna Niedzielska, Peter Kiefer, Martin Raubal, Ioannis Giannopoulos

- Measuring the “Why” of Interaction: Development and Validation of the User Motivation Inventory (UMI)
  Florian Brühlmann, Beat Vollenwyder, Klaus Opwis, Elisa D. Mekler

519AB Papers: In Your Face

**CHAIR: MARKUS FUNK**

- Simulator Sickness in Augmented Reality Training Using the Microsoft Hololens
  Alla Vovk, Fridolin Wild, Will Guest, Timo Kuula

- Reading on Smart Glasses: The Effect of Text Position, Presentation Type and Walking
  Rufat Rzayev, Paweł Woźniak, Tilman Dingler, Niels Henze

- Selection-based Text Entry in Virtual Reality
  Marco Speicher, Anna Maria Feit, Pascal Ziegler, Antonio Krüger

- All about Acceptability?: Identifying Factors for the Adoption of Data Glasses
  Marion Koelle, Abdullah El Ali, Vanessa Cobus, Wilko Heuten, Susanne C.J. Boll

520 Panel: Human-Robot Teaming

Human-Robot Teaming
David W. Vinson, Leila Takayama, Jodi Forlizzi, Wendy Ju, Maya Cakmak, Hideaki Kuzuoka

521ABC Course (C08): Applied Sketching in HCI (1/3)

Applied Sketching in HCI: Hands-on Course of Sketching Techniques
Makayla Lewis, Miriam Sturdee, Nicolai Marquardt

522AB Course (C09): Child Computer Interaction (1/2)

Research Methods for Child Computer Interaction
Janet C. Read

524A Course (C10): Designing Technology for an Aging Population

Designing Technology for an Aging Population
Jeff A. Johnson

524B Course (C06): Communicating with the Public & the Press 2 (1/2)

Communicating with the Public and Press
Helen Pilcher

524C Course (C11): Navigation Interfaces (1/2)

Navigation Interfaces for Virtual Reality and Gaming: Theory and Practice
Ernst Kruijff, Bernhard E. Riecke

10:20 – 11:00 Coffee Break
Exhibit Hall/220BC

Late-Breaking Work Posters Rotation 1

List on page 78

Art Exhibitions (VR Lounge)
List on page 89

GameJam Demonstrations
Exhibit Hall/220BC
Exhibit Hall/220BC
TUESDAY 11:00 – 12:20

513AB Papers: Human Senses

CHAIR: YANG ZHANG

Multi-Touch Skin: A Thin and Flexible Multi-Touch Sensor for On-Skin Input
Adivya Shekhar Nittala, Anusha Withana, Narjes Pourjafarian, Jürgen Steinmle

ChromaGlasses: Computational Glasses for Compensating Colour Blindness
Tobias Langlotz, Jonathan Sutton, Stefanie Zollmann, Yuta Itoh, Holger Regenbrecht

PalmTouch: Using the Palm as an Additional Input Modality on Commodity Smartphones
Huy Viet Le, Thomas Kosch, Patrick Bader, Sven Mayer, Niels Henze

GestureWiz: A Human-Powered Gesture Design Environment for User Interface Prototypes
Maximilian Speicher, Michael Nebeling

514A SIG: Transparent Statistics Guidelines

Special Interest Group on Transparent Statistics Guidelines
Chat Wacharamanotham, Matthew Kay, Steve Haroz, Shion Guha, Pierre Dragicevic

514B SIG: Evaluating HCI Research Beyond Usability

Evaluating HCI Research Beyond Usability
Christian Remy, Oliver Bates, Jennifer Mankoff, Adrian Friday

514C Case Studies: Learning and Practice

CHAIR: NEHA KUMAR

Developing a Mobile System for Children and Teenagers with Scoliosis to Improve Therapy Adherence
Michael Minge, Katharina Lorenz, Susanne Dannehl, Natalie Jankowski, Martina Klausner

Young Hackers: Hacking Technology at Za’atari Syrian Refugee Camp
Eiad Yafi, Katya Yefimova, Karen E. Fisher

Classroom Activity for Critical Analysis of News Propagation Online
Christina Pollalis, Catherine Grevet, Lauren Westendorf, Samantha Finn, Orit Shaer, Panagiotis Metaxas

Leveraging Augmented Reality Training Tool for Medical Education: a Case Study in Central Venous Catheterization
Pierre Wijdenes, David Borkenhagen, Julie Babione, Irene Ma, Greg Hallihan

515ABC Papers: Playing with Others

CHAIR: GUENTER WALLNER

Playing with Streakiness in Online Games: How Players Perceive and React to Winning and Losing Streaks in League of Legends
Yubo Kou, Yao Li, Xinning Gui, Eli Suzuki-Gill

Investigating the Impact of Annotation Interfaces on Player Performance in Distributed Multiplayer Games
Sultan A. Alharthi, Ruth C. Torres, Ahmed S. Khalaf, Zachary O. Toups, Igor Dolgov, Lennart E. Nacke

A Critical Examination of Feedback in Early Reading Games
Laura Benton, Asimina Vasalou, Kay Berkling, Wolmet Barendregt, Manolis Mavrikis

Video Game Selection Procedures For Experimental Research
April Tyack, Peta Wyeth, Madison Klarkowski

516AB Papers: Surveys from Foundations and Trends in HCI

CHAIR: YOUN-KYUNG LIM

HCI’s Making Agendas
Jeffrey Bardzell, Shaowen Bardzell, Sha Xin Wei, Silvia Lindtner, Austin Toombs

Research Fiction and Thought Experiments in Design
Mark Blythe, Enrique Encinas

516C Papers: Mobile Interactions and Interactions with Mobiles

CHAIR: XING-DONG YANG

Training Person-Specific Gaze Estimators from User Interactions with Multiple Devices
Xucong Zhang, Michael Xuelin Huang, Yuseki Sugano, Andreas Bulling

Veritaps: Truth Estimation from Mobile Interaction
Aske Mottelson, Jarrod Knibbe, Kasper Hornbæk

ResearchIME: A Mobile Keyboard Application for Studying Free Typing Behaviour in the Wild
Daniel Buschek, Benjamin Bisinger, Florian Alt

D-SWIME: A Design Space for Smartwatch Interaction Techniques Supporting Mobility and Encumbrance
Gaganpreet Singh, William Delamare, Pourang Irani
TUESDAY 11:00 – 12:20

516D Papers: Personalization/Customization

CHAIR: BETTINA NISSEN

Personalization of Context-Dependent Applications Through Rrigger-Action Rules
Giuseppe Ghiani, Marco Manca, Fabio Paternò, Carmen Santoro

Crafting Interactive Decoration
Boriana Koleva, Anthony Quinn, Emily-Clare Thorne, Kevin Glover, William Westwood Preston, Adrian Hazzard, Chris Greenhalgh, Richard Mortier

Customizing Hybrid Products
Steve Benford, Boriana Koleva, William Westwood Preston, Alice Angus, Emily-Clare Thorn, Kevin Glover

ActiveErgo: Automatic and Personalized Ergonomics using Self-actuating Furniture
Yu-Chian Wu, Te-Yen Wu, Paul Taele, Bryan Wang, Jun-You Liu, Po-En Lai, Pin-sung Ku, Mike Y. Chen

516E Papers: Health in the Wild

CHAIR: DANIEL EPSTEIN

Data, Data Everywhere, and Still Too Hard to Link: Insights from User Interactions with Diabetes Apps
Dmitri S. Katz, Blaine A. Price, Simon Holland, Nicholas Sheep Dalton

Crowdsourcing Treatments for Low Back Pain
Simo Johannes Hosio, Jaro Karpinnen, Esa-Pekka Takala, Jani Takatalo, Jorge Goncalves, Niels van Berkel, Shin’ichi Konomi, Vassilis Kostakos

Time for Break: Understanding Information Workers’ Sedentary Behavior Through a Break Prompting System
Yuhan Luo, Bongshin Lee, Donghee Yvette Wohin, Amanda L. Rebar, David E. Conroy, Eun Kyong Choe

Designing in the Dark: Eliciting Self-tracking Dimensions for Understanding Enigmatic Disease
Mollie McKillop, Lena Mamykina, Noemie Elhadad

516F Papers: Agency and Things

CHAIR: RAMACHANDRA KOTA

Calling for a Revolution: An Analysis of IoT Manifestos
Ester Fritsch, Irina Shklovski, Rachel Douglas-Jones

Co-performance: Conceptualizing the Role of Artificial Agency in the Design of Everyday Life
Lenneke Kuiper, Elisa Giaccardi

The Making of Performativity in Designing [with] Smart Material Composites
Bahareh Barati, Elisa Giaccardi, Elvin Karana

Learning from the Veg Box: Designing Unpredictability in Agency Delegation
Jhim Kiel M. Verame, Enrico Costanza, Joel Fischer, Andy Crabtree, Saravalli D. Ramchurn, Tom Rodden, Nicholas R. Jennings

516G Papers: Real-World Settings

CHAIR: AMY X. ZHANG

Phone vs. Tangible in Museums: A Comparative Study
Daniela Petrelli, Sinead O’Brien

On Visual Granularity: Collocated Sales Meeting Interactions in the Machine Industry
Mikko Illi, Maria Karyda, Andrés Lucero

Presenting The Accessory Approach: A Start-up’s Journey Towards Designing An Engaging Fall Detection Device
Trine Møller

No Need to Laugh Out Loud: Predicting Humor Appraisal of Comic Strips Based on Physiological Signals in a Realistic Environment
Oswald Barrol, Ilkka Kosunen, Giulio Jacucci

516H Papers: Family Care

CHAIR: KATTA SPIEL

Exploring Co-design with Breastfeeding Mothers
Chelsea-Joy Wardle, Mitchell Green, Christine Wanjiru Mburu, Melissa Densmore

Family Health Promotion in Low-SES Neighborhoods: A Two-Month Study of Wearable Activity Tracking
Herman Saksono, Carmen Costaneda-Sceppa, Jessica Hoffman, Magy Seif El-Nasr, Vivien Morris, Andrea G. Parker

How Information Sharing about Care Recipients by Family Caregivers Impacts Family Communication
Naomi Yamashita, Hideaki Kuzuoka, Takashi Kudo, Keiji Hirata, Eiji Aramaki, Katsuki Hattori

516I Papers: Lean and Resource-Limited Settings

CHAIR: IHUDIYA FINDA OGBONNAYA-OGBURU

Prayana: Intermediated Financial Management in Resource-Constrained Settings
Apurv Mehra, Srihari Muralidhar, Sambhav Satija, Anupama Dhareshwar, Jacki O’Neill

Practices and Technology Needs of a Network of Farmers in Tharaka, Kenya
Erick Oduor, Peninah Waweru, Jonathan Lenchner, Carman Neustaedter

Entrepreneurship and the Socio-Technical Chasm in a Lean Economy
Tawanna R. Dillahun, Vaishnav Kameswaran, Desiree McLain, Minnie Lester, Delores Orr, Kentaro Taya
TUESDAY

518AB Papers: Buttons, Targets, Sliders

CHAIR: AHMED SABBIR ARIF

Moving Target Selection: A Cue Integration Model  
Byungjoo Lee, Sunjun Kim, Antti Oulasvirta, Jong-In Lee, Eunji Park

Neuromechanics of a Button Press  
Antti Oulasvirta, Sunjun Kim, Byungjoo Lee

The Perils of Confounding Factors: How Fitts’ Law Experiments can Lead to False Conclusions  
Julien Gori, Olivier Rioul, Yves Guiard, Michel Beaudouin-Lafon

KnobSlider: Design of a Shape-Changing UI for Parameter Control  
Hyunyoung Kim, Celine Coutrix, Anne Roudaut

518C Papers: Automated and Crowd Supports for Learning

CHAIR: TING-HAO HUANG

Enhancing Online Problems Through Instructor-Centered Tools for Randomized Experiments  
Joseph Jay Williams, Anna N. Rafferty, Dustin Tingley, Andrew Ang, Walter S. Lasecki, Juho Kim

Juxtapeer: Comparative Peer Review Yields Higher Quality Feedback and Promotes Deeper Reflection  
Julia Cambre, Scott Klemmer, Chinmay Kulkarni

IntroAssist: A Tool to Support Writing Introductory Help Requests  
Julie S. Hui, Darren Gergle, Elizabeth M. Gerber

Automatic Diagnosis of Students’ Misconceptions in K-8 Mathematics  
Molly Q. Feldman, Ji Yong Cho, Monica Ong, Sumit Gulwani, Zoran Popović, Erik Andersen

519AB Papers: Talking with Machines

CHAIR: Q. VERA LIAO

Designing Pronunciation Learning Tools: The Case for Interactivity against Over-Engineereng  
Sean Robertson, Cosmin Munteanu, Gerald Penn

“Play PRBLMS”: Identifying and Correcting Less Accessible Content in Voice Interfaces  
Aaron Springer, Henriette Cramer

Exploring the Role of Conversational Cues in Guided Task Support with Virtual Assistants  
Alexandra Vtyurina, Adam Fourney

Single or Multiple Conversational Agents? An Interactional Coherence Comparison  
Ana Paula Chaves, Marco Aurelio Gerosa

521ABC Course (C08): Applied Sketching in HCI (2/3)

Applied Sketching in HCI: Hands-on Course of Sketching Techniques  
Makayla Lewis, Miriam Sturdee, Nicolai Marquardt

522AB Course (C09): Child Computer Interaction (2/2)

Research Methods for Child Computer Interaction  
Janet C. Read

524A Course (C12): Understanding the Human (1/3)

Deep Learning for Understanding the Human  
Lex Fridman

524B Course (C06): Communicating with the Public & the Press 2 (2/2)

Communicating with the Public and Press  
Helen Pilcher

524C Course (C11): Navigation Interfaces (2/2)

Navigation Interfaces for Virtual Reality and Gaming: Theory and Practice  
Ernst Kruijff, Bernhard E. Riecke

12:20 – 14:00 Lunch Break

Restaurants, bars & cafés available nearby
**513AB Papers: Tangibles**

**CHAIR:** GIERAD LAPUT

- **Project Zanzibar: A Portable and Flexible Tangible Interaction Platform**
  Nicolas Villar, Daniel Cletheroe, Greg Saul, Christian Holz, Tim Regan, Oscar Saldanha, Misha Sra, Hui-Shyong Yeo, William Field, Haiyan Zhang

- **RFIBricks: Interactive Building Blocks Based on RFID**
  Meng-Ju Hsieh, Rong-Hao Liang, Da-Yuan Huang, Jheng-You Ke, Bing-Yu Chen

- **PHUI-kit: Interface Layout and Fabrication on Curved 3D Printed Objects**
  Michael D. Jones, Zann Anderson, Casey Walker, Kevin Seppi

- **Tangible Drops: A Visio-Tactile Display Using Actuated Liquid-Metal Droplets**
  Deepak Ranjan Sahoo, Timothy Neate, Yutaka Tokuda, Jennifer Pearson, Simon Robinson, Sriram Subramaniam, Matt Jones

**514A SIG: Telepresence Robots**

**SIG on Telepresence Robots**
Houda El mimouni, Susan R. Fussell, Susan Herring, Carman Neustaedter, Jennifer Rode

**514B Panel: Research Ethics for HCI: A Roundtable Discussion**

**Research Ethics for HCI: A Roundtable Discussion**
Casey Fiesler, Jeff Hancock, Amy Bruckman, Michael Muller, Cosmin Munteanu, Melissa Densmore

**514C Papers: Virtual Reality 1**

**CHAIR:** FLORIAN MÜLLER

- **FaceDisplay: Towards Asymmetric Multi-User Interaction for Nomadic Virtual Reality**
  Jan Gugenheimer, Evgeny Stemasov, Harpreet Sareen, Enrico Rukzio

- **Physical Keyboards in Virtual Reality: Analysis of Typing Performance and Effects of Avatar Hands**
  Pascal Kneriem, Valentin Schwind, Anna Maria Feit, Florian Nieuwenhuizen, Niels Henze

- **VR-OOM: Virtual Reality On-rOad driving siMulation**
  David Goedicke, Jamy Li, Vanessa Evers, Wendy Ju

- **Eyes-Free Target Acquisition in Interaction Space around the Body for Virtual Reality**
  Yukang Yan, Chun Yu, Xiaojuan Ma, Shuai Huang, Hasan Iqbal, Yuanchun Shi

**515ABC Papers: Playing Around the Table**

**CHAIR:** ANNIKA WAERN

- **Extracting Design Guidelines for Wearables and Movement in Tabletop Role-Playing Games via a Research Through Design Process**
  Oguz Turan Buruk, Oguzhan Ozcan

- **Cooperating to Compete: the Mutuality of Cooperation and Competition in Boardgame Play**
  Melissa J. Rogerson, Martin R. Gibbs, Wally Smith

- **Utilizing Narrative Grounding to Design Storytelling Games for Creative Foreign Language Learning**
  Edu Zhang, Gabriel Cullerton, Solace Shen, Malte Jung

- **KickAR: Exploring Game Balancing Through Boosts and Handicaps in Augmented Reality Table Football**
  Katja Rogers, Mark Colley, David Lehr, Julian Frommel, Marcel Walch, Lennart E. Nacke, Michael Weber

**516AB Papers: Video**

**CHAIR:** FRANK R. BENTLEY

- **Effects of Viewing Multiple Viewpoint Videos on Metacognition of Collaborative Experiences**
  Yosuyuki Sumi, Masaki Suwa, Koichi Hanauer

- **Explaining Viewers’ Emotional, Instrumental, and Financial Support Provision for Live Streamers**
  Donghee Yvette Wohn, Guo Freeman, Caitlin McLaughlin

- **Sense of Presence, Attitude Change, Perspective-Taking and Usability in First-Person Split-Sphere 360° Video**
  Tanja Atamurta, Shuo Zhou, Sukolsak Sakshuwong, Jorge Soldivar, Yasamin Sadeghi, Amy Tran

- **Am I a Bunny? The Impact of High and Low Immersion Platforms and Viewers’ Perceptions of Role on Presence, Narrative Engagement, and Empathy during an Animated 360° Video**
  Samantha W. Bindman, Lisa M. Castaneda, Mike Scanlon, Anna Cechony

**516C Papers: Distributed Work**

**CHAIR:** DOMINIC DIFRANZO

- **Effects of Enhanced Gaze Presentation on Gaze Leading in Remote Collaborative Physical Tasks**
  Mai Otsuki, Keita Maruyama, Hideaki Kuzuoka, Yusuke Suzuki

- **Collaborative Dynamic Queries: Supporting Distributed Small Group Decision-making**
  Sungsoo (Ray) Hong, Minhyang (Mia) Suh, Nathalie Henry Riche, Jooyoung Lee, Juho Kim, Mark Zachry

- **Everything We Do, Everything We Press: Data-Driven Remote Performance Management in a Mobile Workplace**
  Lyndsey L. Bakewell, Konstantina Vasileiou, Kiel S. Long, Mark Atkinson, Helen Rice, Manuela Barreto, Julie Barnett, Michael Wilson, Shaun Lawson, John Vines

- **ConsensUs: Supporting Multi-Criteria Group Decisions by Visualizing Points of Disagreement**
  Weichen Liu, Sijia Xiao, Jacob T. Browne, Ming Yang, Steven P. Dow
516D Papers: More Challenging Social and Home Life

Chair: Roisin McNaney

- Exploring the Potential of Exergames to affect the Social and Daily Life of People with Dementia and their Caregivers
  - David Unbehauen, Daryoush Daniel Vaziri, Konstantin Aal, Rainer Wieching, Peter Tolmie, Volker Wulf
- “Accessibility Came by Accident”: Use of Voice-Controlled Intelligent Personal Assistants by People with Disabilities
  - Alisha Pradhan, Kanika Mehta, Leah Findlater
- Smart Kitchens for People with Cognitive Impairments: A Qualitative Study of Design Requirements
  - Thomas Kosch, Pawel Woźniak, Erin Brady, Albrecht Schmidt
- “I can do everything but see!” – How People with Vision Impairments Negotiate their Abilities in Social Contexts
  - Anja Thieme, Cynthia L. Bennett, Cecily Morrison, Edward Cutrell, Alex S. Taylor

516E Papers: Navigation and Trip Planning

Chair: David K. McGookin

- SpaceTokens: Interactive Map Widgets for Location-centric Interactions
  - Daniel Miau, Steven Feiner
- NavigaTone: Seamlessly Embedding Navigation Cues in Mobile Music Listening
  - Florian Heller, Johannes Schönig
- HindSight: Enhancing Spatial Awareness by SonifyingDetected Objects in Real-Time 360-Degree Video
  - Eldon Schoop, James Smith, Bjorn Hartmann
- Passenger Trip Planning using Ride-Sharing Services
  - Michael K. Svangren, Mikael B. Skov, Jesper Kjeldskov

517B Papers: Bio Design and Existence

Chair: Dave Randall

- Design for Collaborative Survival: An Inquiry into Human-Fungi Relationships
  - Jen Liu, Daragh Byrne, Laura Devendorf
- Tensions of Data-Driven Reflection: A Case Study of Real-Time Emotional Biosensing
  - Noura Howell, Laura Devendorf, Tomás Alfonso Vega Gálvez, Rundong Tian, Kimiko Ryokai
- Antibiotic-Responsive Bioart: Exploring DIYbio as a Design Studio Practice
  - Stacey Kuznetsov, Cassandra Barrett, Piyum Fernando, Kat Fowler
- Technology and the Givens of Existence: Toward an Existential Inquiry Framework in HCI Research
  - Victor Kaptelinin

516C Papers: Streaming & Sharing

Chair: Jessica Pater

- You Watch, You Give, and You Engage: A Study of Live Streaming Practices in China
  - Zhicong Lu, Haijun Xia, Seongkook Heo, Daniel Wigdor
- Webcam Covering as Planned Behavior
  - Dominique Machuletz, Stefan Laube, Rainer Böhme
- Support for Social and Cultural Capital Development in Real-time Ridesharing Services
  - Vaishnav Kameswaran, Lindsey Cameron, Tawanna R. Dillahunth
- Gender Recognition or Gender Reductionism? The Social Implications of Automatic Gender Recognition Systems
  - Foad Hamidi, Morgan Klaus Scheuerman, Stacy M. Branham

517D Papers: Communities, Publics, Digital Civics

Chair: Emily Sun

- Strategies for Engaging Communities in Creating Physical Civic Technologies
  - Nick Taylor, Lorraine Clarke, Martin Skelly, Sara Nevay
- Going the Distance: Trust Work for Citizen Participation
  - Eric Corbett, Christopher A. Le Dantec
- Infrastructuring the Solidarity Economy: Unpacking Strategies and Tactics in Designing Social Innovation
  - Vasillis Vlachokyriakos, Clara Crivellaro, Pete Wright, Patrick Olivier
- The Problem of Community Engagement: Disentangling the Practices of Municipal Government
  - Eric Corbett, Christopher A. Le Dantec

Lessons from the Woodshop: Cultivating Design with Living Materials
- Kristin N. Dew, Daniela K. Rosner
- The Value of Empty Space for Design
  - Eunjeong Cheon, Norman Makoto Su
- Understanding Artefact and Process Challenges for Designing Low-Res Lighting Displays
  - Marius Hoggenmueller, Martin Tomitsch, Alexander Wiethoff
518AB Papers: Understanding Through Visualization 1

CHAIR: YUAN-CHI TSENG

To Put That in Perspective: Generating Analogies that Make Numbers Easier to Understand
Christopher Riederer, Jake M. Hofman, Daniel G. Goldstein

Better Deciding through Discretizing: Uncertainty Displays to Improve Transit Decision-Making
Michael Fernandes, Logan Walls, Sean Munson, Jessica Hullman, Matthew Kay

Dream Lens: Exploration and Visualization of Large-Scale Generative Design Datasets
Justin Matejka, Michael Glueck, Erin Bradner, Ali B. Hashemi, Tovi Grossman, George Fitzmaurice

Improving Comprehension of Measurements Using Concrete Re-expression Strategies
Jessica Hullman, Yea-Seul Kim, Francis Nguyen, Lauren Speers, Maneesh Agrawala

519AB Papers: Assistive Medicine

CHAIR: CHRISTINA CHUNG

CatAR: A Novel Stereoscopic Augmented Reality Cataract Surgery Training System with Dexterous Instruments Tracking Technology
Yu-Hsuan Huang, Hao-Yu Chang, Wan-ling Yang, Yu-Kai Chiu, Tzu-Chieh Yu, Pei-Hsuan Tsai, Ming Ohyoung

Insert Needle Here! A Custom Display for Optimized Biopsy Needle Placement
Anke V. Reinschluessel, Marc Herrlich, Tanja Döring, Mark Vangel, Clare Tempany, Rainer Malaka, Junichi Tokuda

Stitching Infrastructures to Facilitate Telemedicine for Low-Resource Environments
Rajesh Chandwani, Neha Kumar

Lost in Migration: Information Management and Community Building in an Online Health Community
Drashko Nakikj, Lena Mamykina

518C Papers: Learning 1

CHAIR: CONOR LINEHAN

Customizing Developmentally Situated Design (DSD) Cards: Informing Designers about Preschoolers’ Spatial Learning
Gökçe Elif Baykal, Tilbe Gökson, Asim Evren Yantaç

Scaling Classroom IT Skill Tutoring: A Case Study from India
Meghna Joshi, Tanmay Joshi, Nimmi Rangaswamy

Explanations as Mechanisms for Supporting Algorithmic Transparency
Emilee Rader, Kelley Cotter, Janghee Cho

Mediating Conflicts in Minecraft: Empowering Learning in Online Multiplayer Games
Petr Slovák, Katie Saleen, Stephanie Ta, Geraldine Fitzpatrick

521ABC Course (C08): Applied Sketching in HCI (3/3)

Applied Sketching in HCI: Hands-on Course of Sketching Techniques
Makayla Lewis, Miriam Sturdee, Nicolai Marquardt

522AB Course (C13): Don’t Forget To Be The Way You Are (1/2)

Don’t Forget To Be The Way You Are: How to Create a Meaningful and Sustainable Research Identity
Dana McKay, George Buchanan

524A Course (C12): Understanding the Human (2/3)

Deep Learning for Understanding the Human
Lex Fridman

524B Course (C06): Communicating with the Public & the Press 3 (1/2)

Communicating with the Public and Press
Helen Pilcher

524C Course (C14): Visual Design 4 Non-Designers (1/2)

Visual Design 4 Non-Designers: Learn Basics the Hands-on Way
Stephanie Foehrenbach, Fabian Scheiwiller
**TUESDAY 16:00 – 17:20**

### 513AB  Papers: Systems in ICT4D

**CHAIR: SUSAN WYCHE**

- **Baang: A Viral Speech-based Social Platform for Under-Connected Populations**
  Agha Ali Raza, Bilal Saleem, Shan Randhawa, Zain Tariq, Awais Athar, Umar Saif, Roni Rosenfeld

- **eKichabi: Information Access through Basic Mobile Phones in Rural Tanzania**
  Galen Weld, Trevor Perrier, Jenny Aker, Joshua E. Blumenstock, Brian Dillon, Adalbertus Kamanzi, Editha Kokushubira, Jennifer Webster, Richard J. Anderson

- **Understanding the Use and Impact of the Zero-Rated Free Basics Platform in South Africa**
  Julianne Romanosky, Marshini Chetty

### 514A  SIG: Games and Play SIG

- **Games and Play SIG: Engaging Small Developer Communities**
  Lennart E. Nacke, Pejman Mirza-Babaei, Katta Spiel, Zachary O. Toups, Katherine Isbister

### 514B  Papers: Digital Civics, Public Services

**CHAIR: LYNN DOMBROWSKI**

- **Between Grassroots and the Hierarchy: Lessons Learned from the Design of a Public Services Directory**
  Andy Dow, Rob Comber, John Vines

- **Understanding the Family Perspective on the Storage, Sharing and Handling of Family Civic Data**
  Alex Bowyer, Kyle Montague, Stuart Wheeler, Ruth McGovern, Raghu Lingam, Madeline Balaam

- **Navigating the Job Search as a Low-Resourced Job Seeker**
  Earnest Wheeler, Tawanna R. Dillahunt

