

# Stefanie Mueller - CV


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## Education

- Hasso Plattner Institute**, Germany 2016  
Ph.D., Computer Science / Human Computer Interaction  
Thesis: Interacting with Personal Fabrication Machines  
Advisor: Patrick Baudisch
- Hasso Plattner Institute**, Germany 2013  
M.Sc. with highest distinction, IT-Systems Engineering
- University of Applied Science Harz**, Germany 2010  
B.Sc., Computer Science in Media

## Full Papers (top-tier venues in Human-Computer Interaction are ACM CHI and UIST)

- [10] Saiganesh Swaminathan, Thijs Roumen, Robert Kovacs, David Stangl, **Stefanie Mueller**, Patrick Baudisch. Linespace: A Sensemaking Platform for the Blind. *Proc. ACM CHI 2016* (to appear).
- [9] Alexander Teibrich, **Stefanie Mueller**, Robert Kovacs, Stefan Neubert, François Guimbretière, Patrick Baudisch. Patching Physical Objects. *Proc. ACM UIST 2015*, 83-91.
- [8] Udayan Umapathi, Hsiang-Ting Chen, **Stefanie Mueller**, Ludwig Wall, Anna Seufert, Patrick Baudisch. LaserStacker: Fabricating 3D Objects by Laser Cutting and Welding. *Proc. ACM UIST 2015*, 575-582.
- [7] Harshit Agrawal, Udayan Umapathi, Robert Kovacs, Johannes Frohnhofen, Hsiang-Ting Chen, **Stefanie Mueller**, Patrick Baudisch. Prototyper: Physically Sketching Room-Sized Objects at Actual Scale. *Proc. ACM UIST 2015*, 427-436.
- [6]  Dustin Beyer, Serafima Gurevich, **Stefanie Mueller**, Hsiang-Ting Chen, Patrick Baudisch. Platener: Low-Fidelity Fabrication of 3D Objects by Substituting 3D Print with Laser-Cut Plates. *Proc. ACM CHI 2015*, 1799-1806. **[BEST PAPER NOMINEE]**
- [5] **Stefanie Mueller**, Martin Fritzsche, Jan Kossmann, Maximilian Schneider, Jonathan Striebel, Patrick Baudisch. Scotty: Relocating Physical Objects Across Distances Using Destructive Scanning, Encryption, and 3D Printing. *Proc. ACM TEI 2015*, 233-240.
- [4] **Stefanie Mueller**, Sangha Im, Serafima Gurevich, Alexander Teibrich, Lisa Pfisterer, François Guimbretière, Patrick Baudisch. WirePrint: 3D printed previews for fast prototyping. *Proc. ACM UIST 2014*, 273-280.
- [3]  **Stefanie Mueller**, Tobias Mohr, Kerstin Guenther, Johannes Frohnhofen, Patrick Baudisch. faBrickation: fast 3D printing of functional objects by integrating construction kit building blocks. *Proc. ACM CHI 2014*, 3827-3834. **[BEST PAPER NOMINEE]**

- [2]  **Stefanie Mueller**, Bastian Kruck, Patrick Baudisch. LaserOrigami: laser-cutting 3D objects. *Proc. ACM CHI 2013*, 2585-2592. **[BEST PAPER AWARD]**
- [1] **Stefanie Mueller**, Pedro Lopes, Patrick Baudisch. Interactive construction: interactive fabrication of functional mechanical devices. *Proc. ACM UIST 2012*, 599-606.

### Notes

- [2] David Eickhoff, **Stefanie Mueller**, and Patrick Baudisch. Destructive Games: Creating Value by Destroying Valuable Physical Objects. *Proc. ACM CHI 2016* (to appear).
- [1] Liwei Chan, **Stefanie Mueller**, Anne Roudaut, and Patrick Baudisch. CapStones and ZebraWidgets: sensing stacks of building blocks, dials and sliders on capacitive touch screens. *Proc. ACM CHI 2012*, 2189-2192.

### Journal Papers

- [1] **Stefanie Mueller** and Patrick Baudisch. The Five Challenges of Personal Fabrication: a Roadmap for Future Research. *Invited submission for Foundations and Trends® Human-Computer Interaction* (in preparation).

