

ACM-W Interview with A.J. Brush

A.J. Brush is a Principal Researcher at Microsoft currently on loan from Microsoft Research to the Windows product group. She is well known for her research in Human-Computer Interaction (HCI), with a focus on ubiquitous computing and computer-supported collaborative work (CSCW).

Currently Co-Chair of CRA-W, Brush is also a Senior Member of the ACM and has received several recognitions, notably a "Borg Early Career Award" in 2010, two "Best Papers" awards, and several "Best Paper" nominations. Brush serves on the UbiComp Steering Committee and was co-general chair of UbiComp 2014. She also serves regularly on Program Committees for many conferences including UbiComp, Pervasive, CHI, and CSCW.



What sparked your interest in Computer Science and research?

I am originally from California and went to Williams, a Liberal Arts college on the East Coast, where I double-majored in Math and Computer Science. My mother was a programmer; therefore, I was exposed to Computer Science early on, although I pretty much ignored it until I got to college.

I took the intro programming class in the fall of my freshman year and enjoyed it so much, I applied for and was selected to be an undergraduate teaching assistant for the second semester. My interest in research and graduate school was piqued when I spent the summer after my sophomore year in Oregon, as part of the CRA-W's Distributed REU program working on a parallel programming and debugging application under Dr. Jan Cuny. This software project piqued my interest in debugging parallel programs which was later the topic of my Senior Thesis – as part of the Honors program.

I attended Graduate School at the University of Washington in Seattle, initially working in parallel programming and graphics. However, when my personal life intervened, I took a one-year break after my Master's and worked in industry as programmer. During that year, I built user interfaces and fell in love with Human-Computer Interaction (HCI), the intersection of people and technology, as a research field. I returned to the University of Washington and completed doctoral studies under Alan Borning and with HCI folks at Microsoft Research as a "long-term" intern.

Given that you were exposed to both academia and the industry, what led you to select the latter?

As a graduate researcher, I had the opportunity to get hands-on experience with research: running the experiments, writing code, and analyzing the data. I also taught a class during my post-doc, to test the waters. However, I had always loved the ability as an intern at Microsoft Research (MSR) for my research to impact products used by billions of people. So when a position opened at Microsoft Research, I applied because working at MSR is my dream job.

That's quite a powerful statement! Is a career in academia off the table then?

I like to keep my options open. To some extent, I am still involved in the academic world through the summer interns I supervised at Microsoft Research. I love teaching.

Why Microsoft Research?

It is about having an impact: quality over quantity. I have worked at MSR for 12 years. In January 2016, I started a 2-year rotation to the Windows Product Group and really love it!

It feels like working for a start-up even 9 months in. I have already contributed to Windows and making Cortana available on the PC lock screen.

Which advice would you give to students or anyone still early in their career, trying to decide between Grad School, working in academia, or in the industry?

You have to figure out what makes you happy. I would encourage all undergraduates to try research at least once and to attend a conference in their area. For example, when attending discipline-specific workshop from CRA-W, students can learn about research and what it takes to have a paper, poster, or demo in that community, not to mention the networking opportunities. Most conferences offer travel grants to student volunteers, if cost is an issue.

Similarly, which advice would you give to a female student or recent grad about to jump ship as they are going through a rough patch?

There is no generic advice: I usually tailor it to the person and the situation they are facing. I would encourage them to give it some time, because things usually get better. I am a glass half-full person as you can tell! I would also invite them to prioritize rather than solely focusing on work: they should balance their lives, with exercise or entertainment for example.

Lastly, they should get help, if possible, such as through a group of friends who can support and cheer them up. This is actually one of the reasons we had a CS Grad Women Intramural basketball team when I was in graduate school. It was something silly to do together and remind us all that "You are not alone!"

You mentioned conferences earlier: What motivates you to attend, and, at many occasions, help organize them?

I like to interact with people of similar interests. When it comes to helping organize a conference, I see it as a professional service: It is a chance to give back and make an impact.

As several of your publications won "Best Paper" awards, what drives you to keep researching and publishing, rather than resting on your laurels?

Our publication on the "Family & Home" project was motivated by a desire to share our findings with others, so they could build on our work and not repeat our mistakes. Submitting a paper also provides a sense of accomplishment, of having finished something. Some of our research has been replicated by other teams, including a study of family and tech usage by researchers in Belgium, with interesting results. It was interesting to see how different things work in another community, given the same premise.

Do you regularly collaborate internationally?

It depends on our bandwidth. I often travel to conferences in other countries. As a matter of fact, I just attended UbiComp 2016 in Heidelberg, Germany. It is important to me to travel and interact with other researchers to share ideas and learn about what people are doing.

At Microsoft Research, because we are an international lab, there are many opportunities to collaborate internationally. For example, our research on the "room heating" and "motion & pattern detection" were conducted in partnership with Microsoft Researchers in Cambridge, UK. This was important because methods of heating homes differ around the world.

Do you have a favorite quote or word of wisdom you would like to conclude with?

"Find something you love!"