### 514C  Papers: Touch and Haptics

**CHAIR: TENG HAN**

- **I Really Did That: Sense of Agency with Touchpad, Keyboard, and On-skin Interaction**
  Joanna Bergstrom-Lehtovirta, David Coyle, Jarrod Knibbe, Kasper Hornbaek

- **Evaluating User Satisfaction with Typography Designs via Mining Touch Interaction Data in Mobile Reading**
  Junxiang Wang, Jianwei Yin, Shuiguo Deng, Ying Li, Calvin Pu, Yan Tang, Zhiling Luo

- **Visuo-Haptic Illusions for Improving the Perceived Performance of Shape Displays**
  Parastoo Abtahi, Sean Follmer

- **Vibrational Artificial Subtle Expressions: Conveying System’s Confidence Level to Users by Means of Smartphone Vibration**
  Takamori Komatsu, Kazuki Kobayashi, Seiji Yamada, Kotaro Funakoshi, Mikio Nakano

### 515ABC  Papers: Smartphone Use

**CHAIR: MATTHEW LOUIS MAURIELLO**

- **“Trust Us”: Mobile Phone Use Patterns Can Predict Individual Trust Propensity**
  Ghassan F. Bati, Vivek K. Singh

- **Understanding Face and Eye Visibility in Front-Facing Cameras of Smartphones used in the Wild**
  Mohamed Khams, Anita Baier, Niels Henze, Florian Alt, Andreas Bulling

- **Evaluating the Disruptiveness of Mobile Interactions: A Mixed-Method Approach**
  Sven Mayer, Lars Lischke, Pawel W. Woźniak, Niels Henze

- **Make Yourself at Phone: Reimagining Mobile Interaction Architectures With Emergent Users**
  Simon Robinson, Jennifer Pearson, Thomas Reitmaier, Shashank Ahire, Matt Jones

### 516AB  Papers: Gender

**CHAIR: MICHAEL MULLER**

- **Gender-Inclusive Design: Sense of Belonging and Bias in Web Interfaces**
  Danae Metaxa-Kakavouli, Kelly Wang, James A. Landay, Jeff Hancock

- **“Gender-fluid” or “Attack helicopter”: Responsible HCI Research Practice with Non-binary Gender Variation in Online Communities**
  Samantha Jaroszewski, Danielle Lottridge, Oliver L. Haimson, Katie Quehl

- **Queer Visibility: Supporting LGBT+ Selective Visibility on Social Media**
  Matthew Carrasco, Andruid Kerne

- **Effects of Socially Stigmatized Crowdfunding Campaigns in Shaping Opinions**
  Sanorita Dey, Karrie Karahalios, Wai-Tat Fu
516C Papers: Crowd(sourcing)

**CHAIR:** JACOB THEBAULT-SPIEKER

CrowdLayout: Crowdsourced Design and Evaluation of Biological Network Visualizations
Divit P. Singh, Lee Lisle, T. M. Murrali, Kurt Luther

Hit-or-Wait: Coordinating Opportunistic Low-effort Contributions to Achieve Global Outcomes in On-the-go Crowdsourcing
Yongsung Kim, Darren Gergle, Haoqi Zhang

Crowd-Guided Ensembles: How Can We Choreograph Crowd Workers for Video Segmentation?
Alexandre Kaspar, Genevieve Patterson, Changil Kim, Yagiz Aksoy, Wojciech Matusik, Mohamed Elgharib

Leveraging Community-Generated Videos and Command Logs to Classify and Recommend Software Workflows
Xu Wang, Benjamin Lafreniere, Tovi Grossman

516D Papers: Fabrication & Embedding 1

**CHAIR:** HUAISHU PENG

Digital Konditorei: Programmable Taste Structures using a Modular Mold
Amit Zoran, Dror Cohen

A Schnittmuster for Crafting Context-Sensitive Toolkits
Janis Lena Meissner, Angelika Strohmayer, Peter Wright, Geraldine Fitzpatrick

Designing the Future of Personal Fashion
Kristen Vaccaro, Tanvi Agarwalla, Sunaya Shivakumar, Ranjitha Kumar

Double-sided Printed Tactile Display with Electro Stimuli and Electrostatic Forces and its Assessment
Kunihiro Kato, Hiroki Ishizuka, Hiroyuki Kajimoto, Homei Miyashita

516E SIGCHI Awards 2: Lifetime Research & Outstanding Dissertations

SIGCHI Lifetime Research Award Talk – Seeing Past Looking Forward
Steven K. Feiner

SIGCHI Outstanding Dissertation Award Talk – Supporting Password Decisions with Data
Blase Ur

SIGCHI Outstanding Dissertation Award Talk – Interacting with Personal Fabrication Devices
Stefanie Mueller

517A Papers: Designing for Disability

**CHAIR:** HERNISA KACORRI

CodeTalk: Improving Programming Environment Accessibility for Visually Impaired Developers
Venkatesh Potluri, Priyam Vaithilingam, Suresh Iyengar, Y. Vidhya, Manohar Swaminathan, Gopal Srinivas

Rich Representations of Visual Content for Screen Reader Users
Meredith Ringel Morris, Jazette Johnson, Cynthia L. Bennett, Edward Cutrell

Assisting Students with Intellectual and Developmental Disabilities in Inclusive Education with Smartwatches
Hui Zheng, Vivian Genaro Motti

Opening up the Design Space of Neurofeedback Brain-Computer Interfaces for Children
Alissa N. Antle, Leslie Chesick, Elgin-Skye McLaren

517B Papers: Art and Design

**CHAIR:** HARPREET SAREEN

Designing the Audience Journey through Repeated Experiences
Steve Benford, Chris Greenhalgh, Adrian Hazzard, Alan Chamberlain, Maria Kallionpää, David M. Weigl, Kevin R. Page, Mengdie Lin

How Far Is Up? Bringing the Counterpointed Triad Technique to Digital Storybook Apps
Betty Sargeant, Florian ‘Floyd’ Mueller

Reinterpreting Schlemmer’s Triadic Ballet: Interactive Costume for Unthinkable Movements
Pavel Karpashevich, Eva Hornecker, Michaela Honauer, Pedro Sanches

Extending Manual Drawing Practices with Artist-Centric Programming Tools
Jennifer Jacobs, Joel Brandt, Radomir Mech, Mitchel Resnick

517C Papers: Chatbots

**CHAIR:** ANDRÉS LUCERO

Convey: Exploring the Use of a Context View for Chatbots
Mohit Jain, Ramachandra Kota, Pratyush Kumar, Shwetak N. Patel

Let’s Talk About Race: Identity, Chatbots, and AI
Ari Schlesinger, Kenton P. O’Hara, Alex S. Taylor

Supporting Workplace Detachment and Reattachment with Conversational Intelligence
Alex C. Williams, Harmanpreet Kaur, Gloria Mark, Anne Loomis Thompson, Shamsi T. Iqbal, Jaime Teevan

A Bot is Not a Polyglot: Designing Personalities for Multi-Lingual Conversational Agents
Andreea Danielescu, Gwen Christian
**517D Papers: Methods for Exploration**

**CHAIR: AUDREY GIROUARD**

Rethinking Thinking Aloud: A Comparison of Three Think-Aloud Protocols
Obead Alhadreti, Pam Mayhew

A Bermuda Triangle? - A Review of Method Application and Triangulation in User Experience Evaluation
Ingrid Pettersson, Florian Lachner, Anna-Katharina Frison, Andreas Rieker, Andreas Butz

Semi-Automated Coding for Qualitative Research: A User-Centered Inquiry and Initial Prototypes
Megh Marathe, Kentaro Toyama

“Is More Better?”: Impact of Multiple Photos on Perception of Persona Profiles

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**518C Papers: The Things of the Internet of Things**

**CHAIR: MARTA CECCHINATO**

The Ambient Birdhouse: An IoT Device to Discover Birds and Engage with Nature
Alessandro Sora, Margot Brereton, Tshering Dema, Jessica L. Oliver, Min Zhen Choi, Aloha May Hufana Ambe

GeoCoin: Supporting Ideation and Collaborative Design with Smart Contracts
Bettina Nissen, Larissa Pschetz, Dave Murray-Rust, Hadi Mehrpouya, Shaune Oosthuizen, Chris Speed

Design Vocabulary for Human-IoT Systems Communication
Yaliang Chuang, Lin-Lin Chen, Yoga Liu

The Ethnobot: Gathering Ethnographies in the Age of IoT
Ella Tallyn, Hector Fried, Rory Gianni, Amy Isard, Chris Speed

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**518AB Papers: Visualization Beyond the Desktop & Visual Privacy**

**CHAIR: KAHIRED A**

When David Meets Goliath: Combining Smartwatches with a Large Vertical Display for Visual Data Exploration
Tom Horak, Srimar Karrith Badam, Niklas Elmqvist, Raimund Dachselt

Clusters, Trends, and Outliers: How Immersive Technologies Can Facilitate the Collaborative Analysis of Multidimensional Data
Simon Butscher, Sebastian Hubenschmidt, Jens Müller, Johannes Fuchs, Harald Reiterer

Viewer Experience of Obscuring Scene Elements in Photos to Enhance Privacy
Rakibul Hasan, Eman Hassan, Yifang Li, Kelly Caine, David J. Crandall, Roberto Hoyle, Apu Kapadia

Balancing Privacy and Information Disclosure in Interactive Record Linkage with Visual Masking
Eric D. Ragan, Hye-Chung Kum, Gurudev Ilangoavan, Han Wang

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**519AB Papers: Exploration Through Modelling and Visualization**

**CHAIR: CLEMENS N. KLOKMOSE**

Beagle: Automated Extraction and Interpretation of Visualizations from the Web
Leilani Battle, Peitong Duan, Zachery Miranda, Dana Mukusheva, Remco Chang, Michael Stonebraker

A Visual Interaction Framework for Dimensionality Reduction Based Data Exploration
Marco Cavallo, Cagatay Demiralp

A Unified Model for User Identification on Multi-touch Surfaces. A Survey and Meta-analysis
Ahmed Kharrufa, Thomas Ploetz, Patrick Olivier

Empowering End Users to Customize their Smart Environments: Model, Composition Paradigms, and Domain-Specific Tools
Giuseppe Desolda, Carmelo Ardito, Maristella Matera

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**520 Panel: Managing Deviant Behavior in Online Communities III**

Managing Deviant Behavior in Online Communities III
Amy S. Bruckman, Jennifer E. Below, Lucas Dixon, Casey Fiesler, Eric E. Gilbert, Sarah A. Gilbert, J. Nathan Matias

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**522AB Course (C13): Don’t Forget To Be The Way You Are (2/2)**

Don’t Forget To Be The Way You Are: How to Create a Meaningful and Sustainable Research Identity
Dana McKay, George Buchanan

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**524A Course (C12): Understanding the Human (3/3)**

Deep Learning for Understanding the Human
Lex Fridman
**524B Course (C06): Communicating with the Public & the Press 3 (2/2)**

Communicating with the Public and Press  
Helen Pilcher

**524C Course (C14): Visual Design 4 Non-Designers (2/2)**

Visual Design 4 Non-Designers: Learn Basics the Hands-on Way  
Stephanie Foehrenbach, Fabian Scheiwiller

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**Tuesday Afternoon Plenary**

17:30 – 18:30  
Daveed and Nobu, Choir! Choir! Choir!

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18:00 – 19:30  
Job Fair & Recruiting Boards  
Exhibit Hall/220BC
**WEDNESDAY 09:00 – 10:20**

**513AB Papers: VR/AR/Telepresence 1**

**CHAIR:** NIELS HENZE

TeleHuman2: A Cylindrical Light Field Teleconferencing System for Life-size 3D Human Telepresence

Daniel Gotsch, Xujing Zhang, Timothy Merritt, Roel Vertegaal

ARcadia: A Rapid Prototyping Platform for Real-time Tangible Interfaces

Annie Kelly, R. Benjamin Shapiro, Jonathan de Halleux, Thomas Ball

ProtoAR: Rapid Physical-Digital Prototyping of Mobile Augmented Reality Applications

Michael Nebeling, Janet Nebeling, Ao Yu, Rob Rumble

Scenariot: Spatially Mapping Smart Things within Augmented Reality Scenes

Ke Hua, Yuanzhi Cao, Sang Ho Yoon, Zhuangying Xu, Guiming Chen, Karthik Ramani

**514A SIG: Making Maps Accessible**

SIG: Making Maps Accessible and Putting Accessibility in Maps

Anke M. Brock, Jon E. Froehlich, João Guerreiro, Benjamin Tannert, Anat Caspi, Johannes Schöning, Steve Landau

**514B alt.chi: Scary, Sporty, Ginger, and Posh**

**CHAIR:** VANESSA THOMAS

The Other Side: Algorithm as Ritual in Artificial Intelligence

Kieran Browne, Ben Swift

Fitter, Happier, More Productive? The Normative Ontology of Fitness Trackers

Katta Spiel, Fares Kayali, Louise Horvath, Michael Penkler, Sabine Harrer, Miguel Sicart, Jessica Hammer

“So, Tell Me What Users Want, What They Really, Really Want!”

Ulrik Lyngs, Reuben Binns, Max G. Van Kleek, Nigel Shadbolt

Cognitive Externalities and HCI: Towards the Recognition and Protection of Cognitive Rights

Cameron Shackell, Laurianne Sitbon

**514C SIG: SketCHI**

SketCHI: Hands-On Special Interest Group on Sketching in HCI

Makayla Lewis, Miriam Sturdee, Nicolai Marquardt, Thuong Hoang

**515ABC Papers: Different Realities: Engaging the Senses**

**CHAIR:** MAX V. BIRK

A Visual Interaction Cue Framework from Video Game Environments for Augmented Reality

Kody R. Dillman, Terrance Tin Hoi Mok, Anthony Tang, Lora Oehlberg, Alex Mitchell

Vanishing Importance: Studying Immersive Effects of Game Audio Perception on Player Experiences in Virtual Reality

Katja Rogers, Giovanni Ribeiro, Rina R. Wehbe, Michael Weber, Lennart E. Nacke

Review of Intrinsic Motivation in Simulation-based Game Testing

Shaghayegh Roohi, Jari Takatalo, Christian Guckelsberger, Perttu Hamalainen

The RAD: Making Racing Games Equivalently Accessible to People Who Are Blind

Brian A. Smith, Shree K. Nayar

**515AB Papers: Health & Stigma**

**CHAIR:** LENA MAMYKINA

Designing a Reclamation of Body and Health: Cancer Survivor Tattoos as Coping Ritual

Jordan Eschler, Arpita Bhattacharya, Wanda Pratt

Defining Through Expansion: Conducting Asynchronous Remote Communities (ARC) Research with Stigmatized Groups

Juan F. Maestre, Haley MacLeod, Ciabhan L. Connelly, Julia C. Dunbar, Jordan Beck, Katie A. Siek, Patrick C. Shih

Understanding Older Users’ Acceptance of Wearable Interfaces for Sensor-based Fall Risk Assessment

Alan Yusheng Wu, Cosmin Munteanu

Supporting Collaborative Health Tracking in the Hospital: Patients’ Perspectives

Sonali R. Mishra, Andrew D. Miller, Shefali Haldar, Maher Helilji, Jordan Eschler, Rashmi G. Elera, Ari H. Pollack, Wanda Pratt

**516AB Papers: Inclusion and Influence**

**CHAIR:** ALEX A. AHMED

Troubling Vulnerability: Designing with LGBT Young People’s Ambivalence Towards Hate Crime Reporting

Cally Gatehouse, Matthew Wood, Jo Briggs, James Pickles, Shaun Lawson

Empowerment in HCI - A Survey and Framework

Hanna Schneider, Malin Eiband, Daniel Ullrich, Andreas Butz

Taking into Account Sensory Knowledge: The Case of Geo-technologies for Children with Visual Impairments

Emeline Brulé, Gilles Bailly

The Dark (Patterns) Side of UX Design

Colin M. Gray, Yubo Kou, Bryan Battles, Joseph Hoggatt, Austin L. Toombs

**516C Papers: Inclusion and Influence**

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516D Papers: Tactile

CHAIR: OLIVER S. SCHNEIDER

From Pulse Trains to “Coloring with Vibrations”: Motion Mappings for Mid-Air Haptic Textures
Paul Strohmeier, Sebastian Boring, Kasper Hornbæk

Force Jacket: Pneumatically-Actuated Jacket for Embodied Haptic Experiences
Alexandra Delazio, Ken Nakagaki, Roberta L. Klatzky, Scott E. Hudson, Jill Fain Lehman, Alanson P.Sample

Coding Tactile Symbols for Phonemic Communication
Siyan Zhao, Ali Israr, Frances Lau, Freddy Abnousi

Tactile Information Transmission by 2D Stationary Phantom Sensations
Gunhyuk Park, Seungmoon Choi

516E Papers: Typing & Touch 1

CHAIR: JINGJIE ZHENG

Observations on Typing from 136 Million Keystrokes
Vivek Dhakal, Anna Maria Feit, Per Ola Kristensson, Antti Oulasvirta

Typing on an Invisible Keyboard
Suwen Zhu, Tianyao Luo, Xiaojun Bi, Shumin Zhai

Storyboard-Based Empirical Modeling of Touch Interface Performance
Alix Goguey, Géry Casiez, Andy Cockburn, Carl Gutwin

Designing Coherent Gesture Sets for Multi-scale Navigation on Tablettops
Vit Rusnak, Caroline Appert, Olivier Chapuis, Emmanuel Pietriga

516F Papers: Accessible Interaction Techniques

CHAIR: ANHONG GUO

Nonvisual Interaction Techniques at the Keyboard Surface
Rushil Khurana, Duncan McIsaac, Eliot Lockerman, Jennifer Mankoff

Comparing Computer-Based Drawing Methods for Blind People with Real-Time Tactile Feedback
Jens Bornschein, Denise Bornschein, Gerhard Weber

Exploring Accessible Smartwatch Interactions for People with Upper Body Motor Impairments
Meethu Malu, Pramod Chundury, Leah Findlater

Hybrid-Braillet: Combining Physical and Gestural Interaction for Mobile Braille Input and Editing
Daniel Trindade, André Rodrigues, Tiago Guerreiro, Hugo Nicolau

517B Papers: Gender and Economic Diversity

CHAIR: SHEENA ERETE

Making Core Memory: Design Inquiry into Gendered Legacies of Engineering and Craftwork
Daniela K. Rosner, Samantha Shorey, Brock R. Craft, Helen Remick

Applying Computational Analysis to Textual Data from the Wild: A Feminist Perspective
Shauna Julia Concannon, Madeline Balaam, Emma Simpson, Rob Comber

Design Within a Patriarchal Society: Opportunities and Challenges in Designing for Rural Women in Bangladesh
Sharifa Sultanah, Francois Guimbretière, Phoebe Sengers, Nicola Dell

Social Influences on Executive Functioning in Autism: Design of a Mobile Gaming Platform
Beibin Li, Adham Ayabi, Minah Kim, Erin Barney, Amy Yeojin Ahn, Yawen Luo, Madeline Aubertine, Sarah Corrigan, Tanya St John, Quan Wang, Marilena Mademtzi, Mary Best, Frederick Shic

517C Papers: Close Studies of Interaction

CHAIR: JACKI O’NEILL

Text in Talk: Lightweight Messages in Co-Present Interaction
Barry Brown, Kenton P. O’Hara, Moira McGregor, Donald McMillan

Microblog Analysis as a Programme of Work
Peter Tolmie, Rob N. Procter, Mark Rouncefield, Maria Liakata, Arkaitz Zubiaga

Accountability Work: Examining the Values, Technologies and Work Practices that Facilitate Transparency in Charities
Matthew Marshall, John Vines, Pete Wright, David S. Kirk, Toby Lowe, Rob Wilson

517D Papers: Curation & Collection

CHAIR: NEDIYANA DASKALOVA

[Un]breaking News: Design Opportunities for Enhancing Collaboration in Scientific Media Production
C. Estelle Smith, Xinyi Wang, Raghav Pavan Karumur, Haiyi Zhu

How Social Dynamics and the Context of Digital Content Impact Workplace Remix
Jessica L. Feuston, Siln E. Lindley

Co-concepting Family Memory: Understanding the Intergenerational Practices of Passing on Family Stories
Jasmine Jones, Mark S. Ackerman

Hoarding and Minimalism: Tendencies in Digital Data Preservation
Francesco Vitale, Izabelle Janzen, Joanna McGrenere
WEDNESDAY 9:00 – 10:20

518AB Papers: Children, Well-Being, and Play
CHAIR: TAWFIQ AMMARI

Huggable: The Impact of Embodiment on Promoting Socio-emotional Interactions for Young Pediatric Inpatients
Sooyeon Jeong, Cynthia Breazeal, Deirdre Logan, Peter Weinstock

BebeCode: Collaborative Child Development Tracking System
Seokwoo Song, Juho Kim, Bumsoo Kang, Wonjeong Park, John Kim

Let’s Play! Digital and Analog Play between Preschoolers and Parents
Alexis Hiniker, Bongshin Lee, Julie A. Kientz, Jenny S. Radesky

Supporting Communication between Grandparents and Grandchildren through Tangible Storytelling Systems
Torben Wallbaum, Andrii Matviienko, Swamy Ananthanarayan, Thomas Olsson, Wilko Heuten, Susanne C.J. Boll

518B Papers: Crowdsourcing and Crowdwork
CHAIR: JORGE GONCALVES

Online Sequencing of Non-Decomposable Macrotasks in Expert Crowdsourcing
Heinz Schmitz, Ioanna Lykourentzou

Using Worker Self-Assessments for Competence-based Pre-Selection in Crowdsourcing Microtasks
Ujwal Gadiraju, Besnik Fetahu, Ricardo Kawase, Patrick Siehndel, Stefan Dietze

BubbleView: An Interface for Crowdsourcing Image Importance Maps and Tracking Visual Attention
Nam Wook Kim, Zoya Bylinskii, Michelle A. Borkin, Krzysztof Gajos, Aude Oliva, Fredo Durand, Hanspeter Pfister

In Search of the Dream Team: Temporally Constrained Multi-Armed Bandits for Identifying Effective Team Structures
Sharon Zhou, Melissa Valentine, Michael S. Bernstein

519AB Papers: User Innovation in Marginalized Communities
CHAIR: REEM TALHOUK

The Space of Possibilities: Political Economies of Technology Innovation in Sub-Saharan Africa
Chris Csiksztentmihalyi, Jude Mukundane, Gemma F. Rodrigues, Daniel Mwesigwa, Michelle Kasprzak

In the Eye of the Student: “An Intangible Cultural Heritage Experience, with a Human-Computer Interaction Twist”
Danilo Giglitto, Shaimaa Lazem, Anne Preston

Building Momentum: Scaling up Change in Community Organizations
Aksel Biørn-Hansen, Maria Håkansson

Revisiting “Hole in the Wall” Computing: Private Smart Speakers and Public Slum Settings
Simon Robinson, Jennifer Pearson, Shashank Ahire, Rini Ahirwar, Bhakti Bhikne, Nimish Maravi, Matt Jones

520 Panel: Intersectionality as a Lens
Intersectionality as a Lens to Promote Equity and Inclusivity within SIGCHI
Pamela J. Wisniewski, Neha Kumar, Christine Bassen, Sarah Clinch, Susan M. D. Roy, Geraldine Fitzpatrick, Cliff Lampe, Michael Muller, Anicia N. Peters

521ABC Course (C15): From Tool to Partner
From Tool to Partner: The Evolution of Human-Computer Interaction
Jonathan Grudin

522AB Course (C16): Make This! (1/2)
Make This! Introduction to Electronics Prototyping Using Arduino
David Sirkin, Nikolas Martelaro, Wendy Ju

524A Course (C17): Empirical Research Methods for HCI (1/2)
Empirical Research Methods for Human-Computer Interaction
Scott I. MacKenzie, Steven J. Castellucci

524B Course (C06): Communicating with the Public & the Press 4 (1/2)
Communicating with the Public and Press
Helen Pilcher
WEDNESDAY 11:00 – 12:20

513AB Papers: VR/AR/Telepresence 2

CHAIR: JOHANNES SCHÖNING

Quadcopter-Projected In-Situ Navigation Cues for Improved Location Awareness
Pascal Knierim, Steffen Maurer, Katrin Wolf, Markus Funk

BioFidget: Biofeedback for Respiration Training Using an Augmented Fidget Spinner
Rong-Hao Liang, Bin Yu, Mengru Xue, Jun Hu, Loë M. G. Feijs

Remixed Reality: Manipulating Space and Time in Augmented Reality
David Lindlbauer, Andy D. Wilson

Extracting Regular FOV Shots from 360 Event Footage
Anh Truong, Sara Chen, Ersin Yumer, David Salesin, Wilmot Li

514A SIG: The Future of HCI and Sustainability

The Future of HCI and Sustainability: Championing Environmental and Social Justice
Oliver Bates, Vanessa Thomas, Christian Remy, Lisa P. Nathan, Samuel Mann, Adrian Friday

514C Papers: Interpersonal Awareness in Gameplay

CHAIR: MELISSA J. ROGERSON

A Design Framework for Awareness Cues in Distributed Multiplayer Games
Jason Wuertz, Sultan A. Alharthi, William A. Hamilton, Scott Bateman, Carl Gutwin, Anthony Tang, Zachary Toups, Jessica Hammer

Looks Can Be Deceiving: Using Gaze Visualisation to Predict and Mislead Opponents in Strategic Gameplay
Joshua Newn, Fraser Allison, Eduardo Velloso, Frank Vetere

Watch Me Play: Does Social Facilitation Apply to Digital Games?
Katharina Emmerich, Maic Masuch

Social Affordances at Play: Game Design Toward Socio-Technical Innovation
Katherine Isbister, Elena Márquez Segura, Edward F. Melcer

515ABC Papers: Gamification, Personalization, Tracking

CHAIR: PAWEŁ W. WOŹNIAK

Gamification for Self-Tracking: From World of Warcraft to the Design of Personal Informatics Systems
Amon Rapp

Empirical Support for a Causal Relationship Between Gamification and Learning Outcomes
Paul Denny, Fiona McDonald, Ruth Empson, Philip Kelly, Andrew Petersen

Inferring Loop Invariants through Gamification
Dimitar Bounov, Anthony DeRossi, Massimiliano Menarini, William G. Griswold, Sorin Lerner

Personalizing Persuasive Strategies in Gameful Systems to Gamification User Types
Rita Orji, Gustavo F. Tondello, Lennart E. Nacke

516AB Papers: Roads and Crowds

CHAIR: LEWIS CHUANG

Navigation Systems for Motorcyclists: Exploring Wearable Tactile Feedback for Route Guidance in the Real World
Francisco Kiss, Robin Boldt, Bastian Pfleging, Stefan Schnegass

The Impact of Abstract vs. Concrete Feedback Design on Behavior – Insights from a Large Eco-Driving Field Experiment
André Dahlinger, Felix Wortmann, Benjamin Ryder, Bernhard Gahr

Too Close and Crowded: Understanding Stress on Mobile Instant Messengers based on Proxemics
In-geon Shin, Jin-min Seok, Youn-kyung Lim

516C Papers: Crafting & Fabrication

CHAIR: ISABEL P. S. QAMAR

Sketch&Stitch: Interactive Embroidery for E-textiles
Nur Al-huda Hamdan, Simon Voelker, Jan Borchers

Grafter: Remixing 3D-Printed Machines
Thijs Jan Roumen, Willi Müller, Patrick Baudisch

Thermorph: Democratizing 4D Printing of Self-Folding Materials and Interfaces
Byoungkwon An, Ye Too, Jianzhe Gu, Tingyu Cheng, Xiang ‘Anthony’ Chen, Xiaoxiao Zhang, Wei Zhao, Youngwook Do, Shigeo Takahashi, Hsiang-Yun Wu, Teng Zhang, Lining Yao

Metamaterial Textures
Alexandra Ion, Robert Kovacs, Oliver S. Schneider, Pedro Lopes, Patrick Baudisch

516D Papers: Accessible Making and Finding

CHAIR: HELENA MENTIS

Weaving Lighthouses and Stitching Stories: Blind and Visually Impaired People Designing E-textiles
Emilie Giles, Janet van der Linden, Marian Petre

SteeringWheel: A Locality-Preserving Magnification Interface for Low Vision Web Browsing
Syed Masum Billah, Vikas Ashok, Donald E. Porter, J.V. Ramakrishnan

