



CHI 2018

Engage with CHI

Montréal, Canada • April 21-26 • chi2018.acm.org



Conference Program



Association for
Computing Machinery

The 36th Annual CHI Conference on Human Factors in Computing Systems



SIGCHI
special interest group: computer-human interaction

Monday – 23 April 2018

- 09:00 – 10:30 ... **Monday Morning Opening Plenary, Christian Rudder (Room 517D)**
10:30 – 11:30 ... Coffee Break (517 Foyer)
11:30 – 12:50 ... Technical Sessions
12:50 – 14:30 ... Lunch Break (on your own)
14:30 – 15:50 ... Technical Sessions
15:50 – 16:30 ... Coffee Break (517 Foyer)
16:30 – 17:50 ... Technical Sessions
18:00 – 21:00 ... **CHI 2018 Reception and Expo featuring Demonstrations (Exhibit Hall/220BC)**

Tuesday – 24 April 2018

- 09:00 – 10:20 ... Technical Sessions
(Note: Exhibit Hall open 10:20 – 18:00)
10:20 – 11:00 ... Coffee Break (Exhibit Hall/220BC)
Late-Breaking Work Posters Rotation 1
Art Exhibitions (*VR Lounge*)
GameJam Demonstrations
11:00 – 12:20 ... Technical Sessions
12:20 – 14:00 ... Lunch Break (on your own)
Diversity & Inclusion Lunch (Preregistration required)
14:00 – 15:20 ... Technical Sessions
15:20 – 16:00 ... Coffee Break (Exhibit Hall/220BC)
Late-Breaking Work Posters Rotation 1
Student Research Posters
Student Design Posters
Art Exhibitions (*VR Lounge*)
ScienceJam Lightning Talks
16:00 – 17:20 ... Technical Sessions
17:30 – 18:30 ... **Tuesday Plenary, Choir! Choir! Choir!, Daveed and Nobu (Room 517D)**
18:00 – 19:30 ... **Job Fair (Exhibit Hall/220BC)**

Wednesday – 25 April 2018

- 09:00 – 10:20 ... Technical Sessions
(Note: Exhibit Hall open 10:20 – 17:30)
10:20 – 11:00 ... Coffee Break (Exhibit Hall/220BC)
Late-Breaking Work Posters Rotation 2
Art Exhibitions (*VR Lounge*)
11:00 – 12:20 ... Technical Sessions
12:20 – 14:00 ... ACM SIGCHI and CHI Joint Town Hall Lunch (Room 520)
14:00 – 15:20 ... Technical Sessions
15:20 – 16:00 ... Coffee Break (Exhibit Hall/220BC)
Art Exhibit: Live Coding YouTube
Late-Breaking Work Posters Rotation 2
Art Exhibitions (*VR Lounge*)
16:00 – 17:20 ... Technical Sessions
17:30 – 18:30 ... **Video Showcase (Room 517D)**
19:00 – 22:00 ... **Immersive Art Exhibition Reception Hosted at La SAT (Off site)**

Thursday – 26 April 2018

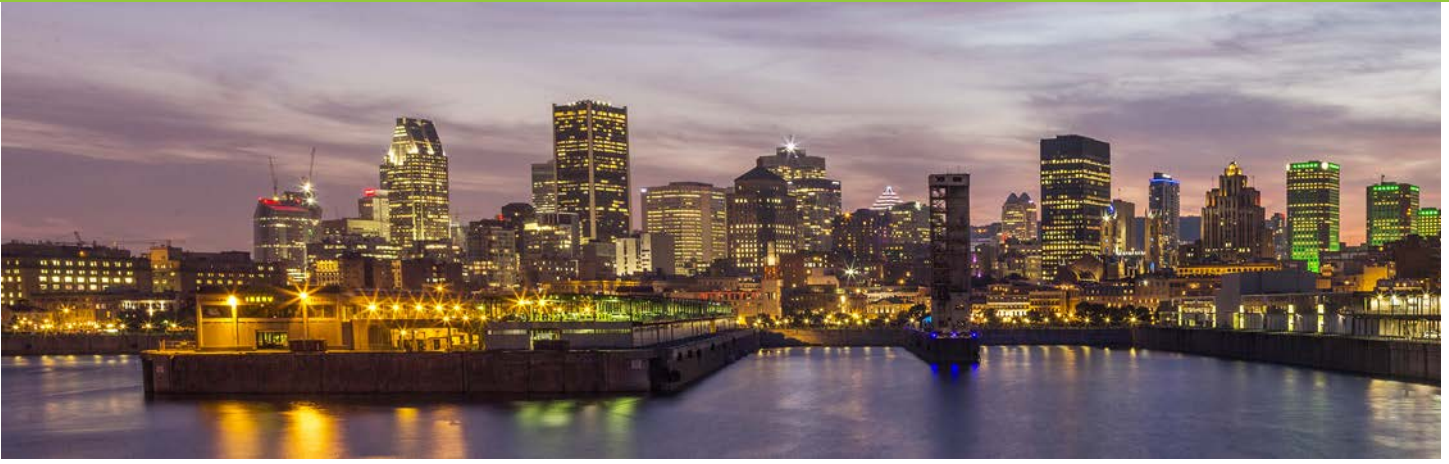
- 09:00 – 10:20 ... Technical Sessions
(Note: Exhibit Hall open 10:20 – 13:30)
10:20 – 11:00 ... Coffee Break (Exhibit Hall/220BC)
Art Exhibitions (*VR Lounge*)
11:00 – 12:20 ... Technical Sessions
12:20 – 14:00 ... Lunch Break (on your own) (Note: Exhibit Hall closes at 13:30)
14:00 – 15:20 ... Technical Sessions
15:20 – 15:40 ... Coffee Break (517 Foyer)
15:40 – 17:10 ... **Thursday Afternoon Closing Plenary, Sue Gardner (Room 517D)**

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CHI 2019 Save the Date	inside back cover

WIFI (case sensitive)

SSID: CHI2018

Password: ENGAGE2018



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.

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.

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. Tiohtiá: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!*



General Conference Chair
Regan Mandryk
University of Saskatchewan



General Conference Chair
Mark Hancock
University of Waterloo

■ 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



Technical Program Chair
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. Tiohtiá: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.

CHI2018 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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user experience

CHI 2018

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 Enrique Encinas, *Northumbria University*
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 Sabine Harrer, *University of Vienna*
 Reuben Kirkham, *Newcastle University*
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Student Research Competition Jury

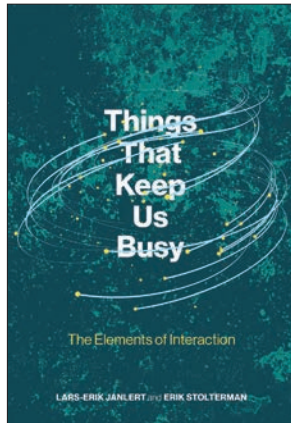
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Student Design Competition Jury

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 Chris le Dantec, *Georgia Tech*
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The MIT Press



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.

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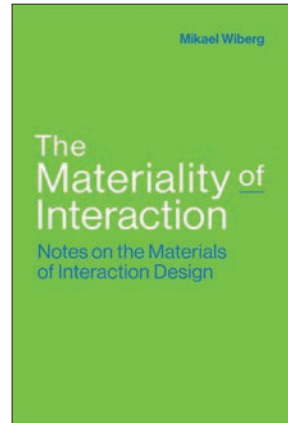
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CHI 2018 is sponsored by ACM's Special Interest Group on Computer-Human Interaction (ACM SIGCHI). ACM, the Association for Computing Machinery, is an educational and scientific society uniting the world's computing educators, researchers, and professionals 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

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■ 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.

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.

■ 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** 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** are available in the ACM Digital Library, and these publications contain details of the work presented.
4. The free **SIGCHI Mobile App** 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>.
5. The **CHI 2018 Video Previews** 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>).
6. The **CHI 2018 schedule** is also available through **Confer**, a tool for conference attendees to discover papers of their interest, get paper recommendations, create their personal schedules, and meet new colleagues with shared interests. <http://confer.csail.mit.edu/chi2018>
7. SVs or **CHI 2018 Student Volunteers** 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>, 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

List on page 75

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

List on page 74

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

List on page 86

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

List on page 76

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

List on page 76

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

List on page 77

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)

Posters

Exhibit Hall/220BC

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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

Tuesday – Thursday

Exhibit Hall/220BC

List on page 89

The CHI 2018 VR Lounge houses immersive interactive virtual reality platforms. Immerse yourself 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

Wednesday, 17:30 – 18:30

517D

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.

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).

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

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.

Monday	18:00 – 21:00	CHI Expo and Reception
Tuesday	10:20 – 18:00	(Job Fair 18:00 – 19:30)
Wednesday	10:20 – 17:30	
Thursday	10:20 – 13:30	

Coffee Breaks

Regularly scheduled morning and afternoon coffee breaks are complimentary for all registered CHI 2018 attendees:

Monday	10:30 – 11:30	517 Foyer
	15:50 – 16:30	517 Foyer
Tuesday-Wednesday	10:20 – 11:00	Exhibit Hall/220BC
	15:20 – 16:00	Exhibit Hall/220BC
Thursday	10:20 – 11:00	Exhibit Hall/220BC
	15:20 – 15:40	517 Foyer

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.

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

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	Booth 400
Facebook	Booth 204/206
Google	Booth 500/502/504
IBM Research	Booth 306
Microsoft	Booth 100/102
Oath:	Booth 110/112

Contributing Sponsor Recruiters:

Salesforce	Recruiting Board
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Additional Recruiters:

Accenture	Recruiting Board
Apple	Recruiting Board
City University of Hong Kong - Department of Information Systems	Recruiting Board

Hospitality Reception

LA SAT (off site)

Wednesday, 19:00 – 22:00

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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.

■ 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 NYNEX 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 about 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.

■ CHI ACADEMY

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 from the 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 includes 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.

■ MONDAY MORNING OPENING PLENARY

Christian Rudder

Monday April 23, 09:00 – 10:30

517D

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 *New Yorker* feature.

Graduating Harvard cum laude with a math degree, Christian Rudder got his start as the Creative Director for SparkNotes, a sort of 21st century Cliff's Notes for the Internet, which was sold to Barnes & Noble in 2001. He sold *Dataclysm* for a seven-figure deal—an usually unheard of amount for a first time author.

