

## CURRICULUM VITAE

# Patrick Baudisch

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## RESEARCH INTERESTS

My research is in the field of Human Computer Interaction, in particular Personal Fabrication and Haptics.

I believe that computer science and mechanical engineering are about to unite. In the future, users will solve mechanical problems by digitizing the involved objects using 3D scanners, solving the problem in the digital domain using the means of computer science, and converting the result back to the mechanical domain using a 3D printer. This will allow solving mechanical problems with the effectiveness and efficiency of computer science, including the ability to scale massively.

I explore these research areas by creating interactive devices. I come from a background of engineering miniature mobile devices, touch input, and interactive floors with the objective of creating a unified spatial interaction. Today, I am applying what I learned back then to making such interaction physical, in particular by means of interactive fabrication and haptics. Most of my research takes on an engineering perspective; in addition, I am trying to gain a deeper understanding of interaction through scientific experiment.

## EDUCATION

- 3/01 *Ph.D. in Computer Science. Darmstadt University of Technology, Darmstadt, Germany*  
Thesis: Dynamic Information Filtering  
Darmstadt's CS faculty is ranked 2<sup>nd</sup> in the nation (*Der Spiegel Ranking 2003*).
- 8–10/99 *Visiting Researcher at the University of Minnesota, Minneapolis, Minnesota*  
TechLens project: Dynamic generation of Filterbots (so-called QueryBots)
- 10/94 *'Diplom' in Computer Science (~M.S.) at Darmstadt University of Technology, with honors*  
Master's Thesis: a novel hardware-oriented anti-aliasing algorithm; minor in psychology

- 10/91      *Studies at Université Bordeaux, France*  
-10/92      Computer Science and Psychology on a grant from the European Erasmus program
- 10/91      ‘Vordiplom’ in Computer Science at Darmstadt University of Technology, Germany

## EMPLOYMENT

- 08-      *Full Professor at Hasso Plattner Institute, Potsdam, Germany*  
I am heading the HCI Lab—as of April 2013 five PhD students and a post doc. Together with my group, we are investigating five areas of HCI research (1) Interactive rooms all surfaces of which are touch sensitive, including the entire floor, (2) the design and engineering of miniature mobile devices, (3) in particular imaginary interfaces, i.e., miniature mobile devices operated using spatial, non-visual gestures, (4) interactive fabrication, i.e., interactive systems that produce matter rather than information, (5) haptics based on people, (6) basic research aimed at understanding touch input. I am teaching the two undergrad classes “Designing Interactive Systems” and “Building Interactive Devices and Computer Vision” and the grad class “HCI Research”. According to the CHE-Ranking, Hasso Plattner Institute has been ranked 1<sup>st</sup> among computer science departments nation-wide since 2009.
- 02-09      *Research Scientist at Microsoft Research, Redmond, Washington*  
As a member of the Adaptive Systems and Interaction Group, I was continuing my work on wall-size/multi-monitor displays and small screen devices. I created techniques and technology that help users carry out work on PDAs and phones that would normally require a desktop computer. Target audiences included road warriors, as well as users in the rural areas of the world. At the same time, I continued to work on large display interaction with the goal of creating an interaction language for discretionary large display users. In addition to writing papers and patents, I was able to transfer several of my research projects into products. Examples include *Flat volume control* that shipped with Microsoft Windows™ Vista™ and *snap-and-go* in Microsoft Publisher.
- 05-      *and Affiliate Assistant Professor at University of Washington, Seattle, Washington*  
In August 2005 I was appointed *Affiliate Assistant Professor* at the CSE department of UW, which is ranked 7<sup>th</sup> in the nation. Until 2008, I was co-teaching undergraduate and graduate classes in Human-Computer Interaction at the Computer Science and Engineering Department. I was working with graduate students and co-advising a PhD student.
- 00-02      *Research Scientist at Xerox PARC, Palo Alto, California*  
Most of my work was centered on *focus-plus-context screens*, my first large display project. The project led to four patent applications and publications at UIST, CHI, SIGGRAPH, and an article in the New York Times. I also started my first small screen projects at this position. *Halo* and *automatic text reduction* help users view large documents on small screens.
- 94-00      *Research Scientist at GMD-IPSI (Fraunhofer), Darmstadt, Germany*  
Coming from a graphics background I began to focus on user interface research, here in the context of information filtering. As part of my Ph.D. work I created *TV Scout*, a TV program recommender system that combines content-based and collaborative filtering techniques. The main research contribution of this project was a user interfaces framework for manually analyzing and updating user profiles. The TV Scout system was publicly available for three years and attracted 17,000+ registered users. I designed the system, advised 20+ students who worked on TV Scout related projects, and ran several evaluations. I brought the TV program guide publisher TV TODAY on board as a sponsor for the project. I also led the EU-funded *Desktop Video Production* Project.