Understanding the Needs of Searchers with Dyslexia
Meredith Ringel Morris, Adam Fournier, Abdullah Ali, Laura Vonessen
516E Papers: Families, Relationships & Emotions
CHAIR: ERICK ODUOR

G2G: The Design and Evaluation of a Shared Calendar and Messaging System for Grandparents and Grandchildren.
Azadeh Forghani, Carmyn Neustaeder, Manh C. Vu, Tejinder K. Judge, Alissa N. Antle

Supporting the Complex Social Lives of New Parents
Austin L. Toombs, Kellie Morrissey, Emma Simpson, Colin M. Gray, John Vines, Madeline Balaam

Touch Your Heart: A Tone-aware Chatbot for Customer Care on Social Media
Tianran Hu, Anbang Xu, Zhe Liu, Quanzeng You, Yufan Guo, Vibha Sinha, Jiebo Luo, Rama Akkiraju

Seemo: A Computational Approach to See Emotions
Zhe Liu, Anbang Xu, Yufan Guo, Jalal U. Mahmud, Haibin Liu, Rama Akkiraju

517A Papers: Doing Design Research
CHAIR: JAYNE WALLACE

“Debrief O’Clock”: Planning, Recording, and Making Sense of a Day in the Field in Design Research
Jennyfer Lawrence Taylor, Alessandro Soro, Paul Roe, Anita Lee Hong, Margot Breteron

TaskCam: Designing and Testing an Open Tool for Cultural Probes Studies
Andy Boucher, Dean Brown, Liliana Ovalle, Andy Sheen, Mike Vanis, William Odom, Doenja Oogjes, William Gaver

The Theory-Practice Gap as Generative Metaphor
Jordan Beck, Hamid R. Ekbio

Deployments of the Table-Non-Table: A Reflection on the Relation Between Theory and Things in the Practice of Design Research
Sabrina Hauser, Ron Wakkary, William Odom, Peter-Paul Verbeek, Audrey Desjardins, Henry Lin, Matthew Dalton, Markus Schilling, Gijss de Boer

517B Papers: Accessible and Inclusive Education
CHAIR: KOTARO HARA

Teaching Language to Deaf Infants with a Robot and a Virtual Human
Brian Scassellati, Jake Braver, Katherine Tsui, Setareh Nasihati Gilani, Melissa Malzkuhn, Barbara Manini, Adam Stone, Geo Kartheiser, Aricangelo Merla, Ari Shapiro, David Traum, Laura-Ann Petitto

Inclusive Computing in Special Needs Classrooms: Designing for All
Zuzanna Lechel, Yvonne Rogers, Nicola Yuill, Lena Nagl, Grazia Ragone, Nicolai Marquardt

“Bursting the Assistance Bubble”: Designing Inclusive Technology with Children with Mixed Visual Abilities
Oussama Metatla, Clare Cullen

Blocks4All: Overcoming Accessibility Barriers to Blocks Programming for Children with Visual Impairments
Lauren R. Milne, Richard E. Ladner

517C Papers: Algorithms in (Social) Practice
CHAIR: ISAAC JOHNSON

A Qualitative Exploration of Perceptions of Algorithmic Fairness
Allison Woodruff, Sarah E. Fox, Steven Rouss-O-Schindler, Jeffrey Warshaw

Communicating Algorithmic Process in Online Behavioral Advertising
Motahhare Esfami, Sneha R. Krishna Kumaran, Christian Sandvig, Karrie Karahalios

Towards Algorithmic Experience: Initial Efforts for Social Media Contexts
Oscar Alvarado, Annika Waern

Fairness and Accountability Design Needs for Algorithmic Support in High-Stakes Public Sector Decision-Making
Michael Veale, Max Van Kleef, Reuben Binns

517D Papers: Supporting Creativity
CHAIR: ELIZABETH BUJE

Interactive Guidance Techniques for Improving Creative Feedback
Tricia J. Ngoon, C. Alle Fraser, Ariel S. Weingarten, Mira Donitcheva, Scott Klemmer

An Empirical Exploration of Mindfulness Design Using Solo Travel Domain
Runyuan (Jason) Chen, Mania Orand, Shin Young (Lucia) Choi, Leena Choi

Knotation: Exploring and Documenting Choreographic Processes
Marijanela Cioffi Felice, Sarah Fdili Aloufi, Wendy E. Mackay

Investigating How Online Help and Learning Resources Support Children’s Use of 3D Design Software
Nathaniel Hudson, Benjamin Lafreniere, Parmit K. Chilana, Tovi Grossman

518AB Papers: Social Issues
CHAIR: MUNMUN DE CHOUDHURY

Socioeconomic Inequalities in the Non/use of Facebook
Eric P. S. Baumer

Squadbox: A Tool to Combat Email Harassment Using Friendsourced Moderation
Katlin Mahar, Amy X. Zhang, David Karger

Investigating the Impact of Gender on Rank in Resume Search Engines
Le Chen, Ruijun Ma, Aniko Hannak, Christo Wilson

Upstanding by Design: Bystander Intervention in Cyberbullying
Dominic DiFranzo, Samuel Hardman Taylor, Francesca Kazerooni, Olivia D. Wherry, Natalya N. Bazarova
518C Papers: Understanding Through Visualization 2

CHAIR: PEJMAN MIRZA-BABAEL

T-Cal: Understanding Team Conversational Data with Calendar-based Visualization
Siwei Fu, Jian Zhao, Hao Fei Cheng, Haiyi Zhu, Jennifer Marlow

Augmenting Code with In Situ Visualizations to Aid Program Understanding
Jane Hoffswell, Arvind Satyanarayan, Jeffrey Heer

The Effects of Adding Search Functionality to Interactive Visualizations on the Web
Mi Feng, Cheng Deng, Evan M. Peck, Lane Harrison

Uncertainty Visualization Influences How Humans Aggregate Discrepant Information
Miriam Greis, Aditi Joshi, Ken Singer, Albrecht Schmidt, Tonja Machulla

519AB Papers: Coping with Mental Health Challenges

CHAIR: STEVIE CHANCELLOR

Modern Bereavement: A Model for Complicated Grief in the Digital Age
Anna N. Baglione, Maxine M. Girard, Meagan Price, James Clawson, Patrick C. Shih

Pocket Skills: A Conversational Mobile Web App To Support Dialectical Behavioral Therapy
Jessica Schroeder, Chelsey Wilkes, Kael Rowan, Arturo Toledo, Ann Paradiso, Mary Czerwinski, Gloria Mark, Marsha M. Linehan

Identification of Imminent Suicide Risk Among Young Adults using Text Messages
Alicia L. Nobles, Jeffrey J. Glenn, Kamran Kowsari, Bethany A. Teachman, Laura E. Barnes

Quantifying the Changeable Self: The Role of Self-Tracking in Coming to Terms With and Managing Bipolar Disorder
Mark Matthews, Elizabeth Lindley Murnane, Jaime Snyder

522AB Course (C16): Make This! (2/2)

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

524A Course (C17): Empirical Research Methods for HCI (2/2)

Empirical Research Methods for Human-Computer Interaction
Scott I. MacKenzie, Steven J. Castellucci

524B Course (C06): Communicating with the Public & the Press 4 (2/2)

Communicating with the Public and Press
Helen Pilcher

12:20 – 14:00 Lunch Break

Restaurants, bars & cafés available nearby

12:20 – 14:00 Room 520

ACM SIGCHI & CHI Joint Town Hall Lunch
**513AB Papers: Programming 1**

**CHAIR: ROMAN RÄDLE**

Visualizing API Usage Examples at Scale  
*Elena L. Glassman, Tianyi Zhang, Bjoern Hartmann, Miryung Kim*

Doppio: Tracking UI Flows and Code Changes for App Development  
*Pei-Yu (Peggy) Chi, Sen-Po Hu, Yang Li*

Interactive Extraction of Examples from Existing Code  
*Andrew Head, Elena L. Glassman, Bjoern Hartmann, Marti A. Hearst*

CFar: A Tool to Increase Communication, Productivity, and Review Quality in Collaborative Code Review  
*Austin Z. Henley, Kwanç Muşlu, Maria Christakis, Scott D. Fleming, Christian Bird*

**514A SIG: Approaching Engagement Towards Human-Engaged Computing**

Approaching Engagement towards Human-Engaged Computing  
*Kavous Salehzadeh Niksirat, Sayan Sarcar, Huatong Sun, Effie L-C Law, Torkil Clemmensen, Jeffrey Bardzell, Antti Oulasvirta, Chaklam Silpasuwanchai, Ann Light, Xiangshi Ren*

**515ABC Papers: Explaining Players**

**CHAIR: ZACHARY TOUPS**

How the Experts Do It: Assessing and Explaining Agent Behaviors in Real-Time Strategy Games  
*Jonathan Dodge, Sean Penney, Claudia Hildebrand, Andrew Anderson, Margaret Burnett*

Let Me Be Implicit: Using Motive Disposition Theory to Predict and Explain Behaviour in Digital Games  
*Susanne Poeller, Max V. Birk, Nicola Baumann, Regan L. Mandryk*

What Moves Players? Visual Data Exploration of Twitter and Gameplay Data  
*Christian Drescher, Guenter Wallner, Simone Krigstein, Rafet Sifa, Anders Drachen, Margit Pohl*

Dynamic Demographics: Lessons from a Large-Scale Census of Performative Possibilities in Games  
*Daniel L. Gardner, Joshua G. Tanenbaum*

**516B Case Studies: Awareness and Sensitivity**

**CHAIR: SHION GUHA**

Exploring Social Awareness: A Design Case Study in Minimal Communication  
*Torben Wallbaum, Maria Rauschenberger, Janko Timmermann, Wilko Heuten, Susanne C.J. Boll*

Too Sensitive to Share? Working with Consumers’ Credit Card Transactions  
*Johannes Huebner, Alexander Ilic*

The Use and Usefulness of Cultural Dimensions in Product Development  
*Judith Yaaqoubi, Katharina Reinecke*

Building Empathy: Scaling User Research for Organizational Impact  
*Ariel Liu, Victoria Schwanda Sosik, Khadine Singh*

**516D Papers: Mood and Physical Health**

**CHAIR: MARY CZERWINSKI**

Persuading to Reflect: Role of Reflection and Insight in Persuasive Systems Design for Physical Health  
*Kirsi Halttu, Harri Oinas-kukkonen*

Designing for Lived Informatics in Out-of-Clinic Physical Rehabilitation  
*Naveen Bogalkot, Tomas Sokoler*

Awe the Audience: How the Narrative Trajectories Affect Audience Perception in Public Speaking  
*M. Iftekhar Tanveer, Samiha Samrose, Roayan Abdul Baten, M. Ehsan Hoque*

What Does All This Data Mean for My Future Mood? Actionable Analytics and Targeted Reflection for Emotional Well-Being  
*Victoria Hollis, Artie Konrad, Matt Antoun, Chris Antoun, Robert A. Martin, Steve Whittaker*

**517B Papers: Haptic for VR**

**CHAIR: JIN RYONG KIM**

Enabling People with Visual Impairments to Navigate Virtual Reality with a Haptic and Auditory Cane Simulation  
*Yuhang Zhao, Cynthia L. Bennett, Hrvoje Benko, Edward Cutrell, Christian Holz, Meredith Ringel Morris, Mike Sinclair*

Haptic Revolver: Touch, Shear, Texture, and Shape Rendering on a Reconfigurable Virtual Reality Controller  
*Eric Whitmire, Hrvoje Benko, Christian Holz, Eyal Ofek, Mike Sinclair*

CLAW: A Multifunctional Handheld Haptic Controller for Grasping, Touching, and Triggering in Virtual Reality  
*Inrak Choi, Eyal Ofek, Hrvoje Benko, Mike Sinclair, Christian Holz*

A Functional Optimization Based Approach for Continuous 3D Retargeted Touch of Arbitrary, Complex Boundaries in Haptic Virtual Reality  
*Yiwei Zhao, Sean Follmer*
**517C Papers: Technology to Support Deaf & Hard of Hearing People**

**CHAIR: RUSHIL KHURANA**

- Methods for Evaluation of Imperfect Captioning Tools by Deaf or Hard-of-Hearing Users at Different Reading Literacy Levels  
  Larwan Berke, Sushant Kafle, Matt Huenerfauth

- SpeechBubbles: Enhancing Captioning Experiences for Deaf and Hard-of-Hearing People in Group Conversations  
  Yi-Hao Peng, Ming-Wei Hsu, Paul Taele, Ting-Yu Lin, Po-En Lai, Leon Hsu, Tsuchuan Chen, Te-Yen Wu, Yu-An Chen, Hsien-Hui Tang, Mike Y. Chen

- MirrorMirror: A Mobile Application to Improve Speechreading Acquisition  
  Benjamin M. Gorman, David R. Flatta

- Supporting Rhythm Activities of Deaf Children using Music-Sensory-Substitution Systems  
  Benjamin Petry, Thavishi Illandara, Don Samitha Elvitigala, Suranga Nanayakkara

**517D Papers: Learning 2**

**CHAIR: LISA ANTHONY**

- ConceptScape: Collaborative Concept Mapping for Video Learning  
  Ching Liu, Juho Kim, Hao-Chuan Wang

- Collaborative Live Media Curation: Shared Context for Participation in Online Learning  
  William A. Hamilton, Nic Lupfer, Nicolas Botello, Tyler Tesch, Alex Stacy, Jeremy Merrill, Blake Williford, Frank R. Bentley, Andruid Kerne

- Where is Community Among Online Learners? Identity, Efficacy and Personal Ties  
  Na Sun, Mary Beth Rosson, John M. Carroll

- Evaluating CoBlox: A Comparative Study of Robotics Programming Environments for Adult Novices  
  David Weintrop, Afsoon Afzal, Jean Salac, Patrick Francis, Boyang Li, David C. Shepherd, Diana Franklin

**518A Papers: Talk to Me; Text Me**

**CHAIR: EDUARDO VELLOSO**

- EDITalk: Towards Designing Eyes-free Interactions for Mobile Word Processing  
  Debiyoti Ghosh, Pin Sym Foong, Shengdong Zhao, Di Chen, Morten Fjeld

  Emre Aksan, Fabrizio Pecce, Otmar Hilliges

- Patterns for How Users Overcome Obstacles in Voice User Interfaces  
  Chelsea Myers, Anushay Furgan, Jessica Nebolsky, Karina Caro, Jichen Zhu

**518B Papers: Privacy Behaviours**

**CHAIR: MARSHINI CHETTY**

- Examining the Demand for Spam: Who Clicks?  
  Elissa M. Redmiles, Neha Chachra, Brian Waismeyer

- Increasing User Attention with a Comic-based Policy  
  Madiha Tabassum, Abdulmajeed Alqhatani, Marran Aldossari, Heather Richter Lipford

- Who Provides Phishing Training? Facts, Stories, and People Like Me  
  Rick Wash, Molly M. Cooper

- X-Ray Refine: Supporting the Exploration and Refinement of Information Exposure Resulting from Smartphone Apps  
  Max Van Klee, Reuben Binns, Jun Zhao, Adam Slack, Souyan Lee, Dean Ottewell, Nigel Shadbolt

**519A Papers: Personal Health**

**CHAIR: EDWARD JAY WANG**

- Understanding the Mundane Nature of Self-care: Ethnographic Accounts of People Living with Parkinson’s  
  Francisco Nunes, Geraldine Fitzpatrick

- Designing for Diabetes Decision Support Systems with Fluid Contextual Reasoning  
  Dmitri S. Katz, Blaine A. Price, Simon Holland, Nicholas Sheep Dalton

  “Protection on that Erection?”: Discourses of Accountability & Compromising Participation in Digital Sexual Health  
  Matthew Wood, Andrew Garbett, Kellie Morrissey, Peter Hopkins, Madeline Balaam

- Drunk User Interfaces: Determining Blood Alcohol Level through Everyday Smartphone Tasks  
  Alex Mariakakis, Sayna Parsi, Shwetak N. Patel, Jacob O. Wobbrock
521ABC Papers: Self Presentation & Identity
CHAIR: NAZANIN ANDALIBI

How People Form Folk Theories of Social Media Feeds and What it Means for How We Study Self-Presentation
Michael A. DeVito, Jeremy Birnholtz, Jeffrey T. Hancock, Megan French, Sunny Liu

Understanding Identity Presentation in Medical Crowdfunding
Jennifer G. Kim, Hwajung Hong, Karrie Karahalios

Values, Identity, and Social Translucence: Neurodiverse Student Teams in Higher Education
Annuska Zolyomi, Anne Spencer Ross, Arpita Bhattacharya, Lauren Milne, Sean A. Munson

Analyzing the Effect of Avatar Self-Similarity on Men and Women in a Search and Rescue Game
Helen Wauck, Gale Lucas, Ari Shapiro, Andrew Feng, Jill Boberg, Jonathan Gratch

522AB Course (C19): Automation: Danger or Opportunity? (1/2)
Automation: Danger or Opportunity? Designing and Assessing Automation for Interactive Systems
Philippe Palanque, Célia Martinie, Camille Fayollas

524A Course (C20): Designing with the Mind in Mind (1/2)
Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines
Jeff A. Johnson

524C Course (C22): Gesture User Interfaces (1/2)
Designing, Engineering, and Evaluating Gesture User Interfaces
Jean Vanderdonckt, Radu-Daniel Vatavu

Art Exhibit: Live Coding YouTube, Sang Won Lee (stage)
Late-Breaking Work Posters Rotation 2 List on page 82
Art Exhibitions (VR Lounge) List on page 89
Exhibit Hall/220BC Exhibit Hall/220BC Exhibit Hall/220BC

15:20 – 16:00 Coffee Break Exhibit Hall/220BC
513AB Papers: Peers, Social Support, and Caregivers
CHAIR: KELLIE MORRISSEY

Norms Matter: Contrasting Social Support Around Behavior Change in Online Weight Loss Communities
Stevie Chancellor, Andrea Hu, Munmun De Choudhury

“Suddenly, We Got to Become Therapists for Each Other”: Designing Peer Support Chats for Mental Health
Kathleen O'Leary, Stephen M. Schueller, Jacob O. Wobbrock, Wanda Pratt

Crowdsourcing Exercise Plans Aligned with Expert Guidelines and Everyday Constraints
Elena Agapie, Bonnie Chinh, Laura R. Pina, Diana Oviedo, Molly C. Welsh, Gary Hsieh, Sean Munson

Harvesting Caregiving Knowledge: Design Considerations for Integrating Volunteer Input in Dementia Care
Pin Sym Foong, Shengdong Zhao, Felicia Tan, Joseph Jay Williams

514A SIG: Transparency and Openness Guidelines for HCI Research

Transparency and Openness Promotion Guidelines for HCI
Lewis Chuang, Ulrike Pfeil

514B SIG: Redefining Natural User Interface

Redefining Natural User Interface
Limin Paul Fu, James Landay, Michael Nebeling, Yingqing Xu, Chen Zhao

515ABC Papers: Grassroots Movements and Peer Production
CHAIR: ANDREEA DANIELESCU

Everybody’s Hacking: Participation and the Mainstreaming of Hackathons
Nick Taylor, Lorraine Clarke

Food Democracy in the Making: Designing with Local Food Networks
Sebastian Prost, Clara Crivellaro, Andy Haddon, Rob Comber

Facebook in Venezuela: Understanding Solidarity Economies in Low-Trust Environments
Hayley J. Evans, Marisol Wong-Villacres, Daniel Castro, Eric Gilbert, Rosa I. Arriaga, Michaelanne M. Dye, Amy Bruckman

Conversations in the Eye of the Storm: At-Scale Features of Conversational Structure in a High-Tempo, High-Stakes Microblogging Environment
Marina Kogan, Leysia Palen

516AB Papers: Design Tools and Evaluation
CHAIR: RINA R. WEHBE

Emotional Dialogue Generation Using Image-Grounded Language Models
Bernd Huber, Daniel McDuff, Chris Brockett, Michel Galley, Bill Dolan

Remediating a Design Tool: Implications of Digitizing Sticky Notes
Mads Møller Jensen, Roman Rädle, Clemens N. Klokmose, Susanne Bodker

Charrette: Supporting In-Person Discussions around Iterations in User Interface Design
Jasper O’Leary, Holger Winnemöller, Wilmot Li, Mira Doncheva, Morgan Dixon

Forte: User-Driven Generative Design
Xiang ‘Anthony’ Chen, Ye Tao, Guanyun Wang, Runchang Kang Kang, Tovi Grossman, Stelian Coros, Scott E. Hudson

516C Papers: Dealing with Emerging Technologies
CHAIR: JESSICA R. CAUCHARD

My Telepresence, My Culture? An Intercultural Investigation of Telepresence Robot Operators’ Interpersonal Distance Behaviors
Solace Shen, Hamish Tennent, Houston Claure, Malte Jung

Is it Happy? Behavioural and Narrative Frame Complexity Impact Perceptions of a Simple Furry Robot’s Emotions
Paul Bucci, Lotus Zhang, Xi Laura Cang, Karon E. MacLean

Knowing You, Seeing Me: Investigating User Preferences in Drone-Human Acknowledgement
Walther Jensen, Simon Hansen, Hendrik Knoche

What’s at Stake: Characterizing Risk Perceptions of Emerging Technologies
Michael Warren Skirpan, Tom Yeh, Casey Fiesler

516D Papers: Information Search, Managing Overload
CHAIR: ANDRUID KERNE

BIGFile: Bayesian Information Gain for Fast File Retrieval
Wanya Liu, Olivier Rioul, Joanna McGrenere, Wendy Mackay, Michel Beaudouin-Lafon

Bento Browser: Complex Mobile Search Without Tabs
Nathan Hahn, Joseph Chee Chang, Aniket Kittur

Dealing With Information Overload in Multifaceted Personal Informatics Systems
Simon Jones, Ryan M. Kelly

Change Blindness in Proximity-Aware Mobile Interfaces
Michael Brock, Aaron Quigley, Per Ola Kristensson
516E Papers: The Personal and The Self
CHAIR: MARTIN PORCHERON

Personal Informatics, Self-Insight, and Behavior Change: A Critical Review of Current Literature
Elisabeth T. Kersten - van Dijk, Joyce H.D.M. Westerink, Femke Beute, Wijnand A. Jsselsteijn

Know Thyself: A Theory of the Self for Personal Informatics
Amon Rapp, Maurizio Tirassa

Evolving the Ecosystem of Personal Behavioral Data
Jason Wiese, Sauvik Das, Jason I. Hong, John Zimmerman

Lived Data: Tinkering With Bodies, Code, and Care Work
Elizabeth Kaziunas, Silvia Lindtner, Mark S. Ackerman, Joyce M. Lee

517C Papers: Haptic Wearables
CHAIR: ANDREA BIANCHI

HapCube: A Wearable Tactile Device to Provide Tangential and Normal Pseudo-Force Feedback on a Fingertip
Hwan Kim, HyeonBeom Yi, Hyein Lee, Woohun Lee

Jetto: Using Lateral Force Feedback for Smartwatch Interactions
Jun Gong, Da-Yuan Huang, Teddy Seyed, Te Lin, Tao Hou, Xiu Liu, Molin Yang, Boyu Yang, Yuhun Zhang, Xing-Dong Yang

PokeRing: Notifications by Poking Around the Finger
Seungwoo Je, Minkyeong Lee, Yoonji Kim, Liwei Chan, Xing-Dong Yang, Andrea Bianchi

Exploring Multimodal Watch-back Tactile Display using Wind and Vibration
Youngbo Aram Shim, Jaeyeon Lee, Geehyuk Lee

517A Papers: Provoking Design
CHAIR: WILLIAM ODOM

Imaginary Design Workbooks: Constructive Criticism and Practical Provocation
Mark Blythe, Enrique Encinas, Jofish Kaye, Miriam Lueck Avery, Rob McCabe, Kristina Andersen

Philosophers Living with the Tilting Bowl
Ron Wakkary, Doenja Oogjes, Henry W.J. Lin, Sabrina Hauser

Intermodulation: Improvisation and Art Practice for HCI
Laewoo (Leo) Kang, Steven J. Jackson, Phoebe Sengers

From Scanning Brains to Reading Minds: Talking to Engineers about Brain-Computer Interface
Nick Merrill, John Chuang

517D Papers: Designing to Empower
CHAIR: MIRKO GELSOMINI

From Research to Practice: Informing the Design of Autism Support Smart Technology
Moushumi Sharmin, Md Monsr Hussain, Abir Saha, Maitraye Das, Margot Maxwell, Shameem Ahmed

Design Opportunities for AAC and Children with Severe Speech and Physical Impairments
Seray B. Ibrahim, Asimina Vasilou, Michael Clarke

StammerApp: Designing a Mobile Application to Support Self-Reflection and Goal Setting for People Who Stammer
Roisin McNaney, Christopher Bull, Lynne Mackie, Floriane Dahman, Helen Stringer, Dan Richardson, Daniel Welsh

517B Papers: Research Methods
CHAIR: ANDREW DUCHOWSKI

Beyond the Libet Clock: Modality Variants for Agency Measurements
Patricia I. Cornelo Martinez, Emanuela Maggioni, Kasper Hornbæk, Marianna Obrist, Sriram Subramanian

Your Eyes Tell: Leveraging Smooth Pursuit for Assessing Cognitive Workload
Thomas Kosch, Mariam Hassib, Pawel W. Woźniak, Daniel Buschek, Florian Alt

HARK No More: On the Preregistration of CHI Experiments
Andy Cockburn, Carl Gutwin, Alan Dix

Evaluation Strategies for HCI Toolkit Research
David Ledo, Steven Houben, Jo Vermeulen, Nicolai Morquardt, Lora Oehlberg, Saul Greenberg

518AB Papers: Privacy, Passwords and Authentication
CHAIR: MOHAMED KHAMIS

Leveraging Semantic Transformation to Investigate Password Habits and Their Causes
Ameya Hanamsagar, Simon S. Woo, Chris Kanich, Jelena Mrkovic

Influences of Human Cognition and Visual Behavior on Password Strength During Picture Password Composition
Christina Katsini, Christos Fidas, George Raptis, Marias Belk, George Samaras, Nikolaos Avouris

Evaluating Attack and Defense Strategies for Smartphone PIN Shoulder Surfing
Hassan Khan, Urs Hengartner, Daniel Vogel

“It’s not actually that horrible”: Exploring Adoption of Two-Factor Authentication at a University
Jessica Colnago, Summer Devlin, Maggie Oates, Chelsea Swoopes, Lujo Bauer, Lorrie Cranor, Nicolas Christin
**518C Papers: Sound & Music**
CHAIR: SARAH FDILI ALAOUI

LoopMaker: Automatic Creation of Music Loops from Pre-recorded Music
Zhengshan Shi, Gautham J. Mysore

Investigating Perceptual Congruence Between Data and Display Dimensions in Sonification
Jamie Ferguson, Stephen A. Brewster

Gaze-contingent Auditory Displays for Improved Spatial Attention in Virtual Reality
Margarita Vinnikov, Robert S. Allison, Suzette Fernandes

“I Hear You”: Understanding Awareness Information Exchange in an Audio-only Workspace
Oussama Metatla, Nick Bryan-Kinns, Tony Stockman

**519AB Papers: Touch, Pen, and Mice**
CHAIR: SAYAN SARCAR

Pentelligence: Combining Pen Tip Motion and Writing Sounds for Handwritten Digit Recognition
Maximilian Schrapel, Max-Ludwig Stadler, Michael Rohs

Introducing Transient Gestures to Improve Pan and Zoom on Touch Surfaces
Jeff Avery, Sylvain Malacria, Mathieu Nancel, Géry Casiez, Edward Lank

Using High Frequency Accelerometer and Mouse to Compensate for End-to-end Latency in Indirect Interaction
Axel Antoine, Sylvain Malacria, Géry Casiez

Pulp Nonfiction: Low-Cost Touch Tracking for Paper
Yang Zhang, Chris Harrison

**520 Panel: Extending Conversations about Gender and HCI**

Panel: Extending Conversations about Gender and HCI
Sheelagh Carpendale, Shaowen Bardzell, Margaret Burnett, Neha Kumar, Madeline Balaam

**521ABC Papers: Perception in Visualization 1**
CHAIR: PARINYA PUNPONGSANSON

Somewhere Over the Rainbow: An Empirical Assessment of Quantitative Colormaps
Yang Liu, Jeffrey Heer

Graphical Perception of Continuous Quantitative Maps: the Effects of Spatial Frequency and Colormap Design
Khairy Reda, Pratik Nalawade, Kate Ansah-Koi

Value-Suppressing Uncertainty Palettes
Michael Correll, Dominik Moritz, Jeffrey Heer

Animated Edge Textures in Node-Link Diagrams: A Design Space and Initial Evaluation
Hugo Romat, Caroline Appert, Benjamin Bach, Nathalie Henry Riche, Emmanuel Pietriga

**522AB Course (C19): Automation: Danger or Opportunity? (2/2)**

Automation: Danger or Opportunity? Designing and Assessing Automation for Interactive Systems
Philippe Palanque, Célia Martinie, Camille Foyellas

**524A Course (C20): Designing with the Mind in Mind (2/2)**

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

**524C Course (C22): Gesture User Interfaces (2/2)**

Designing, Engineering, and Evaluating Gesture User Interfaces
Jean Vanderdonckt, Radu-Daniel Vatavu

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17:30 – 18:30 Video Showcase
List on page 74

19:00 – 22:00 Immersive Art Exhibition Reception Hosted at La SAT*
(*1201 St. Laurent Blvd., Montreal)
**514A SIG: Enhancing SIGCHI Membership Benefits**

SIG: Enhancing SIGCHI Membership Benefits  
*Regina Bernhaupt, Stefan Manojlovic, Victoria Sosik*

**514B SIG: Silent SIG: Reflection in Action at CHI**

Silent SIG: Reflection in Action at CHI  
*Vanessa Thomas, Manu J. Brueggemann, Ding Wang, Laura S. Gaytán-Lugo, Nicola J. Bidwell*

**515ABC Papers: Personal Tracking**

CHAIR: FRANCISCO NUNES

Supporting Meaningful Personal Fitness: The Tracker Goal Evolution Model  
*Jasmin Niess, Paweł W. Woźniak*

Flexible and Mindful Self-Tracking: Design Implications from Paper Bullet Journals  
*Amid Ayobi, Tobias Sonne, Paul Marshall, Anna L. Cox*

ThinkActive: Designing for Pseudonymous Activity Tracking in the Classroom  
*Andrew Garbett, David Chatting, Gerard Wilkinson, Clement Lee, Ahmed Kharrufa*

Activity Tracking in vivo  
*Rüben Gouveia, Evangelos Karapanos, Marc Hassenzahl*

**516D alt.chi: Who Do You Think You Are?**

CHAIR: JOEL FISCHER

The Politics of Titling: The Representation of Studied Countries in CHI Papers  
*Yubo Kou, Colin Gray, Austin L. Toombs, Bonnie Nardi*

What’s at Issue: Sex, Stigma, and Politics in ACM Publishing  
*Alex A. Ahmed, Teresa Almeida, Judeth O. Choi, Jon Pincus, Kelly Ireland*

#CHIversity: Implications for Equity, Diversity, and Inclusion Campaigns  
*Angelika Strohmayer, Rosanna Bellini, Janis Lena Meissner, Sam Mitchell Finnigan, Ebtisam Alabdulqader, Austin L. Toombs, Madeleine Balaam*

Open Source, Open Science, and the Replication Crisis in HCI  
*Florian Echtler, Maximilian Haeussler*

**516E Papers: Crowdsourcing, Data Mining, Dealing with Information**

CHAIR: KURT LUTHER

Bolt: Instantaneous Crowdsourcing via Just-in-Time Training  
*Alan Lundgard, Yiwei Yang, Maya L. Foster, Walter S. Lasecki*

Evorus: A Crowd-powered Conversational Assistant Built to Automate Itself Over Time  
*Ting-Hao (Kenneth) Huang, Joseph Chee Chang, Jeffrey P. Bigham*

Surprise Me If You Can: Serendipity in Health Information  
*Xī Nīu, Fakhri Abbas, Mary Lou Maher, Kazjon Grace*

RecipeScape: An Interactive Tool for Analyzing Cooking Instructions at Scale  
*Mirisuk Chang, Leonore V. Guillain, Hyeunghishik Jung, Vivian M. Hare, Juho Kim, Maneesh Agrawala*

**516B Papers: Tangible**

CHAIR: RONG-HAO LIANG

Tangible Landscape: A Hands-on Method for Teaching Terrain Analysis  
*Garrett C. Millar, Payam Tabrizian, Anna Petrasova, Vaclav Petras, Brendan Harmon, Helena Mitasova, Ross K. Meetenmeyer*

Keppi: A Tangible User Interface for Self-Reporting Pain  
*Alexander T. Adams, Elizabeth L. Murnane, Phil Adams, Michael Eifenbein, Pamara F. Chang, Shruti Sannon, Geri Gay, Tanzeem Choudhury*

Reactile: Programming Swarm User Interfaces through Direct Physical Manipulation  
*Ryo Suzuki, Jun Kato, Mark Gross, Tom Yeh*

Ohmic-Touch: Extending Touch Interaction by Indirect Touch through Resistive Objects  
*Kaori Ikematsu, Itiro Siio*

**517A Papers: Accessible Images and Photos**

CHAIR: REBECCA QUINTANA

Caption Crawler: Enabling Reusable Alternative Text Descriptions using Reverse Image Search  
*Darren Guinness, Edward Cutrell, Meredith Morris*

A Face Recognition Application for People with Visual Impairments: Understanding Use Beyond the Lab  
*Yuhang Zhao, Shaomei Wu, Lindsay Reynolds, Shiri Azenkov*

How Teens with Visual Impairments Take, Edit, and Share Photos on Social Media  
*Cynthia L. Bennett, Jane E, Martez E. Mott, Edward Cutrell, Meredith Ringel Morris*

Understanding the Accessibility of Smartphone Photography for People with Motor Impairments  
*Martez E. Mott, Jane E, Cynthia L. Bennett, Edward Cutrell, Meredith Morris*
**517B Papers: Designing and Creating Visualizations**

**CHAIR: BENJAMIN BACH**

- *InfoNice: Easy Creation of Information Graphics*
  *Yun Wang, Haidong Zhang, He Huang, Xi Chen, Qifeng Yin, Zhitao Hou, Dongmei Zhang, Qiong Luo, Huamin Qu*

- *DataLink: Direct and Creative Data-Oriented Drawing*
  *Haijun Xia, Nathalie Henry Riche, Fanny Chevalier, Bruno De Araujo, Daniel Wigdor*

- *Data Illustrator: Augmenting Vector Design Tools with Lazy Data Binding for Expressive Visualization Authoring*
  *Zhicheng Liu, John Thompson, Alan Wilson, Mira Dontcheva, James Delorey, Sam Grigg, Bernard Kerr, John Stasko*

- *Considering Agency and Data Granularity in the Design of Visualization Tools*
  *Gonzalo Gabriel Méndez, Miguel A. Nacenta, Uta Hinrichs*

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**517C Papers: Input: Targets and Selection**

**CHAIR: AAKAR GUPTA**

- *Understanding the Uncertainty in 1D Unidirectional Moving Target Selection*
  *Jin Huang, Feng Tian, Xiangmin Fan, Xiaolong (Luke) Zhang, Shumin Zhai*

- *Pinpointing: Precise Head- and Eye-Based Target Selection for Augmented Reality*
  *Mikko Kytö, Barrett Ens, Thammatip Piumsomboon, Gun A. Lee, Mark Billinghurst*

- *Rolling-Menu: Rapid Command Selection in Toolbars Using Roll Gestures with a Multi-DoF Mouse*
  *Emmanuel Dubois, Marcos Serrano, Mathieu Raynal*

- *Point-and-Shake: Selecting from Levitating Object Displays*
  *Euan Freeman, Julie Williamson, Sriram Subramanian, Stephen Brewster*

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**517D Papers: Online Communities**

**CHAIR: BRYAN DOSONO**

- *A Multi-site Investigation of Community Awareness Through Passive Location Sharing*
  *Emily Sun, Mor Naaman*

- *Pseudonymous Parents: Comparing Parenting Roles and Identities on the Mommit and Daddit Subreddits*
  *Tawfiq Ammari, Sarita Schoenebeck, Daniel M. Romero*

- *Revisiting “The Rise and Decline” in a Population of Peer Production Projects*
  *Nathan TeBlunthuis, Aaron Shaw, Benjamin Mako Hill*

- *Examining Wikipedia With a Broader Lens: Quantifying the Value of Wikipedia’s Relationships with Other Large-Scale Online Communities*
  *Nicholas Vincent, Isaac Johnson, Brent Hecht*

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**518A Papers: Crowd & Community**

**CHAIR: EIAD YAFI**

- *Content is King, Leadership Lags: Effects of Prior Experience on Newcomer Retention and Productivity in Online Production Groups*
  *Raghav Pavan Karumur, Bowen Yu, Haiyi Zhu, Joseph A. Konstan*

- *Measuring, Understanding, and Classifying News Media Sympathy on Twitter after Crisis Events*
  *Abdallah El Ali, Tim C. Stratmann, Souneil Park, Johannes Schöning, Wilko Heuten, Susanne C.J. Boll*

- *Social Influence and Reciprocity in Online Gift Giving*
  *René F. Kizilcec, Eytan Bakshy, Dean Eckles, Moira Burke*

- *Crowdsourcing vs Laboratory-Style Social Acceptability Studies? Examining the Social Acceptability of Spatial User Interactions for Head-Worn Displays*
  *Fouad Alallah, Ali Neshati, Nima Sheibani, Yumiko Sakamoto, Andrea Bunt, Pourang Irani, Khalad Hasan*

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**518B Papers: Public, Large, and Shared Displays**

**CHAIR: RINA R. WEHBE**

- *Pointing at a Distance with Everyday Smart Devices*
  *Shaishav Siddhpuria, Sylvain Molacico, Mathieu Nancel, Edward Lank*

- *Which one is me? Identifying Oneself on Public Displays*
  *Mohamed Khamis, Christian Becker, Andreas Bulling, Florian Ait*

- *Tangible Awareness: How Tangibles on Tabletops Influence Awareness of Each Other’s Actions*
  *Christian Cherek, Anke Brocker, Simon Voelker, Jan Barchers*

- *Multiray: Multi-Finger Raycasting for Large Displays*
  *Fabrice Matulic, Daniel Vogel*

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**519A Papers: News Consumption, Journalism and Storytelling**

**CHAIR: ANTTI SALOVAARA**

- *Making the News: Digital Creativity Support for Journalists*
  *Neil Maiden, Konstantinos Zachos, Amanda Brown, George Brock, Lars Nyre, Aleksander Nygård Tonheim, Dimitris Apstolou, Jeremy Evans*

- *El Paquete Semanal: The Week’s Internet in Havana*
  *Michaelanne Dye, David Nemer, Josiah Mangiameli, Amy S. Bruckman, Neha Kumar*

- *Rethinking Engagement with Online News through Social and Visual Co-Annotation*
  *Gavin Wood, Kiel Long, Tom Feltham, Scarlett Rowland, Phillip Broker, Jamie Mahoney, John Vines, Julie Barnett, Shaun Lawson*

- *P2PSTORY: Dataset of Children as Storytellers and Listeners in Peer-to-Peer Interactions*
  *Nikhita Singh, Jin Joo Lee, Ishaan Grover, Cynthia Breazeal*
520 Panel: The Algorithm and the User

The Algorithm and the User: How Can HCI Use Lay Understandings of Algorithmic Systems?
Michael A. DeVito, Jeffrey T. Hancock, Megan French, Jeremy Birnholtz, Judd Antin, Karrie Karahalios, Stephanie Tong, Irina Shklovski

521ABC Papers: Interaction in the Large (Environment)

CHAIR: NICHOLAS SHEEP DALTON

Wall++: Room-Scale Interactive and Context-Aware Sensing
Yang Zhang, Chouchang Yang, Scott E. Hudson, Chris Harrison, Alanson Sample

Naoki Kimura, Jun Rekimoto

Deep Thermal Imaging: Proximate Material Type Recognition in the Wild through Deep Learning of Spatial Surface Temperature Patterns
Youngjun Cho, Nadia Bianchi-Berthouze, Nicolai Marquardt, Simon J. Julier

PolarTrack: Optical Outside-In Device Tracking that Exploits Display Polarization

522AB Course (C26): Computational Interaction (1/3)

Computational Interaction: Theory and Practice
John Williamson, Antti Oulasvirta, Otmar Hilliges, Per Ola Kristensson

524A Course (C24): Speech and Hands-free Interaction (1/2)

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

524B Course (C25): Gamification (1/3)

Gamification: Tools and Techniques for Motivating Users
Gustavo F. Tondello, Lennart E. Nacke

524C Course (C23): How Do We Measure That?! (1/3)

How Do We Measure That?!
Quick Scale Development
Norene Kelly

10:20 – 11:00
Coffee Break
Exhibit Hall/220BC
THURSDAY 11:00 – 12:20

513AB Papers: Virtual Reality 2

CHAIR: KENING ZHU

VirtualGrasp: Leveraging Experience of Interacting with Physical Objects to Facilitate Digital Object Retrieval
Yukang Yan, Chun Yu, Xiaojuan Ma, Xin Yi, Ke Sun, Yuanchun Shi

Communication Behavior in Embodied Virtual Reality
Harrison Jesse Smith, Michael Neff

The Effect of Offset Correction and Cursor on Mid-Air Pointing in Real and Virtual Environments
Sven Mayer, Valentin Schwind, Robin Schweigert, Niels Henze

Are You Dreaming? A Phenomenological Study on Understanding Lucid Dreams as a Tool for Introspection in Virtual Reality
Alexandra Kitson, Thecla Schiphorst, Bernhard E. Riecke

514A SIG: Child-Computer Interaction SIG: Ubiquity and Big Data

Child-Computer Interaction SIG: Ubiquity and Big Data - A Changing Technology Landscape for Children
Juan Pablo Hourcade, Anja Zeising, Ole Sejer Iversen, Mikael B. Skov, Alissa N. Antle, Lisa Anthony, Jerry Alan Fails, Greg Walsh

514C Case Studies: Awareness at Work

CHAIR: ELIZABETH BUJE

Technology-assisted Investigative Search: A Case Study from an Illicit Domain
Mayank Kejriwal, Pedro Szekely

Proactive Rescuework by Enhancing Situational Awareness: Modeling Resources, Services and People
Matti Luhtala, Santeri Saarinen, Laura Virki, Johanna Lappi-Ramula, Hans Hokka, Helen Tran, Matti Savolainen, Ilkka Heinonen, Juha Rajala, Maria Nevala

Mooqita: Empowering Hidden Talents with a Novel Work-Learn Model
Markus Krause, Doris Schioeberg, Jan David Smeddinck

Measuring Response Rate and Increasing Satisfaction in Innovative Environments: The Impact of Feedback
Lanen J. Vaughn, Michael J. Bortnick, John Corey, Vince R. Orgovan, Joseph Munko

515ABC Papers: Crowdsourcing/Crowdwork

CHAIR: BENJAMIN V. HANRAHAN

A Data-Driven Analysis of Workers’ Earnings on Amazon Mechanical Turk
Kotaro Hara, Abigail Adams, Kristy Milland, Saiph Savage, Chris Callison-Burch, Jeffrey P. Bigham

BSpeak: An Accessible Voice-based Crowdsourcing Marketplace for Low-Income Blind People
Aditya Vashistha, Pooya Sethi, Richard Anderson

Crowdsourcing Rural Network Maintenance and Repair via Network Messaging
Esther Jang, Mary Claire Barela, Matt Johnson, Philip Martinez, Cedric Festin, Margaret Lynn, Josephine Dionisio, Kurtis Heimerl

The Role of Gamification in Participatory Environmental Sensing: A Study In the Wild
Maria V. Palacin-Silva, Aniti Knutas, Maria Angela Ferrario, Jari Porras, Jouini ikonen, Chandara Chea

516AB Papers: Beyond the Screen

CHAIR: SCOTT BATEMAN

Bots & (Main)Frames: Exploring the Impact of Tangible Blocks and Collaborative Play in an Educational Programming Game
Edward F. Melcer, Katherine Isbister

Inpher: Inferring Physical Properties of Virtual Objects from Mid-Air Interaction
Søren Qvist Jensen, Andreas Fender, Jörg Müller

Playing close to home: Interaction and Emerging Play in Outdoor Play Installations
Jon Back, Susan Paget, Eva-Lotta Sallnäs Pysander, Loa Turmo Vidal, Annika Waern

BreathVR: Leveraging Breathing as a Directly Controlled Interface for Virtual Reality Games
Misha Sra, Xuhui Xu, Pattie Maes

516C Papers: Shape Changing

CHAIR: MIRIAM STURDEE

Morphees+: Studying Everyday Reconfigurable Objects for the Design and Taxonomy of Reconfigurable UIs
Hyunyoung Kim, Celine Coutrix, Anne Roudaut

HCI meets Material Science: A Literature Review of Morphing Materials for the Design of Shape-Changing Interfaces
Isabel P. S. Qamar, Rainer Groh, David Holman, Anne Roudaut

Grand Challenges in Shape-Changing Interface Research
Jason Alexander, Anne Roudaut, Jürgen Steimle, Kasper Hornbæk, Miguel Bruns Alonso, Sean Follmer, Timothy R. Merritt

shapeShift: 2D Spatial Manipulation and Self-Actuation of Tabletop Shape Displays for Tangible and Haptic Interaction
Alexa F. Siu, Eric J. Gonzalez, Shenli Yuan, Jason B. Ginsberg, Sean Follmer

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516D Papers: Force Feedback in VR

CHAIR: PEDRO LOPES

Flotation Simulation in a Cable-driven Virtual Environment – A Study with Parasailing  
HyeongYeop Kang, GeonSoo Lee, Seongsu Kwon, Ohung Kwon, Seonggil Kim, Junghyun Han

Thor’s Hammer: An Ungrounded Force Feedback Device Utilizing Propeller-Induced Propulsive Force  
Seongkook Heo, Christina Chung, Geehyuk Lee, Daniel Wigdor

Haptic Links: Bimanual Haptics for Virtual Reality Using Variable Stiffness Actuation  
Evan Strasnick, Christian Holz, Eyal Ofek, Mike Sinclair, Hrvoje Benko

Substituting Motion Effects with Vibrotactile Effects for 4D Experiences  
Jongman Seo, Sunung Mun, Jaebong Lee, Seungmoon Choi

516E Papers: Body Gestures and Body Displays

CHAIR: LUIS A. LEIVA

Better Understanding of Foot Gestures: An Elicitation Study  
Yasmin Felberbaum, Joel Lanir

Controlling Maximal Voluntary Contraction of the Upper Limb Muscles by Facial Electrical Stimulation  
Arinobu Niijima, Takashi Iszaki, Ryosuke Aoki, Tomoki Watanabe, Tomohiro Yamada

Modeling Perceived Screen Resolution Based on Position and Orientation of Wrist-Worn Devices  
Frederic Kerber, Michael Mauderer, Antonio Krüger

LumiWatch: On-Arm Projected Graphics and Touch Input  
Robert Xiao, Teng Cao, Ning Guo, Jun Zhuo, Yang Zhang, Chris Harrison

516F Papers: Communication and Discourse

CHAIR: CHRIS ELSDEN

Confronting Social Criticisms: Challenges when Adopting Data-Driven Policing Strategies  
Nitya Verma, Lynn Dombrowski

Multidimensional Risk Communication: Public Discourse on Risks During an Emerging Epidemic  
Xinning Gui, Yubo Kou, Kathleen Pine, Elisa Ladaw, Harold Kim, Eli Suzuki-Gill, Yunan Chen

Fostering Commonfare. Infrastructuring Autonomous Social Collaboration  
Peter Lyle, Maria Cristina Scionnambo, Maurizio Teli

Conceptualizing Disagreement in Qualitative Coding  
Himanshu Zade, Margaret Drouhard, Bonnie Chinh, Lu Gan, Cecilia Aragon

516G Papers: Fabrication & Embedding 2

CHAIR: THIJS JAN ROUMEN

Printed Paper Actuator: A Low-cost Reversible Actuation and Sensing Method for Shape Changing Interfaces  
Guanyun Wang, Tingyu Cheng, Youngwook Do, Humphrey Yang, Ye Tao, Jianzhe Gu, Byoungwon An, Lining Yao

Off-Line Sensing: Memorizing Interactions in Passive 3D-Printed Objects  
Martin Schmitz, Martin Herbers, Niloofar Dezfuli, Sebastian Günther, Max Mühlhäuser

Silicone Devices: A Scalable DIY Approach for Fabricating Self-Contained Multi-Layered Soft Circuits using Microfluidics  
Steven Nagels, Rof Ramakers, Kris Luynen, Wim Deferme

RoMA: Interactive Fabrication with Augmented Reality and a Robotic 3D Printer  

517A Papers: Programming 2

CHAIR: MICHAEL NEBELING

The Story in the Notebook: Exploratory Data Science using a Literate Programming Tool  
Mary Beth Kery, Marissa Radensky, Mahima Arya, Bonnie E. John, Brad A. Myers

Iris: A Conversational Agent for Complex Tasks  
Ethan Fast, Binbin Chen, Julia Mendelsohn, Jonathan Bassen, Michael S. Bernstein

Mercury: A Messaging Framework for Modular UI Components  
Carmine Elvezio, Mengu Sukan, Steven Feiner

Exploration and Explanation in Computational Notebooks  
Adam Rule, Aurelien Tabard, James D. Hollan

517B Papers: Geography and Location

CHAIR: JEAN HARDY

Spokespeople: Exploring Routes to Action through Citizen-Generated Data  
Thomas Maskell, Clara Crivellaro, Robert Anderson, Tom Nappey, Vera Araujo-Soares, Kyle Montague

Distance and Attraction: Gravity Models for Geographic Content Production  
Jacob Thebault-Spieker, Aaron Halfaker, Loren G. Terveen, Brent Hecht

Defining and Predicting the Localness of Volunteered Geographic Information using Ground Truth Data  
Ankit Kariryaa, Isaac Johnson, Johannes Schöning, Brent Hecht

Bottom-Up Imaginaries: The Cultural-Technical Practice of Inventing Regional Advantage through IT R&D  
Guo Freeman, Shaowen Bardzell, Jeffrey Bardzell
THURSDAY 11:00 – 12:20

518AB Papers: Interruptions
CHAIR: ROEL VERTEGAAL

- Sensing Interruptibility in the Office: A Field Study on the Use of Biometric and Computer Interaction Sensors
  Manuela Züger, Sebastian C. Müller, André N. Meyer, Thomas Fritz

- Use the Right Sound for the Right Job: Verbal Commands and Auditory Icons for a Task-Management System
  Favor Different Information Processes in the Brain
  Christiane Glatz, Stas S. Krupenya, Heinrich H. Bülthoff, Lewis L. Chuang

- Disorder or Driver?: The Effects of Nomophobia on Work-Related Outcomes in Organizations
  Guan Wang, Ayoung Suh

- Effects of Individual Differences in Blocking Workplace Distractions
  Gloria Mark, Mary Czerwinski, Shamsi T. Iqbal

518C Papers: Designing Care
CHAIR: AMANDA LAZAR

- Exploring the Value of Parent Tracked Baby Data in Interactions with Healthcare Professionals: A Data-enabled Design Exploration
  Janne van Kollenburg, Sander Bogers, Heleen Rutjes, Eva Decker, Joep Frens, Caroline Hummels

- Ticket to Talk: Supporting Conversation between Young People and People with Dementia through Digital Media
  Daniel Welsh, Kellie Morrissey, Sarah Foley, Roisin McNaney, Christos Sals, John McCarthy, John Vines

- Designing and Evaluating mHealth Interventions for Vulnerable Populations: A Systematic Review
  Elizabeth Stowell, Mercedes C. Lyson, Herman Saksono, Renée C. Wurth, Holly Jimison, Misha Pavel, Andrea G. Parker

- Inspiring AWE: Transforming Clinic Waiting Rooms into Informal Learning Environments with Active Waiting Education
  Zeina Atrash Leong, Michael S. Horn, Lisa Thaniel, Emily Meier

519AB Papers: Perception in Visualization 2
CHAIR: FANNY CHEVALIER

- Using Animation to Alleviate Overdraw in Multiclass Scatterplot Matrices
  Helen Chen, Sophie Engele, Alark Joshi, Eric D. Ragan, Beste F. Yuksel, Lane Harrison

- Experiential Augmentation: Uncovering The Meaning of Qualitative Visualizations when Applied to Augmented Objects
  Dixon Lo, Dan Lockton, Stacie Rohrbach

- A Trip to the Moon: Personalized Animated Movies for Self-reflection
  Fengjiao Peng, Veronica Crista LaBelle, Emily Christen Yue, Rosalind W. Picard

- An Eye For Design: Gaze Visualizations for Remote Collaborative Work
  Sarah D’Angelo, Darren Gergle

521ABC Papers: New Perspectives on Sustainability
CHAIR: EUNJEONG CHEON

- Seeing What Is and What Can Be: On Sustainability, Respect for Work, and Design for Respect
  Eli Blevis

- Evaluation beyond Usability: Validating Sustainable HCI Research
  Christian Remy, Oliver Bates, Alan Dix, Vanessa Thomas, Mike Hazas, Adrian Friday, Elaine M. Huang

- This Changes Sustainable HCI
  Bran Knowles, Oliver Bates, Maria Häkansson

- ThermoKiosk: Investigating Roles for Digital Surveys of Thermal Experience in Workplace Comfort Management
  Adrian K. Clear, Samantha Mitchell Finnigan, Patrick Olivier, Rob Comber

522AB Course (C26): Computational Interaction (2/3)

- Computational Interaction: Theory and Practice
  John Williamson, Antti Oulasvirta, Otmar Hilliges, Per Ola Kristensson

524A Course (C24): Speech and Hands-free Interaction (2/2)

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

524B Course (C25): Gamification (2/3)

- Gamification: Tools and Techniques for Motivating Users
  Gustavo F. Tondello, Lennart E. Nacke

524C Course (C23): How Do We Measure That?!! (2/3)

- How Do We Measure That?!!
  Quick Scale Development
  Norene Kelly

12:20 – 14:00 Lunch Break
Restaurants, bars & cafés available nearby
513AB Papers: Video Communications

CHAIR: IGNACIO AVELLINO

Geocaching with a Beam: Shared Outdoor Activities through a Telepresence Robot with 360 Degree Viewing
Yasamin Heshmat, Brennan Jones, Xiaoxuan Xiong, Carman Neustaedter, Anthony Tang, Bernhard E. Riecke, Lillian Yang

The Benefits and Challenges of Video Calling for Emergency Situations
Carman Neustaedter, Brennan Jones, Kenton O’Hara, Abigail Sellen

Perspective on and Re-orientation of Physical Proxies in Object-Focused Remote Collaboration
Martin Feick, Terrance Mok, Anthony Tang, Lora Oehlberg, Ehud Sharlin

Mini-Me: An Adaptive Avatar for Mixed Reality Remote Collaboration
Thammathip Piumsomboon, Gun A. Lee, Jonathon D. Hart, Barrett Ens, Robert W. Lindeman, Bruce H. Thomas, Mark Billinghurst

514C Papers: On-Body Sensing

CHAIR: NADIA BERTHOUSE

Extending Keyboard Shortcuts with Arm and Wrist Rotation Gestures
Daniel Buschek, Bianka Roppe, Florian Alt

FingerPing: Recognizing Fine-grained Hand Poses using Active Acoustic On-body Sensing
Cheng Zhang, Qiuyue Xue, Anandghan Waghmore, Ruichen Meng, Sunmeet Jain, Yizeng Han, Xinyu Li, Kenneth Cunefare, Thomas Ploetz, Thad Starner, Omer Inan, Gregory D. Abowd

GestAKey: Touch Interaction on Individual Keycaps
Yilei Shi, Haimo Zhang, Hasitha Rajapakse, Nuwan Tharaka Perera, Tomás Vega Gálvez, Suranga Nanayakkara

What to Put on the User: Sensing Technologies for Studies and Physiology Aware Systems
Katrin Hänsel, Romina Paguntke, Hamed Haddadi, Akram Alomainy, Albrecht Schmidt

514B Papers: Typing & Touch 2

CHAIR: EUAN FREEMAN

Characterizing Finger Pitch and Roll Orientation During Atomic Touch Actions
Alix Goguey, Géry Casiez, Daniel Vogel, Carl Gutwin

KeyTime: Super-Accurate Prediction of Stroke Gesture Production Times
Luis A. Leiva, Daniel Martin-Albo, Réjean Plamondon, Radu-Daniel Vatavu

Fingers’ Range and Comfortable Area for One-Handed Smartphone Interaction Beyond the Touchscreen
Huy Viet Le, Sven Mayer, Patrick Bader, Niels Henze

Adding Force Feedback to Mixed Reality Experiences and Games using Electrical Muscle Stimulation
Pedro Lopes, Sijing You, Alexandra Ion, Patrick Baudisch

514A SIG: Designathon to Support Women in Tech

Designathon to Support Women in Tech
Karen Holtzblatt, Nicola Marsden

515ABC Papers: Worn, Spoken, Lived In

CHAIR: CHRISTIAN HOLZ

Voicesetting: Voice Authoring UIs for Improved Expressivity in Augmentative Communication
Alexander J. Fiannaco, Ann Paradiso, Jon Campbell, Meredith Morris

Breeze: Sharing Biofeedback Through Wearable Technologies
Jérémy Frey, May Grabli, Ronit Snyder, Jessica R. Cauchard

It’s a Wrap: Mapping On-Skin Input to Off-Skin Displays
Joanna Bergstrom-Lehtovirta, Kasper Hornbaek, Sebastian Boring

The Hide and Seek of Workspace: Towards Human-Centric Sustainable Architecture
Hamed S. Alavi, Himanshu Verma, Jakub Mlynar, Denis Lalanne

516AB Papers: Making Conversation

CHAIR: ROBIN BREWER

Intellingo: An Intelligible Translation Environment
Sven Coppens, Jan Van den Bergh, Kris Luymen, Karin Coninx, Jules van der Laak-Cuijlen, Tom Vanallemeersch, Vincent Vandeghinste

“Only If You use English You Will Get to More Things”: Using Smartphones to Navigate Multilingualism
Naveena Karusala, Aditya Vishwanath, Aditya Vashistha, Sunita Kumar, Neha Kumar

A Large Inclusive Study of Human Listening Rates
Danielle Bragg, Cynthia Bennett, Katharina Reinecke, Richard Ladner

Addressing Age-Related Bias in Sentiment Analysis
Mark Diaz, Isaac Johnson, Amanda Lazar, Anne Marie Piper, Darren Gergle
### 516C Papers: Activism & Politics

**CHAIR: CASEY FIESLER**

- **From Her Story, to Our Story: Digital Storytelling as Public Engagement around Abortion Rights Advocacy in Ireland**
  - *Lydia Michie, Madeline Balaam, John McCarthy, Timur Osadchiy, Kellie Morrissey*
- **Slacktivists or Activists?: Identity Work in the Virtual Disability March**
  - *Hanlin Li, Disha Bora, Sagar Salvi, Erin Brady*
- **Identity Work as Deliberation: AAPI Political Discourse in the 2016 US Presidential Election**
  - *Bryan Dosono, Bryan Semaan*
- **CivilServant: Community-Led Experiments in Platform Governance**
  - *J. Nathan Matias, Merry Mou*

### 516D Papers: Mobile Touchscreen Interactions

**CHAIR: CAROLINE APPERT**

- **A Large-Scale Study of iPhone App Launch Behaviour**
  - *Alistair Morrison, Xiaoyu Xiong, Matthew Higgins, Marek Bell, Matthew Chalmers*
- **M3 Gesture Menu: Design and Experimental Analyses of Marking Menus for Touchscreen Mobile Interaction**
  - *Jingjie Zheng, Xiaojun Bi, Kun Li, Yang Li, Shumin Zhai*
- **Analysis and Modeling of Grid Performance on Touchscreen Mobile Devices**
  - *Ken Pfeuffer, Yang Li*
- **In a New Land: Mobile Phones, Amplified Pressures and Reduced Capabilities**
  - *Lizzie Coles-Kemp, Rikke Bjerg Jensen, Reem Talhouk*

### 516E Papers: Politics, News and Foreign Language Media

**CHAIR: ABDALLAH EL ALI**

- **Complex Mediation in the Formation of Political Opinions**
  - *Yubo Kou, Bonnie Nardi*
- **Let's Hate Together: How People Share News in Messaging, Social, and Public Networks**
  - *Danielle Lottridge, Frank R. Bentley*
- **Engage Early, Correct More: How Journalists Participate in False Rumors Online during Crisis Events**
  - *Kate Starbird, Dharmak Dailey, Owla Mohamed, Gina Lee, Emma S. Spiro*
- **Beyond Translation: Design and Evaluation of an Emotional and Contextual Knowledge Interface for Foreign Language Social Media Posts**
  - *Hajin Lim, Dan Cosley, Susan R. Fussell*

### 517A Papers: Social Collaboration

**CHAIR: JOEL LANIR**

- **"We Don't Do That Here": How Collaborative Editing with Mentors Improves Engagement in Social Q&A Communities**
  - *Denoe Ford, Kristina Lustig, Jeremy Banks, Chris Parrin*
- **More stars or More Reviews? Differential Effects of Reputation on Trust in the Sharing Economy**
  - *Will Qiu, Paolo Parigi, Bruno Abrahao*
- **Share and Share Alike? Social Information and Interaction Style in Coordination of Shared Use**
  - *Karina Niemantsverdriet, Thomas van de Werff, Harm van Essen, Berry Eggen*
- **Designing Future Social Wearables with Live Action Role Play (Larp) Designers**
  - *Elena Márquez Segura, James Fey, Ella Dogan, Samvid Jhaveri, Jared Pettitt, Miguel Flores, Katherine Isbister*

### 517B Papers: Design & Design Research 3

**CHAIR: JOHN VINES**

- **Making Problems in Design Research: The Case of Teen Shoplifters on Tumblr**
  - *Enrique Encinas, Mark Blythe, Shaun Lawson, John Vines, Jayne Wallace, Pam Briggs*
- **Paragon: An Online Gallery for Enhancing Design Feedback with Visual Examples**
  - *Hyeonsu B. Kang, Gabriel Amoako, Neil Sengupta, Steven P. Dow*
- **Parody in Place: Exposing Socio-spatial Exclusions in Data-Driven Maps with Design Parody**
  - *Sarah E. Fox, Meredith Lampe, Daniela K. Rosner*
- **Using Co-Design to Examine How Children Conceptualize Intelligent Interfaces**
  - *Julia Woodward, Zari McFadden, Nicole Shiver, Amir Ben-hayon, Jason C. Yip, Lisa Anthony*

### 517C Papers: Visualization of Space and Shape

**CHAIR: DANYEL FISHER**

- **TopoText: Context-Preserving Text Data Exploration Across Multiple Spatial Scales**
  - *Jiawei Zhang, Chittayong Surakitbanharn, Niklas Elmqvist, Ross Maciejewski, Zhenyu Qian, David S. Ebert*
- **To Distort or Not to Distort: Distance Cartograms in the Wild**
  - *Sungsoo (Ray) Hong, Min-Joon Yoo, Bonnie Chinh, Amy Han, Sarah Batterbysy, Juho Kim*
- **HomeFinder Revisited: Finding Ideal Homes with Reachability-Centric Multi-Criteria Decision Making**
  - *Di Weng, Hening Zhu, Jie Bao, Yu Zheng, Yingcai Wu*
- **TopicOnTiles: Tile-Based Spatio-Temporal Event Analytics via Exclusive Topic Modeling on Social Media**
  - *Minsuk Choi, Sungbok Shin, Jinho Choi, Scott Langevin, Christopher Bethune, Philippe Horne, Nathan Kronenfeld, Ramakrishnan Kannan, Barry Drake, Haesun Park, Jaegul Choo*
THURSDAY 14:00 – 15:20

519AB Papers: Social Media & Information
CHAIR: DAVID GEERTS

Falling for Fake News: Investigating the Consumption of News via Social Media
Martin Flintham, Christian Karner, Khaled Bouchou, Helen Creswick, Neha Gupta, Stuart Moran

Personality Depends on The Medium: Differences in Self-Perception on SnapChat, Facebook and Offline
Lee Taber, Steve Whittaker

Announcing Pregnancy Loss on Facebook: A Decision-Making Framework for Stigmatized Disclosures on Identified Social Network Sites
Nazanin Andalibi, Andrea Forte

The Context of College Students' Facebook Use and Academic Performance: An Empirical Study
Yiran Wang, Gloria Mark

521ABC Papers: Trust and Security in Practice
CHAIR: EMANUEL VON ZEZSCHWITZ

Security During Application Development: an Application Security Expert Perspective
Tyler W. Thomas, Madiha Tabassum, Bill Chu, Heather Lipford

Forgotten But Not Gone: Identifying the Need for Longitudinal Data Management in Cloud Storage
Mohammad Taha Khan, Maria Hyun, Chris Kanich, Blase Ur

What Did I Really Vote For? On the Usability of Verifiable E-Voting Schemes
Karola Marky, Oksana Kulyk, Karen Renaud, Melanie Volkamer

An Experience Sampling Study of User Reactions to Browser Warnings in the Field
Robert W. Reeder, Adrienne Porter Felt, Sunny Consolvo, Nathan Malkin, Christopher Thompson, Serge Egelman

THURSDAY 14:00 – 15:20

522AB Course (C26): Computational Interaction (3/3)
Computational Interaction: Theory and Practice
John Williamson, Antti Oulasvirta, Otmar Hilliges, Per Ola Kristensson

524A Course (C27): Reflexive Ethnographies in HCI
Reflexive Ethnographies in Human-Computer Interaction: Theory and Practice
Amon Rapp

524B Course (C25): Gamification (3/3)
Gamification: Tools and Techniques for Motivating Users
Gustavo F. Tondello, Lennart E. Nacke

524C Course (C23): How Do We Measure That?! (3/3)
How Do We Measure That?!
Quick Scale Development
Norene Kelly

Thursday Afternoon Closing Plenary
15:40 – 17:10
Sue Gardner
517D

15:20 – 15:40
Coffee Break
517 Foyer
WORKSHOPS & SYMPOSIA

WORKSHOPS

CHI 2018 workshops take place in the 500 meeting rooms of the Palais. Workshops are accessible only to pre-registered attendees.

Saturday 21 April – Sunday 22 April (2 days)

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<th>Workshop</th>
<th>Room</th>
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<tbody>
<tr>
<td>W01 HCIxDementia Workshop: Engaging People Living with Dementia</td>
<td>522A</td>
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<tr>
<td>Amanda Lazar, Austin L. Toombs, Kellie Morrissey, Gail Kenning, Jennifer Boger, Rens Brankaert</td>
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<td>W02 The Body as Starting Point: Exploring Inside and Around Body Boundaries for Body-Centric Computing Design</td>
<td>513B</td>
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<td>m.c. schraefel, Elise van den Hoven, Josh Andres</td>
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<td>Saturday 21 April (1 day)</td>
<td>Room</td>
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<td>W03 (Un)Acceptable?! – Re-thinking the Social Acceptability of Emerging Technologies</td>
<td>524C</td>
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<td>Marion Koelle, Halley Profta, Thomas Olsson, Julie R. Williamson, Robb Mitchell, Shaun Kane, Susanne Cj Boll</td>
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<td>W04 “Grand Visions” for Post-Capitalist Human-Computer Interaction</td>
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<tr>
<td>Tom Feltwell, Shaun Lawson, Enrique Encinas, Conor Linehan, Ben Kirman, Deborah Maxwell, Tom Jenkins, Stacey Kuznetsov</td>
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<td>W05 A Short Workshop on Next Steps Towards Long Term Self Tracking</td>
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<tr>
<td>Jochen Meyer, Daniel Epstein, Parisa Esamlbchalior, Judy Kay, Lie Ming Tang</td>
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<td>W06 Chinese CHI 2018 Workshop</td>
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<tr>
<td>Zhiyong Fu, Jun Hu, Haipeng Mi, Xing-Dong Yang</td>
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<td>W07 Data Visualization on Mobile Devices</td>
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<tr>
<td>Bongshin Lee, Matthew Brehrner, Petra Isenberg, Eun Kyung Choe, Ricardo Langner, Raimund Dachselt</td>
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<td>W08 Data-Driven Educational Game Design</td>
<td>515B</td>
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<tr>
<td>Bruce M. McLaren, Jodi Asbell-Clarke, Jessica Hammer</td>
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<td>W09 Design For Sexual Wellbeing in HCI</td>
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<td>Gopinatha Kannabiran, Alex A. Ahmed, Matthew Wood, Madeline Balaam, Joshua G. Tanenbaum, Shaowen Bardzell, Jeffrey Bardzell</td>
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<td>W10 Designing Recipes for Digital Food Futures</td>
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<tr>
<td>Marketa Dolejsova, Rohit Ashok Khot, Hilary Davis, Hasen Shahid Ferdous, Andrew Quitmeyer</td>
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<td>W11 Disruptive Improvisations: Making Use of Non-Deterministic Art Practices in HCI</td>
<td>518B</td>
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<tr>
<td>Kristina Andersen, Laura Devendorf, James Pierce, Ron Wakkary, Daniela K. Rosner</td>
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<tr>
<td>W12 HCI Outdoors: Understanding Human-Computer Interaction in Outdoor Recreation</td>
<td>514A</td>
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<tr>
<td>Michael D. Jones, Zann Anderson, Jonna Hakkila, Keith Cheverst, Florian Dairber</td>
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<tr>
<td>W13 Inclusive Educational Technologies: Emerging Opportunities for People with Visual Impairments</td>
<td>519A</td>
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<td>Oussama Metafra, Marcos Serrano, Christophe Jouffrais, Anja Thieme, Shaun Kane, Stacy Branham, Emeline Bruelé, Cynthia L. Bennett</td>
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W14 Internet of Tangible Things: Workshop on Tangible Interaction with the Internet of Things | 519B |
| Leonardo Angelini, Zuzanna Lechelt, Eva Horneck, Paul Marshall, Can Liu, Margot Bretenon, Alessandro Soro, Nadine Couture, Omar Abou Khaled, Elena Mugellini |
| W15 Mid-Air Haptics for Control Interfaces | 521A |
| Marcello Giordano, Orestis Georgiou, Brygida Dzidek, Loic Corenthy, Jin Ryong Kim, Sriram Subramanian, Stephen A. Brewster |
| W16 Moving Beyond a ‘One-Size Fits All’ approach: Exploring Individual Difference in Privacy | 520C |
| Daricia Wilkinson, Moses Namara, Karla Badillo-Urquiola, Pamela J. Wisnewski, Bart P. Knijnenburg, Xinru Page, Eran Toch, Jennifer C. Romano Bergstrom |
| W17 Reshaping Touch Communication: An Interdisciplinary Research Agenda | 521B |
| Sara Price, Kerstin Leder Mackley, Carey Jewitt, Gijs Huisman, Bruna Petreca, Nadia Berthouze, Domenico Prattichizzo, Vincent Hayward |
| W18 Secret Lives of Data Publics: Mixed Reality Smart City Interfaces | 522C |
| Gabriel Resch, Beth Coleman, Matt Ratto, Bart Simon |
| W19 Sensemaking in a Senseless World | 518C |
| Daniel M. Russell, Gregorio Convertino, Aniket Kittur, Peter Pirilli, Elizabeth Anne Watkins |
| W20 SmartObjects ’18: 6th Workshop on Interacting with Smart Objects | 522B |
| Florian Müller, Dirk Schnelle-Walke, Tobias Grosse-Puppendahl, Sebastian Günther, Markus Funk, Kris Luyten, Oliver Brdiczka, Nillofar Dezfuli, Max Mühlhäuser |
| W21 Understanding “Bad Actors” Online | 521C |
| Lindsay Blockwell, Mark Handel, Sarah T. Roberts, Amy Bruckman, Kimberly Volf |

Sunday 22 April (1 day)

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<th>Workshop</th>
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<tr>
<td>W22 Brain-Computer Interfaces for Artistic Expression</td>
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<tr>
<td>Anton Nijhoff, Robert J.K. Jacob, Marvin Andujar, Beste F. Yuksel, Grace Leslie</td>
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<td>W23 Bridging a Bridge: Bringing Two HCI Communities Together</td>
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<tr>
<td>Sousan Djambsi, Dennis F. Galletta, Fiona Nah, Xinru Page, Lionel P. Robert J., Pamela J. Wisnewski</td>
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<td>W24 Designing Interactions for the Ageing Populations</td>
<td>515B</td>
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<tr>
<td>Sayan Sarcar, Cosmin Munteanu, Jussi Jokinen, Antti Oulasvirta, Neil Charness, Mark Dunlop, Xiangshi Ren</td>
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<td>W25 Developing a Community of Practice to Support Global HCI Education</td>
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<td>Olivier St-Cyr, Craig M. MacDonald, Elizabeth F. Churchill, Jenny J. Preece, Anna Bowser</td>
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<td>W26 Experience Design meets Service Design – Method Clash or Marriage?</td>
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<td>Virpi Roto, Jung-Joo Lee, Tuuli Mattelmaki, John Zimmerman</td>
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<td>W27 Exploring Participatory Design Methods to Engage with Arab Communities</td>
<td>521C</td>
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<tr>
<td>Ebtsam Alabdulqader, Shaimaa Lazem, Mohamed Khamis, Susan M. Dray</td>
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<tr>
<td>W28 HCI for Blockchain: Studying, Designing, Critiquing and Envisioning Distributed Ledger Technologies</td>
<td>514C</td>
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<tr>
<td>Chris Elsdon, Bettina Nissen, Karim Jabbar, Reem Talhouk, Caitlin Lustig, Paul Dunphy, Chris Speed, John Vines</td>
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**Symposia**

CHI 2018 is offering a series of special symposia for topics pertinent to HCI communities. Participants include both presenters and audience members. The symposia descriptions appear in the CHI 2018 Extended Abstracts. Symposia are accessible only to pre-registered attendees.

<table>
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<tr>
<th>Sym01</th>
<th>Computer-Human Interaction Mentoring (CHiMe)</th>
<th>Room 513C</th>
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<tbody>
<tr>
<td>Robin Brewer, Marvin Andujar, Sheena Erete, Ronald A Metoyer, Manuel A. Perez-Quinones, Yolanda Rankin</td>
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**Saturday 21 April (1 day) Room 524A**

<table>
<thead>
<tr>
<th>Sym02</th>
<th>Early Career Development Symposium</th>
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<tbody>
<tr>
<td>Michael Muller, Geraldine Fitzpatrick</td>
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**Saturday 21 April – Sunday 22 April (2 days) Room 524B**

<table>
<thead>
<tr>
<th>Sym03</th>
<th>HCI Across Borders: Paving New Pathways</th>
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**Sunday 22 April (1 day) Room 520C**

<table>
<thead>
<tr>
<th>Sym04</th>
<th>3rd Symposium on Computing and Mental Health: Understanding, Engaging, and Delighting Users</th>
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<tr>
<td>Greg Wadley, Rafael Calvo, John Torous, Mary Czerwinski</td>
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**Sym05 Asian CHI Symposium: Emerging HCI Research Collection Room 524A**


**Workshops & Symposia**

<table>
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<tr>
<th>W30</th>
<th>Interacting with Autonomous Vehicles: Learning from Other Domains</th>
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<tbody>
<tr>
<td>Alexander Meschtscherjakov, Manfred Tscheligi, Bastian Pfleeging, Shadan Sadeghian Borojeni, Wendy Ju, Philippe Palanque, Andreas Riener, Bilge Mutlu, Andrew L. Kun</td>
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<thead>
<tr>
<th>W31</th>
<th>Living Labs: Measuring Human Experience in the Built Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syed Shabih Hasan, Anja Jamrozik, Carolina Campanella, Sara Aristizabal, Rongpeng Zhang, Nicholas Clements</td>
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<thead>
<tr>
<th>W32</th>
<th>Maker Movements, Do-It-Yourself Cultures and Participatory Design: Implications for HCI Research</th>
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<tr>
<th>W33</th>
<th>Novel Interaction Techniques for Collaboration in VR</th>
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<tbody>
<tr>
<td>Misha Sra, Ken Perlin, Luiz Velho, Mark Bolas</td>
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<tr>
<th>W34</th>
<th>Rethinking Interaction: From Instrumental Interaction to Human-Computer Partnerships</th>
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<tbody>
<tr>
<td>Michel Beaudouin-Lafon, Wendy E. Mackay</td>
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<tr>
<th>W35</th>
<th>The 2nd Workshop on Hacking and Making at Time-Bounded Events: Current Trends and Next Steps in Research and Event Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ei Pa Pa Pe Than, James Herbsleb, Alexander Nolte, Elizabeth Gerber, Brittany Foire-Gartland, Brad Chapman, Aurelia Moser, Nancy Wilkens-Diehr</td>
<td></td>
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<tr>
<th>W36</th>
<th>General Data Protection Regulation: An Opportunity for HCI Community?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eva Thelissin, Kshitij Sharma, Hanan Salam, Virginia Dignum</td>
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<tr>
<th>W37</th>
<th>Untold Stories: Working with Third Sector Organisations</th>
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<tr>
<th>W38</th>
<th>Voice-based Conversational UX Studies and Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stuart Reeves, Martin Porcheron, Joel E. Fischer, Heloisa Candello, Donald McMillan, Moira McGregor, Robert J. Moore, Rein Sikveland, Alex S. Taylor, Julia Velkovska, Moustafa Zouinar</td>
<td></td>
</tr>
</tbody>
</table>
VIDEO SHOWCASE

The Video Showcase features engaging videos that offer a variety of perspectives on human-computer interaction, including novel interfaces, reflective pieces and future envionments. Come enjoy the videos and some snacks during the video showcase on Wednesday afternoon, followed by the award ceremony. Three awards will be presented: the Golden Mouse award, the Best Design Study award, and the Best Design Exploration award.

Wednesday
17:30 – 18:30 Video Showcase 517D

Video Showcase Jurors
Judith Amores, MIT, USA
Khaled Bachour, University of Lincoln, United Kingdom
Sarah D’Angelo, Northwestern University, USA
Daniel Harrison, UCL, United Kingdom
Ioanna Iacovides, The Open University, United Kingdom
Riasat Islam, The Open University, United Kingdom
Carman Neustaedter, Simon Fraser University, Canada
Doenia Oogjes, Simon Fraser University, Canada
Sean Rintel, Microsoft Research, United Kingdom
Emily Wall, Georgia Institute of Technology, USA
James Eagan, CNRS, France
Katerina Vrotsou
Sarah Webber, University of Melbourne, Australia

Videos
VS01 ReverseCAVE: CAVE-based Visualization Methods of Public VR towards Shareable VR Experience
Akira Ishii, Ippei Suzuki, Masaya Tsuruta, Shuta Nakamoe, Junichi Suzuki, Yoichi Ochiai

VS02 BioFidget Video: Biofeedback for Respiration Training Using an Augmented Fidget Spinner
Rong-Hao Liang, Bin Yu, Mengru Xue, Jun Hu, Loe M.G. Feijs

VS03 Puffy, a Friendly Inflatable Social Robot
Alessandro Ubaldi, Mirko Gelsomini, Marzia Degiorgi, Giulia Leonardi, Simone Penati, Noélie Ramuzat, Jacopo Silvestri, Franca Garzotto

VS04 Everyday Entanglements Of The Connected Home
Ioanna Nicenboim, Elisa Giaccardi, Marcel Schouwenaar

VS05 Cinematic Prototyping: Exploring Future Interactions without Prototyping Technology
Gert Pasman, Marco Rozendaal, Alan van Ramshorst, Felix Quaedvlieg, Mitsue Osako, Daniel Aguirre Broca

VS06 Showcasing Printed Paper Actuator: A Low-cost Reversible Actuation and Sensing Method for Shape Changing Interfaces
Guanyun Wang, Tingyu Cheng, Youngwook Do, Humphrey Yang, Ye Tao, Jianzhe Gu, Byoungkwan Ar, Lining Yao

VS07 Evaluating CoBlox: A Comparative Study of Robotics Programming Environments for Adult Novices
David Weintrop, Afsoon Afzal, Jean Salac, Patrick Francis, Boyang Li, David Shepherd, Diana Franklin

VS08 CanalSense+: Face-Related Movement Recognition and Identification System based on Air Pressure in Ear Canals
Toshiyuki Ando, Yuki Kubo, Buntarou Shizuki, Shin Takahashi

VS09 Participatory Design Fiction: Community Storytelling for Speculative Urban Technologies
Karl Baumann, Ben Caldwell, François Bar, Benjamin Stokes

VS10 Rolling Graphics: Create Graphics on the Cross Section of a Roll Cake
Joongi Shin, Maria Jose Reyes, Su Ah Han, Moojin Joh, Daniel Saakes

VS11 Draw & Dance: Voice-controlled AR Assistant
Judith Amores, Anna Fuste, Amit Pitaru

VS12 The Guts Game: Designing Playful Experiences for Ingestible Devices
Zhuying Li, Felix Brandmueler, Stefan Greuter, Florian Mueller

VS13 GrowKit: a Kit for Organisms to promote personalized STEAM learning
Helene Steiner, Seokbin Kang, Asta Roseway, Richard Banks

VS14 IdleBot: Exploring Non-Engaging Interaction Design in Personal Spaces
Caroline Overgoor, Mathias Funk

VS15 Programmable Droplets for Interaction
Udayan Umapathi, Patrick Shin, Ken Nakagoki, Daniel Leithinger, Hiroshi Ishii
# 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 on the 2nd floor (Hall Viger).

<table>
<thead>
<tr>
<th>Monday Courses, 23 April</th>
<th>Time / Room</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C01</strong> Mobile UX - The Next Ten Years?</td>
<td>11:30 / 521ABC</td>
</tr>
<tr>
<td>Simon Robinson, Jennifer Pearson, Matt Jones</td>
<td></td>
</tr>
<tr>
<td><strong>C02</strong> Balanced Interaction Design</td>
<td>11:30 / 522AB</td>
</tr>
<tr>
<td>Gilbert Cockton</td>
<td></td>
</tr>
<tr>
<td><strong>C03</strong> Introduction to Human-Computer Interaction</td>
<td>11:30 / 524A</td>
</tr>
<tr>
<td>Jonathan K. Lazar, Simone D. J. Barbosa</td>
<td></td>
</tr>
<tr>
<td><strong>C04</strong> Becoming a SIGCHI Volunteer</td>
<td>11:30 / 524B</td>
</tr>
<tr>
<td>Loren Terveen</td>
<td></td>
</tr>
<tr>
<td><strong>C05</strong> How to Write CHI papers - Second Edition</td>
<td>11:30 / 524C</td>
</tr>
<tr>
<td>Lennart E. Nacke</td>
<td></td>
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<tr>
<td><strong>C06</strong> Communicating with the Public &amp; Press 1</td>
<td>14:30 / 524B</td>
</tr>
<tr>
<td>Helen Pilcher</td>
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<thead>
<tr>
<th>Tuesday Courses, 24 April</th>
<th>Time / Room</th>
</tr>
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<tbody>
<tr>
<td><strong>C08</strong> Applied Sketching in HCI: Hands-on Course of Sketching Techniques</td>
<td>09:00 / 521ABC</td>
</tr>
<tr>
<td>Makayla Lewis, Miriam Sturdee, Nicolai Marquardt</td>
<td></td>
</tr>
<tr>
<td><strong>C09</strong> Research Methods for Child Computer Interaction</td>
<td>09:00 / 522AB</td>
</tr>
<tr>
<td>Janet C. Read</td>
<td></td>
</tr>
<tr>
<td><strong>C10</strong> Designing Technology for an Aging Population</td>
<td>09:00 / 524A</td>
</tr>
<tr>
<td>Jeff A. Johnson</td>
<td></td>
</tr>
<tr>
<td><strong>C06</strong> Communicating with the Public &amp; Press 2</td>
<td>09:00 / 524B</td>
</tr>
<tr>
<td>Helen Pilcher</td>
<td></td>
</tr>
<tr>
<td><strong>C11</strong> Navigation Interfaces for Virtual Reality and Gaming: Theory and Practice</td>
<td>09:00 / 524C</td>
</tr>
<tr>
<td>Ernst Kruijf, Bernhard E. Riecke</td>
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<tr>
<td><strong>C12</strong> Deep Learning for Understanding the Human</td>
<td>11:00 / 524A</td>
</tr>
<tr>
<td>Lex Fridman</td>
<td></td>
</tr>
<tr>
<td><strong>C13</strong> Don't forget to be the way you are: how to create a meaningful and sustainable research identity</td>
<td>14:00 / 522AB</td>
</tr>
<tr>
<td>Dana McKay, George Buchanan</td>
<td></td>
</tr>
<tr>
<td><strong>C06</strong> Communicating with the Public &amp; Press 3</td>
<td>14:00 / 524B</td>
</tr>
<tr>
<td>Helen Pilcher</td>
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<tr>
<td><strong>C14</strong> Visual Design 4 Non-Designers: Learn Basics the Hands-on Way</td>
<td>14:00 / 524C</td>
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<tr>
<td>Stephanie Foehrenbach, Fabian Scheiwiller</td>
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<tr>
<th>Wednesday Courses, 25 April</th>
<th>Time / Room</th>
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<tbody>
<tr>
<td><strong>C15</strong> From Tool to Partner: The Evolution of Human-Computer Interaction</td>
<td>09:00 / 521ABC</td>
</tr>
<tr>
<td>Jonathan Grudin</td>
<td></td>
</tr>
<tr>
<td><strong>C16</strong> Make This! Introduction to Electronics Prototyping Using Arduino</td>
<td>09:00 / 522AB</td>
</tr>
<tr>
<td>David Sirkin, Nikolas Martelaro, Wendy Ju</td>
<td></td>
</tr>
<tr>
<td><strong>C17</strong> Empirical Research Methods for Human-Computer Interaction</td>
<td>09:00 / 524A</td>
</tr>
<tr>
<td>Scott I. MacKenzie, Steven J. Castellucci</td>
<td></td>
</tr>
<tr>
<td><strong>C06</strong> Communicating with the Public &amp; Press 4</td>
<td>09:00 / 524B</td>
</tr>
<tr>
<td>Helen Pilcher</td>
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</tr>
<tr>
<td><strong>C19</strong> Automation: Danger or Opportunity? Designing and Assessing Automation for Interactive Systems</td>
<td>14:00 / 522AB</td>
</tr>
<tr>
<td>Philippe Palanque, Célia Martinie, Camille Foyollas</td>
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</tr>
<tr>
<td><strong>C20</strong> Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines</td>
<td>14:00 / 524A</td>
</tr>
<tr>
<td>Jeff A. Johnson</td>
<td></td>
</tr>
<tr>
<td><strong>C22</strong> Designing, Engineering, and Evaluating Gesture User Interfaces</td>
<td>14:00 / 524C</td>
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<tr>
<td>Jean Vanderdonckt, Radu-Daniel Vatavu</td>
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<tr>
<th>Thursday Courses, 26 April</th>
<th>Time / Room</th>
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<tbody>
<tr>
<td><strong>C23</strong> How Do We Measure That?! Quick Scale Development</td>
<td>09:00 / 524C</td>
</tr>
<tr>
<td>Norene Kelly</td>
<td></td>
</tr>
<tr>
<td><strong>C24</strong> Speech and Hands-free Interaction: Myths, Challenges, and Opportunities</td>
<td>09:00 / 524A</td>
</tr>
<tr>
<td>Cosmin Munteanu, Gerald Penn</td>
<td></td>
</tr>
<tr>
<td><strong>C25</strong> Gamification: Tools and Techniques for Motivating Users</td>
<td>09:00 / 524B</td>
</tr>
<tr>
<td>Gustavo F. Tondello, Lennart E. Nacke</td>
<td></td>
</tr>
<tr>
<td><strong>C26</strong> Computational Interaction: Theory and Practice</td>
<td>09:00 / 522AB</td>
</tr>
<tr>
<td>John Williamson, Antti Oulasvirta, Otmar Hilliges, Per Ola Kristensson</td>
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</tr>
<tr>
<td><strong>C27</strong> Reflexive Ethnographies in Human-Computer Interaction: Theory and Practice</td>
<td>14:00 / 524A</td>
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<tr>
<td>Amon Rapp</td>
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</table>
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/220BC and brief descriptions appear in the *CHI 2018 Extended Abstracts*.

**Doctoral Consortium Mentors**
Yunan Chen (Co-Chair), *University of California, Irvine*
Beki Grinter, *Georgia Tech*
Gary Hsieh, *University of Washington*
Nicolai Marquadt, *University College London*
Florian 'Floyd' Mueller (Co-Chair), *RMIT University, Australia*
Kenton O'Hara (Co-Chair), *Microsoft Research*

**Saturday – Sunday**
Doctoral Consortium 520F

**Tuesday**
10:20 – 11:00 Meet the poster authors Exhibit Hall/220BC

**Tuesday – Thursday**
Posters on display during Open Hours Exhibit Hall/220BC

**Participants**
DC01 Social Norms in Online Communities: Formation, Evolution and Relation to Cyber-Aggression
  Kimberley R. Allison
DC02 Informing the Design of Personal Informatics Technologies for Unpredictable Chronic Conditions
  Amid Ayobi
DC03 Exploring The Relationship Between VR Immersion, Adaptive Resistance and Physical Exertion
  Joey Campbell
DC04 On Designing Content Recommeder Systems for Online News Media
  Abhijnan Chakraborty
DC05 Computational Methods to Understand Deviant Mental Wellness Communities
  Stevie Chancellor
DC06 Personalized Behavior-Powered Systems for Guiding Self-Experiments
  Nediyana Daskalova
DC07 Seamfully Intervenoven: Piecing Together Havana's Internet
  Michaelanne Dye
DC08 Designing for Interaction Proxemics: Configurations and Transitions
  Jens Emil Grønbæk
DC09 Crowd-AI Systems for Non-Visual Information Access in the Real World
  Anhong Guo
DC10 CHI Doctoral Consortium: The Work of Cybersecurity Advocates
  Julie M. Haney
DC11 Designing for the Changing Body: A Feminist Exploration of Self-Tracking Technologies
  Sarah Homewood
DC12 Preserving Privacy in Smart Homes: A Socio-Cultural Approach
  Martin J. Kraemer
DC13 Fully Hand-and-Finger-Aware Smartphone Interaction
  Huy Viet Le
DC14 Impulse Buying: Interventions to Support Self-control with E-commerce
  Carol Moser
DC15 Enabling Intent Recognition Through Gaze Awareness in User Interfaces
  Joshua Newn

**STUDENT RESEARCH COMPETITION**
The Student Research Competition (SRC) is a forum for undergraduate and graduate students to showcase their research, exchange ideas, and improve their communication skills while competing for prizes. Sponsored by Microsoft Research, the SRC is a branch of the ACM SRC. Winners are announced at the Closing Plenary.

**Monday**
11:30 – 12:50 Posters Presentations 520F

**Tuesday – Thursday**
Posters on display during Open Hours Exhibit Hall/220BC

**Wednesday**
14:00 – 17:20 Finalist Presentations 514C

**Finalists**
SRC01 Identifying Historical Primary Sources in Social Media for Reliable Historical Reconstruction
  Sriraj Janakiram Aiyer
SRC02 Understanding What Africans Say
  Lameck Mbangula Amugongo
SRC03 Silly Lamp: Study of a Relationship with Engaging Machine Learning Artefacts
  Agnieszka Billewicz
SRC04 Designing Technological Interventions for Patients with Discordant Chronic Comorbidities and Type-2 Diabetes
  Gabrielle S. Cantor
SRC05 Mental Models and Home Virtual Assistants (HVAs)
  Jonghee Cho
SRC06 Why Should Your Activity Tracker Care About How Motivational Messages Look Like to You
  Ligia Duro
SRC07 Data Driven Support for Substance Addiction Recovery Communities
  Benjamin Fischman
SRC08 Reflex: Learning Beyond the Screen in a Simple, Fun, and Affordable Way
  Mirko Gelosimizi
SRC09 Improving Social Presence with a Virtual Human via Multimodal Physical–Virtual Interactivity in AR
  Kangsoo Kim
SRC10 Analysis of Peer Group Behavior Among University Students
  Sahiti Kunchay, Lakshmi Manasa Kalanadhabhatta
SRC11 Digital Technologies and their Role in Intimate Partner Violence
  Roxanne Leitão
STUDENT DESIGN COMPETITION

This is the 16th year of the CHI Student Design Competition (SDC), a premiere venue for students to demonstrate their skills in Interaction Design and User Experience. The design brief this year was “Engaging Communities,” and students were asked to use human-centred design approaches to develop a new way to support, empower, or change the behaviour of a group around a shared area of interest. Attend the SDC poster and presentation sessions to encounter great new ideas and rising talent from around the world. At the poster session, the top 12 entries will be pitching their work to attendees and jurors, narrowing the field to 4 finalists. The presentation session on Wednesday consists of the top 4 teams vying to be named the winner of this year’s contest.

Monday
14:30 – 15:50 Judging (Closed Jury Session) 520F
Tuesday
15:20 – 16:00 Meet the Poster Authors Exhibit Hall/220BC
Tuesday-Thursday
Posters on Display during Open Hours Exhibit Hall/220BC
Wednesday
14:00 – 15:20 Open Session Finalist Presentations 516C

Finalists

SDC01 GenPlay: Generative Playscape
Ciera Crowell, Batuhan Sayis, Andrea Bravo, Andrea Paramithiotti

SDC02 Mellow: A Mobile Application to Help Youth in Crisis
Larissa Waterman, Beatriz E. Diaz Motta, Hyeeun Son, Han Quan To, Steven Szatala

SDC03 NaviCompass: An Exploratory Feedback System for an Urban Farm Community
Jessica Andrich, Diana Beirl, Tassilo Nick Bouwman, Anouk Zarah Harde, Tim Serkes

SDC04 Dawn: Improving Hurricane Response for Citizens and Local Governments
Ko Hyun Lee, Chi Kit Kwong, Rizwan Zaki, Kyler Emig, Jonathan Tucker

SDC05 Wearable Aura: Interactive Personal Projection to Bring People Closer
Laura Lugaresi, Dingding Zheng, Kaiyuan Lin

SDC06 Musi: Facilitating Asynchronous Practice Between Classical Musicians
Wei Cai, Anand Doshi, Chelsea Lauren Miller, Shu Zhou

SDC07 Small Donation – Big Impact: Visualizing Charitable Donations
Ruoxun Chen, Aditya More, Marshall Robbins, Dou Tian

SDC08 VisuaLife: A Campaign Aiming to Visualise Air Pollution in the Form of T-shirts Displayed in an Exhibition
Jack Solomon, Lorenzo Bellucci, Yunsheng Su, Zihe Liu, Mihaela Dimitrova

SDC09 One Step: Interactive Posters to Raise Awareness of Poverty
Courtney Michalsky, Stephanie Sykora, Lauren Toler

SDC10 Menstrual Maze: A Toy Exploring Public Engagement in Menstrual Health Education
Bonnie Tran, Lee Na Choi

SDC11 Urban Memory: Remembering Communities in Urban Redevelopment
Lusi Wang, Jing Qian, Niharika Ved

SDC12 Litebox: Design for Adult Literacy
Xindi Wang, Kesava Karthik Kota, Kolli Reddy, Denise Baran, Nalin Bhatia

SRC12 Print ("Good Luck!"): Measuring the Effect of Autogenerated Social Encouragement on Student Anxiety
Collin A. Blanchard, Holly A. Buff, Travis D. Cook, Raquel E. Dottle, Gideon B. Luck, Alani L. Peters, Virginia L. Pettit, Issak Matthew Ramirez, Jessica E. Wininger

SRC13 Rethinking App Permissions on iOS
Michael Lutaaya

SRC14 A Cognitive Design Space for Supporting Self-Regulation of ICT Use
Ulrik Lyngs

SRC15 Evaluation of a Persuasive Digital Literacy Game for Children
Sana Maqsood

SRC16 Developing Accessible and Usable Security (ACCUS) Heuristics
Daniela Napoli

SRC17 Reconstructing “Real News” via Computer-Human Interactions
Alamir Novin

SRC18 One Big Digital Family: Examining Social Media and Social Support in the Development of Youth “At-Risk”
Jennifer Pierre

SRC19 Examining the Role Visual Graph Structures Play in Collective Awareness and Cooperative Decisions
Marlen Promann

SRC20 How Loyal is Your Alexa? Imagining a Respectful Smart Assistant
William Seymour

SRC21 Pyrus: A Collaborative Programming Game to Support Problem-Solving
Joshua Li Shi, Armaan Shah

SRC22 Developing a Typeface for Low Resolution E-Ink Displays
Benjamin Smith, Terra David Groenewold

SRC23 Cerebro: A Platform for Opportunistic Collective Experiences
Jennie Werner, Allison Sun

SRC24 Silent Chatbot Agent Amplifies Continued-Influence Effect on Misinformation
Sanghyeong Yu, Kwang-Hee Han

SRC25 Print ("Good Luck!"): Measuring the Effect of Autogenerated Social Encouragement on Student Anxiety
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Benjamin Smith, Terra David Groenewold

SRC23 Cerebro: A Platform for Opportunistic Collective Experiences
Jennie Werner, Allison Sun

SRC24 Silent Chatbot Agent Amplifies Continued-Influence Effect on Misinformation
Sanghyeong Yu, Kwang-Hee Han
LATE-BREAKING WORK

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:

Rotation 1: Tuesday
Privacy, Security, and Visualization 001 – 010, 050
Understanding People: Theory, Concepts, Methods 011 – 029
CSCW 030 – 036
Health, Accessibility, and Aging 037 – 049
Specific Application Areas 051 – 063
Games and Play 064 – 072
Design 073 – 087
User Experience and Usability 088 – 102
Engineering Interactive Systems and Technologies 103 – 114
Interaction Techniques, Devices, and Modalities 115 – 137

Rotation 2: Wednesday
Privacy, Security, and Visualization 501 – 509
Understanding People: Theory, Concepts, Methods 510 – 528
CSCW 529 – 535
Health, Accessibility, and Aging 536 – 549
Specific Application Areas 550 – 563
Games and Play 564 – 571
Design 572 – 586
User Experience and Usability 587 – 601
Engineering Interactive Systems and Technologies 602 – 614
Interaction Techniques, Devices, and Modalities 615 – 635

ROTATION 1: TUESDAY
Privacy, Security, and Visualization 001 – 010, 050

LBW001 Voice of Customer: A Tone-based Analysis System for Online User Engagement
Xiaotong Liu, Anbang Xu, Vibha Sinha, Rama Akkiraju

LBW002 Personalizable and Interactive Sequence Recommender System
Fan Du, Sana Malik, Georgios Theocharous, Eunyee Koh

LBW003 A Design Space for Security Indicators for Behavioural Biometrics on Mobile Touchscreen Devices
Lukas Mecke, Sarah Prange, Daniel Buschek, Florian Alt

LBW004 Detecting Negative Emotion for Mixed Initiative Visual Analytics
Prateek Panwar, Christopher Collins

LBW005 Valletto: A Multimodal Interface for Ubiquitous Visual Analytics
Jan-Frederik Kassel, Michael Rohs

LBW006 Interactive Campaign Planning for Marketing Analysts
Fan Du, Sana Malik, Eunyee Koh, Georgios Theocharous

LBW007 Exploring Data in Virtual Reality: Comparisons with 2D Data Visualizations
Patrick Millais, Simon Jones, Ryan Kelly

LBW008 Exploration & Anthropomorphism in Immersive Unit Visualizations
Alexander Ivanov, Kurtis Thorvald Danyluk, Wesley Willett

LBW009 Interactivity Factors in Visualization-Based Exploratory Search
Ali Baigelenov, Paul Parsons

LBW010 An Instrument for Evaluating Uncertainty Visualization Techniques
Andrea Brennan, Stephanie Tuerk

LBW050 Consumer Attitudes Towards Privacy and Security in Home Assistants
Nathaniel Frucher, Ilaria Liccari

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LBW011 Towards a Cognition-Centered Personalization Framework for Cultural-Heritage Content
George E. Raptis, Christos A. Fidas, Christina Katsini, Nikolaos M. Avouris

LBW012 Exploring the Effects of Scale in Augmented Reality-Empowered Visual Analytics
Zhida Sun, Feng Han, Xiaojian Ma

LBW013 Spatial Ability Improvement by Tangible Interaction:
A Case Study with EasySRRobot
Minjing Yu, Yong-Jin Liu, Guozhen Zhao, Chun Yu, Yuanchun Shi

LBW014 PD Notify: Investigating Personal Content on Public Displays
Dominik Weber, Alexandra Voit, GISele Kollotzek, Lucas van der Vekens, Marcus Hepting, Florian Al, Niels Henze

LBW015 A Safety Net: How Older Adults Build and Maintain Interpersonal Relationships
Xiying Wang, Tiffany Knearem, Fanlu G, Srishri Gupta, Michael Williams, Haining Zhu, John M. Carroll

LBW016 Old Habits Die Hard: A Diary Study of On-Demand Video Viewing
Jacob M. Rigby, Duncan P. Brumby, Anna L. Cox, Sandy J. J. Gould

LBW017 The Different Effects of Motivational Messages and Monetary Incentives on Fostering Walking Behavior
Yuan-Chi Tseng, Hui-Yen Chang, Shih-Wei Yen

LBW018 Can a Machine Tend to Teenagers’ Emotional Needs? A Study with Conversational Agents
Junhan Kim, Yooung Kim, Byungjoon Kim, Sukyung Yun, Minjoon Kim, Joongseek Lee

LBW019 Emotional Delivery in Pro-social Crowdfunding Success
Lauren Ruhe, Lionel P. Robert

LBW020 “In A Good Way Weird”: Exploring Positive Experiences with Technology-Mediated Pornography
Livia J. Muller, Klaus Opwis, Elisa D. Meeker

LBW021 Emotion Regulation in the Wild: Introducing WEHAB System Architecture
Pardis Miri, Andero Usberg, Heather Culbertson, Robert Flory, Helen Usberg, James Gross, Keith Marzullo, Katherine Isbister

LBW022 Lunchocracy: Improving Eating Dynamics in the Workplace Using a Bot-Based Anonymous Voting System
Nada Terzimehić, Mohamed Khamis, Florian Bemann, Heinrich Hussmann

LBW023 The Smartphone “Addiction” Narrative is Compelling, but Largely Unfounded
Simone Lanette, Melissa Mazmanian

LBW024 An Exploratory Study for Understanding Reasons of (Not-)Using Internet of Things
Radhika Garg, Jenna Kim

LBW025 Looking Up Information in Email: Feedback on Visit Durations Discourages Distractions
Judith Willemijn Borghouts, Duncan P. Brumby, Anna L. Cox
LBW026 Using Vocabularies to Collaboratively Create Better Plans for Writing Tasks
Harmanpreet Kaur, Alex C. Williams, Anne Loomis Thompson, Walter S. Lasecki, Shamsi Iqbal, Jaime Teevan

LBW027 Does Group Size Affect Problem Solving Performance in Crowds Working on a Hidden Profile Task?
Xiaoyun Huang, Yia Tausczik

LBW028 Investigating Crowdsourcing as a Method to Collect Emotion Labels for Images
Olga Korovina, Fabio Casati, Radoslaw Nielek, Marcos Baez, Olga Berestneva

LBW029 Feels Like Being There: Viewers Describe the Quality of Experience of Festival Video Using Their Own Words
Michael Evans, Lianne Kerlin, Olivia Larner, Rosie Campbell

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LBW030 How Creative is the Crowd in Describing Smart Home Scenarios?
Tahir Abbas, Vassilis-Javed Khan, Daniel Tetteroo, Panos Markopoulos

LBW031 Outsider Perspectives: Crowd-Based Feedback for Writing
Rhema Linder, Shamsi Iqbal, Jaime Teevan

LBW032 Mass-Computer Interaction for Thousands of Users and Beyond
Jean-Yves Lionel Lawson, Jean Vanderdonckt, Radu-Daniel Vatavu

LBW033 Concept Validation during Collaborative Ideation and Its Effect on Ideation Outcome
Maximilian Mackeprang, Abderrahmane Khiat, Claudia Müller-Birn

LBW034 Come Together: Facilitating Collocated Multilingual Group Discussion with a Language Support Tool
Mei-Ling Chen, Naomi Yamashita, Hao-Chuan Wang

LBW035 TNT: Exploring Pseudo Social Reminding for Effective Task Management
Wonyoung Shin, Soowon Kang, Inyeop Kim, Mun Yong Yi, Uichin Lee

LBW036 Seeing Is Believing: How People Fail to Identify Fake Images on the Web
Mona Kasra, Cuihua Shen, James F. O’Brien

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LBW037 Multiple Patient Monitoring in the Operating Room using a Head-Mounted Display
Paul Schlosser, Tobias Grundgeiger, Oliver Happel

LBW038 Staying Alive With Virtual Humans
Sarah Morrison-Smith, Heng Yao, Isaac Wang, Benjamin Lok, Jaime Ruiz

LBW039 Vibro-Band - Supporting Needle Placement for Physicians with Vibrations
Anke Verena Reinschluessel, Sarah Christin Cebulla, Marc Herrlich, Tanja Döring, Rainer Malaka

LBW040 Design In The “Medical” Wild: Challenges Of Technology Deployment
Leah Kulp, Aleksandra Sarcevic

LBW041 Diagnostic Agents: Collaborative Interpretation for Cardiac Patients at Home
Maria Kjærup, Stefania Kouzeli, Mikael B. Skov, Jesper Kjeldskov, Charlotte Schmidt Skov, Peter Søgaard

LBW042 The Role of Reflection and Context in Medication Adherence Tracking for People Living with HIV
Gabrielle M. Salib, Juan Fernando Maestre, Kenneth B. Nimley, Nadia Dowshen, Gabriela Marcu

LBW043 Implicit Detection of Motor Impairment in Parkinson’s Disease from Everyday Smartphone Interactions
Jing Gao, Peng Tian, Junjun Fan, Dakuo Wang, Xiangmin Fan, Yicheng Zhu, Shuai Ma, Jin Huang, Hongan Wang

LBW044 A Comparative Study on the Effectiveness of Adaptive Exergames for Stroke Rehabilitation in Pakistan
Hassan Ali Khan, Murayyiam Parvez, Suleman Shahid, Asfar Javaid

LBW045 Enabling Biographical Cognitive Stimulation for People with Dementia
Sérgio Alves, Filipo Brito, Andreia Cordeiro, Luis Carriço, Tiago Guerreiro

LBW046 Jazzy: Leveraging Virtual Reality Layers for Hand-Eye Coordination in Users with Amblyopia
Mario Scrocco, Nicola Ruaro, Daniele Occhiuto, Franca Garzotto

LBW047 Not Alone: Designing for Self-Disclosure and Social Support Exchange After Pregnancy Loss
Nazanin Andalibi, Gabriela Marcu, Tim Moesgen, Rebecca Mullin, Andrea Forte

LBW048 Designing an Emergency Response Community for Opioid Overdoses in Philadelphia
Roy Aizen, Gabriela Marcu, Anjali Misra, Gregory Sieber, David G. Schwartz, Alexis Roth, Stephen Lankenau

LBW049 Towards Technology-Based Interventions for Improving Emotional and Cognitive Control
Eivind Fløbak, Daniel A. Jensen, Astrid Lundervold, Li-Hsuan Chen, Tine Nordgreen, Frode Guribye

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LBW051 Visualizing Gaze Information from Multiple Students to Support Remote Instruction
Nancy Yao, Jeff Brewer, Sarah D’Angelo, Mike Horn, Darren Gergle

LBW052 Itero: A Revision History Analytics Tool for Exploring Writing Behavior and Reflection
Selen Turkyay, Daniel Seaton, Andrew M. Ang

LBW053 Kalgan: Video Player for Casual Language Learning
Sathaporn “Hubert” Hu, Wesley J. Willett

LBW054 Digitally Scaffolding Debate in the Classroom
Adrian Holzer, Nava Tintarev, Samuel Bendahan, Bruno Kocher, Shane Greenup, Denis Gillet

LBW055 Children-Centered Sensing in Early Childhood Classrooms
Nazmus Saqib, Deb Roy

LBW056 Block Talks: A Tangible and Augmented Reality Toolkit for Children to Learn Sentence Constructions
Min Fan, Uddipana Baishya, Elgin-Skye McLaren, Alissa N. Antle, Shubhra Sarker, Amal Vincent

LBW057 Exprgram: A Language Learning Interface for Mastering Pragmatic Competence
Kyoung Je Jo, John Joon Young Chung, Juho Kim

LBW058 EmoStory: A Game-based System Supporting Children’s Emotional Development
Min Fan, Jianyu Fan, Sheng Jin, Alissa N. Antle, Philippe Pasquier
LATE-BREAKING WORK

**LBW059** Reflection before/after Practice: Learnersourcing for Drawing Support
Yi-Ching Huang, Jerry Yu-Heng Chan, Jane Hsu

**LBW060** PARTICIPATE: Capturing Knowledge in Public Library Activities
Carla Gröschel, Peter Dalsgaard, Clemens N. Klokmose, Henrik Krogsgaard, Eva Eriksson, Raphaëlle Bats, Aurélien Tabard, Alix Ducros, Sofia E. Serholt

**LBW061** FieldGuide: Smartwatches in a Multi-display Museum Environment
Amartya Banerjee, Rovik Robert, Michael S. Horn

**LBW062** An Initial Study of Multisensory Interaction for Outdoor Heritage Sites
David K. McGookin, Laura Maye, Ling Chen, Mikko Kytö

**Games and Play** 064 – 072

**LBW064** Keeping Players Engaged in Exergames: A Personality Matching Approach
Gerry Chan, Ali Arya, Anthony Whitehead

**LBW065** Understanding Fitness App Usage Over Time: Moving Beyond the Need for Competence
Vanessa R. Lerch, Sharon T. Steinemann, Klaus Opwis

**LBW066** Varying Avatar Weight to Increase Player Motivation: Challenges of a Gaming Setup
Anna Barenbrock, Marc Herrlich, Kathrin Maria Gerling, Jan David Smeddinck, Rainer Malaka

**LBW067** Gamified Rehabilitation for Pain Distraction in Total-Knee-Replacement Patients
Xuejiao Zhao, Qiong Wu, X. Jessie Yang, Yang Qiu, Huiguang Zhang, Chunyan Miao

**LBW068** Pirate Bri’s Grocery Adventure: Teaching Food Literacy through Shopping
Marcela Costa Camara do Bomfim, James R. Wallace

**LBW069** Do You Think This is a Game? Contrasting a Serious Game with a Gamified Application for Health
Johannes Pfau, Jan David Smeddinck, Georg Volkmar, Nina Wenig, Rainer Malaka

**LBW070** Exploring the Impact of Colour-Blindness on Computer Game Performance
Daniela Napoli, Sonia Chiasson

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**LBW073** A Design Space For Meaningful Structural Gamification
Stuart Hallifax, Audrey Serna, Jean-Charles Marty, Elise Lavoüé

**LBW074** A Sentiment Analysis of Design Reflections from Design Projects
Jonas Frich, Nanna Inie, Kim Halskov, Peter Dalsgaard

**LBW075** Persona Perception Scale: Developing and Validating an Instrument for Human-Like Representations of Data

**LBW076** Enhancing Storytelling Experience with Story-Aware Interactive Puppet
Bogyeong Kim, Jaehoon Pyun, Woohun Lee

**LBW077** GROW: A Smart Bottle that Uses its Surface as an Ambient Display to Motivate Daily Water Intake
Gül Kaner, Hüseyin Üğur Genç, Salih Berk Dinçer, Deniz Erdoğan, Aykut Coskun

**LBW078** Papercut: Digital Fabrication and Design for Paper Cutting
Lijuan Liu, Yang Chen, Pinhao Wang, Yizhou Liu, Coawei Zhang, Xuan Li, Cheng Yao, Fangtian Ying

**LBW079** Beyond Digital Displays: Design Considerations for Tablet Applications Targeting Children with ASD in Sri Lanka
Amani Indunil Soysa, Abdullah Al Mahmud

**LBW080** A Survey of the Usage of Sticky Notes
Aron D. Fischel, Kim Halskov

**LBW081** Gifting Interpretations of Personal Data
Maria Karyda, Iyubanit Rodríguez, Andrés Lucero

**LBW082** #darkpatterns: UX Practitioner Conversations About Ethical Design
Madison Fansher, Shrutti Sai Chivukula, Colin M. Gray

**LBW083** Designing Health-Promoting Technologies with IoT at Home
Eulim Sull, Youn-kyung Lim

**LBW084** A Survey on User-Interface Design Strategies to Address Online Bias
Roxanne Leitão, Filip Jakobsen

**LBW085** A Design Space for Audience Sensing and Feedback Systems
Mariam Hassib, Stefan Schneegass, Niels Henze, Albrecht Schmidt, Florian Alt

**LBW086** String Figuring: A Story of Reflection, Material Inquiry, and a Novel Sensor
Josephine Klefeker, Laura Devendorf

**User Experience and Usability** 088 – 102

**LBW088** Thinklank- An Intelligent Sketch Tool for Learning Data Structures
Md Athar Imtiaz, Andrew Luxton-Reilly, Beryl Plimmer

**LBW089** AI-Supported Messaging: An Investigation of Human-Human Text Conversation with AI Support
Jess Hohenstein, Malte Jung

**LBW090** Click or Hold: Usability Evaluation of Maneuver Approval Techniques in Highly Automated Driving
Marcel Waich, Kristin Müh, Martin Baumann, Michael Weber

**LBW091** The Effects of a Vibro-Kinetic Multi-Sensory Experience in Passive Seated Vehicular Movement in a Virtual Reality Context
Alexandre Gardé, Pierre-Majorique Leger, Sylvain Senecal, Marc Fredette, Elise Labonte-LeMoyne, François Courtemanche, Jean-François Ménard

**LBW092** How User Experience is Practiced: Two Case Studies from the Field
Cynthia Putnam, Mary Bungum, Dan Spinner, Abhinit Nitin Pareekar, Silpa Vipparti, Phobey Cass

**LBW093** “I know what the companies are wanting more of”: Professional Participants in Online Usability Studies
Steven Schirra, Chris Allison

**LBW094** VR Reading UIs: Assessing Text Parameters for Reading in VR
Tilman Dingler, Kai Kunze, Benjamin Outram

**LBW095** Studying Eye Movements As A Basis For Measuring Cognitive Load
Johannes Zagermann, Ulrike Pfeil, Harald Reiterer

**LBW096** BUZZ: An Auditory Interface User Experience Scale
Brianna J. Tomlinson, Brittany E. Noah, Bruce N. Walker
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**LBW097** Findings of a User Study of Automatically Generated Personas

**LBW098** Working with a Recommendation Agent: How Recommendation Presentation Influences Users’ Perceptions and Behaviors
Emile Bigras, Marc-Antoine Jutras, Sylvain Senecal, Pierre-Majorique Leger, Marc Fredette, Chrystel Black, Nicolas Rabitaille, Karine Grande, Christian Hudon

**LBW099** I like to Move it: Investigating the Effect of Head and Body Movement of Avatars in VR on User’s Perception
Elhassan Makled, Yomna Abdelrahman, Noha Mokhtar, Valentin Schwind, Slim Abdennader, Albrecht Schmidt

**LBW100** Filtering Shared Social Data in AR
Aaleddin Nassani, Huidong Bai, Gun Lee, Mark Billingham, Tobias Langlotz, Robert W. Lindeman

**LBW101** Supernumerary Arms for Gestural Communication
Anthony Tran, Sowmya Somanath, Ehud Sharlin

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**LBW103** Codestrates Packages: An Alternative to “One-Size-Fits-All” Software
Marcel Borowski, Roman Rädele, Clemens N. Klokmose

**LBW104** StatWire: Visual Flow-based Statistical Programming
Krishna Subramonian, Johannes Maas, Michael Ellers, Chat Wacharamanoth, Simon Voelker, Jan Borchers

**LBW105** A Debugging Approach for Trigger-Action Programming
Luigi De Russis, Alberto Monge Roffarello

**LBW106** GEM-NI+: Leveraging Difference Visualization and Multiple Displays for Supporting Multiple Complex Generative Design Alternatives
Loutfouz Zaman, Christian Neugebauer, Wolfgang Stuerzlinger, Robert Woodbury

**LBW107** GHShot: 3D Design Versioning for Learning and Collaboration in the Web
Verina Cristie, Sam Conrad Joyce

**LBW108** Toccata: An Activity Centric Orchestration System for Education
Valentin Lachand, Ghita Jalal, Christine Michel, Aurélien Tabard

**LBW109** Chromotype: A Computer-Assisted Design Tool for Palette Generation
Samantha N. Stahlke, Loutfouz Zaman

**LBW110** Growable Robot with ‘Additive-Additive-Manufacturing’
Tomomasa Wakimoto, Ryoma Takamori, Soya Eguchi, Hiroya Tanaka

**LBW111** SKIN+: Fabricating Soft Fluidic User Interfaces for Enhancing On-Skin Experiences and Interactions
Yanan Wang, Shijian Luo, Hebo Gong, Fei Xu, Ruijia Chen, Shuai Liu, Preben Hansen

**LBW112** ProtoHole: Prototyping Interactive 3D Printed Objects Using Holes and Acoustic Sensing
Shohei Katakura, Keita Watanabe

**LBW113** Plain2Fun: Augmenting Ordinary Objects with Surface Painted Circuits
Tianyi Wang, Ke Huo, Pratik Chawla, Guiming Chen, Siddharth Banerjee, Karthik Ramani

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**LBW115** LagBox – Measuring the Latency of USB-Connected Input Devices
Florian Bockes, Raphael Wimmer, Andreas Schmid

**LBW116** Button++: Designing Risk-aware Smart Buttons
Eunji Park, Hyunjui Kim, Byungjoo Lee

**LBW117** DebugAR: Mixed Dimensional Displays for Immersive Debugging of Distributed Systems
Patrick Reipschläger, Burcu Kulaçıçoglu Ozkam, Aman Shankar Mathur, Stefan Gumhold, Rupak Majumdar, Raimund Dachselt

**LBW118** Observations and Opportunities for Deploying Virtual Reality for Passenger Boats
Lewis Carter, Andrew W. L. Paroz, Leigh Ellen Potter

**LBW119** A Low-Cost Tracking Technique Using Retro-Reflective Marker for Smartphone Based HMD
Daiki Yamaji, Hiroyuki Hakoda, Wataru Yamada, Hiroyuki Manabe

**LBW120** Counterpoint: Exploring Mixed-Scale Gesture Interaction for AR Applications
Barrett Ens, Aaron Quigley, Hui-Shyong Yeou, Pourang Irani, Thammathip Piumsomboon, Mark Billinghurst

**LBW121** Comparing Some Distances in Template-based 2D Gesture Recognition
Jean Vanderdonckt, Bruno Dumas, Mauro Cherubini

**LBW122** An Evaluation of Mobile Phone Pointing in Spatial Augmented Reality
Jeremy Hartmann, Daniel Vogel

**LBW123** GLATUI: Non-intrusive Augmentation of Motion-based Interactions Using a GLDV
Yunpu Hu, Leo Miyashita, Yoshihiro Watanabe, Masatoshi Ishikawa

**LBW124** The Effect of Predictability of Visual Motion from Motor Commands on the Recognition Process of Self-Attribution
Hiroto Saito, Kentaro Fukuchi

**LBW125** 2D-BayesPointer: An Implicit Moving Target Selection Technique Enabled by Human Performance Modeling
Nianlong Li, Feng Tian, Jin Huang, Xiangmin Fan, Hongan Wang

**LBW126** Do Stereo Display Deficiencies affect 3D Pointing?
Mayra Donaji Barrera Machuca, Wolfgang Stuerzlinger

**LBW127** Remote Expert for Assistance in a Physical Operational Task
Jari Kangas, Antti Sand, Tero Jokela, Petri Pippola, Peter Eskolin, Marja Salminmaa, Roope Raisamo

**LBW128** Touch To Talk: A Wearable Representing Social Media Metaphors
Saumya Gupta, Praveen Venkateswaran, Shrutik Khurana, Sindhuri Rayavaram

**LBW129** ‘Not Too Much, Not Too Little’ Wearables For Group Discussions
Ela Dogan, Elena Márquez Segura, Miguel Flores, Katherine Isbister

**LBW130** ShoulderTap - Pneumatic On-body Cues to Encode Directions
Tim C. Stratmann, Shadan Sadeghian Borojeni, Wilko Heuten, Susanne C. Boll

**LBW131** Towards Pleasant Touch: Vibrotactile Grids for Social Touch Interactions
Ali Israr, Freedy Abnousi
LBW132 Compliant Interface Based on Carbon Nanotube Piezoresistive Films for Social Interaction 
Cyril Bounakoff, Jonathan Genest, François Michaud, Jacques Beauvais

LBW133 Posture Sleeve: Using Smart Textiles for Public Display Interactions 
Alexandra Voit, Ferdinand Pfähler, Stefan Schneegass

LBW134 Understanding Large Display Environments: Contextual Inquiry in a Control Room 
Lars Lischke, Sven Mayer, Andreas Preikschat, Markus Schweizer, Ba-Anh Vu, Pawel W. Woźniak, Niels Henze

LBW135 Kawaluu: Macro Environment for Collaborative Surface with Dynamic Parameters using Tangible Objects 
Arika Hakoda, Koki Hatada, Junichi Yura

LBW136 CuffLink: A Wristband to Grab and Release Data Between Devices 
Alex Church, Ethan Kenwick, Yun Park, Luke Hudlass-Galley, Anmol Krishan Sachdeva, Zhiyu Yang, Jess McIntosh, Peter Bennett

**ROTATION 2: WEDNESDAY**

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Rei Yamagishi, Tetsu Takada

LBW502 How Do We Talk Ourselves Into These Things? Challenges with Adoption of Biometric Authentication for Expert and Non-Expert Users 
Flynn Wolf, Ravi Kuber, Adam J. Aviv

LBW503 Alpscraf: Augmenting Scarlet Plots for Exploring Temporal Gaze Patterns 
Chia-Kai Yang, Chat Wocharamanontham

LBW505 Privacy and Fear in the Drone Era: Preserving Privacy Expectations Through Technology 
Judith Odili Uchidiuno, Justin Manweiler, Justin D. Weisz

LBW506 Concern But No Action: Consumers’ Reactions to the Equifax Data Breach 
Yixin Zou, Florian Schaub

LBW507 “It was a shady HIT”: Navigating Work-Related Privacy Concerns on MTurk 
Shruti Sannon, Dan Cosley

LBW508 Not On My Phone: Exploring User’s Conception of Related Permissions 
Maria Muszynska, Denise Michels, Emanuel von Zeutschitz

LBW509 Privacy Invasion Experiences and Perceptions: A comparison between Germany and the Arab World 
MennatAllah Saleh, Mohamed Khamsi, Christian Sturm

**Understanding People: Theory, Concepts, Methods 510 – 528**

LBW511 Intelligent Interruptions for IVR: Investigating the Interplay between Presence, Workload and Attention 
Ceenu George, Manuel Demmler, Heinrich Hussmann

LBW512 How Stress Affects Functional Near-Infrared Spectroscopy (fNIRS) Measurements of Mental Workload 
Norah H. Alsuraykh, Horia A. Maior, Max L. Wilson, Paul Tennent, Sarah Sharples

LBW513 Designing Action-Characterizing Toy Blocks for Behavior Assessments 
Xiyue Wang, Miteki Ishikawa, Kazuki Takashima, Tomoaki Adachi, Ehud Sharlin, Patrick Finn, Yoshifumi Kitamura

LBW514 Perception of Speaker Personality Traits Using Speech Signals 
Leilani H. Gilpin, Danielle Olson, Tarfah Alrashed

LBW515 Detecting Personality Unobtrusively from Users’ Online and Offline Workplace Behaviors 
Seoung Kim, Jiyoun Ha, Juha Kim

LBW517 Analyzing Advertising Labels: Testing Consumers’ Recognition of Paid Content Online 
Jeff A. Johnson, Manoj Hastak, Bernard J. Jansen, Devesh Raval

LBW518 The Role of Aesthetics and Design: Wearables in Situ 
Matthew Pateman, Daniel Harrison, Paul Marshall, Marta E. Cecchinato

LBW519 Mixed Reality-Based Process Control Of Automatic Printed Circuit Board Assembly Lines 
Jürgen Hahn, Bernd Ludwig, Christian Wolff

LBW520 Exploring Mixed-Reality TUI Manipulatives for K-5 Classrooms 
Serena Hillman, Mariana Duprat, Andy Cargile, Alexandra Hillman

LBW521 Design, Adjust and Reuse – How Teachers Script Pedagogical Activities 
Ghita Jalal, Valentin Lachand, Aurélien Tabard, Christine Michel

LBW522 How Do HCI Professionals Perceive Their Work Experience? Insights from the Comparison with Other Job Roles in IT 
Nicola Marsden, Karen Holtzblatt

LBW523 How Do the Open Source Communities Address Usability and UX Issues? An Exploratory Study 
Jinghui Cheng, Jin L.C. Guo

LBW524 “Let Me Ask Them to Clarify If You Don’t Want To”—A Clarification Agent for Nonnative Speakers 
Wen Duan, Naomi Yamashita, Sun Young Hwang, Susan Fussell

LBW525 Identifying Design Opportunities for Multilingual Communication at International Courses: A Diary Study 
Jingjin Li, Pei-Luen Patrick Rau, Ge Gao

LBW526 Designing Colours and Materials in Tangible Reading Products for Foreign Language Learners of English 
Ming Fan, Sheng Jin, Alissa N. Antle

LBW527 Towards Sustainable Media Practices in Families with Young Children 
Marije Nouwen

LBW528 The Effect of Doing and Messaging Pro-Environmental Behavior on Fostering the Behavior 
Jo-Tung Li, Yuan-Chi Tseng

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LBW529 Designing for Transparency of Coffee Production Costs 
Gilly Leshed, Liza Mansbach, Michael Huang

LBW530 Inclusion of Underserved Residents in City Technology Planning 
Jessa Dickinson, Sheena Erete, Mark Diaz, Denise Linn Riedl
LBW531 Exploring Blockchain for Trustful Collaborations between Immigrants and Governments
Chun-Wei Chiang, Eber Betanzos, Saiph Savage

LBW532 Appropriated or Inaccurate Care in Gig-Economy Platforms: A Psycho-linguistic Analysis of Uber and Lyft
Austin Toombs, Colin Gray, Guoyang Zhou, Ann Light

LBW533 Tip Me!: Tipping is Changing Social Interactions on Live Streams in China
Yi-Chieh Lee, Chi-Hsien Yen, Po-Tsung Chiu, Jung-Tai King, Wai-Tat Fu

LBW534 Oh The Places You’ll Share: An Affordances-Based Model of Social Media Posting Behaviors
Harmanpreet Kaur, Isaac Johnson, Hannah J. Miller, Loren G. Terveen, Cliff Lampe, Brent Hecht, Walter S. Lasecki

Health, Accessibility, and Aging 536 – 549

LBW536 An Exploration of How People with Intellectual Disability Engage with Online Information Retrieval
Laurianne Sitbon, Andy Bayor, Filip Bircanin, Stewart Koplick, Margot Breteron

LBW537 Gesture Input for Users with Motor Impairments on Touchscreens: Empirical Results based on the Kinematic Theory
Ovidiu-Ciprian Ungurean, Radu-Daniel Vatau, Luis A. Leiva, Réjean Plamondon

LBW538 Engaging IT Students in Co-Design with People with Intellectual Disability
Laurianne Sitbon

LBW539 Data Donors: Sharing Knowledge for Mobile Accessibility
André Rodrigues, Kyle Montague, Tiago Guerreiro

LBW540 Towards Supporting Mobile Device Users Facing Severely Constraining Situational Impairments
Sidas Saulynas, Ravi Kuber

LBW541 Potential of Exoskeleton Technology to Assist Older Adults with Daily Living
Merel M. Jung, Geke D. S. Ludden

LBW542 Fitbit for the Mind?: An Exploratory Study of ‘Cognitive Personal Informatics’
Cillian Dudley, Simon L. Jones

LBW543 TandemTrack: Promoting Consistent Exercise Leveraging Multimodal Training and Tracking
Daniel Smolyak, Bongshin Lee, Eun Kyoung Choe

LBW544 Re-powering Senior Citizens with Interactive Art Making: Case Study with Independent Older Adults
Jinsil Hwaryoung Seo, Benjamin Michael Copeland, Annie Sungkajur, Karlo I. Chang Gonzalez, Nicole Mathews

LBW545 Challenges and Requirements for Technology to Support Mobility of Older Adults
Yasmin Felberbaum, Joel Lanir, Patrice L. (Tamar) Weiss

LBW546 Understanding Older Adults’ Long-term Financial Practices: Challenges and Opportunities for Design
Sana Maqbool, Cosmin Munteanu

LBW547 mirrorU: Scaffolding Emotional Reflection via In-Situ Assessment and Interactive Feedback
Liuping Wang, Xiangmin Fan, Feng Tian, Lingjia Deng, Shuai Ma, Jin Huang, Hongan Wang

LBW548 Co-Designing a Classroom Display to Support Behavior Management Plans
Allison Nicole Spiller, Karina Caro, Gabriela Marcu

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LBW550 Choptop: An Interactive Chopping Board
Tuana Celik, Orsolya Lukacs-Kisbandi, Simon Partridge, Ross Gardner, Gavin Parker, Peter Bennett

LBW551 SpaceBot: Towards Participatory Evaluation of Smart Buildings
Samantha Mitchell Finnigan, Adrian K. Cleer, Patrick Olivier

LBW552 Decorating Public and Private Spaces: Identity and Pride in a Refugee Camp
Sara Kholeed Nabil, Reem Talhouk, Julie Trueman, David S. Kirk, Simon Bowen, Peter Wright

Sung-Chul Lee, Jihee Kim, Juho Kim

LBW554 Refuge Tech: An Assets-Based Approach to Refugee Resettlement
Azalea Irani, Kriti Nelavelli, Kristin Hare, Paula Bondal, Neha Kumar

LBW555 From Tangible to Augmented: Designing a PhonoBlocks Reading System Using Everyday Technologies
Min Fan, Alissa N. Antle, Shubhra Sarker

LBW556 “I don’t need to see that”: Seeking, Avoiding, and Attempting to Control Video Content
Jennifer Lee, Alvin Jude, Meral Shirazipour, Julien Forgeat

LBW557 Designing Emotional Expressions of Conversational States for Voice Assistants: Modality and Engagement
Yang Shi, Xin Yan, Xiaojuan Ma, Yongqi Lou, Nan Cao

LBW558 Towards Fixation Extraction in Corneal Imaging Based Eye Tracking Data
Christian Lander, Marco Speicher, Frederic Kerber, Antonio Krueger

LBW559 Interaction Restraint: Enforcing Adaptive Cognitive Tasks to Restrain Problematic User Interaction
Joonyoung Park, Jin Yong Sim, Jaejeung Kim, Mun Yong Yi, Uichin Lee

LBW560 Identifying Types of Misalignments between Promotion Emails and Landing Pages
Tak Yoon Lee, Eunyee Koh

LBW561 Designing Auditory Feedback from Wearable Weightlifting Devices
Mengye Pan, Sagar Salvi, Erin Brady

LBW562 An Initial Investigation into Non-visual Code Structure Overview Through Speech, Non-speech and Speechcons
Joe Hutchinson, Oussama Metatla

Games and Play 564 – 571

LBW564 Event-driven Spectators’ Communication in Massive eSports Online Chats
Ilya Musabirov, Denis Bulygin, Paul Okopny, Ksenia Konstantinova

LBW565 Uses and Gratifications of Initiating Use of Gamified Learning Platforms
Rob van Roy, Sebastian Deterding, Bieke Zaman

LBW566 Changing Peer Support Attitudes with Avatar-based Gamification
Long Ting Chan, James R. Wallace

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LBW567 “You’re Giving Me Mixed Signals!”: A Comparative Analysis of Methods that Capture Players’ Emotional Response to Games
Raquel Robinson, John Murray, Katherine Isbister

LBW568 Labeling Implicit Computational Thinking in Pizza Pass Gameplay
Elizabeth Rowe, Jodi Asbell-Clarke, Ryan Baker, Santiago Gasca, Erin Bardar, Richard Scruggs

LBW569 Textile Manager: Design and Development of a Persuasive Game about Sustainable Textile Production
Katja Rogers, Michael Olah, Michael Weber

LBW570 CheckMate: Exploring a Tangible Augmented Reality Interface for Remote Interaction
Sebastian Günther, Florian Müller, Martin Schmitz, Jan Riemann, Niloofar Dezfuli, Markus Funk, Dominik Schön, Max Mühlhäuser

LBW571 Towards Dynamic Perspective Exchange in Physical Games
Jakub Sypniewski, Steven Beck Klingberg, Jakub Rybar, Robb Mitchell

Design 572 – 586

LBW572 Design for Songket Weaving in Malay
Min Zhang, Corina Sas, Masithah Ahmad

LBW573 ARTextiles for Promoting Social Interactions Around Personal Interests
Anna Fuste, Chris Schmandt

LBW574 Making Secret Pockets
Troy Robert Nachtigall, Kristina Andersen

LBW575 Evaluating Mindfulness Meditation Apps
Claudia Dauden Roquet, Corina Sas

LBW576 "It’s Just that Visceral": Eliciting Design Insight Using Beaded Representations of Online Course Structure
Rebecca M. Quintana, Yuanru Tan, Kathryn Gabriele, Nani Korf

LBW577 Examining Q&A of Peer Tutor Learning via Online Videos
Qunfang Wu, Yun Huang

LBW578 Learning from Lonely Hearts: Using Advice Columns in User Centered Design Education
Aisling Kelliher

LBW579 Biological HCI: Towards Integrative Interfaces Between People, Computer, and Biological Materials
Pat Pataranutaporn, Todd Ingalls, Ed Finn

LBW580 VOS – Designing a Visual Orientation System
Francisco Esteban Kiss, Albrecht Schmidt, Pawel W. Woźniak

LBW581 Sensalert: A Real-time Group and Individual Health Tracking Application
Zhuanyi Huang, Devin P. Wright, Michael J. Henry, Lauren E. Charles

LBW582 Snowflakes: A Design Speculation for a Modular Prototyping Tool for Rapidly Designing
Smart Wearables
Selin Insel, Oguz Turan Buruk, Mehmet Cengiz Onbaşılı, Oğuzhan Ozcan

LBW583 Exteriorizing Body Alignment in Collocated Physical Training
Laia Turmo Vidal, Élena Márquez Segura, Luis Parrilla Bel, Annika Waern

LBW584 Understanding User Preferences towards Rule-based Notification Deferral
Jonas Auda, Dominik Weber, Alexandra Voit, Stefan Schnegass

LBW585 Emotionscape: Mediating Spatial Experience for Emotion Awareness and Sharing
Sinem Semsioğlu, Yagmur Gokce, Asim Evren Yantoc

User Experience and Usability 587 – 601

LBW587 An inquiry into Goal-Setting Practices with Physical Activity Trackers
Chrysanthi Konstanti, Evangelos Karapanos

LBW588 Designing and Optimizing Digital Applications for Medical Emergencies
Alyssa Klein, Leah Kulp, Aleksandra Sarcevic

LBW589 Exploring Tangible Ways to Evaluate User Experience for Elders
Iyubanit Rodríquez, Maria Karyda, Andrés Lucero, Valeria Herskovic

LBW590 Older Pedestrians Navigating With AR Glasses and Bone Conduction Headset
Angelique Montwy, Béatrice Cauhour, Aurélie Dommes

LBW591 Factors Affecting Seniors’ Perceptions of Voice-enabled User Interfaces
Randall Ziman, Greg Walsh

LBW592 Supporting Credibility Assessment of News in Social Media using Star Ratings and Alternate Sources
Michael P. Kenning, Ryan Kelly, Simon L. Jones

LBW593 Can We Nudge Users Toward Better Password Management? An Initial Study
Shipi Kankan, Carlina DiRusso, Christen Buckley

LBW594 What Sensory Pedestrian Navigation Aids For The Future? A Survey Study
Angelique Montwy, Aurélie Dommes, Béatrice Cauhour

LBW595 RecurBot: Learn to Auto-complete GUI Tasks From Human Demonstrations
Thanapong Intharah, Michael Firman, Gabriel J. Brostow

LBW596 Will automatically importing user data help overcome the blank slate problem?
Jennifer L. Davidson, Jofish Kaye, Michael Verdi, Michelle Heubusch, Saptarshi Guha, Peter Dolanjski, Gemma Petrie

LBW597 Design Heuristics for Mobile Augmented Reality Game User Interfaces
Andrew Aultman, Spencer Dowie, Nelly Ann Hamid

LBW598 Using Eye Movement Data and Visit Contexts to Understand the Experience of Museum Visitors
Yuan-Chi Tseng, An-Hou Tang, Yu-Hsuan Shih, Sheng-Fu Liang

LBW599 Knowing what you’re doing or knowing what to do: how stress management apps support reflection and behaviour change
Nora Ptokauskoait, Anni L. Cox, Nadia Berthouze

LBW600 Designing an Object-based Preproduction Tool for Multiscreen TV Viewing
jie Li, Zhiyuan Zheng, Britta Meixner, Thomas Röggla, Maxine Glancy, Pablo Cesar

Engineering Interactive Systems & Technologies 602 – 614

LBW602 Personalized User-Carried Single Button Interfaces as Shortcuts for Interacting with Smart Devices
Florian Müller, Martin Schmitz, Markus Funk, Sebastian Günther, Niloofar Dezfuli, Max Mühlhäuser
**LATE-BREAKING WORK**

**LBW603**  
SweepScreen: Sweeping Programmable Surfaces to Create Low-fi Displays Everywhere  
Christos Mourouzi, Isabel Qamar, Anne Roudaut

**LBW604**  
Urban Pointing: Browsing Situated Media Using Accurate Pointing Interfaces  
Tobias Langlotz, Elias Tappeiner, Stefanie Zollmann, Jonathan Ventura, Holger Regenbrecht

**LBW605**  
PerForm: Deformable Interface for Exploring Sound through Shapes  
Irmandy Wicaksono, Caroline Rozendo, Runzhou Ye, Jaimea Trapp, V. Michael Bove Jr., Canan Dagdeviren, Hiroshi Ishii

**LBW606**  
Identifying Everyday Objects with a Smartphone Knock  
Taeseik Gong, Hyunsung Cho, Bowon Lee, Sung-Ju Lee

**LBW607**  
ExtensionClip: Touch Point Transfer Device Linking Both Sides of a Smartphone for Mobile VR Environments  
Ryosuke Takada, Toshiya Isomoto, Wataru Yamada, Hiroyuki Manabe, Buntarou Shizuki

**LBW608**  
ParaPara: Synthesizing Pseudo-2.5D Content from Monocular Videos for Mixed Reality  
Dong-Hyun Hwang, Hideki Koike

**LBW609**  
André Zener, Marco Speicher, Sören Klingner, Donald Degraen, Florian Daiber, Antonio Krüger

**LBW610**  
Levity: A Virtual Reality System that Responds to Cognitive Load  
Lynda Gerry, Barrett Ens, Adam Droegemuller, Bruce Thomas, Mark Billinghurst

**LBW611**  
Dynamic Object Scanning: Object-Based Elastic Timeline for Quickly Browsing First-Person Videos  
Seita Kayukawa, Keita Higuchi, Ryo Yonetani, Masanori Nakamura, Yoichi Sato, Shigeo Morishima

**LBW612**  
Got Flow? Using Machine Learning on Physiological Data to Classify Flow  
Raphael Rissler, Mario Nadj, Maximilian Xiling Li, Michael Thomas Knierim, Alexander Maedche

**LBW613**  
LokalPower: Enabling Local Energy Markets with User-Driven Engagement  
Arne Meeuw, Sandro Schofer, Benjamin Ryder, Felix Wortmann

**Interaction Techniques, Devices, & Modalities**  
615 – 635

**LBW615**  
Towards Robust Neuroadaptive HCI: Exploring Modern Machine Learning Methods to Estimate Mental Workload From EEG Signals  
Aurélien Appriou, Andrezj Cichocki, Fabien Lotte

**LBW616**  
Actuating a Monitor for Posture Changes  
Joongi Shin, Woohyeok Choi, Uichin Lee, Daniel Soakes

**LBW617**  
Look into my Eyes: Using Pupil Dilation to Estimate Mental Workload for Task Complexity Adaptation  
Thomas Kosch, Mariam Hassib, Daniel Buschek, Albrecht Schmidt

**LBW618**  
Empowering Interventions for Persons with Neurodevelopmental Disorders through Wearable Virtual Reality and Bio-sensors  
Franca Garzotto, Nicolò Messina, Vito Matarazzo, Lukasz Moskwa, Gianluigi Oliva, Riccardo Facchini

**LBW619**  
Social MatchUP - a Memory-like Virtual Reality Game for the Enhancement of Social Skills in Children with Neurodevelopmental Disorders  
Tommaso Loiacono, Marco Trabucchi, Nicolò Messina, Vito Matarazzo, Franca Garzotto, Eleonora Aida Beccaluva

**LBW620**  
A Proposal of Food Texture Display by Jamming  
Mana Sasagawa, Arinobu Niijima, Ryosuke Aoki, Tomoki Watanabe, Tomohiro Yamada

**LBW621**  
User Perceptions of 3D Food Printing Technologies  
Thomas David Gayler, Corina Sas, Vaiva Kalniņa

**LBW622**  
Free-Space Haptic Feedback for 3D Displays via Air-Vortex Rings  
Ali Shtrabonov, V. Michael Bove Jr.

**LBW623**  
ARCord: Visually Augmented Interactive Cords for Mobile Interaction  
Konstantin Klamka, Raimund Dachselt

**LBW624**  
HapticSerpent: A Wearable Haptic Feedback Robot for VR  
Mohammed Alsada, Keren Jiang, Shubhankar Ranade, Xinlei Piao, Thomas Hoglund, Tatsuo Nakajima

**LBW625**  
Mediate: A Spatial Tangible Interface for Mixed Reality  
Daniel Fitzgerald, Hiroshi Ishii

**LBW626**  
Physical Guides: An Analysis of 3D Sketching Performance on Physical Objects in Augmented Reality  
Philipp Wacker, Adrian Wagner, Simon Voelker, Jan Borchers

**LBW627**  
Understanding the Influence of Musical Parameters on Cognitive Responses of Audio Notifications  
Fu-Yin Cherng, Wen-Chieh Lin, Jung-Tai King, Yi-Chen Lee

**LBW628**  
SoundGlove: Multisensory Exploration of Everyday Objects for Creative Purposes  
Beomjun SON, Conner Hunihan, Soravis Prakkamakul

**LBW629**  
Effect of Expressive Lights on Human Perception and Interpretation of Functional Robot  
Sichao Song, Seiji Yamada

**LBW630**  
Empowering Creative People: Virtual Reality for Previsualization  
Thomas Muender, Thomas Fröhlich, Rainer Malaka

**LBW631**  
Thermal Interaction with a Voice-based Intelligent Agent  
Seyeong Kim, Yea-kyung Row, Tek-Jin Nam

**LBW632**  
Talking to GNOMEs: Exploring Privacy and Trust Around Internet of Things Devices in a Public Space  
Richard Milton, Boyana Buyuklieva, Duncan Hay, Andy Hudson-Smith, Steven Gray

**LBW633**  
An Interactive-Shoe For Surgeons: Hand-Free Interaction With Medical 2D Data  
Ambreen Zaman, Lars Reisig, Anke Verena Reinschluessel, Huseyin Bektas, Dirk Weyhe, Marc Herrlich, Tanja Dorning, Rainer Malaka

**LBW634**  
WatchVR: Exploring the Usage of a Smartwatch for Interaction in Mobile Virtual Reality  
Teresa Hirzle, Jan Rixen, Jan Gugenheimer, Enrico Rukzio

**LBW635**  
PairRing: A Ring-Shaped Rotatable Smartwatch Controller  
Jungmin Chung, Changhoon Oh, SoHyun Park, Bongwon Suh
DEMONSTRATIONS

2018 represents the 50th anniversary of Douglas Engelbart’s Mother of All Demos, and we are not going to let this occasion pass unnoticed. Demonstrations are a high-visibility, high-impact forum of the Technical Program that allow attendees to engage with research prototypes, novel interactive techniques, artworks, design experiences, and inspirational technologies. Come engage with Demonstrations at the CHI 2018 Expo on Monday night—by Tuesday, the Demonstrations will be gone! Plan your experience using the Monday night CHI Expo map on page 92.

Monday, 18:00 – 21:00
Presenters available during CHI Expo

D100 Demonstrations

D100 HCI Interventions for Monitoring Environmental Health
Hiwori Hill Kobayashi, Vicki Moulder

D101 Tangible Play Surface Using Passive RFID Sensor Array
Ankur Agrawal, Glen J. Anderson, Meng Shi, Rebecca Chierichetti

D102 Demonstrating grafter: Remixing 3D-Printed Machines
Thijs Jan Roumen, Willi Muller, Patrick Baudisch

D103 Touchless Tactile Displays for Digital Signage: Mid-air Haptics meets Large Screens
Loic Corenthy, Marcello Giardano, Daniel Griffiths, Craig Jeffrey, Hannah Limerick, Orestis Georgiou, Tom Carter, Jorg Muller, Srimat Subramanian

D104 Prayana: An Intermediated App for Loan Management in Resource-Constrained Settings
Apurv Mehra, Udayan Tandon, Sambhav Satija, Jacki O’Neill

D105 Demonstrating Printed Paper Actuator: A Low-cost Reversible Actuation and Sensing Method for Shape Changing Interfaces
Guanyun Wang, Youngwook Do, Tingyu Cheng, Humphrey Yang, Ye Tao, Jianzhe Gu, Byoungkwon An, Lining Yao

D106 Demonstration of Haptic Links: Bimanual Haptics for Virtual Reality Using Variable Stiffness Actuation
Evan Strasnick, Christian Holz, Eyaf Oefek, Mike Sinclair, Hrvoje Benko

D107 Feeling Speech on the Arm
Jennifer Chen, Pablo Castillo, Robert Turcott, Ali Israr, Frances Lou

D108 Mathland: Playful Mathematical Learning in Mixed Reality
Mina Khan, Fernando Trujano, Ashris Choudhury, Pattie Maes

D109 Demonstration of Haptic Revolver: Touch, Shear, Texture, and Shape Rendering on a VR Controller
Eric Whitmire, Hrvoje Benko, Christian Holz, Eyaf Oefek, Mike Sinclair

D110 Thor’s Hammer: An Ungrounded Force Feedback Device Utilizing Propeller-Induced Propulsive Force
Seongkook Heo, Christina Chung, Geeyuk Lee, Daniel Wigdor

D111 TaskCam
Andy Boucher, Dean Brown, Liliana Ovalle, Andy Sheen, Mike Vanis, William Gaver

D112 A Visual Interaction Framework for Dimensionality Reduction Based Data Exploration
Marco Cavallo, Cagatay Demiralp

D113 xSlate: A Softness-Controlled Surface for Shape-Changing Interfaces
Takayuki Hiroi, Satoshi Nakamura, Yoshihiro Kawahara, Yasuaki Kakehi

D114 A Demonstration of Season Traveller: Multisensory Narration for Enhancing the Virtual Reality Experience
Nimesha Ranasinghe, Pravar Jain, Thi Ngoc Tram Nguyen, Koon Chuan Raymond Koh, David Tolley, Liangkun Yan, Kala Shamaiah, Chow Eason Wai Tung, Ching Chiu Yan, Ellen Yi-Luen Do

D115 Snow Dome: A Multi-Scale Interaction in Mixed Reality Remote Collaboration
Thammathip Plumsomboon, Gun A. Lee, Mark Billinghurst

D116 PHUI-kit: A Tool for Physical User Interface Layout
Michael D. Jones, Zann Anderson, Casey Walker, Kevin Seppi

D117 Blind Pictionary – Drawing Application for Blind Users
Jens Bornschein, Denise Bornschein, Gerhard Weber

D200 Demonstrations

D200 GridDrones: A Self-Levitating Physical Voxel Lattice for 3D Surface Deformations
Seán Braley, Colin Rubens, Timothy R. Merritt, Roel Vertegaal

D201 Plunder Planet: An Adaptive Single- and Multiplayer Fitness Game Environment for Children and Young Adolescents
Anna Lisa Martin-Niedecken

D202 Connected Resources: A Novel Approach in Designing Technologies for Older People
Johanna Nicenboim, Masako Kitazaki, Tomo Khara, Ana Torrolba Marin, Martin Havranek

D203 Digital Possessions in the Museum of Broken Relationships
Daniel Herron, Wendy Moncur, Marija Curic, Drazen Grubišić, Olinka Vištica, Elise van den Hoven

D204 Demonstration of CLAW: A Multifunctional Handheld VR Haptic Controller
Inrak Choi, Eyaf Oefek, Hrvoje Benko, Mike Sinclair, Christian Holz

D205 Having an animated coffee with a group of chatbots from the 19th century
Heloisa Candello, Claudio Pinzane, Mauro Carlos Pichiliani, Melissa Alberio Guerra, Maira Gati de Bayser

D207 The Breathing Room - Breathing Interval and Heart Rate Capturing through Ultra Low Power Radar
Heikki Sjöman, Nazare Soares, Martinus Suikerbuijk, Jørgen Blindheim, Martin Steinert, Dog T. Wisland

D208 Dišimo: Anchoring Our Breath
Jelena Mladenovic, Jerémy Frey, Jessica R. Cauchard

D209 Extracting Design Guidelines for Wearables and Movement in Tabletop Role-Playing Games via a Research Through Design Process
Oğuz Turan Buruk, Oğuzhan Özcân

D210 #Scanners 2 - The MOMENT: A New Brain-Controlled Movie
Richard Ramchurn, Max L. Wilson, Sarah Martindale, Steve Benford

D211 SpaceHopper: Bounce Your Way to Galactic Domination
Juliano M. Franz, Joseph W. Malloch, Derek Reilly, Vinicius Sanches
D301 4D Experiences Enabled by Automatic Synthesis of Motion and Vibrotactile Effects
Sangyoon Han, Sunung Mun, Jongman Seo, Jaebong Lee, Seungmoon Choi

D302 A Showcase of Data-enabled Design Explorations
Sander Rogers, Janne van Kollegenburg, Heleen Rutjes, Eva Deckers, Joep Frens, Caroline Hummelms

D303 CTRL-Labs: Hand Activity Estimation and Real-time Control from Neuromuscular Signals
Edward F. Melcer, Michael T. Astolfi, Mason Remaley, Adam Berenzweig, Tudor Giurgica-Tiron

D304 HapCube: A Fingertip-Sized Tactile Device Providing 2+1 Dimensional Pseudo-Force Feedback
Hwan Kim, HyeonBeom Yi, Hyein Lee, Woohun Lee

D305 Exploring Multimodal Watch-back Tactile Display using Wind and Vibration
Youngbo Arah Shim, Jaeyeon Lee, Geetheuk Lee

D306 Punching Empathy into Yourself and Others: Subversive Transformation of Hostility
Jeffrey R. Blum, Pascal E. Fortin, Feras Al Tallal, Yubei Xiong, James Sham

D307 A Tangible VR Game Designed for Spatial Penetrative Thinking Ability
Jack Shen-Kuen Chang, Alison F. Doucette, Georgina Yeboah, Timothy Welsh, Michael Nitsche, Ali Mazolek

D308 iTurk: Turning Passive Haptics into Active Haptics by Making Users Reconfigure Props in Virtual Reality
Lung-Pan Cheng, Li Chang, Sebastian Marwecki, Patrick Baudisch

D309 The Haply Development Platform: A Modular and Open-Sourced Entry Level Haptic Toolkit
Steven Ding, Colin Gallagher

D310 Virtual Reality as a User-friendly Interface for Learning from Demonstrations
Nishanth Koganti, Abdul Rahman H. A.G., Yusuke Iwasawa, Kataro Nakayama, Yutaka Matsuo

D311 Firefly: A Social Wearable to Support Physical Connection of Larpers
Lois Vanhée, Elena Márquez Segura, Katherine Isbister

D312 Demonstrating Reality-Based Information Retrieval
Wolfgang Büschel, Annett Mitschick, Raimund Dachselt

D313 BioFidget Demo: Biofeedback for Respiration Training Using an Augmented Fidget Spinner
Rong-Hao Liang, Bin Yu, Mengru Xue, Jun Hu, Loe M.G. Feijs

D314 ARcadia: A Rapid Prototyping Platform for Real-time Tangible Interfaces
Annie Kelly, R. Benjamin Shapiro, Jonathan de Halleux, Thomas Ball

D315 Data Jalebi Bot
Gaurav Patekar, Karan Dudeja, Himanshu Bablani, Debanshu Bhaumik

Jennifer Jacobs, Joel R. Brandt, Radomir Mech, Mitchel Resnick

D317 An Interactive Tactile Aid for Older Adults Learning to Use Tablet Devices
Sho Conte, Cosmin Munteanu

D318 A Demonstration of Scale-Free Query by Sketching with Qetch
Miro Mannino, Azoo Abouzied

D319 IDROPO, A Hydroponic Planting System to Teach Gardening Through Play
Federica Carrozzo, Ruben Faccini, Angelo Falci, Beatrice Redaelli, Mirko Gelsomini, Giacomo Zannoni, Franca Garzotto

D320 ColorMod: Demonstration of Recoloring 3D Printed Objects using Photochromic Inks
Parinya Pumpongsanon, Xin Wen, David Kim, Stefanie Mueller

D321 Ambient: Facial Thermal Feedback in Remotely Operated Applications
MHD Yamen Saraji, Roshan Lalitha Peiris, Lichao Shen, Kouta Minamizawa, Susumu Tachi

D322 SaFePlay: A Portable Biomechanics Measurement and Analysis System of Lower Limbs
Shi-Yao Wei, Yin-Yu Chou, Hsing-Min Wang, Tse-Yu Lin, Shih-Jie Lin, Min-Shin Chen, Zhi-Wei Yang, Jung-Tang Huang, Yi-Ping Hung

D323 SurfaceConstellation Applications: Use Cases of Ad-Hoc Reconfigurable Cross-Device Workspaces
NicolaL Marquardt, Frederik Brudy, Can Liu, Ben Bargler, Christian Holz

D324 Project Zanzibar Demonstration: A Portable and Flexible Tangible Interaction Platform
Nicolas Villor, Daniel Cletheroe, Greg Saul, Christian Holz, Tim Regan, Oscar Salandin, Misha Sra, Hui-Shyang Yeo, William Field, Haiyan Zhang

D400 Demonstrations

D400 RealWalk: Feeling Ground Surfaces While Walking in Virtual Reality
Hyangki Son, Hyunjae Gil, Sangkyu Byeon, Sang-Youn Kim, Jin Ryong Kim

D401 Squadbox: A Tool To Combat Online Harassment Using Friendsourced Moderation
Kaitlin Mahar, Amy X. Zhang, David Karger

D402 MuseBeat: Experience Real-Time Music Generation in Sync with Heartbeat
Lidiya Edligiyeva, Anastasia Chernova, Vitaly Smolov, Sebastian Benne

D403 A Demonstration of Metamaterial Textures
Alexandra Ion, Robert Kovacs, Oliver S. Schneider, Pedro Lopes, Patrick Baudisch

D404 Art, Human Computer Interaction, and Shared Experiences: A Gun Violence Prevention Intervention
Janice Tisha Samuels, Anjoo P. Mathew, Chantala Kommanivanh, Daniel Kwon, Liz Gomez, B’Rael Ali Thunder, Daria Velazquez, Millie Martinez, Leah LoQueens

D405 Demonstrating Thermorph: Democratizing 4D Printing of Self-Folding Materials and Interfaces
Ye Tao, Jianzhe Gu, Byoungwon An, Tingyu Cheng, Xiang ‘Anthony’ Chen, Xiaochao Zhang, Wei Zhao, Youngwook Do, Teng Zhang, Lining Yao

D406 Democratizing Open Energy Data for Public Discourse using Visualization
Saren Knudsen, Jo Vermeulen, Doris Kosminsky, Jagoda Walny, Mieka West, Christian Frisson, Bon Adriel Asemiero, Lindsay MacDonald Vermeulen, Charles Perin, Lien Quach, Peter Buk, Katrina Tabuli, Shreya Chopra, Wesley Willett, Sheelagh Carpendale

D407 One of the Family: An exploratory prototype in 3rd person branching narrative for Virtual Reality
Bradley Plaxen, Zoe Qi, Melissa R. Schoeller, Sharon You

D408 Infusing CuddleBits with Emotion: Build your Own and Tell Us About it
Lotus Hanzi Zhang, Paul Bucci, Xi Laura Cang, Karon MacLean

D409 Demonstration of Enabling People with Visual Impairments to Navigate Virtual Reality with a Haptic and Auditory Cane Simulation
Yuhang Zhao, Cynthia L. Bennett, Hrvoje Benko, Edward Cutrell, Christian Holz, Meredith Ringel Morris, Mike Sinclair
Can I Get Toy In?: A Box Interface Connecting Real and Virtual Worlds
Honoka Ozaki, Yasushi Matoba, Itiro Siio

Agile 3D Sketching with Air Scaffolding
Yongkwan Kim, Sang-Gyun An, Joon Hyub Lee, Seok-Hyung Bae

Projective Windows: Bringing Windows in Space to the Fingertip
Joon Hyub Lee, Sang-Gyun An, Yongkwan Kim, Seok-Hyung Bae

DataInk: Direct and Creative Data-Oriented Drawing
Haijun Xia, Nathalie Henry Riche, Fanny Chevalier, Bruno De Araujo, Daniel Wigdor

Demonstrating David Meets Goliath: Combining Smartwatches with a Large Vertical Display for Visual Data Exploration
Tom Horak, Sriram Karthik Badam, Niklas Elmqvist, Raimund Dachselt

Prototyping Biotic Games and Interactive Experiments with JavaScript
Peter Washington, Karina Samuel-Gama, Shirish Goyal, Ashwin Ramasswami, Ingmar Riedel-Kruse

TurboMouse: End-to-end Latency Compensation in Indirect Interaction
Axel Antoine, Sylvain Malacria, Géry Casiez

SpokeIt: A Co-Created Speech Therapy Experience
Jared Scott Duval, Elena Márquez Segura, Sri Kurniawan

Storyboard-Based Empirical Modelling of Touch Interface Performance
Alix Goguey, Géry Casiez, Andy Cockburn, Carl Gutwin

Dynamic Object Scanning: Object-Based Elastic Timeline for Quickly Browsing First-Person Videos
Seita Kayukawa, Keita Higuchi, Ryo Yonetani, Masanori Nakamura, Yoichi Sato, Shigeo Morishima

Iris: Gaze Visualization Design Made Easy
Jeff Brewer, Sarah D’Angelo, Darren Gergle

Cell Selection for Spreadsheets on Tablets: Stacking-Based Interaction
Gary Perelman, Marcos Serrano, Celia Picard, Christophe Bortolaso, Mustapha Derras, Emmanuel Dubois
ART EXHIBITIONS

VR Lounge Art Exhibition

Tuesday - Thursday

Open Hours
Exhibit Hall/220BC

(see map on page 93)

A100 Radical Choreographic Object [RCO]
Sarah Fdili Alaoui, Jean Marc Matos, Arnaud Courcelle,
Frédéric Daubagna

A101 Respire: a Breath Away from the Experience in
Virtual Environment
Mirjana Prpa, Kivanç Tatar, Thecla Schiphorst, Philippe Pasquier

A102 Aura Garden: Collective and Collaborative Aesthetics
of Light Sculpting in Virtual Reality
Jinsil Hwaryoung Seo, Michael Bruner, Nathanael Ayres

A103 The Volca Project: A Multi-Sensory Camera for
Augmented Reality
Daniel Buzzo

A104 Body In Flow Virtual Reality Proposal
Lucy Boyd-Wilson, Bobby Rose

A105 Helmetron
Alexandre Saunier

A107 Geometrical Hong Kong: An Immersive and Interactive
Virtual Reality Tour
Shirley Geng Xu, Huaxin Wei

Wednesday
15:20 – 16:00
Exhibit Hall/220BC (Stage)

(see map on page 93 for stage)

Live Coding YouTube
Sang Won Lee

Immersive Art Exhibition Reception Hosted at La SAT

Wednesday Evening
19:00 – 22:00
Offsite

(Appearing in the Dome Exhibition at La SAT):

Constructs: Conducts
Intermodulator: interactive Audio-visual System
for Collaborative Improvisation
Weight of Data
I Am Afraid: A Voice Performance for The Dome
REVIVE: An Audio-visual Performance with
Musical and Visual AI Agents
Alibaba (China) Co., Ltd.  Booth 400
Alibaba Damo Academy is a new global research and development initiative of Alibaba Group. The DAMO Academy Natural HCl lab envisions to enhance human capability of interacting with machine in natural ways through AI and digitization of our senses.

Facebook  Booths 204/206
Giving people the power to build community and bring the world closer together requires constant innovation. At Facebook, research permeates everything we do. We work on cutting edge research with a practical focus, pushing product boundaries every day. We seek to create the technologies that give people new ways to communicate.

Google  Booths 500/502/504
Google’s mission is to organize the world’s information, making it universally accessible and useful. Every day, we bring our spirit of innovation and entrepreneurship to work. Come by our booth, meet our engineers and researchers, demo some new products and learn about some of the great opportunities we have at Google.

IBM Research  Booth 306
We live in a moment of remarkable change and opportunity. Data and technology are transforming industries and societies, ushering in a new era of Cognitive Computing. IBM is a leader in this worldwide transformation, building on a long history of innovation. At IBM, you can achieve what others think is impossible. Join us and discover what you can make of this moment.

Microsoft  Booths 100/102
At Microsoft, we aim to empower every person and every organization on the planet to achieve more. We care deeply about having a global perspective and making a difference in all corners of the planet. This involves playing a small part in the most fundamental of human activities: Creating tools that enable each of us along our journey to become something more.

Oath, Inc.  Booths 110/112
Oath. It’s a promise, a vow, a commitment to do something important. Oath represents the commitment we’ve made to building brands and it honors the promises we make to each other, our partners, clients and the world every day. The User Experience Research team helps our product teams create products that offer indispensable user experiences, which are key to customer usage, retention, and product success. We partner with teams to provide timely, believable and actionable insights into how users are using our products and services. Visit our booth to meet our team, including our Researchers, discuss our current opportunities, and take home some fun swag!

Morgan & Claypool publishes the Synthesis digital library for computer and information science researchers. At CHI, we will display books from our Human-Centered Informatics and Assistive Technologies series and offer 30 days of free guest access to the digital library for attendees without institutional subscriptions.

ACM  Booth 600
The ACM Digital Library is the premier source for computing literature. Over 425,000 articles. Over 3500 conference proceedings. Content from over 88 journals, magazines and newsletters. All with curated index containing over 2.3 million citations to the world’s computer literature. For over 60 year, ACM has been the place where the best minds in computer science have come to meet, share ideas, publish their work and change the world. Through our conferences, journals, magazines, newsletters and books we provide the fuel that inspires tomorrow’s innovations. ACM publishes high quality content in virtually every area of computing: from the practical to the theoretical, and from established to emerging fields.

Brain Products  Booth 304
Our applications for BCI, neuroadaptive technologies and symbiotic fields are unparalleled in flexibility, ease of application and integration. We are always pushing the boundaries of discovery, constantly developing and improving products to better serve your research efforts. Our solutions are driven by innovation, close customer interactions and dedication to the cutting edge of neuroscience.

Cambridge University Press  Booth 308
Cambridge University Press’ publishing in books and journals combines state-of-the-art content with the highest standards of scholarship, writing and production. Visit our stand to browse new titles, available at 20% discount, and to pick up sample copies of our journals. Visit our website to find out more about what we do: www.cambridge.org/academic.

Elsevier  Booth 406
Elsevier will be presenting key titles across Human Factors in Computing Systems. Visit us at our booth and meet the publishers and editors to ask any questions you may have about submitting research to our journals. In addition, learn more about our author services, open access options and content innovation.

MDPI AG  Booth 312
MDPI (Multidisciplinary Digital Publishing Institute) is an academic open-access publisher with headquarters in Basel, Switzerland. MDPI publishes 188 diverse peer-reviewed, scientific, open access, electronic journals, including Sensors (2016 Impact Factor 2.677), Future Internet, Machines, Information, Informatics, Robotics, Designs, Technologies, Computers, Multimodal Technologies and Interaction.

MIT Press  Booth 506
The MIT Press is the only university press in the United States whose list is based in science and technology. We publish about 200 new books a year and over 30 journals. Our goal is to create books and journals that are challenging, creative, attractive, and yet affordable to individual readers.

(see maps on pages 92-93 for booth locations)
now publishers

now publishers is the proud publisher of Foundations and Trends in Human Computer Interaction under the editorship-in-chief of Desney Tan. Foundations and Trends journals publish state-of-the-art review articles written by leading researchers in the field. Visit our booth to browse the available titles and to meet the publisher.

Opico

Opico lets you share emoji reactions about the places you go with your friends. You can use Opico to mine your social network for real-time restaurant recommendations, which sites to see on vacation, or where to take a date. Opico was developed at the University of Illinois at Urbana-Champaign, and is available on the Apple App Store and Google Play.

Oxford University Press

Oxford University Press is a publisher of some of the most respected and prestigious books and journals in the world. Visit our stand to browse books and to pick up sample copies of our journals, or visit online at www.oup.com for more information.

PLUX-Wireless Biosignals SA

PLUX develops award-winning wireless physiological sensing hardware and software tools that are redefining the way in which students, researchers and practitioners can collect and analyse reliable, high definition data. From low-cost DIY kits to professional systems and engineering services, our innovative technologies and expert team can help bring to life your most demanding R&D vision.

Smart Eye AB

Smart Eye is regarded as a global leader in the development of remote multi-camera head and eye tracking solutions enabling complete freedom of movement within any given application environment while retaining impressive levels of gaze accuracy, field of view and robustness. Our real-time and completely non-invasive solutions are used in areas including HCI, Human Factors, Neuroscience, Psychology.

Springer

Looking to publish your research? Discover Springer's print and electronic publication services, including open access! Get high-quality review, maximum readership and rapid distribution. Visit our booth or springer.com/authors. You can also browse key titles in your field and buy (e)books at discount prices. With Springer you are in good company.

Tech3Lab

Cloud-based lab management and analytics software platform which was designed by our research team to specifically address those research needs. The platform was designed to enable multimodal human computer interaction (HCI) studies involving authentic research stimuli such as usability studies on mobile applications.

Tobii Pro

Tobii Pro, being a world leader in eye tracking products and services, helps business and science professionals gain valuable insights into human behavior. Our innovative and high-quality eye tracking solutions capture human behavior in a natural way, ultimately affording users access to valuable, objective data about real responses to stimuli.

youXtools

Free UX tools for remote usability testing, diary studies, and quantifying the emotional journey to drive CX and product decisions.
LEVEL 2 & MEZZANINE 3

Mezzanine 3
338 First Aid
341 Speaker Ready Room
342 Desensitization Room

Level 2
Esplanade
Hall Viger
(Registration)
To 5th Floor

Exhibit Hall
220b
220c

Nursing Room 449
Key in Conference Office (Room 523)
LEVEL 5
Rooms 513 to 525

Saturday-Sunday
Men’s & Women’s Restrooms

Monday-Thursday
Men’s & All Gender Restrooms

Satruday-Sunday
Men’s & All Gender Restrooms

Monday-Thursday
Men’s & Women’s Restrooms
Weaving the Threads of CHI

Our theme for 2019 is “Weaving the Threads of CHI”. This is reflected in our celtic knot logo, a symbol of strength and friendship. Threads are interconnected and interwoven, without clear beginning or end.

We are the threads of CHI, people from different disciplines, cultures, sectors, communities, backgrounds - designers, researchers, practitioners - weaving together into one community, with the common purpose of technology that works for people and society.

Submission Deadlines

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<th>January 2019</th>
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<td>14 September 2018</td>
<td>Workshops</td>
<td>Late-Breaking Work</td>
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<td>Title, abstract, authors,</td>
<td>Interactivity</td>
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<td>subcommittee choice</td>
<td>Doctoral</td>
<td>Panels and Fireside Chats</td>
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<td>21 September 2018</td>
<td>Consortium</td>
<td>Special Interest Groups (SIGs)</td>
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<td>Courses</td>
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<td>January 2019</td>
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<td>Career Development Workshop</td>
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