### Workshops, Courses, Tutorials (as organizer)

- [3] **Stefanie Mueller**, Laura Devendorf, Stelian Coros, Yoichi Ochiai, Madeline Gannon, Patrick Baudisch. CrossFAB: Bridging the Gap between Personal Fabrication Research in HCI, Computer Graphics, Robotics, Design, Art, Architecture, and Material Science. *Workshop at ACM CHI 2016* (to appear).
- [2] **Stefanie Mueller**, Patrick Baudisch. Personal Fabrication: State of the Art & Future Research. *Course at ACM CHI 2016* (to appear).
- [1] **Stefanie Mueller**, Alexandra Ion, and Patrick Baudisch. Hot Topics in Personal Fabrication Research. Tutorial. *Proc. ACM ITS 2014*, 499-502.

### Demonstrations and Workshop Submissions

- [11] Udayan Umapathi, Hsiang-Ting Chen, **Stefanie Mueller**, Ludwig Wall, Anna Seufert, and Patrick Baudisch. LaserStacker: Fabricating 3D Objects by Laser Cutting and Welding. *ACM UIST 2015 Demonstration*.
- [10] Harshit Agrawal, Udayan Umapathi, Robert Kovacs, Johannes Frohnhofen, Hsiang-Ting Chen, **Stefanie Mueller**, Patrick Baudisch. Protopiper: Physically Sketching Room-Sized Objects at Actual Scale. *ACM UIST 2015 Demonstration*.
- [9] **Stefanie Mueller**, Patrick Baudisch et al. Low-Fidelity Fabrication: Speeding up Design Iteration of 3D Objects. *ACM CHI 2015 Extended Abstracts*, 327-330.

- [8] **Stefanie Mueller.** Interacting with Personal Fabrication Devices – Current challenges from an HCI perspective. *Computational Aspects of Fabrication (Dagstuhl Seminar 14361), Dagstuhl Reports 2014*, Vol 4., No. 8, 138.
- [7] **Stefanie Mueller,** Sangha Im, Serafima Gurevich, Alexander Teibrich, Lisa Pfisterer, François Guimbretière, Patrick Baudisch. WirePrint: WirePrint: 3D printed previews for fast prototyping. *ACM UIST 2014 Demonstration*.
- [6] **Stefanie Mueller,** Tobias Mohr, Kerstin Guenther, Johannes Frohnhofen, Kai-Adrian Rollmann, Patrick Baudisch. faBrickation: fast 3D printing of functional objects by integrating construction kit building blocks. *ACM CHI 2014 Extended Abstracts*, 527 - 530.
- [5] **Stefanie Mueller,** Tobias Mohr, Kerstin Guenther, Johannes Frohnhofen, Kai-Adrian Rollmann, Patrick Baudisch. faBrickation: fast 3D printing of functional objects by integrating construction kit building blocks. *ACM CHI 2014 Extended Abstracts*, 187 - 188.
- [4] **Stefanie Mueller,** Pedro Lopes, Konstantin Kaefer, Bastian Kruck, Patrick Baudisch. constructable: Interactive Construction of Functional Mechanical Devices. *ACM SIGGRAPH 2013 Talks*, Article No. 39.
- [3] **Stefanie Mueller,** Bastian Kruck, Patrick Baudisch. LaserOrigami: Laser-Cutting 3D Objects. *ACM CHI 2013 Extended Abstracts*, 2851-2852.
- [2] **Stefanie Mueller,** Pedro Lopes, Konstantin Kaefer, Bastian Kruck, Patrick Baudisch. constructable: Interactive Construction of Functional Mechanical Devices. *ACM CHI 2013 Extended Abstracts*, 3107-3110.
- [1] **Stefanie Mueller,** David Eickhoff, Nils Kenneweg, Fabian Eckert, Johannes Villmow, Patrick Baudisch. Physically Destructive Games: Playing Games Inside a Laser Cutter. *ACM CHI 2013 Extended Abstracts, Workshop: FAB at CHI*.

### Magazine Articles

- [3] **Stefanie Mueller,** Patrick Baudisch. 2015. Laser cutters: a new class of 2D output devices. *interactions* 22, 5 (2015), 72-74.
- [2] **Stefanie Mueller,** Bastian Kruck, and Patrick Baudisch. Laser origami: laser-cutting 3D objects. *interactions* 21, 2 (2014), 36-41.
- [1] Michal Rinott, Eran Gal-Or, Shachar Geiger, Luka Or, **Stefanie Mueller,** et al. Demo hour. *interactions* 20, 6 (2013), 8-9.

### Research Internships

<b>Microsoft Research Redmond,</b> USA Research internship, advisor: Andy Wilson	2014
<b>University of Liechtenstein,</b> Liechtenstein Exchange semester in high-technology entrepreneurship	2011
<b>University of British Columbia,</b> Canada Research internship, advisor: Sidney Fels	2010

## Professional Activities

### Program Committee Member

ACM UIST program committee 2016  
ACM CHI program committee 2016  
ACM CHI program committee 2015

### Chairing

ACM UIST poster co-chair 2016  
ACM UIST student innovation contest co-chair 2015  
ACM UIST student volunteer co-chair 2014

### Reviewer

UIST (2012 - 2015), CHI (2012 - 2016), SIGGRAPH (2013, 2015), TEI (2013 - 2015), ITS (2015), DIS (2014), C&C (2015), MobileHCI (2011)

### Editor

ACM XRDS Crossroads 01/2016, Guest Editor Special Issue: Personal Fabrication

### Student Volunteer

UIST (2012, 2013), MobileHCI (2011)

### Funding Workshops

HCI Thinktank, Federal Ministry of Education and Research Germany, 2015-2016  
Programmable Matter and Things, NSF/CCC workshop, 2014

## Invited Talks

[20]	<b>Royal College of Art</b> , hosted by Kevin Walker	2015
[19]	<b>University of California San Diego</b> , hosted by Scott Klemmer	2015
[18]	<b>FXPAL</b> , hosted by Daniel Avrahami	2015
[17]	<b>MIT CSAIL</b> , hosted by Wojciech Matusik	2015
[16]	<b>MIT Media Lab</b> , hosted by Hiroshi Ishii	2015
[15]	<b>Cornell Tech</b> , hosted by Shiri Azenkot	2015
[14]	<b>Carnegie Mellon University</b> , hosted by Scott Hudson	2015
[13]	<b>Newcastle University</b> , hosted by Patrick Olivier	2015
[12]	<b>University of Bristol</b> , hosted by Mike Fraser	2015
[11]	<b>Institute of Science and Technology Austria (IST)</b> , hosted by Bernd Bickel	2015
[10]	<b>The Hebrew University of Jerusalem</b> , hosted by Amit Zoran	2015
[9]	<b>Adobe Research San Francisco</b> , hosted by David Salesin	2015
[8]	<b>University of Tokyo</b> , hosted by Jun Rekimoto	2014
[7]	<b>Rakuten Institute of Technology</b> , hosted by Adiyana Mujibiya	2014
[6]	<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> , hosted by Mark Pauly	2014
[5]	<b>Disney Research Zürich / ETH Zürich</b> , hosted by Stelian Coros	2014
[4]	<b>University of Washington</b> , dub lunch talk	2014
[3]	<b>Microsoft Research Redmond</b> , Natural Interaction Group	2014
[2]	<b>University of Applied Sciences Upper Austria</b> , hosted by Michael Haller	2013
[1]	<b>Microsoft Research Cambridge</b>	2013

## Awards and Honors

Best Paper Nominee, ACM CHI 2015

Best Paper Nominee, ACM CHI 2014

Best Paper Award, ACM CHI 2013

Deans Gold Medal for Highest Final Grade, 2013

Best Undergraduate Thesis of Woman in Engineering Germany, 2011

Winner Business Plan Competition Liechtenstein, Category High Technology, 2011

German Academic Exchange Service Scholarship for Studying Abroad, 2010

## Selected Press

<b>Creative Applications.</b> New software Platener speeds up prototyping process.	2015
<b>Wired Design.</b> Cool 3-D Printing Software Just Makes the Skeletons of Your Stuff	2014
<b>Gizmodo.</b> 3D Printing Just Wireframe Models Can Vastly Speed Up Prototyping.	2014
<b>3Dprintingindustry.</b> When Rapid Prototyping Isn't Rapid Enough Try Low-Fi Fab	2014
<b>MAKE Magazine.</b> faBrickation: 3D Printing + Lego for Fast Prototyping.	2014
<b>The Atlantic.</b> 3D Printing and Legos: Perfect Together.	2014
<b>BBC.</b> LaserOrigami: How lasers are quicker on the draw than 3D printing.	2013
<b>New Scientist.</b> Freehand laser cutter creates instant flat-pack design.	2012

## Mentoring

All students are co-advised with Patrick Baudisch.

### Master thesis (6 month fulltime)

[8]	Anna Seufert	2016
[7]	Saiganesh Swaminathan (Paper at CHI'16)	2015
[6]	Alexander Teibrich (Paper at UIST'15)	2015
[5]	Dustin Beyer (Paper at CHI'15, Best Paper Nominee)	2014
[4]	Bernhard Rabe	2014
[3]	Tobias Mohr (Paper at CHI'14, Best Paper Nominee)	2014
[2]	David Eickhoff (Note at CHI'16)	2013
[1]	Konstantin Kaefer	2013

### Bachelor thesis / project (12 month fulltime in student team)

[10]	Sven Mischkewitz	2016	[5]	Arthur Silber	2015
[9]	Lukas Wagner	2016	[4]	Stefan Neubert	2015
[8]	Klara Seitz	2016	[3]	Adrian Sieber	2015
[7]	Amadeus Glöckner	2016	[2]	Yannis Kommana	2015
[6]	Dimiti Schmid	2016	[1]	Johannes Deselaers	2015

### Research project students (semester course, approximately 1 day per week)

[22]	Anna Seufert	2014, 2015	[16]	Alexander Franke	2014
[21]	Kai-Adrian Rollmann	2014, 2015	[15]	Elina Zarisheva	2014
[20]	Sijing You	2015	[14]	Pascal Crenzin	2014
[19]	Steffen Kötte	2015	[13]	Jonathan Striebel	2013
[18]	Maximilian Brehm	2015	[12]	Kerstin Guenther	2013
[17]	Markus Dücker	2015	[11]	Alexander Teibrich	2013
[10]	Lisa Pfisterer	2013	[5]	Bastian Kruck	2012
[9]	Maximilian Schneider	2013	[4]	David Eickhoff	2012
[8]	Martin Fritzsche	2013	[3]	Nils Kenneweg	2012
[7]	Jan Kossmann	2013	[2]	Johannes Villmow	2012
[6]	Konstantin Kaefer	2012	[1]	Fabian Eckert	2012

## Teaching

### Teaching Assistant

[10]	<b>Future Interactive Technologies</b> , master's class	summer 2015
[9]	<b>Future Interactive Technologies</b> , master's class	summer 2014
[8]	<b>Future Interactive Technologies</b> , master's class	summer 2013
[7]	<b>Building Interactive Devices &amp; Computer Vision</b> , undergraduate 5 <sup>th</sup> semester	summer 2011
[6]	<b>Interface Lab</b> , undergraduate 5 <sup>th</sup> semester	winter 2009
[5]	<b>Introduction to Computer Graphics</b> , undergraduate 3 <sup>rd</sup> semester	winter 2008
[4]	<b>Programming 3</b> , undergraduate 3 <sup>rd</sup> semester	winter 2008
[3]	<b>Multimedia-Authoring</b> , undergraduate 3 <sup>rd</sup> semester	summer 2008
[2]	<b>Programming 2</b> , undergraduate 2 <sup>nd</sup> semester	summer 2008
[1]	<b>Programming 1</b> , undergraduate 1 <sup>st</sup> semester	winter 2007

### Lectures

- [2] **Interacting with Personal Fabrication Devices.**  
90 minute lecture as part of the “Future Interactive Technologies” master’s class.
- [1] **Telepresence.**  
90 minute lecture as part of the “Future Interactive Technologies” master’s class.

## References

**Patrick Baudisch (advisor)**

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**Takeo Igarashi**

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