■ TUESDAY AFTERNOON PLENARY

Choir! Choir! Choir!

Tuesday April 24, 17:30 – 18:30

517D

Daveed and Nobu 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.



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!.

■ THURSDAY AFTERNOON CLOSING PLENARY

Sue Gardner

Thursday April 26, 15:40 – 17:10

517D

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.



Monday Morning Opening Plenary

09:00 – 10:30

Christian Rudder

517D

10:30 – 11:30
Coffee Break
517 Foyer

513AB Papers: Devices and Interactions for Care

CHAIR: ELIZABETH L. MURNANE



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-jui 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 Weinshel, Shawn Shan, Chang Min Hahn, 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 Parameswaran

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

Glena H. Iten, Sharon T. Steinemann, Klaus Opwis

Playing to Wait: A Taxonomy of Idle Games

Sultan A. Alharthi, Olaa Alsaedi, Zachary O. Touns, Joshua Tanenbaum, Jessica Hammer

516AB Papers: Illusions in VR

CHAIR: DAVID LINDLBAUER

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

U The Dream is Collapsing: The Experience of Exiting VR

Jarrod Knibbe, Jonas Schjerlund, Mathias Petraeus, Kasper Hornbæk

516C Papers: Craft, Fabrication, Making

CHAIR: ALEXANDRA ION

U 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. Ta, 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, Xiangxu 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

Hyunjae Gil, Hyunki Son, Jin Ryong Kim, Ian Oakley

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

U Making Sense of Blockchain Applications: A Typology for HCI

Chris Elsdon, 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 Johri

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, Jobin James, Markku Turunen, Florian Alt

Designing Consistent Gestures Across Device Types: Eliciting RSVP Controls for Phone, Watch, and Glasses

Tilman Dinger, 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. Klokmoose, Aaron Quigley, Antti Oulasvirta, Otmar Hilliges

518C Papers: Learning to Program

CHAIR: PEI-YU (PEGGY) CHI

- U 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

- U 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

- U 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. Bülthoff, 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

521ABC Course (C01): Mobile UX Course (1/2)

Mobile UX – The Next Ten Years?
Simon Robinson, Jennifer Pearson, Matt Jones

522AB Course (C02): Balanced Interaction Design (1/3)

Balanced Interaction Design
Gilbert Cockton

524A Course (C03): Introduction to Human-Computer Interaction (1/3)

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

524B Course (C04): SIGCHI Volunteer

Becoming a SIGCHI Volunteer
Loren Terveen

524C Course (C05): How to Write CHI Papers - Second Edition (1/3)

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



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

513AB Papers: Fabrication

CHAIR: LAURA DEVENDORF

 MatchSticks: Woodworking through Improvisational Digital Fabrication

Rundong Tian, Sarah Sterman, Ethan Chiou, Jeremy Warner, Eric Paulos

ColorMod: Recoloring 3D Printed Objects using Photochromic Inks

Parinya Punpongsanon, Xin Wen, David S. Kim, Stefanie Mueller

Greater than the Sum of its PARTs: Expressing and Reusing Design Intent 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, Stelian Coros, Scott E. Hudson

514A SIG: Chatbots for Social Good

SIG: Chatbots for Social Good

Asbjørn Følstad, Petter Bae Brandtzaeg, Tom Feltwell, Effie L-C Law, Manfred Tscheligi, Ewa A. Luger

514B Papers: Methods and Research with Diverse Communities

CHAIR: JASMINE JONES

M-Kulinda: Using a Sensor-Based Technology Probe to Explore Domestic Security in Rural Kenya

George Hope Chidziwisano, Susan Wyche

"You Can Always Do Better!" The Impact of Social Proof on Participant Response Bias

Aditya Vashistha, Fabian Okeke, Richard Anderson, Nicola Dell

Participatory Design and Participatory Research: An HCI Case Study with Young Forced Migrants

Ana Maria Bustamante Duarte, Nina Brendel, Auriol Degbelo, Christian Kray

Collaborative Reflection: A Practice for Enriching Research Partnerships Spanning Culture, Discipline, and Time

Daisy Yoo, Odeth Kantengwa, Nick Logler, Reverien Interayamahanga, Joseph Nkurunziza, Batya Friedman

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 Lombeyda, Scott Davidoff

c.light: A Tool for Exploring Light Properties in Early Design Stage

Kyeong Ah Jeong, Eunjin Kim, Taesu Kim, Hyeon-Jeong Suk

Rewire: Interface Design Assistance from Examples

Amanda M. Swearngin, 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, Maximilian Brehm, Lukas 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 Buckley, 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

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, Rubaiat 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 Chiuan Yen, 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 Homaieian, 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, Marian 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

518AB 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

Gahgene 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

518C 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
Pooja M. Desai, Matthew E. Levine, David J. Albers, Lena Mamykina



ECGLens: Interactive Visual Exploration of Large Scale ECG Data for Arrhythmia Detection
Ke Xu, Shunan 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 Gall Krogh, Jacob Albæk Schnedler, Hanne Linnet

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
Jayne 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, Tal 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

- U On the Design of OLO Radio: Investigating Metadata as a Design Material

William Odom, Tijs 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

- U Media of Things: Supporting The Production of Metadata Rich Media Through IoT Sensing

*Gerard Wilkinson, Tom Bartindale, Tom Nappey, 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

Sven Mayer, Lars Lischke, Jens Emil Grønbaek, Zhanna Sarsenbayeva, Jonas Vogelsang, Paweł W. Woźniak, Niels Henze, Giulio Jacucci

- U Traces: Studying a Public Reactive Floor-Projection of Walking Trajectories to Support Social Awareness

Beatrice Monastero, 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 Distler, Carine Lallemand, Thierry Bellet

- U Designing the Desirable Smart Home: A Study of Household Experiences and Energy Consumption Impacts

Rikke Hagensby Jensen, Yolande Strengers, Jesper Kjeldskov, Larissa Nicholls, Mikael B. Skov

- U 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 Hornbæk, 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 Alevan

Speak Up: A Multi-Year Deployment of Games to Motivate Speech Therapy in India

Amal 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 Avagyan

Using Visual Histories to Reconstruct the Mental Context of Suspended Activities

Adam Rule, Aurélien Tabard, James D. Hollan

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, Munmun De Choudhury

516D Papers: Work, Work, Work

CHAIR: GE GAO

The Application and Its Consequences for Non-Standard Knowledge Work

Midas Nouwens, Clemens Nylandsted Klokmoose

Accountability in the Blue-Collar Data-Driven Workplace

Kristian Helbo Kristiansen, Mathias A. Valeur-Møller, Lynn Dombrowski, Naja L. Holten Møller



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, Rafał Kocielnik, Daniel Avrahami

516E Papers: Interaction Under Pressure

CHAIR: AARON QUIGLEY



Use the Force Picker, Luke: Space-Efficient Value Input on Force-Sensitive Mobile Touchscreens

Christian Corsten, Simon Voelker, Andreas Link, Jan Borchers

Impact Activation Improves Rapid Button Pressing

Sunjun Kim, Byungjoo Lee, Antti 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

Jérémy 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, Jue Wang



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

518AB 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

519AB 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, ThuBa 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

520AD 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



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 Papallas, 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 Michie, 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 Segura, 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-Cuellar

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

516D Papers: Task Communication

CHAIR: MOHIT JAIN

Face Value? Exploring the Effects of Embodiment for a Group Facilitation Agent

Amenah 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 Liifshitz-Assaf, 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

517A Papers: Tangible, Embodied, Wearable Interaction

CHAIR: CHENG ZHANG

Capturing, Representing, and Interacting with Laughter

Kimiko Ryokai, Elena Durán López, Noura Howell, Jon Gillick, David Bamman

AlterWear: Battery-Free Wearable Displays for Opportunistic Interactions

Christine Dierk, Molly Jane Pearce Nicholas, Eric Paulos

Digital Outdoor Play: Benefits and Risks from an Interaction Design Perspective

Tom Hitron, Idan David, Netta Ofer, Andrey Grishko, Iddo Yehoshua Wald, Hadas Erel, Oren Zuckerman

Framed Guessability: Improving the Discoverability of Gestures and Body Movements for Full-Body Interaction

Francesco Cafaro, Leilah Lyons, Alissa N. Antle

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, Ravin 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, Haihua 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 Dackermann, Madeleine Schüler, Christine Ulrich, 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 Zraggen, 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 Rzaev, Paweł W. 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, Abdallah 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

Late-Breaking Work Posters Rotation 1
 Art Exhibitions (VR Lounge)
 GameJam Demonstrations

List on page 78 Exhibit Hall/220BC
 List on page 89 Exhibit Hall/220BC
 Exhibit Hall/220BC



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

513AB Papers: Human Senses

CHAIR: YANG ZHANG

Multi-Touch Skin: A Thin and Flexible Multi-Touch Sensor for On-Skin Input

Aditya Shekhar Nittala, Anusha Withana, Narjes Pourjafarian, Jürgen Steimle



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. Touns, 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, Yusuke 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

516D Papers: Personalization/Customization

CHAIR: BETTINA NISSEN

Personalization of Context-Dependent Applications Through Trigger-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 Karppinen, 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 Wohn, Amanda L. Rebar, David E. Conroy, Eun Kyoung Choe

Designing in the Dark: Eliciting Self-tracking Dimensions for Understanding Enigmatic Disease

*Mollie McKillop, Lena Mamykina, Noemie Elhadad***517A 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 Kuijer, 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, Sarvapali D. Ramchurn, Tom Rodden, Nicholas R. Jennings***517B 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 Barral, Ilkka Kosunen, Giulio Jacucci***517C 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 Castaneda-Sceppa, Jessica Hoffman, Magy Seif El-Nasr, Vivien Morris, Andrea G. Parker

Enabling the Participation of People with Parkinson's and their Caregivers in Co-Inquiry around Collectivist Health Technologies

Roisin McNaney, John Vines, Andy Dow, Harry Robinson, Heather Robinson, Kate McDonald, Leslie Brown, Peter Santer, Don Murray, Janice Murray, David Green, Peter Wright

How Information Sharing about Care Recipients by Family Caregivers Impacts Family Communication

*Naomi Yamashita, Hideaki Kuzuoka, Takashi Kudo, Keiji Hirata, Eiji Aramaki, Kazuki Hattori***517D 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. Dillahunt, Vaishnav Kameswaran, Desiree McLain, Minnie Lester, Delores Orr, Kentaro Toyama

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-Engineering
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 Salandin, 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 Subramanian, 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 Knierim, Valentin Schwind, Anna Maria Feit, Florian Nieuwenhuizen, Niels Henze***VR-OOM: Virtual Reality On-rOad driving siMulation***David Goedicke, Jany 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***Oğuz 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***Eda Zhang, Gabriel Culbertson, 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*Yasuyuki Sumi, Masaki Suwa, Koichi Hanaue***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 Aitamurto, Shuo Zhou, Sukolsak Sakshuwong, Jorge Saldivar, 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, Paweł 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 Miao, Steven Feiner

NavigaTone: Seamlessly Embedding Navigation Cues in Mobile Music Listening

Florian Heller, Johannes Schöning

HindSight: Enhancing Spatial Awareness by Sonifying Detected Objects in Real-Time 360-Degree Video

Eldon Schoop, James Smith, Bjoern Hartmann

Passenger Trip Planning using Ride-Sharing Services

Michael K. Svangren, Mikael B. Skov, Jesper Kjeldskov

517A Papers: Design Aesthetics

CHAIR: PETER GALL KROGH

Attending to Slowness and Temporality with Olly and Slow Game: A Design Inquiry Into Supporting Longer-Term Relations With Everyday Computational Objects

William Odom, Ron Wakkary, Ishac Bertran, Matthew Harkness, Garnet Hertz, Jeroen Hol, Henry Lin, Bram Naus, Perry Tan, Pepijn Verburg

🏆 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 Hoggemueller, Martin Tomitsch, Alexander Wiethoff

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 Kapteinin

517C 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. Dillahunt



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, Loraine 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

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

518C Papers: Learning 1

CHAIR: CONOR LINEHAN

Customizing Developmentally Situated Design (DSD) Cards: Informing Designers about Preschoolers' Spatial Learning

Gökçe Elif Baykal, Tilbe Göksun, 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 Salen, Stephanie Ta, Geraldine Fitzpatrick

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 Ouhyoung

Insert Needle Here! A Custom Display for Optimized Biopsy Needle Placement

Anke V. Reinschluessel, Marc Herrlich, Tanja Döring, Mark Vangel, Clare Tempamy, 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

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

Late-Breaking Work Posters Rotation 1
 Student Research Posters
 Student Design Posters
 Art Exhibitions (VR Lounge)
 ScienceJam Lightning Talks

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Exhibit Hall/220BC

Exhibit Hall/220BC

Exhibit Hall/220BC

Exhibit Hall/220BC

Exhibit Hall/220BC



15:20 – 16:00
 Coffee Break
 Exhibit Hall/220BC

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

The Unexpected Entry and Exodus of Women in Computing and HCI in India

Divy Thakkar, Nithya Sambasivan, Purva Kulkarni, Pratap Kalenahalli Sudarshan, Kentaro Toyama

514A SIG: Games and Play SIG

Games and Play SIG: Engaging Small Developer Communities

Lennart E. Nacke, Pejman Mirza-Babaei, Katta Spiel, Zachary O. Touns, 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

More Than a Show: Using Personalized Immersive Theater to Educate and Engage the Public in Technology Ethics

Michael Warren Skirpan, Jacqueline Cameron, Tom Yeh

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 Hornbæk

Evaluating User Satisfaction with Typography Designs via Mining Touch Interaction Data in Mobile Reading

Junxiang Wang, Jianwei Yin, Shuiguang Deng, Ying Li, Calton 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

Takanori 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 Khamis, Anita Baier, Niels Henze, Florian Alt, Andreas Bulling

Evaluating the Disruptiveness of Mobile Interactions: A Mixed-Method Approach

Sven Mayer, Lars Lischke, Paweł 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

Danaë Metaxa-Kakavouli, Kelly Wang, James A. Landay, Jeff Hancock

"Genderfluid" 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 LGBTQ+ 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. Murali, 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, Priyan Vaithilingam, Suresh Iyengar, Y. Vidhya, Manohar Swaminathan, Gopal Srinivasa

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 Riener, 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

*Joni O. Salminen, Lene Nielsen, Soon-Gyo Jung, Jisun An, Haewoon Kwak, Bernard J. Jansen***518AB Papers: Visualization Beyond the Desktop & Visual Privacy**

CHAIR: KHAIRI REDA



When David Meets Goliath: Combining Smartwatches with a Large Vertical Display for Visual Data Exploration

Tom Horak, Sriram Karthik Badam, Niklas Elmqvist, Raimund Dachsel

Clusters, Trends, and Outliers: How Immersive Technologies Can Facilitate the Collaborative Analysis of Multidimensional Data

Simon Butscher, Sebastian Hubenschmid, 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 Ilangoan, Han Wang***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 Soro, Margot Brereton, Tshering Dema, Jessica L. Oliver, Min Zhen Chai, 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***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***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***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***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

**Tuesday Afternoon Plenary**

17:30 – 18:30 517D

Daveed and Nobu, *Choir! Choir! Choir!*

TUESDAY



18:00 – 19:30

Job Fair & Recruiting Boards

Exhibit Hall/220BC

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 Huo, 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 Hämäläinen*

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

Brian A. Smith, Shree K. Nayar

516AB 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 Khelifi, Jordan Eschler, Rashmi G. Elera, Ari H. Pollack,
Wanda Pratt*

516C 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*

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 Abnoui

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 Tabletops
*Vit Rusnak, Caroline Appert, Olivier Chapuis,
Emmanuel Pietriga*

517A Papers: Accessible Interaction Techniques

CHAIR: ANHONG GUO

Nonvisual Interaction Techniques at the
Keyboard Surface
*Rushil Khurana, Duncan McIsaac, Elliot 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-Braille: 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 Sultana, François Guimbretière, Phoebe Sengers,
Nicola Dell*

Social Influences on Executive Functioning in
Autism: Design of a Mobile Gaming Platform
*Beibin Li, Adham Atyabi, 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,
Arkaiz 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*

 Voice Interfaces in Everyday Life
Martin Porcheron, Joel E. Fischer, Stuart Reeves, Sarah Sharples

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, Siân E. Lindley

 Co-constructing 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

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 Matvienko, Swamy Ananthanarayan, Thomas Olsson, Wilko Heuten, Susanne C.J. Boll

518C Papers: Crowdsourcing and Crowdtwork

CHAIR: JORGE GONCALVES

Online Sequencing of Non-Decomposable Macrotasks in Expert Crowdsourcing

Heinz Schmitz, Ioanna Lykourantzou

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 Csikszentmihalyi, 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"

Daniilo Giglito, Shaimaa Lazem, Anne Preston

Building Momentum: Scaling up Change in Community Organizations

Aksel Bjørn-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 Bassem, Sarah Clinch, Susan M. Dray, 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

Late-Breaking Work Posters Rotation 2 *List on page 82 Exhibit Hall/220BC*
Art Exhibitions (VR Lounge) *List on page 89 Exhibit Hall/220BC*



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

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, Loe 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 Touns, 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 Schneegass

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 Tao, 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, I.V. Ramakrishnan

Understanding the Needs of Searchers with Dyslexia

Meredith Ringel Morris, Adam Fourney, 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, Carman Neustaedter, 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 Brereton

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. Ekbis

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, Gijs 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 Brawer, Katherine Tsui, Setareh Nasihati Gilani, Melissa Malzkahn, Barbara Manini, Adam Stone, Geo Kartheiser, Arcangelo Merla, Ari Shapiro, David Traum, Laura-Ann Pettito

Inclusive Computing in Special Needs Classrooms: Designing for All

Zuzanna Lechelt, 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 Rousso-Schindler, Jeffrey Warshaw

Communicating Algorithmic Process in Online Behavioral Advertising

Motahhare Eslami, 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 Kleek, Reuben Binns

517D Papers: Supporting Creativity

CHAIR: ELIZABETH BUIE



Interactive Guidance Techniques for Improving Creative Feedback

Tricia J. Ngoon, C. Ailie Fraser, Ariel S. Weingarten, Mira Dontcheva, 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

Marianela Ciolfi Felice, Sarah Fdili Alaoui, 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

Kaitlin 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-BABAEI

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, Kivanç 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 Hilderbrand, 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 Kriglstein, 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***516AB 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 Illic

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 Bagalkot, Tomas Sokoler

Awe the Audience: How the Narrative Trajectories Affect Audience Perception in Public Speaking

M. Iftekhhar Tanveer, Samiha Samrose, Raiyan 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

- U 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, Tzuchuan 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. Flatla

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

- U 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

- U 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

518AB Papers: Talk to Me; Text Me

CHAIR: EDUARDO VELLOSO

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

- U DeepWriting: Making Digital Ink Editable via Deep Generative Modeling
Emre Aksan, Fabrizio Pece, Otmar Hilliges

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

Identifying Speech Input Errors Through Audio-Only Interaction
Jonggi Hong, Leah Findlater

518C 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

- U 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 Kleek, Reuben Binns, Jun Zhao, Adam Slack, Sauyon Lee, Dean Ottewell, Nigel Shadbolt

519AB 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

- U 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 I. 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. Klokmoose,
Susanne Bodker*

Charrette: Supporting In-Person Discussions around
Iterations in User Interface Design

*Jasper O'Leary, Holger Winnemöller, Wilmot Li,
Mira Dontcheva, 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 Claire, 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

*Wanyu 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. IJsselstein

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

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

517B Papers: Research Methods

CHAIR: ANDREW DUCHOWSKI

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

Your Eyes Tell: Leveraging Smooth Pursuit for Assessing Cognitive Workload
Thomas Kosch, Mariam Hassib, Paweł 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 Marquardt, Lora Oehlberg, Saul Greenberg

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, Xin Liu, Molin Yang, Boyu Yang, Yuhang Zhang, Xing-Dong Yang

PokeRing: Notifications by Poking Around the Finger
Seungwoo Je, Minkyong 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

517D Papers: Designing to Empower

CHAIR: MIRKO GELSOMINI

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

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

vrSocial: Toward Immersive Therapeutic VR Systems for Children with Autism
LouAnne E. Boyd, Saumya Gupta, Sagar B. Vikmani, Carlos M. Gutierrez, Junxiang Yang, Erik Linstead, Gillian R. Hayes

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 Mirkovic

Influences of Human Cognition and Visual Behavior on Password Strength During Picture Password Composition
Christina Katsini, Christos Fidas, George Raptis, Marios 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, Chelse 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 HCIPanel: Extending Conversations about Gender
and HCI

*Sheelagh Carpendale, Shaowen Bardzell, Margaret Burnett,
Neha Kumar, Madeline Balaam*

521ABC Papers: Perception in Visualization 1

CHAIR: PARINYA PUNPONGSANON

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
Khairi 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 Fayollas

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



17:30 – 18:30 Video Showcase List on page 74 517D
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
Rúben Gouveia, Evangelos Karapanos, Marc Hassenzahl

516AB 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 Mitsova, Ross K. Meetenmeyer

Keppi: A Tangible User Interface for
 Self-Reporting Pain
Alexander T. Adams, Elizabeth L. Murnane, Phil Adams, Michael Elfenbein, 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 Sio

516C Papers: Automotive User Interfaces

CHAIR: ANDY COCKBURN

Human-Machine Interaction for Vehicles:
 Review and Outlook
Andrew L. Kun

Automotive User Interfaces: Expert Discussion
Susanne Boll, Christian P. Janssen, Andrew L. Kun, Alexander Meschtscherjakov, Albrecht Schmidt

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

#CHIiversity: Implications for Equality, Diversity,
 and Inclusion Campaigns
Angelika Strohmayr, Rosanna Bellini, Janis Lena Meissner, Sam Mitchell Finnigan, Ebtisam Alabdulqader, Austin L. Toombs, Madeline 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
Xi Niu, Fakhri Abbas, Mary Lou Maher, Kazjon Grace

RecipeScape: An Interactive Tool for Analyzing
 Cooking Instructions at Scale
Minsuk Chang, Leonore V. Guillain, Hyeunghshik Jung, Vivian M. Hare, Juho Kim, Maneesh Agrawala

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 Azenkot

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, Qiufeng Yin, Zhitao Hou, Dongmei Zhang, Qiong Luo, Huamin Qu



DataInk: 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

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, Thammathip Piumsomboon, Gun A. Lee, Mark Billingham

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

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

518AB 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

518C Papers: Public, Large, and Shared Displays

CHAIR: RINA R. WEHBE

Pointing at a Distance with Everyday Smart Devices
Shaishav Siddhpuria, Sylvain Malacria, Mathieu Nancel, Edward Lank



Which one is me? Identifying Oneself on Public Displays
Mohamed Khamis, Christian Becker, Andreas Bulling, Florian Alt

Tangible Awareness: How Tangibles on Tabletops Influence Awareness of Each Other's Actions
Christian Cherek, Anke Broucker, Simon Voelker, Jan Borchers



Multiray: Multi-Finger Raycasting for Large Displays
Fabrice Matulic, Daniel Vogel

519AB 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 Apsotolou, 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 Feltwell, Scarlett Rowland, Phillip Brooker, 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



ExtVision: Augmentation of Visual Experiences with Generation of Context Images for a Peripheral Vision Using DNN

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

Roman Rädle, Hans-Christian Jetter, Jonathan Fischer, Inti Gabriel, Clemens N. Klokmoose, Harald Reiterer, Christian Holz

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

Art Exhibitions (VR Lounge)

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Exhibit Hall/220BC



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

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 BUIE

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 Virkki, 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 Carey, 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, Pooja 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, Antti Knutas, Maria Angela Ferrario, Jari Porras, Jouni 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, Laia Turmo Vidal, Annika Waern



BreathVR: Leveraging Breathing as a Directly Controlled Interface for Virtual Reality Games

Misha Sra, Xuhai 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

516D Papers: Force Feedback in VR

CHAIR: PEDRO LOPES

Flotation Simulation in a Cable-driven Virtual Environment – A Study with Parasailing

HyeongYeop Kang, Geonsun Lee, Seongsu Kwon, Ohung Kwon, Seongpil 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 Nijima, Takashi Isezaki, 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

517A 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, Mariacristina Sciannamblo, Maurizio Teli

Conceptualizing Disagreement in Qualitative Coding

Himanshu Zade, Margaret Drouhard, Bonnie Chinh, Lu Gan, Cecilia Aragon

517B 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, Byoungkwon An, Lining Yao



Off-Line Sensing: Memorizing Interactions in Passive 3D-Printed Objects

Martin Schmitz, Martin Herbers, Niloofar Dezfouli, Sebastian Günther, Max Mühlhäuser

Silicone Devices: A Scalable DIY Approach for Fabricating Self-Contained Multi-Layered Soft Circuits using Microfluidics

Steven Nagels, Raf Ramakers, Kris Luyten, Wim Deferme

RoMA: Interactive Fabrication with Augmented Reality and a Robotic 3D Printer

Huaishu Peng, Jimmy Briggs, Cheng-Yao Wang, Kevin Guo, Joseph Kider, Stefanie Mueller, Patrick Baudisch, François Guimbretière

517C 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, Aurélien Tabard, James D. Hollan

517D 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 Araújo-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 Kariyaa, 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

518AB Papers: Interruptions

CHAIR: ROEL VERTEGAAL

- U 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. Krupenia, Heinrich H. Bühlhoff, 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

- U 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 Deckers, 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 Salis, John McCarthy, John Vines

- U 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 Engle, 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 Blevins

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 Håkansson

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

514A SIG: Designathon to Support Women in Tech

Designathon to Support Women in Tech

Karen Holtzblatt, Nicola Marsden

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 Martín-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

514C Papers: (On-Body) Sensing

CHAIR: NADIA BERTHOUE

Extending Keyboard Shortcuts with Arm and Wrist Rotation Gestures

Daniel Buschek, Bianka Roppelt, Florian Alt

FingerPing: Recognizing Fine-grained Hand Poses using Active Acoustic On-body Sensing

Cheng Zhang, Qiuyue Xue, Anandghan Waghmare, Ruichen Meng, Sumeet 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 Poguntke, Hamed Haddadi, Akram Alomainy, Albrecht Schmidt

515ABC Papers: Worn, Spoken, Lived In

CHAIR: CHRISTIAN HOLZ

Voicesetting: Voice Authoring UIs for Improved Expressivity in Augmentative Communication

Alexander J. Fiannaca, Ann Paradiso, Jon Campbell, Meredith Morris

Breeze: Sharing Biofeedback Through Wearable Technologies

Jérémy Frey, May Grabli, Ronit Slyper, Jessica R. Cauchard

It's a Wrap: Mapping On-Skin Input to Off-Skin Displays

Joanna Bergstrom-Lehtovirta, Kasper Hornbæk, 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 Coppers, Jan Van den Bergh, Kris Luyten, Karin Coninx, Iulianna van der Lek-Ciudin, 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 Higgs, 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, Dharma 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

Denae Ford, Kristina Lustig, Jeremy Banks, Chris Parnin

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

Karin 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 Dagan, 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

518C 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 Battersby, Juho Kim

HomeFinder Revisited: Finding Ideal Homes with Reachability-Centric Multi-Criteria Decision Making

Di Weng, Heming 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

519AB Papers: Social Media & Information

CHAIR: DAVID GEERTS

Falling for Fake News: Investigating the Consumption of News via Social Media
Martin Flinham, Christian Karner, Khaled Bachour, 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

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)		Room
W01	HCIxDementia Workshop: Engaging People Living with Dementia <i>Amanda Lazar, Austin L. Toombs, Kellie Morrissey, Gail Kenning, Jennifer Boger, Rens Brankaert</i>	522A
W02	The Body as Starting Point: Exploring Inside and Around Body Boundaries for Body-Centric Computing Design <i>m.c. schraefel, Elise van den Hoven, Josh Andres</i>	513B
Saturday 21 April (1 day)		Room
W03	(Un)Acceptable?! – Re-thinking the Social Acceptability of Emerging Technologies <i>Marion Koelle, Halley Profita, Thomas Olsson, Julie R. Williamson, Robb Mitchell, Shaun Kane, Susanne CJ Boll</i>	524C
W04	“Grand Visions” for Post-Capitalist Human-Computer Interaction <i>Tom Feltwell, Shaun Lawson, Enrique Encinas, Conor Linehan, Ben Kirman, Deborah Maxwell, Tom Jenkins, Stacey Kuznetsov</i>	513A
W05	A Short Workshop on Next Steps Towards Long Term Self Tracking <i>Jochen Meyer, Daniel Epstein, Parisa Eslambolchilar, Judy Kay, Lie Ming Tang</i>	514B
W06	Chinese CHI 2018 Workshop <i>Zhiyong Fu, Jun Hu, Haipeng Mi, Xing-Dong Yang</i>	514C
W07	Data Visualization on Mobile Devices <i>Bongshin Lee, Matthew Brehmer, Petra Isenberg, Eun Kyoung Choe, Ricardo Langner, Raimund Dachsel</i>	515A
W08	Data-Driven Educational Game Design <i>Bruce M. McLaren, Jodi Asbell-Clarke, Jessica Hammer</i>	515B
W09	Design For Sexual Wellbeing in HCI <i>Gopinaath Kannabiran, Alex A. Ahmed, Matthew Wood, Madeline Balaam, Joshua G. Tanenbaum, Shaowen Bardzell, Jeffrey Bardzell</i>	515C
W10	Designing Recipes for Digital Food Futures <i>Marketa Dolejsova, Rohit Ashok Khot, Hilary Davis, Hasan Shahid Ferdous, Andrew Quitmeyer</i>	518A
W11	Disruptive Improvisations: Making Use of Non-Deterministic Art Practices in HCI <i>Kristina Andersen, Laura Devendorf, James Pierce, Ron Wakkary, Daniela K. Rosner</i>	518B
W12	HCI Outdoors: Understanding Human-Computer Interaction in Outdoor Recreation <i>Michael D. Jones, Zann Anderson, Jonna Hakkila, Keith Cheverst, Florian Daiber</i>	514A
W13	Inclusive Educational Technologies: Emerging Opportunities for People with Visual Impairments <i>Oussama Metatla, Marcos Serrano, Christophe Jouffrais, Anja Thieme, Shaun Kane, Stacy Branham, Emeline Brulé, Cynthia L. Bennett</i>	519A
W14	Internet of Tangible Things: Workshop on Tangible Interaction with the Internet of Things <i>Leonardo Angelini, Zuzanna Lechelt, Eva Hornecker, Paul Marshall, Can Liu, Margot Brereton, Alessandro Soro, Nadine Couture, Omar Abou Khaled, Elena Mugellini</i>	519B
W15	Mid-Air Haptics for Control Interfaces <i>Marcello Giordano, Orestis Georgiou, Brygida Dzidek, Loic Corenthy, Jin Ryong Kim, Sriram Subramanian, Stephen A. Brewster</i>	521A
W16	Moving Beyond a ‘One-Size Fits All’ approach: Exploring Individual Difference in Privacy <i>Darcia Wilkinson, Moses Namara, Karla Badillo-Urquiola, Pamela J. Wisniewski, Bart P. Knijnenburg, Xinru Page, Eran Toch, Jennifer C. Romano Bergstrom</i>	520C
W17	Reshaping Touch Communication: An Interdisciplinary Research Agenda <i>Sara Price, Kerstin Leder Mackley, Carey Jewitt, Gijs Huisman, Bruna Petreca, Nadia Berthouze, Domenico Prattichizzo, Vincent Hayward</i>	521B
W18	Secret Lives of Data Publics: Mixed Reality Smart City Interfaces <i>Gabriel Resch, Beth Coleman, Matt Ratto, Bart Simon</i>	522C
W19	Sensemaking in a Senseless World <i>Daniel M. Russell, Gregorio Convertino, Aniket Kittur, Peter Pirolli, Elizabeth Anne Watkins</i>	518C
W20	SmartObjects ‘18: 6th Workshop on Interacting with Smart Objects <i>Florian Müller, Dirk Schnelle-Walka, Tobias Grosse-Puppenthal, Sebastian Günther, Markus Funk, Kris Luyten, Oliver Brdiczka, Niloofar Dezfouli, Max Mühlhäuser</i>	522B
W21	Understanding “Bad Actors” Online <i>Lindsay Blackwell, Mark Handel, Sarah T. Roberts, Amy Bruckman, Kimberly Voll</i>	521C
Sunday 22 April (1 day)		Room
W22	Brain-Computer Interfaces for Artistic Expression <i>Anton Nijholt, Robert J.K. Jacob, Marvin Andujar, Beste F. Yuksel, Grace Leslie</i>	519B
W23	Bridging a Bridge: Bringing Two HCI Communities Together <i>Soussan Djamassbi, Dennis F. Galletta, Fiona Nah, Xinru Page, Lionel P. Robert Jr., Pamela J. Wisniewski</i>	518A
W24	Designing Interactions for the Ageing Populations <i>Sayan Sarcar, Cosmin Munteanu, Jussi Jokinen, Antti Oulasvirta, Neil Charness, Mark Dunlop, Xiangshi Ren</i>	515B
W25	Developing a Community of Practice to Support Global HCI Education <i>Olivier St-Cyr, Craig M. MacDonald, Elizabeth F. Churchill, Jenny J. Preece, Anna Bowser</i>	519A
W26	Experience Design meets Service Design – Method Clash or Marriage? <i>Virpi Roto, Jung-Joo Lee, Tuuli Mattelmäki, John Zimmerman</i>	514A
W27	Exploring Participatory Design Methods to Engage with Arab Communities <i>Ebtisam Alabdulqader, Shaimaa Lazem, Mohamed Khamis, Susan M. Dray</i>	521C
W28	HCI for Blockchain: Studying, Designing, Critiquing and Envisioning Distributed Ledger Technologies <i>Chris Elsdén, Bettina Nissen, Karim Jabbar, Reem Talhouk, Caitlin Lustig, Paul Dunphy, Chris Speed, John Vines</i>	514C

W30	Interacting with Autonomous Vehicles: Learning from Other Domains <i>Alexander Meschtscherjakov, Manfred Tscheligi, Bastian Pfleging, Shadan Sadeghian Borajeni, Wendy Ju, Philippe Palanque, Andreas Riener, Bilge Mutlu, Andrew L. Kun</i>	518B
W31	Living Labs: Measuring Human Experience in the Built Environment <i>Syed Shabih Hasan, Anja Jamrozik, Carolina Campanella, Sara Aristizabal, Rongpeng Zhang, Nicholas Clements</i>	522B
W32	Maker Movements, Do-It-Yourself Cultures and Participatory Design: Implications for HCI Research <i>Michael Smyth, Ingi Helgason, Frank Kresin, Mara Balestrini, Andreas B. Unteidig, Shaun Lawson, Mark Gaved, Nick Taylor, James Auger, Lone Koefoed Hansen, Douglas C. Schuler, Mel Woods, Paul Dourish</i>	515A
W33	Novel Interaction Techniques for Collaboration in VR <i>Misha Sra, Ken Perlin, Luiz Velho, Mark Bolas</i>	521B
W34	Rethinking Interaction: From Instrumental Interaction to Human-Computer Partnerships <i>Michel Beaudouin-Lafon, Wendy E. Mackay</i>	514B
W35	The 2nd Workshop on Hacking and Making at Time-Bounded Events: Current Trends and Next Steps in Research and Event Design <i>Ei Pa Pa Pe Than, James Herbsleb, Alexander Nolte, Elizabeth Gerber, Brittany Fiore-Gartland, Brad Chapman, Aurelia Moser, Nancy Wilkins-Diehr</i>	518C
W36	General Data Protection Regulation: An Opportunity for HCI Community? <i>Eva Theilsson, Kshitij Sharma, Hanan Salam, Virginia Dignum</i>	524C
W37	Untold Stories: Working with Third Sector Organisations <i>Angelika Strohmayer, Matt Marshall, Nitya Verma, Chris Bopp, Roisin McNaney, Amy Volda, David S. Kirk, Nicola J. Bidwell</i>	515C
W38	Voice-based Conversational UX Studies and Design <i>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</i>	521A

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.

Saturday 21 April – Sunday 22 April (2 days)		Room
Sym01	Computer-Human Interaction Mentoring (CHIMe) <i>Robin Brewer, Marvin Andujar, Sheena Erete, Ronald A Metoyer, Manuel A. Perez-Quinones, Yolanda Rankin</i>	513C
Saturday 21 April (1 day)		Room
Sym02	Early Career Development Symposium <i>Michael Muller, Geraldine Fitzpatrick</i>	524B
Sym03	HCI Across Borders: Paving New Pathways <i>Neha Kumar, Kurtis Heimerl, David Nemer, Naveena Karusala, Aditya Vashistha, Susan M. Dray, Christian Sturm, Laura S. Gaytán-Lugo, Anicia Peters, Nova Ahmed, Nicola Dell, Jay Chen</i>	524A
Sunday 22 April (1 day)		Room
Sym04	3rd Symposium on Computing and Mental Health: Understanding, Engaging, and Delighting Users <i>Greg Wadley, Rafael Calvo, John Torous, Mary Czerwinski</i>	520C
Sym05	Asian CHI Symposium: Emerging HCI Research Collection <i>Saki Sakaguchi, Eunice Sari, Taku Hachisu, Adi Tedjasaputra, Kunihiro Kato, Masitah Ghazali, Kaori Ikematsu, Ellen Yi-Luen Do, Jun Kato, Hiromi Nakamura, Jun Nishida, Daisuke Sakamoto, Yoshifumi Kitamura, Jinwoo Kim, Anirudha N. Joshi, Zhengjie Liu</i>	524A

■ 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 envisionments. 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*
 Doenja 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 Nakamae, 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, Noëlie Ramuzat, Jacopo Silvestri, Franca Garzotto
- VS04 Everyday Entanglements Of The Connected Home
Iohanna Nicenboim, Elisa Giaccardi, Marcel Schouwenaar
- VS05 Cinematic Prototyping: Exploring Future Interactions without Prototyping Technology
Gert Pasman, Marco Rozendaal, Alan van Ramshorst, Felix Quaadvlieg, 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, Byoungkwon An, 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 Brandmueller, 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 Nakagaki, 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).

Monday Courses, 23 April

	Time / Room
C01 Mobile UX - The Next Ten Years? <i>Simon Robinson, Jennifer Pearson, Matt Jones</i>	11:30 / 521ABC
C02 Balanced Interaction Design <i>Gilbert Cockton</i>	11:30 / 522AB
C03 Introduction to Human-Computer Interaction <i>Jonathan K. Lazar, Simone D. J. Barbosa</i>	11:30 / 524A
C04 Becoming a SIGCHI Volunteer <i>Loren Terveen</i>	11:30 / 524B
C05 How to Write CHI papers - Second Edition <i>Lennart E. Nacke</i>	11:30 / 524C
C06 Communicating with the Public & Press 1 <i>Helen Pilcher</i>	14:30 / 524B

Tuesday Courses, 24 April

	Time / Room
C08 Applied Sketching in HCI: Hands-on Course of Sketching Techniques <i>Makayla Lewis, Miriam Sturdee, Nicolai Marquardt</i>	09:00 / 521ABC
C09 Research Methods for Child Computer Interaction <i>Janet C. Read</i>	09:00 / 522AB
C10 Designing Technology for an Aging Population <i>Jeff A. Johnson</i>	09:00 / 524A
C06 Communicating with the Public & Press 2 <i>Helen Pilcher</i>	09:00 / 524B
C11 Navigation Interfaces for Virtual Reality and Gaming: Theory and Practice <i>Ernst Kruijff, Bernhard E. Riecke</i>	09:00 / 524C
C12 Deep Learning for Understanding the Human <i>Lex Fridman</i>	11:00 / 524A
C13 Don't forget to be the way you are: how to create a meaningful and sustainable research identity <i>Dana McKay, George Buchanan</i>	14:00 / 522AB
C06 Communicating with the Public & Press 3 <i>Helen Pilcher</i>	14:00 / 524B
C14 Visual Design 4 Non-Designers: Learn Basics the Hands-on Way <i>Stephanie Foehrenbach, Fabian Scheuwiller</i>	14:00 / 524C

Wednesday Courses, 25 April

	Time / Room
C15 From Tool to Partner: The Evolution of Human-Computer Interaction <i>Jonathan Grudin</i>	09:00 / 521ABC
C16 Make This! Introduction to Electronics Prototyping Using Arduino <i>David Sirkin, Nikolas Martelaro, Wendy Ju</i>	09:00 / 522AB
C17 Empirical Research Methods for Human-Computer Interaction <i>Scott I. MacKenzie, Steven J. Castellucci</i>	09:00 / 524A
C06 Communicating with the Public & Press 4 <i>Helen Pilcher</i>	09:00 / 524B
C19 Automation: Danger or Opportunity? Designing and Assessing Automation for Interactive Systems <i>Philippe Palanque, Célie Martinie, Camille Fayollas</i>	14:00 / 522AB
C20 Designing with the Mind in Mind: The Psychological Basis for UI Design Guidelines <i>Jeff A. Johnson</i>	14:00 / 524A
C22 Designing, Engineering, and Evaluating Gesture User Interfaces <i>Jean Vanderdonckt, Radu-Daniel Vatavu</i>	14:00 / 524C

Thursday Courses, 26 April

	Time / Room
C23 How Do We Measure That?! Quick Scale Development <i>Norene Kelly</i>	09:00 / 524C
C24 Speech and Hands-free Interaction: Myths, Challenges, and Opportunities <i>Cosmin Munteanu, Gerald Penn</i>	09:00 / 524A
C25 Gamification: Tools and Techniques for Motivating Users <i>Gustavo F. Tondello, Lennart E. Nacke</i>	09:00 / 524B
C26 Computational Interaction: Theory and Practice <i>John Williamson, Antti Oulasvirta, Otmar Hilliges, Per Ola Kristensson</i>	09:00 / 522AB
C27 Reflexive Ethnographies in Human-Computer Interaction: Theory and Practice <i>Amon Rapp</i>	14:00 / 524A

■ 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 Recommender 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 Interwoven: Piecing Together Havana's Internet
Michaelanne Dye
- DC08 Designing for Interaction Proxemics: Configurations and Transitions
Jens Emil Grønbaek
- 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

- DC16 Understanding Civic Participation in Environmental Sensing: A Values Driven Approach
Maria Victoria Palacin-Silva
- DC17 Designing for Compassion Cultivation
Annu Sible Prabhakar
- DC18 Spatial Social Media: Towards Collaborative Mixed Reality Telepresence "On The Go"
Bektur Ryskeldiev
- DC19 Crisis Informatics in the Anthropocene: Disasters as Matters of Care and Concern
Robert Soden
- DC20 "Data Justice" By Design: Building Engagement Through Civic Technologies
Dawn Walker

■ 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)
Janghee 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 Gelsomini
- 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

- 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, Isaak Matthew Ramirez, Jessica E. Winingar
- 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

■ 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, Hyeun Son, Han Quan To, Steven Szatala
- SDC03 NaviiCompass: 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
Ka 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

■ 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, Eunye 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, Eunye 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 Brennen, Stephanie Tuerk

- LBW050 Consumer Attitudes Towards Privacy and Security in Home Assistants
Nathaniel Fruchter, Ilaria Liccardi

Understanding People: Theory, Concepts, Methods 011 – 029

- 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, Xiaojuan 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, Gisela Kollotzek, Lucas van der Vekens, Marcus Hepting, Florian Alt, Niels Henze
- LBW015 A Safety Net: How Older Adults Build and Maintain Interpersonal Relationships
Xiyang Wang, Tiffany Knearem, Fanlu Gui, Srishti 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, Yoojung Kim, Byungjoon Kim, Sukyung Yun, Minjoon Kim, Joongseek Lee
- LBW019 Emotional Delivery in Pro-social Crowdfunding Success
Lauren Rhue, Lionel P. Robert
- LBW020 “In A Good Way Weird”: Exploring Positive Experiences with Technology-Mediated Pornography
Livia J. Müller, Klaus Opwis, Elisa D. Mekler
- LBW021 Emotion Regulation in the Wild: Introducing WEHAB System Architecture
Pardis Miri, Andero Uusberg, Heather Culbertson, Robert Flory, Helen Uusberg, 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 Willeminj 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, Yla 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 Lerner, Rosie Campbell

CSCW

030 – 036

LBW030 How Creative is the Crowd in Describing Smart Home Scenarios?
Tahir Abbas, Vassilis-Javed Khan, Daniel Tetterso, 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 Khat, 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

Health, Accessibility, and Aging

037 – 049

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, Feng 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, Asbar Javaid

LBW045 Enabling Biographical Cognitive Stimulation for People with Dementia
Sérgio Alves, Filipa Brito, Andreia Cordeiro, Luis Carriço, Tiago Guerreiro

LBW046 Jazzy: Leveraging Virtual Reality Layers for Hand-Eye Coordination in Users with Amblyopia
Mario Scrocca, 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 Flobak, Daniel A. Jensen, Astri Lundervold, Li-Hsuan Chen, Tine Nordgreen, Frode Guribye

Specific Application Areas

051 – 063

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 Turkay, 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 Saquib, 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
Kyung 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

- 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. Klokmoose, Henrik Korsgaard, Eva Eriksson, Raphaelle 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 Matchmaking 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, Huiguo 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

Design**073 – 087**

- LBW073 A Design Space For Meaningful Structural Gamification
Stuart Hallifax, Audrey Serna, Jean-Charles Marty, Elise Lavoué
- 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
Joni Salminen, Haewoon Kwak, João M. Santos, Soon-Gyo Jung, Jisun An, Bernard J. Jansen
- 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 Uğur Genç, Salih Berk Dinçer, Deniz Erdoğan, Aykut Coskun

- LBW078 Papercut: Digital Fabrication and Design for Paper Cutting
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Seyoung 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 Döring, 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
Hiroki 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 Müller, Patrick Baudisch
- D103 Touchless Tactile Displays for Digital Signage: Mid-air Haptics meets Large Screens
Loic Corenthy, Marcello Giordano, Daniel Griffiths, Craig Jeffrey, Hannah Limerick, Orestis Georgiou, Tom Carter, Jörg Müller, Sriram 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, Eyal Ofek, Mike Sinclair, Hrvoje Benko
- D107 Feeling Speech on the Arm
Jennifer Chen, Pablo Castillo, Robert Turcott, Ali Israr, Frances Lau
- 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, Eyal Ofek, Mike Sinclair
- D110 Thor's Hammer: An Ungrounded Force Feedback Device Utilizing Propeller-Induced Propulsive Force
Seongkook Heo, Christina Chung, Geehyuk 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 Stiffness-Controlled Surface for Shape-Changing Interfaces
Takayuki Hirai, Satoshi Nakamaru, 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 Chiuan Yen, Ellen Yi-Luen Do
- D115 Snow Dome: A Multi-Scale Interaction in Mixed Reality Remote Collaboration
Thammathip Piumsomboon, Gun A. Lee, Mark Billingham
- 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
Sean Braley, Calvin 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
Iohanna Nicenboim, Masako Kitazaki, Tomo Kihara, Ana Torralba Marin, martin Havranek
- D203 Digital Possessions in the Museum of Broken Relationships
Daniel Herron, Wendy Moncur, Marija Curić, Dražen Grubišić, Olinka Vištica, Elise van den Hoven
- D205 Demonstration of CLAW: A Multifunctional Handheld VR Haptic Controller
Inrak Choi, Eyal Ofek, Hrvoje Benko, Mike Sinclair, Christian Holz
- D206 Having an animated coffee with a group of chatbots from the 19th century
Heloisa Candello, Claudio Pinhanez, Mauro Carlos Pichiliani, Melina Alberio Guerra, Maira Gatti de Bayser
- D207 The Breathing Room - Breathing Interval and Heart Rate Capturing through Ultra Low Power Radar
Heikki Sjöman, Nazare Soares, Martinus Suijkerbuijk, Jørgen Blindheim, Martin Steinert, Dag T. Wisland
- D208 Dišimo: Anchoring Our Breath
Jelena Mladenovic, Jérémy 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, Oguzhan Ozcan
- 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

D300 Demonstrations

- D300 ElasticVR: Providing Multi-level Active and Passive Force Feedback in Virtual Reality Using Elasticity
Hsin-Ruey Tsai, Jun Rekimoto

- 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 Bogers, Janne van Kollenburg, Heleen Rutjes, Eva Deckers, Joep Frens, Caroline Hummels
- 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 Aram Shim, Jaeyeon Lee, Geehyuk Lee
- D306 Punching Empathy into Yourself and Others: Subversive Transformation of Hostility
Jeffrey R. Blum, Pascal E. Fortin, Feras Al Taha, 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 Mazalek
- 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 Toolset
Steven Ding, Colin Gallacher
- D310 Virtual Reality as a User-friendly Interface for Learning from Demonstrations
Nishanth Koganti, Abdul Rahman H. A.G., Yusuke Iwasawa, Kotaro Nakayama, Yutaka Matsuo
- D311 Firefly: a Social Wearable to Support Physical Connection of Larpers
Loïs Vanhée, Elena Márquez Segura, Katherine Isbister
- D312 Demonstrating Reality-Based Information Retrieval
Wolfgang Büschel, Annett Mitschick, Raimund Dachsel
- 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
- D316 Dynamic Brushes: Extending Manual Drawing Practices with Artist-Centric Programming Tools
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, Azza 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 Punpongsanon, Xin Wen, David Kim, Stefanie Mueller
- D321 Ambient: Facial Thermal Feedback in Remotely Operated Applications
MHD Yamen Saraiji, Roshan Lalintha 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-Man 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
Nicolai Marquardt, Frederik Brudy, Can Liu, Ben Bengler, Christian Holz
- D324 Project Zanzibar Demonstration: A Portable and Flexible Tangible Interaction Platform
Nicolas Villar, Daniel Cletheroe, Greg Saul, Christian Holz, Tim Regan, Oscar Salandin, Misha Sra, Hui-Shyong Yeo, William Field, Haiyan Zhang

D400 Demonstrations

- D400 RealWalk: Feeling Ground Surfaces While Walking in Virtual Reality
Hyunki 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 Edilgiryeva, Anastasiia Chernova, Vitaliy Smolev, Sebastian Deneff
- 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, Anijo P. Mathew, Chantala Kommanivanh, Daniel Kwon, Liz Gomez, B'Rael Ali Thunder, Daria Velazquez, Millie Martinez, Leah LaQueens
- D405 Demonstrating Thermorph: Democratizing 4D Printing of Self-Folding Materials and Interfaces
Ye Tao, Jianzhe Gu, Byoungkwon An, Tingyu Cheng, Xiang 'Anthony' Chen, Xiaoxiao Zhang, Wei Zhao, Youngwook Do, Teng Zhang, Lining Yao
- D406 Democratizing Open Energy Data for Public Discourse using Visualization
Søren Knudsen, Jo Vermeulen, Doris Kosminsky, Jagoda Walny, Mieka West, Christian Frisson, Bon Adriel Aseniero, Lindsay MacDonald Vermeulen, Charles Perin, Lien Quach, Peter Buk, Katrina Tabuli, Shreya Chopra, Wesley Willett, Sheelagh Cappendale
- 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

- D410 Can I GetToyn? : A Box Interface Connecting Real and Virtual Worlds
Honoka Ozaki, Yasushi Matoba, Itiro Siio
- D411 Agile 3D Sketching with Air Scaffolding
Yongkwan Kim, Sang-Gyun An, Joon Hyub Lee, Seok-Hyung Bae
- D412 Projective Windows: Bringing Windows in Space to the Fingertip
Joon Hyub Lee, Sang-Gyun An, Yongkwan Kim, Seok-Hyung Bae
- D413 Datalnk: Direct and Creative Data-Oriented Drawing
Haijun Xia, Nathalie Henry Riche, Fanny Chevalier, Bruno De Araujo, Daniel Wigdor
- D414 Demonstrating David Meets Goliath: Combining Smartwatches with a Large Vertical Display for Visual Data Exploration
Tom Horak, Sriram Karthik Badam, Niklas Elmqvist, Raimund Dachsel
- D415 Prototyping Biotic Games and Interactive Experiments with JavaScript
Peter Washington, Karina Samuel-Gama, Shirish Goyal, Ashwin Ramaswami, Ingmar Riedel-Kruse

D500 Demonstrations

- D500 TurboMouse: End-to-end Latency Compensation in Indirect Interaction
Axel Antoine, Sylvain Malacria, Géry Casiez
- D501 Spokelt: A Co-Created Speech Therapy Experience
Jared Scott Duval, Elena Márquez Segura, Sri Kurniawan
- D502 Storyboard-Based Empirical Modelling of Touch Interface Performance
Alix Goguey, Géry Casiez, Andy Cockburn, Carl Gutwin
- D503 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
- D504 Iris: Gaze Visualization Design Made Easy
Jeff Brewer, Sarah D'Angelo, Darren Gergle
- D505 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, Kıvanç 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

■ CHAMPION SPONSOR EXHIBITORS

Alibaba (China) Co., Ltd.**Booth 400**

Alibaba Damo Academy is a new global research and development initiative of Alibaba Group. The DAMO Academy Natural HCI 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!

(see maps on pages 92-93 for booth locations)

■ ADDITIONAL EXHIBITORS

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.

Morgan & Claypool Publishers**Booth 108**

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.

now publishers**Booth 402**

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**Booth 203**

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**Booth 302**

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**Booth 404**

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**Booth 310**

Smart Eye is regarded as a global leader in the development of remote multi-camera head and eye tracking solutions enabling complete freedom of movement within any given application environment while retaining impressive levels of gaze accuracy, field of view and robustness. Our real-time and completely non-invasive solutions are used in areas including HCI, Human Factors, Neuroscience, Psychology.

Springer**Booths 200/202**

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**Booth 303**

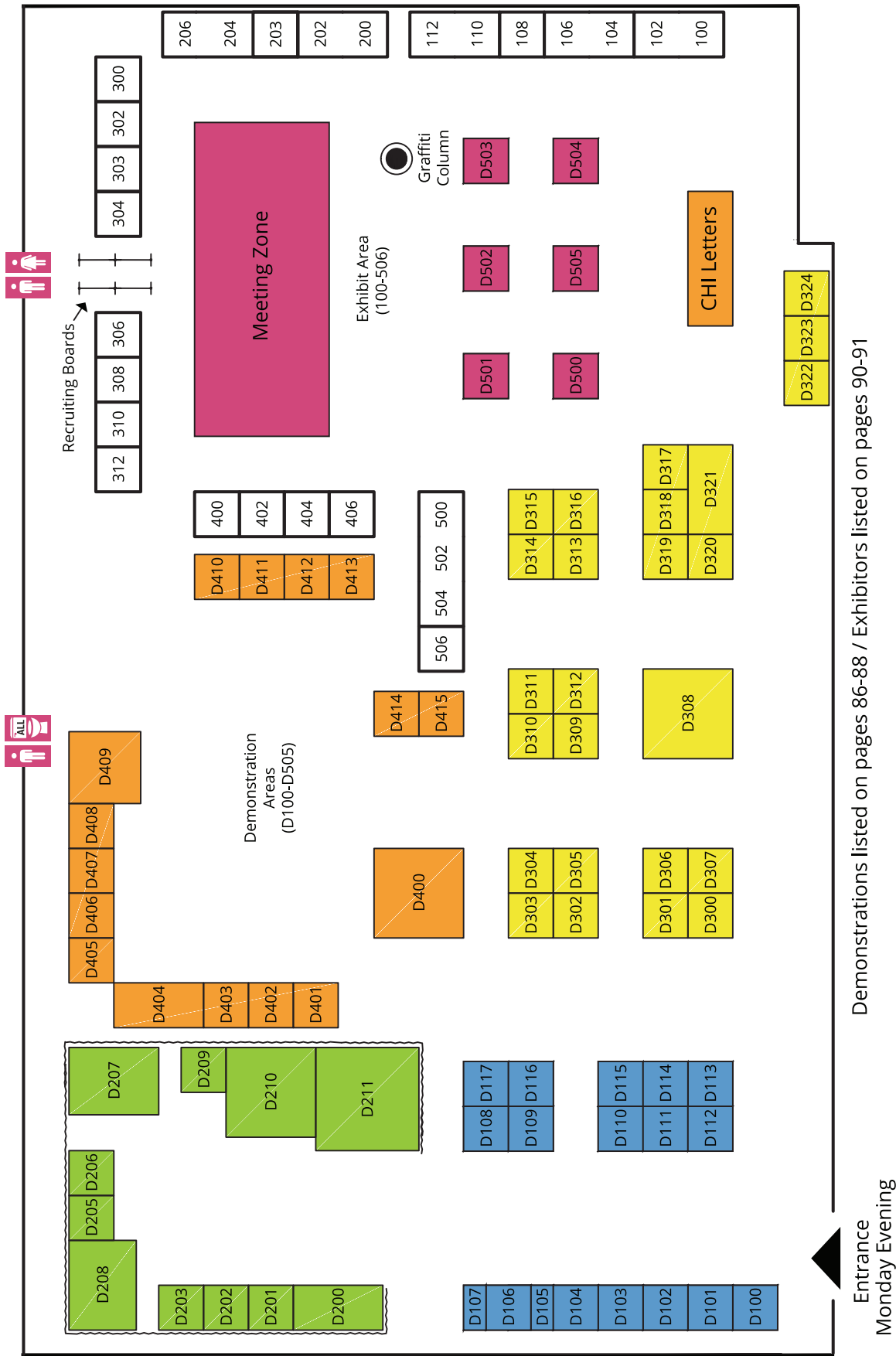
Cloud-based lab management and analytics software platform which was designed by our research team to specifically address those research needs. The platform was designed to enable multimodal human computer interaction (HCI) studies involving authentic research stimuli such as usability studies on mobile applications.

Tobii Pro**Booths 104/106**

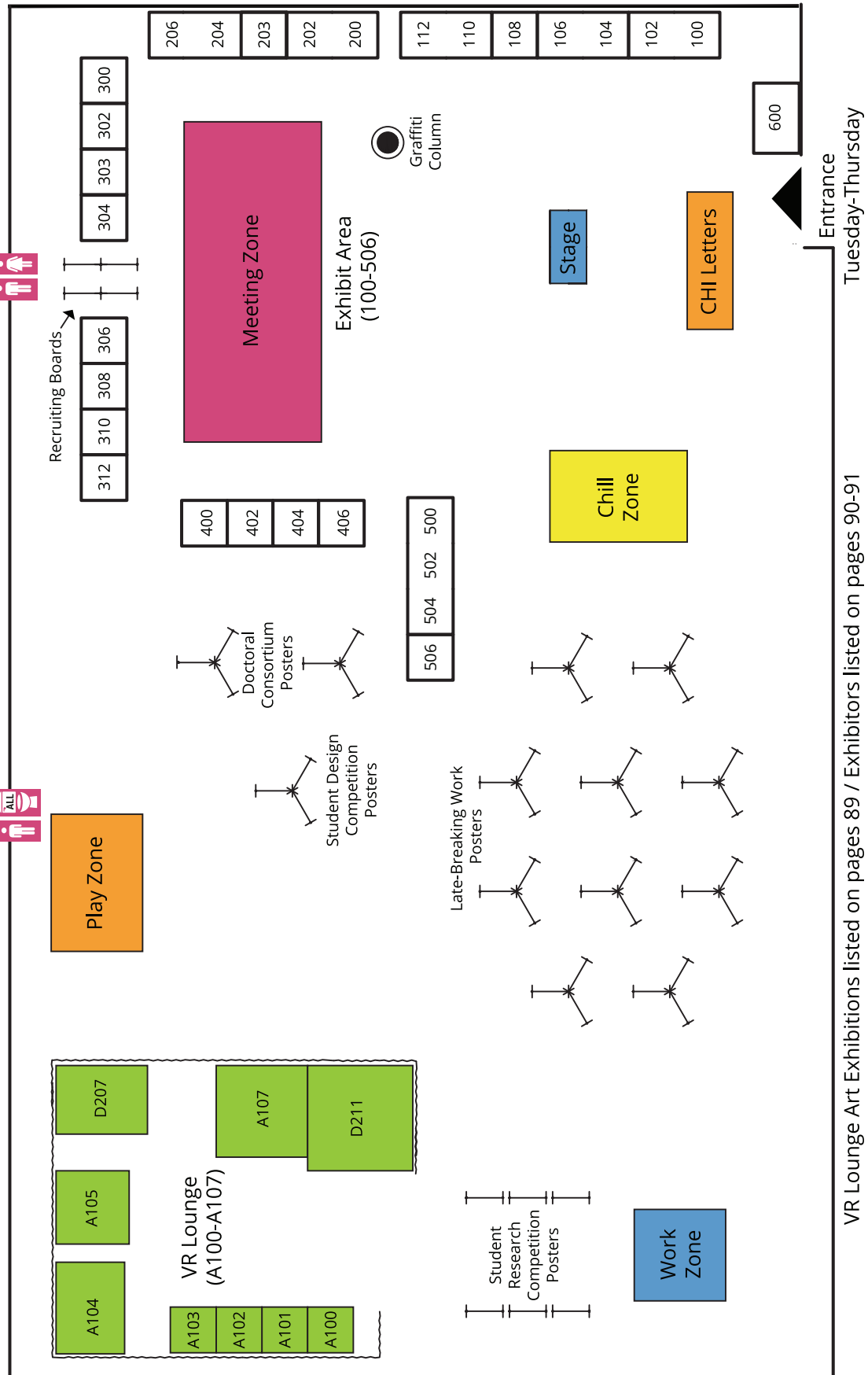
Tobii Pro, being a world leader in eye tracking products and services, helps business and science professionals gain valuable insights into human behavior. Our innovative and high-quality eye tracking solutions capture human behavior in a natural way, ultimately affording users access to valuable, objective data about real responses to stimuli.

youXtools**Booth 300**

Free UX tools for remote usability testing, diary studies, and quantifying the emotional journey to drive CX and product decisions.

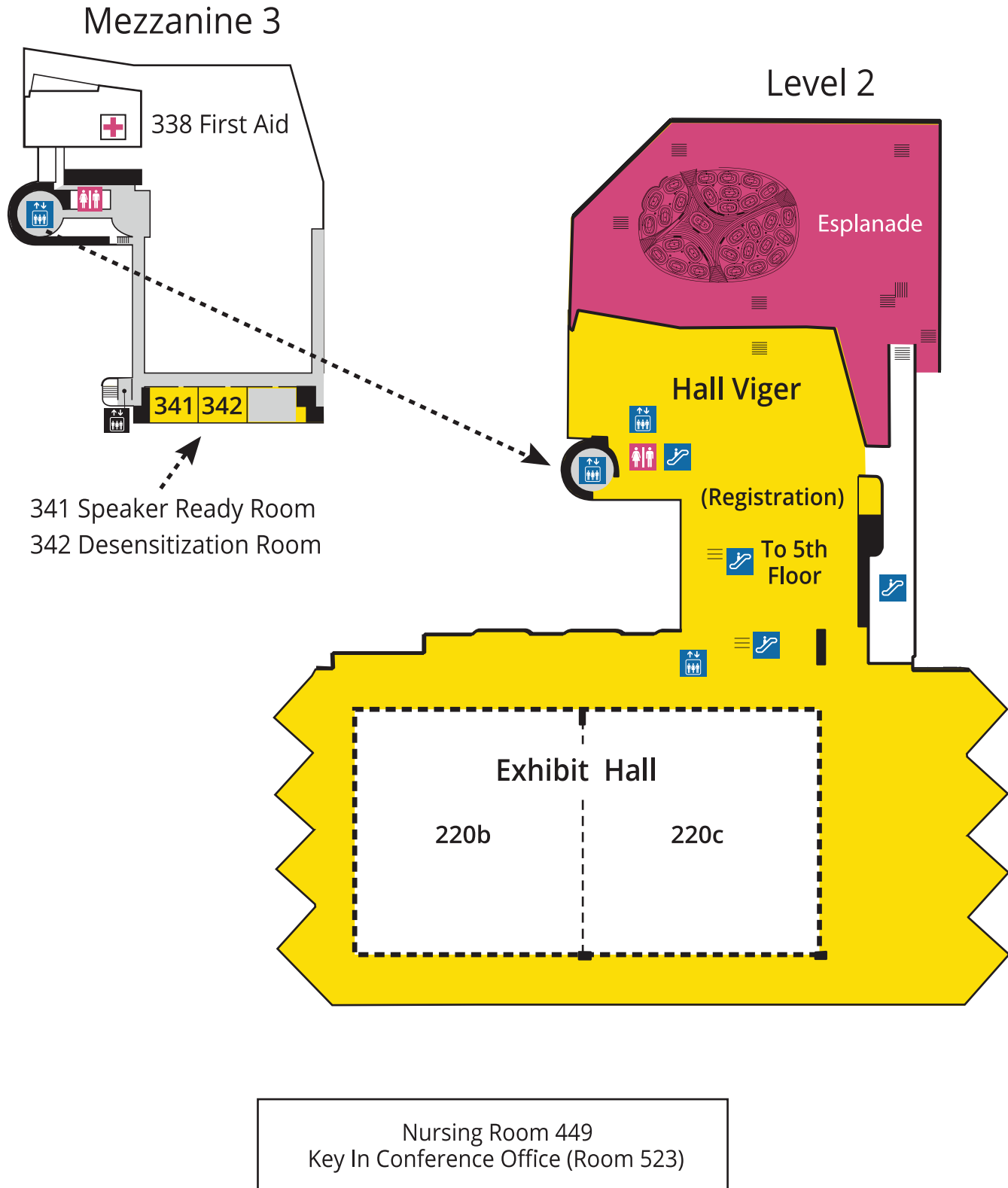


Demonstrations listed on pages 86-88 / Exhibitors listed on pages 90-91



VR Lounge Art Exhibitions listed on pages 89 / Exhibitors listed on pages 90-91

LEVEL 2 & MEZZANINE 3



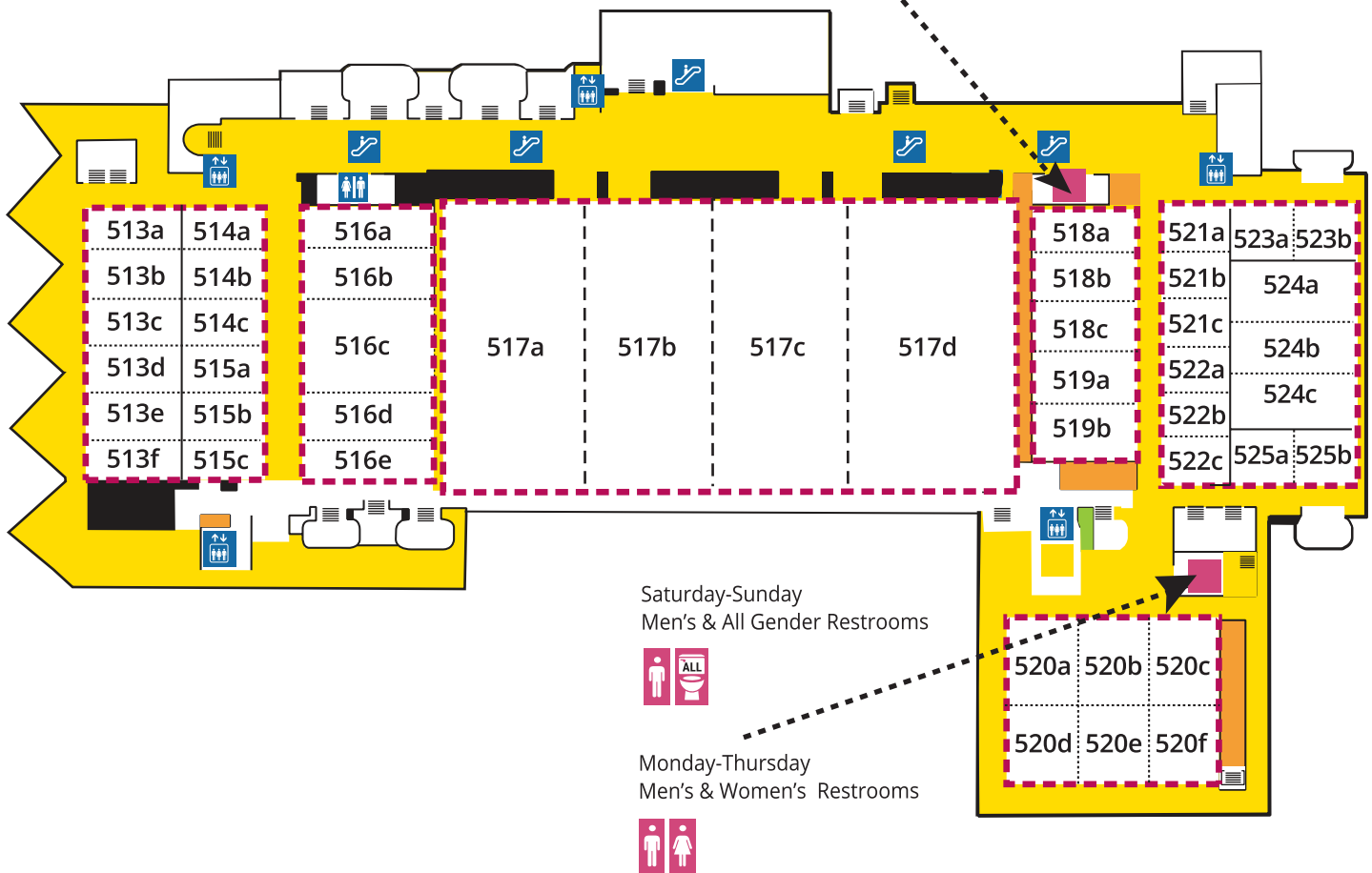
LEVEL 5

Rooms 513 to 525

Saturday-Sunday
Men's & Women's Restrooms



Monday-Thursday
Men's & All Gender Restrooms





GLASGOW, UK / MAY 4–9
WEAVING THE THREADS OF CHI

chi2019.acm.org

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

Papers and Notes

14 September 2018

Title, abstract,
authors,
subcommittee choice

21 September 2018

All materials

October 2018

Workshops
Interactivity
Doctoral
Consortium

October 2018

Case Studies
Courses

January 2019

Late-Breaking Work
alt.chi
Panels and Fireside Chats
Special Interest Groups (SIGs)
Video Showcase

January 2019

Career Development Workshop
Student Research Competition
Student Design Competition

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