# ACM AWARDS

2013: I was inducted into the ACM CHI Academy <http://www.sigchi.org/about/awards>

2014: I became an ACM Distinguished Scientist [http://awards.acm.org/distinguished\\_member/all.cfm](http://awards.acm.org/distinguished_member/all.cfm)

# PUBLICATIONS

## JOURNAL PAPERS

- J.5 **Baudisch, P.**, & Mueller, S. (2017). Personal Fabrication. *Foundations and Trends® in Human-Computer Interaction*, 10(3-4), 165-293.
- J.4 **Baudisch, P.**, Tan, D., Steedly, D., Rudolph, E., Uyttendaele, M., Pal, C., and Szeliski, R. An Exploration of User Interface Designs for Real-time Panoramic Photography. *Australian Journal of Information Systems (AJIS)*, 13(2), May 2006, pp. 151-166.
- J.3 Robertson, G., Czerwinski, M., **Baudisch, P.**, Meyers, B., Robbins, D., Smith, G., Tan, D. Large Display User Experience. *IEEE Computer Graphics & Application, Special Issue on Large Displays*, July/August 2005, pp. 44-51. (acceptance rate 25%)
- J.2 **Baudisch, P.**, DeCarlo, D., Duchowski, A., and Geisler, B. Focusing on the Essential: Considering Attention in Display Design. In *Communications of the ACM* 46(3), March 2003, pp. 60-66.
- J.1 **Baudisch, P.** and Leopold, D. Attention, Indifference, Dislike, Action: Web Advertising Involving Users. In *Netnomics Journal 2* (2000), pp.75-83, Baltzer Science Publishers BV, Amsterdam.

## BOOK CHAPTERS

- B.1 Robertson, G., Smith, G., Meyers, B., **Baudisch, P.**, Czerwinski, M., Horvitz, E., Robbins, D., and Tan, D. Chapter 4: Explorations in Task Management on the Desktop. In *Beyond the Desktop Metaphor Designing Integrated Digital Work Environments*, Kaptelinin and Czerwinski (Eds.). MIT Press. ISBN-10: 0-262-11304-X ISBN-13: 978-0-262-11304-5. April 2007.

**A note on publication venues:** in my primary area of research, Human Computer Interaction, the ACM Conference on Human Factors in Computing Systems (CHI) is considered one of the best forums for dissemination of research results and covers the broad spectrum of research in Human Computer Interaction. The ACM Symposium on User Interface Software and Technology (UIST) is of similar quality, but is focused on a particular sub-area of the field, namely interactive techniques and devices. Papers in these conferences are refereed as full papers, and have an acceptance rate of around 15-25% each year.

## CHI FULL PAPERS (CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS) AND UIST FULL PAPERS (USER INTERFACE SOFTWARE AND TECHNOLOGY)

- CHI.65 Cheng, L.-P., Cheng, L., Marwecki, S., and **Baudisch, P.**, iTurk: Passive Haptics Animated by the User. In *Proceedings of CHI'18*.
- CHI.64 Roumen, T., Mueller W., and **Baudisch, P.** Grafter: Remixing 3D-Printed Machines In *Proceedings of CHI'18*, 12 pages.
- CHI.63 Peng, H., Guimbretiere, F., Mueller, S., **Baudisch, P.** RoMA: Interactive Fabrication with a Robotic Arm 3D Printer. *Proceedings of CHI'18*.
- CHI.62 Marwecki, S., Brehm, M., Wagner, L., Cheng, L.-P., Mueller, F., and **Baudisch, P.** VirtualSpace - Overloading Physical Space with Multiple Virtual Reality Users. In *Proceedings of CHI'18*, 10 pages.

- CHI.61 Lopes, P., You, S., Ion, A., and **Baudisch, P.**, Adding Force Feedback to Mixed Reality Experiences and Games using Electrical Muscle Stimulation. In *Proceedings of CHI'18*, 13 pages.
- CHI.60 Ion, A., Kovacs, R., Schneider, O., Lopes, P. and **Baudisch, P.** Metamaterial Textures. In *Proceedings of CHI'18*, 12 pages.
- CHI.59 Cheng, L.-P., Marwecki, S., **Baudisch, P.** Mutual Human Actuation. In *Proceedings of UIST'17*, 9 pages.
- CHI.58 Lopes, P., You, S., Cheng, L., Marwecki, S., and **Baudisch, P.** Providing Haptics to Walls and Other Heavy Objects in Virtual Reality by Means of Electrical Muscle Stimulation. In *Proceedings of CHI'17*, 12 pages.
- CHI.57 Ion, A., Wall, L., Kovacs, R., and **Baudisch, P.** Digital Mechanical Metamaterials. In *Proceedings of CHI'17*, 12 pages.
- CHI.56 Kovacs, R., Seufert, A., Wall, L., Chen, H.-T., Meinel, F., Müller, W., You, S., Brehm, M., Striebel, J., Kommana, Y., Popiak, A., Bläsius, T., and **Baudisch, P.** TrussFab: Fabricating Sturdy Large-Scale Structures on Desktop 3D Printers. In *Proceedings of CHI'17*, 11 pages.
- CHI.55 Lopes, P. D., Yüksel, D. Guimbretière, F., and **Baudisch, P.** Muscle-plotter: an Interactive System based on Electrical Muscle Stimulation that Produces Spatial Output. In *Proceedings of UIST 2016*, 11 pages.
- CHI.54 Ion, A., Frohnhofen, J., Wall, L., Kovacs, R., Alistar, M., Lindsay, J., Lopes, P., Chen, H.-T. and **Baudisch, P.** Metamaterial Mechanisms. In *Proceedings of UIST 2016*, 12 pages.  
 **NOMINATED FOR UIST 2016 BEST PAPER AWARD**
- CHI.53 Rouman, T., Kruck, B., Dürschmid, T., Nack, T., **Baudisch, P.** Pervasive Fabrication. In *Proceedings of UIST 2016*, 12 pages.
- CHI.52 Swaminathan, S., Roumen, T., Kovacs, R., Stangl, D., Mueller, S., **Baudisch, P.** Linespace: A Sensemaking Platform for the Blind. In *Proceedings of CHI 2016*, 11 pages.
- CHI.51 Umaphathi, U., Chen, HT., Mueller, S., Wall, L., Seufert, A, **Baudisch, P.** LaserStacker: Fabricating 3D Objects by Laser Cutting and Welding. In *Proceedings of UIST 2015*, pp. 575-582.
- CHI.50 Cheng, L.-P., Roumen, T., Rantzsch, H., Köhler, S., Schmidt, P., Kovacs, R., Jasper, J., Kemper, J., **Baudisch, P.** TurkDeck: Physical Virtual Reality Based on People. In *Proceedings of UIST 2015*, pp. 417-426
- CHI.49 Agrawala, H. Umaphathi, U., Kovacs, R., Johannes, F., Chen, HT., Mueller, S., **Baudisch, P.** Prototyper: Physically Sketching Room-Sized Objects at Actual Scale. In *Proceedings of UIST 2015*, pp. 427-436.
- CHI.48 Teibrich, A., Mueller, S., Guimbretière F., Kovacs, R., Neubert, S., **Baudisch, P.** Patching Physical Objects. In *Proceedings of UIST 2015*, pp 83-91.
- CHI.47 Lopes, P., Ion, A., **Baudisch, P.** Impacto: Simulating Physical Impact by Combining Tactile Stimulation with Electrical Muscle Stimulation. In *Proceedings of UIST 201*, pp 11-19.
- CHI.46 Lopes, P., Jonell, P., **Baudisch, P.** Affordance++: allowing objects to communicate dynamic use. In *Proceedings of CHI 2015*, pp. 2515-2524.  
 **CHI 2015 BEST PAPER AWARD**  **BEST TALK AWARD**
- CHI.45 Beyer, D., Gurevich, S., Mueller, S., Chen, H.T., **Baudisch, P.** Platener: Low-Fidelity Fabrication of 3D Objects by Substituting 3D Print with Laser-Cut Plates. In *Proceedings of CHI'15*, pp. 1799-1806.  
 **NOMINATED FOR CHI 2015 BEST PAPER AWARD**

- CHI.44 Lopes, P., Ion, A., Mueller, W. Hoffmann, D., Jonell, P. **Baudisch, P.** Proprioceptive Interaction. In *Proceedings of CHI 2015*, pp. 939-948.  **BEST TALK AWARD**
- CHI.43 Schmidt, D., Frohnhofen, J., Knebel, S., Meinel, F., Perchyk, M., Risch, J., Striebel, J., Wachtel, J., **Baudisch, P.** Ergonomic Interaction on Touch Floors. In *Proceedings of CHI 2015*, pp. 3879-3888.
- CHI.42 Mueller, S., Im, S., Gurevich, S., Teibrich, A., Pfisterer, L., Guimbretière, F. and **Baudisch, P.** WirePrint: 3D Printed Previews For Fast Prototyping. In *Proceedings of UIST 2014*, pp. 273-280.
- CHI.41 Mueller, S., Mohr, T., Guenther, K., Frohnhofen, J., **Baudisch, P.** faBrickation: Fast 3D Printing of Functional Objects by Integrating Construction Kit Building Blocks. In *Proceedings of CHI 2014*, pp. 3827-3834.  
 **NOMINATED FOR CHI 2014 BEST PAPER AWARD**
- CHI.40 Cheng, LP, Lühne, P., Lopes, P., Sterz, C. and **Baudisch, P.** Haptic Turk: a Motion Platform Based on People. In *Proceedings of CHI 2014*, pp.3463-3472.
- CHI.39 Schmidt, D., Ramakers, R., Pedersen, E., Jasper, J., Köhler, S., Pohl, A., Rantsch, H., Rau, A., Schmidt, P., Sterz, C., Yurchenko, Y., **Baudisch, P.** Kickables: Tangibles for Feet. In *Proceedings of CHI 2014*, pp. 3143-3152.
- CHI.38 Holz, C. and **Baudisch, P.** Fiberio. In *Proceedings of UIST 2013*, pp. 41-50.  
 **UIST 2013 BEST PAPER AWARD,  CEBIT 2014 INNOVATION AWARD,**
- CHI.37 **Baudisch, P.**, Pohl, H., Reinicke, S., Wittmers, E. Lühne, P., Knaust, M., Köhler, S., Schmidt, P., and Holz, C. Imaginary Reality Gaming: Ball Games Without a Ball. In *Proceedings of UIST 2013*, pp. 405-410.
- CHI.47 Mueller, S., Kruck, B., and **Baudisch, P.** LaserOrigami: laser-cutting 3D objects. In *Proceedings of CHI 2013*, pp. 2585-2592.  
 **CHI 2013 BEST PAPER AWARD**
- CHI.44 Bränzel, A., Holz, C., Hoffmann, D., Schmidt, D., Knaust, M., Lühne, P., Meusel, R., Richter, St, and **Baudisch, P.** GravitySpace: Tracking Users and Their Poses in a Smart Room Using a 2D Pressure-Sensing Floor. In *Proceedings of CHI 2013*, pp. 725-734.  
 **NOMINATED FOR CHI 2013 BEST PAPER AWARD**
- CHI.34 Gustafson, S., Rabe, B. and **Baudisch, P.** Understanding palm-based imaginary interfaces: the role of visual and tactile cues when browsing. In *Proceedings of CHI 2013*, pp. 889-898.
- CHI.33 Roudaut, A., Rau, A., Sterz, C., Plauth, M., and **Baudisch, P.** Gesture Output: Eyes-Free Output: Using a Force Feedback Touch Surface. In *Proceedings of CHI 2013*, pp. 2547-2556.
- CHI.32 Mueller, S., Lopes, P. and **Baudisch, P.** Interactive Construction: Interactive Fabrication of Functional Mechanical Devices. In *Proceedings of UIST 2012*, pp. 599-606.
- CHI.31 Gustafson, S., Holz, C., and **Baudisch, P.** Imaginary Phone: Learning Imaginary Interfaces by Transferring Spatial Memory from a Familiar Screen Device. In *Proceedings of UIST 2011*, pp. 283-292.
- CHI.30 Wimmer, R., and **Baudisch, P.** Modular and Deformable Touch-Sensitive Surfaces Based on Time Domain Reflectometry. In *Proceedings of UIST 2011*, pp. 517-526.  
 **NOMINATED FOR UIST 2011 BEST PAPER AWARD**
- CHI.29 Holz, C. and **Baudisch, P.** Understanding touch. In *Proceedings of CHI 2011*, Vancouver, Canada, May 7-12, 2011, pp. 2501-2510.
- CHI.28 Roudaut, A., Pohl, H., and **Baudisch, P.** Touch on curved surfaces. In *Proceedings of CHI 2011*, Vancouver, Canada, May 7-12, 2011, pp. 1011-1020.

- CHI.27 Gustafson, S, Bierwidth, D., and **Baudisch, P.** Imaginary Interfaces: Spatial Interaction with Empty Hands and Without Visual Feedback. In *Proceedings of UIST 2010*, pp. 3-12.
- CHI.26 Fetzer, C., Kaefer, K., Augsten, T., Meusel, R., Kanitz, D., Stoff, T, Becker, T, Holz, C. and **Baudisch, P.** Multitoe: High-Precision Interaction with Back-Projected Floors Based on High-Resolution Multi-Touch Input. In *Proceedings of UIST 2010*, New York, NY, October 3-6, 2010, pp. 209-218.
- CHI.25 **Baudisch, P.** Becker, T, and Rudeck, F. Lumino: Tangible Blocks for Tabletop Computers Based on Glass Fiber Bundles. In *Proceedings of CHI 2010*, Atlanta, GA, April 10-15, 2009, pp. 1165-1174.  
 **CHI 2010 BEST PAPER AWARD**
- CHI.24 Holz, C and **Baudisch, P.** The Generalized Perceived Input Point Model and How to Double Touch Accuracy by Extracting Fingerprints. In *Proceedings of CHI 2010*, Atlanta, GA, April 10-15, 2010, pp. 581-590.
- CHI.23 Boring, S., Baur, D., Butz, A., Gustafson, S., and **Baudisch, P.** Touch Projector: Mobile Interaction Through Video. In *Proceedings of CHI 2010*, Atlanta, GA, April 10-15, 2009, pp. 2287-2296.
- CHI.22 Ni, T., and **Baudisch, P.** Disappearing Mobile Devices. In *Proceedings of UIST 2009*, Victoria, BC, October 4-7, 2009, pp. 101-110.
- CHI.21 **Baudisch, P.** and Chu, G. Back-of-device Interaction allows creating very small touch devices. In *Proceedings of CHI 2009*, Boston, MS, April 4-9, 2009, pp. 1923-1932  
 **NOMINATED FOR CHI 2009 BEST PAPER AWARD**
- CHI.20 Li, K., **Baudisch, P.**, Griswold, W., and Hollan, J. Tapping and Rubbing: exploring new dimensions of tactile feedback with voice coil motors. In *Proceedings of UIST 2008*, Monterey, CA, October 19-22, 2007, pp. 181-190.
- CHI.19 Li, K., **Baudisch, P.**, and Hinckley, K. BlindSight: eyes-free access to mobile phones. In *Proceedings of CHI 2008*, Florence, Italy, April 5-10, 2007, pp. 1389-1398.
- CHI.18 Hoffman, R., **Baudisch, P.**, and Weld, D. Evaluating Visual Cues for Window Switching on Large Screens. In *Proceedings of CHI 2008*, Florence, Italy, April 5-10, 2007, pp. 1389-1398.. (acceptance rate 22%)
- CHI.17 Gustafson, S., **Baudisch, P.**, Gutwin, C, and Irani, P. Wedges: Accurate Visualization of Off-Screen Locations. In *Proceedings of CHI 2008*, Florence, Italy, April 5-10, 2007, 10 pages. (acceptance rate 22%)
- CHI.16 Wigdor, D., Forlines, C., **Baudisch, P.**, Barnwell, J., Shen, C. LucidTouch: A See-Through Mobile Device In *Proceedings of UIST 2007*, Newport, Rhode Island, October 7-10, 2007, pp. 269-278. (acceptance rate 17%)
- CHI.15 Vogel, D. and **Baudisch, P.** Shift: A Technique for Operating Pen-Based Interfaces Using Touch. In *Proceedings of CHI 2007*, San Jose, CA, Apr 28-May 18, 2007, pp. 657-666. (acceptance rate 25%)  
 **CHI 2007 BEST PAPER AWARD**
- CHI.14 Hinckley, K., Zhao, S., Sarin, R., **Baudisch, P.**, and Cutrell, E. InkSeine: In Situ Search for Active Note Taking. In *Proceedings of CHI 2007*, San Jose, CA, Apr 28-May 18, 2007, pp 251-260. (acceptance rate 25%)
- CHI.13 Zhao, S., Dragicevic, P., Chignell, M., Balakrishnan, R., and **Baudisch, P.** EarPod: Eyes-free Menu Selection using Touch Input and Reactive Audio Feedback. In *Proceedings of CHI 2007*, San Jose, CA, Apr 28-May 18, 2007, pp. 1395-1404. (acceptance rate 25%)

- CHI.12 **Baudisch, P.**, Tan, D., Collomb, M., Robbins, D., Hinckley, K., Agrawala, M., Zhao, S., and Ramos, G. Phosphor: Explaining Transitions in the User Interface Using Afterglow Effects. In *Proceedings of UIST 2006*, Montreux, Switzerland, Oct 15-18, 2006, pp. 169-174. (acceptance rate 22%)
- CHI.11 Benko, H., Wilson, A., and **Baudisch, P.** Precise Selection Techniques for Multi-Touch Screens. In *Proceedings of CHI 2006*, Montreal, Canada, pp. 1263–1272. (acceptance rate 23%)
- CHI.10 Grossman, T., Hinckley, K. **Baudisch, P.**, Agrawala, M., Balakrishnan, R. Hover Widgets: Using the Tracking State to Extend the Capabilities of Pen-Operated Devices. In *Proceedings of CHI 2006*, Montreal, Canada, pp. 861–870. (acceptance rate 23%)
- CHI.9 Hinckley, K., Guimbretiere, F., **Baudisch, P.**, Sarin, R., Agrawala, M., and Cutrell, E. The Spring-board: Multiple Modes in One Spring-Loaded Control. In *Proceedings of CHI 2006*, Montreal, Canada, pp. 181–190. (acceptance rate 23%)
- CHI.8 **Baudisch, P.**, Cutrell, E., Hinckley, K., and Eversole, A. Snap-and-go: Helping Users Align Objects without the Modality of Traditional Snapping. In *Proceedings of CHI 2005*, Portland, OR, Apr 2005, pp. 301–310. (acceptance rate 25%).  
 **NOMINATED FOR CHI 2005 BEST PAPER AWARD**
- CHI.7 Lam, H. and **Baudisch, P.** Summary Thumbnails: *Readable* Overviews for Small Screen Web Browsers. In *Proceedings of CHI 2005*, Portland, OR, Apr 2005, pp. 681–690. (acceptance rate 25%)
- CHI.6 Hinckley, K., **Baudisch, P.**, Ramos, G., and Guimbretiere, F. Design and Analysis of Delimiters for Selection-Action Pen Input Phrases in *Scriboli*. In *Proceedings of CHI 2005*, Portland, OR, Apr 2005, pp. 451–460. (acceptance rate 25%)
- CHI.5 **Baudisch, P.**, Pruitt, J. and Ball, S. Flat volume control: improving usability by hiding the volume control hierarchy in the user interface. In *Proceeding of CHI 2004*, Vienna Austria, April 2004, *CHI Letters* 6(1), pp. 255–262. (acceptance rate 16%). **COMMERCIALY DEPLOYED IN MICROSOFT WINDOWS™ VISTA™**
- CHI.4 **Baudisch, P.** and Gutwin, C. Multiblending: displaying overlapping windows simultaneously without the drawbacks of alpha blending. In *Proceeding of CHI 2004*, Vienna Austria, April 2004, *CHI Letters* 6(1), pp. 367–374. (acceptance rate 16%)
- CHI.3 **Baudisch, P.** and Rosenholtz, R. Halo: A Technique for Visualizing Off-Screen Locations. In *Proceedings of CHI 2003*, Fort Lauderdale, FL, April 2003, *CHI Letters* 5(1), pp. 481–488. (acceptance rate 16%) **COMMERCIALY DEPLOYED IN SECOND LIFE™ IN 2006**
- CHI.2 **Baudisch, P.** Good, L., Bellotti, V., and Schraedley, P. Keeping Things in Context: A Comparative Evaluation of Focus Plus Context Screens, Overviews, and Zooming. In *Proceedings of CHI 2002*, Minneapolis, MN, April 2002, *CHI Letters* 4(1), pp. 259–266. (acceptance rate 15%)
- CHI.1 **Baudisch, P.**, Good, N., and Stewart, P. Focus Plus Context Screens: Combining Display Technology with Visualization Techniques. In *Proceedings of UIST '01*, Orlando, FL, November 2001, *CHI Letters* 3(2), pp.31–40. (acceptance rate 19%)

#### OTHER PEER-REVIEWED PAPERS

- C.15 Mueller, S., Fritzsche, M., Kossmann, J., Schneider, M., Striebel, J., and Baudisch, P. Scotty: Relocating Physical Objects Across Distances Using Destructive Scanning, Encryption, and 3D Printing. In *Proceedings of TEI 2015*.
- C.14 Grossman, T., **Baudisch, P.**, and Hinckley, K. Handle Flags: efficient and flexible selections for inking applications. In *Proceedings of GI 2009*, Kelowna, BC, Canada May 25-27, 2009, pp.167-174. (acceptance rate 36%)

- C.13 Nacenta, M., **Baudisch, P.**, Benko, H., and Wilson, A. Separability of spatial manipulations in multi-touch interfaces. In *Proceedings of GI 2009*, Kelowna, BC, Canada May 25-27, 2009, pp. 175-182. (acceptance rate 36%)
- C.12 **Baudisch, P.**, Zotov, A., Cutrell, E., and Hinckley, K. Starburst: a Target Expansion Algorithm for Non-Uniform Target Distributions. In *Proceedings of AVI 2008*, Naples, Italy, May 28-30, 2008, pp. 129-137. (acceptance rate 28%)
- C.11 Ramos, G., Robertson, G., **Baudisch, P.**, Czerwinski, M., Tan, D. Robbins, D., Hinckley, K., Agrawala, M. Tumble! Splat! Helping Users Access and Manipulate Occluded Content in 2D Drawings. In *Proceedings of AVI 2006*, Venice, Italy, May 2006, pp. 428-435.
- C.10 **Baudisch, P.**, Tan, D., Steedly, D., Rudolph, E., Uyttendaele, M., Pal, C., and Szeliski, R. Panoramic Viewfinder: providing a real-time preview to help users avoid flaws in panoramic pictures. In *Proceedings of OZCHI 2005*, ACM International Conference Proceedings Series, Canberra, Australia, November 2005.  **TOP 5 PAPER AWARD**
- C.9 Collomb, M., Hascoet, M., **Baudisch, P.**, and Lee, B. Improving drag-and-drop on wall-size displays. In *Proceedings of GI 2005*, Victoria, BC, May 2005, pp. 25–32. (acceptance rate 29%).
- C.8 **Baudisch, P.** Lee, B., and Hanna, L. Fishnet, a fisheye web browser with search term popouts: a comparative evaluation with overview and linear view. In *Proceedings of AVI 2004*, Gallipoli (Lecce), Italy, May 2004, pp. 133–140. (acceptance rate 26%)
- C.7 Hinckley, K., Ramos, G., Guimbretiere, F., **Baudisch, P.** Smith, M. Stitching: Pen Gestures that Span Multiple Displays. In *Proceedings of AVI 2004*, Gallipoli (Lecce), Italy, May 2004, pp. 23–31. (acceptance rate 26%)
- C.6 Smith, G., **Baudisch, P.**, Robertson, G., Czerwinski, M., Meyers, B., Robbins, D., Horvitz, E., and Andrews, D. GroupBar: The TaskBar Evolved. In *Proceedings of OZCHI 2003* Queensland, Brisbane, Australia, pp. 34-43. (acceptance rate 31%)
- C.5 **Baudisch, P.**, Cutrell, E., Robertson, G. High-Density Cursor: A Visualization Technique that Helps Users Keep Track of Fast-Moving Mouse Cursors. In *Proceedings of Interact 2003*, Zurich Switzerland, August 2003, pp. 236–243. (acceptance rate 33%)
- C.4 **Baudisch, P.**, Cutrell, E., Robbins, D., Czerwinski, M., Tandler, P. Bederson B., and Zierlinger, A. Drag-and-Pop and Drag-and-Pick: Techniques for Accessing Remote Screen Content on Touch- and Pen-operated Systems. In *Proceedings of Interact 2003*, Zurich Switzerland, August 2003, pp. 57–64. (acceptance rate 33%)
- C.3 **Baudisch, P.** and Brueckner, L. TV Scout: Lowering the entry barrier to personalized TV program recommendation. In *Proceedings of the 2nd International Conference on Adaptive Hypermedia and Adaptive Web Based Systems (AH2002)*, May 29–31, Malaga, Spain. In Lecture Notes in Computer Science, Springer-Verlag Heidelberg, Volume 2347 / 2002, January 2002, Page: 58–67. (acceptance rate 29%)
- C.2 Reprinted as: **Baudisch, P.** and Brueckner, L. TV Scout: Lowering the entry barrier to personalized TV program recommendation. In Hemmje, M, Niedersee, C, and Risse, T. (editors), *From Integrated Publication and Information Systems to Information and Knowledge Environments*. Lecture Notes in Computer Science, Springer-Verlag Heidelberg, Volume 3379 / 2005, Page: 299-308.
- C.1 **Baudisch, P.** Using a Painting Metaphor to Rate Large Numbers of Objects. In *Proceedings of HCI International '99 (8th International Conference on Human-Computer Interaction)*. 1999 August 22–26, Munich, Germany. Mahwah, NJ: Lawrence Erlbaum Associates, 1999, pp. 266–270.

## PEER-REVIEWED SHORT PAPERS & TECHNOTES

- S.18 Eickhoff, D., Mueller, S., **Baudisch, P.** Destructive Games: Creating Value by Destroying Valuable Physical Objects. In *Proceedings of CHI 2016 (Note)*, 4 pages.
- S.17 Schmidt, D., Kovacs, R., Mehta, V., Umaphathi, U., Köhler, S., Cheng, L., **Baudisch, P.** Level-Ups: Motorized Stilts that Simulate Stair Steps in Virtual Reality. In *Proceedings of CHI 2015 (Note)*, pp. 2157-2160.
- S.16 Ion, A., Wang, E., and **Baudisch, P.** Skin Drag Displays: Dragging a Physical Tactor across the User's Skin Produces a Stronger Tactile Stimulus than Vibrotactile. In *Proceedings of CHI 2015 (Note)*, pp. 2501-2504.
- S.15 Lopes, P. and **Baudisch, P.** Muscle Propelled Force Feedback. In *Proceedings of CHI 2013 (Note)*, pp. 2577-2580.
- S.14 Chan, L., Mueller, S., Roudaut, A. and **Baudisch, P.** CapStones and ZebraWidgets: Sensing Stacks of Building Blocks, Dials and Sliders on Capacitive Touch Screens. In *Proceedings of CHI 2012 (Note)*, pp. 2189-2192.
- S.13 Richter, S., Holz, C., **Baudisch, P.** Bootstrapper: Recognizing Tabletop Users by their Shoes. In *Proceedings of CHI 2012 (Note)*, pp. 1249-1252.
- S.12 Rudeck, F. and **Baudisch, P.** Rock-Paper-Fibers: Bringing Physical Affordance to Mobile Touch Devices. In *Proceedings of CHI 2012 (Note)*, pp. 1929-1932.
- S.11 Mulloni, A., Duenser, A., Seichter, H., **Baudisch, P.**, Schmalstieg, D. 360° Panoramic Overviews for Location-Based Services. In *Proceedings of CHI 2012 (Note)*, pp. 2565-2568.
- S.10 Ashbrook, D., White, S., and **Baudisch, P.** Nenya: Subtle and Eyes-Free Mobile Input with a Magnetically-Tracked Finger Ring. In *Proceedings of CHI 2011 (Note)*, Vancouver, Canada, May 7-12, 2011, pp. 2043-2046.
- S.9 **Baudisch, P.**, Sinclair, M. and Wilson, A. Soap: a pointing device that works in mid-air. In *Proceedings of UIST 2006 (Technote)*, Montreux, Switzerland, Oct 15-18, 2006, pp. 43-46. (acceptance rate 22%)
- S.8 Huynh, D., Drucker, S., **Baudisch, P.**, Wong, C. Time Quilt: Scaling up Zoomable Photo Browsers for Large, Unstructured Photo Collections. In *CHI 2005 Extended Abstracts (Short paper)*, Portland, OR, Apr 2005, pp. 1937-1940. (acceptance rate 25%)
- S.7 **Baudisch, P.**, Xie, X., Wang, C., and Ma, W.-Y. Collapse-to-Zoom: Viewing Web Pages on Small Screen Devices by Interactively Removing Irrelevant Content. In *Proceedings of UIST '04 (Technote)*, Santa Fee, NM, pp. 91-94. (acceptance rate 23%)
- S.6 Robertson, G., Horvitz, E., Czerwinski, M., **Baudisch, P.**, Hutchings, D., Meyers, B., Robbins, D., and Smith, G. Scalable Fabric: Flexible Task Management. In *Proceedings of AVI 2004 (Short paper)*, Gallipoli (Lecce), Italy, May 2004, pp. 85-89. (acceptance rate 29%)
- S.5 **Baudisch, P.**, Cutrell, E., Hinckley, K., and Gruen, R. Mouse Ether: Accelerating the Acquisition of Targets Across Multi-Monitor Displays. In *CHI 2004 Extended Abstracts (Short paper)*, Vienna Austria, April 2004, pp 1379-1382. (acceptance rate 37%)
- S.4 Mackinlay, J., Good, L., Zellweger, P., Stefik, M., and **Baudisch, P.** City Lights: Contextual Views in Minimal Space. In *CHI 2003 Extended Abstracts (Short paper)*, Ft. Lauderdale, FL, April 2003, pp. 838-839. (acceptance rate 38%)

- S.3 Good, L., Bederson, B., Stefik, M., and **Baudisch, P.** Automatic Text Reduction For Changing Size Constraints. In *CHI 2002 Extended Abstracts (Short paper)*, Minneapolis, MN, April 2002, pp. 798–799. (acceptance rate 33%)
- S.2 **Baudisch, P.** Don't Click, Paint! Using Toggle Maps to Manipulate Sets of Toggle Switches, In *Proceedings of UIST '98 (Technote)*, San Francisco, pp. 65–66. (acceptance rate 20%)  
**COMMERCIALY DEPLOYED IN ADOBE PHOTOSHOP CS2™ LAYER PALETTE IN 2006**
- S.1 **Baudisch, P.** The Cage: Efficient Construction in 3d using a cubic adaptive grid. In *Proceedings of UIST '96 (Technote)*, Seattle, pp. 171–172. (acceptance rate ~20%)

#### DEMOS AND VIDEOS

- D.12 Lopes, P. and **Baudisch, P.** Muscle Propelled Force-Feedback. In *World Haptics 2013 (demo)*.  
 **NOMINATED FOR BEST DEMO AWARD**
- D.11 Sterz, C., Rau, A., Roudaut, A., and **Baudisch, P.** Gesture Output: Eyes-Free Output: Using a Force Feedback Touch Surface. In *World Haptics 2013 (demo)*.
- D.10 **Baudisch, P.** Becker, T, and Rudeck, F. Lumino: Tangible Building Blocks Based on Glass Fiber Bundles. In *Tabletop 2010 (Invited demo)*, Saarbrücken, Germany, November 2010.
- D.9 **Baudisch, P.** Becker, T, and Rudeck, F. Lumino: Tangible Building Blocks Based on Glass Fiber Bundles. In *SIGGRAPH 2010 (Emerging Technologies demo paper)*, Los Angeles, CA, July 2010.
- D.8 **Baudisch, P.**, Sinclair, M, and Wilson, A. Soap: A Pointing and Gaming Device for the Living Room and Anywhere Else. In *SIGGRAPH 2007 (Emerging Technologies demo paper)*, San Diego, CA, August 5-9, 2007, 4 pages.
- D.7 **Baudisch, P.**, Sinclair, M, and Wilson, A. Soap: How to Make a Mouse Work in Mid-Air. In *CHI 2007 Extended Abstracts (demo)*, San Jose, CA, Apr 28-May 18, 2007, pp. 1935-1940.
- D.6 **Baudisch, P.**, Tan, D., Steedly, D., Rudolph, E., Uyttendaele, M., Pal, C., and Szeliski, R. Panoramic Viewfinder: shooting panoramic pictures with the help of a real-time preview. In *UIST 2005 Booklet (demo paper)*, Seattle, WA, Oct 2005, 2 pages.
- D.5 Smith, G., Schraefel, M., and **Baudisch, P.** Curvature Dial: Eyes-free Parameter Entry for GUIs. In *CHI 2005 Extended Abstracts (demo paper)*, Portland, OR, Apr 2005, pp. 1146–1147.
- D.4 Hinckley, K., Ramos, G., Guimbretiere, F. **Baudisch, P.**, and Smith, M. Stitching: Connecting Wireless Mobile Devices with Pen Gestures. In *Proceedings of CSCW 2004 (video)*. Chicago, IL, Nov 2004, pp. 23-31.
- D.3 **Baudisch, P.** Halo: supporting spatial cognition on small screens. In *UIST 2003 Booklet (demo paper)*, Vancouver, BC, Nov 2004, 2 pages.
- D.2 **Baudisch, P.** and Good, N. Focus Plus Context Screens: Visual Context and Immersion on the Desktop. In *SIGGRAPH 2002 (demo paper)*, San Antonio, TX, July 2002, 2 pages. (acceptance rate 33%)
- D.1 **Baudisch, P.** and Good, N. Focus Plus Context Screens: Displays for Users Working with Large Visual Documents. In *CHI 2002 Extended Abstracts (demo paper)*, Minneapolis, MN, April 2002, pp. 492–493.

#### WORKSHOP PAPERS

- W.14 Mueller, S., Eickhoff, D., Kenneweg, N., Eckert, F., Villmow, J., **Baudisch, P.** Physically Destructive Games: Playing Games Inside a Laser Cutter. In *Proc. Workshop on Fabrication at CHI 2013*, Paris, 6 pages.

- W.13 Pohl, H., Holz, C., Reinicke, S., Eittmers, E., Killing, M., Kaefer, K., Plauth, M., Mohr, T., Platz, S. Tessenow, P. and **Baudisch, P.** Quantumball. In *Proc. Kinect Workshop at Pervasive 2012*, Newcastle, UK, 2012, 5 pages.
- W.12 Kaefer, K., Kanitz, D., Meusel, R., Fetzer, C., Augsten, T., Stoff, T., Holz, C., and **Baudisch, P.** “Multi-toe” interaction with a high-resolution multi-touch floor. In *Proc. Natural User Interfaces, CHI '10 Workshop*, Atlanta, GA, 2010, 6 pages.
- W.11 **Baudisch, P.**, Sang-Gyeun, A., Esteban, S., Hjert-Bernardi, K., Ouk, S., Panthen, C., Piazza, A., Pile, C., and Schwab, M. Eight New Input Devices—Eight New Ways to Move. In *Proc. Exertion Interfaces, CHI '07 Workshop*, San Jose, CA, Apr 28-May 18, 2007, 3 pages.
- W.10 **Baudisch, P.** Halo: a virtual periphery for small screens devices. In *Proceedings of the AVI'04 Workshop Environments for Personalized Information Access*. pp. 80-84.
- W.9 **Baudisch, P.**, and Brueckner, L. TV Scout: Guiding users from printed TV program guides to personalized TV recommendation. In *Proceedings of TV'02: the 2nd Workshop on Personalization in Future TV (Collocated with AH2002)*, May 28, 2002, Malaga, Spain.
- W.8 **Baudisch, P.** Joining Collaborative and Content-based Filtering. In *Interacting with Recommender Systems, CHI '99 Workshop*. May 15–20, 1999, Pittsburgh, PA. Available online at the workshop website <http://www.patrickbaudisch.com/interactingwithrecommendersystems/index.html>.
- W.7 **Baudisch, P.** Recommending TV Programs on the Web: How far can we get at zero user effort? In *Recommender Systems. Papers from the 1998 AAAI Workshop*, pp. 16–18. Menlo Park, CA: AAAI Press, Technical Report WS-98-08.
- W.6 **Baudisch, P.** Recommending TV Programs. Paper presented at *Human Computer Interaction Consortium Winter Workshop (HCIC '98)*, Snow Mountain Ranch, CO.
- W.5 **Baudisch, P.** The Profile Editor: Designing a Direct Manipulative Tool for Assembling Profiles. In *Proceedings of Fifth DELOS Workshop on Filtering and Collaborative Filtering*, pp. 11–17. November 10–11 1997, Budapest. ERCIM Report ERCIM-98-W001.
- W.4 **Baudisch, P.**, and Leopold, D. User-Configurable Advertising Profiles Applied to Web Page Banners. In *Proceedings of the First Berlin Internet Economics Workshop*, October 24–25, 1997, Berlin.
- W.3 **Baudisch, P.** Designing an Evolving Internet TV Program Guide. Boaster presented at the *Human Computer Interaction Consortium Winter Workshop (HCIC '97)*, