

Y.-L. Betty Chang

519-574-5059 • betty.chang@uwaterloo.ca • www.bettychang.net

Summary of Qualifications

- 8+ years in human factors and UX research with top conference publications, awards (total of \$105,000 CAD), and successful grant applications
- Bridged gap between research and business in an agile, cross-functional team environment by directing research insights into product development with proven benefits from user studies
- Expert in user-centered design, laboratory & field studies, observation, interview, questionnaire, and quantitative & qualitative analysis (e.g., ANOVA, correlations, and audio/video analysis)
- Excellent with Java, C/C++, Processing, SPSS, Keynote, PowerPoint, Publisher, and Camtasia
- Familiar with HTML, CSS, GIMP, and InDesign
- Outstanding communication, leadership, and organization skills shown through conference presentations, mentoring of other students, and volunteer activities

Selected Experiences

Health System Impact Fellow, North York General Hospital & University of Toronto, Toronto, ON, Sept. 2017 - present

- Improving patient safety in operating rooms by researching and designing for factors that support resilience in clinicians

Research Assistant, University of Waterloo, Waterloo, ON, Sept. 2010 - Aug. 2016

- Enhanced situational awareness through designing interactive visualizations in a collaborative tabletop strategy game
- Identified users' preferences and revealed how they maintained awareness by conducting a laboratory experiment and qualitative & quantitative analysis
- Coached undergrad and master's students in competitive analysis, prototyping, and data analysis

Co-instructor - CS449/649 (Human-Computer-Interaction), University of Waterloo, Waterloo, ON, May 2015 - Aug. 2015

- Taught user-centered design topics, and was reviewed by students as enthusiastic and motivating
- Engaged students through practical examples, hands-on activities, and real-time quizzes in class

MITACS Research Intern, SMART Technologies, Calgary, AB, Oct. 2014 - Jun. 2015

- Released a web-app feature for multi-device/BYOD classrooms by leading an end-to-end R&D process in an agile, cross-functional environment
- Reduced teachers' workload and improved students' collaboration by gathering design requirements through interviews, followed by design, implementation, and field evaluations

Selected Awards

NSERC Postgraduate Scholarships - Doctoral	\$21,000/year	2012-2014
University of Waterloo President's Graduate Scholarship	\$10,000/year	2012-2014
Ontario Graduate Scholarship	\$15,000/year	2012-2014

Education

Doctor of Philosophy, Systems Design Engineering, Sept. 2010 - Aug. 2016

University of Waterloo, Waterloo, ON

- Supervisors: Dr. Stacey Scott and Dr. Mark Hancock
- Dissertation title: Supporting situation awareness and workspace awareness in co-located collaborative systems involving dynamic data
- Research focus: human-computer interaction, human factors, awareness, collaborative systems, large surfaces, multi-device environments, visualization, and interaction design

Master of Mathematics, Computer Science, Sept. 2008 - Jul. 2010,

University of Waterloo, Waterloo, ON

Bachelor of Computer Science, Honours, Sept. 2004 - Apr. 2008

University of Waterloo, Waterloo, ON

Selected Publications

- **Chang, Y.-L.B.**, Scott, S. D., Hancock, M. (2016) Usage of interactive event timelines in collaborative digital tabletops involving automation. C. Anslow, P. Campos & J. Jorge, (Eds.), *Collaboration Meets Interactive Spaces*. Springer International Publishing, 203-232
- **Chang, Y.-L.B.**, Fong, C., Tse, E., Hancock, M., Scott, S.D. (2015). “Callout bubble saved my life”: workspace awareness support in BYOD classrooms, *ITS*, 73-82
- **Chang, Y.-L.B.**, Scott, S.D., Hancock, M. (2014). Supporting situation awareness in collaborative tabletop systems with automation. *ITS*, 185-194
- Ion, A., **Chang, Y.-L.B.**, Haller, M., Hancock, M., Scott, S.D. (2013). Canyon: providing location awareness of multiple moving objects in a detail view on large displays. *CHI*, 3149-3158. **Best Paper Honourable Mention Award** (less than 5% of ~2000 submissions)
- Tory, M., Staub-French, S., Huang, D., **Chang, Y.-L.**, Swindells, C., Pottinger, R. (2013). Comparative visualization of construction schedules. *Automation in Construction*, v. 29, 68-82
- Cheung, V., **Chang, Y.-L.B.**, Scott, S.D. (2012) Communication channels and awareness cues in collocated collaborative time-critical gaming. *CSCW*, 569-578

Selected Leadership and Mentorship Experiences

Student Volunteer Co-chair for the Interactive Tabletops and Surfaces Conference,

Dresden, Germany, Nov. 2014 & Madeira, Portugal, Nov. 2015

- Ensured the smooth running of the conference (~175 attendees) by planning and leading a team of 18 student volunteers
- Co-chaired the program again in the following year given the success of the operation

Vice-President of UW Human Factors and Ergonomics Society Student Chapter, Waterloo, ON,

Jan. 2013 - Aug. 2014

- Led and organized the student chapter in seeking sponsorship and hosting the Inter-University Workshop 2013 (~80 participants)

Mentor in CS Grad Mentorship Program, Waterloo, ON, Sept. 2009 - Apr. 2010

- Mentored new graduate students in both academic and daily lives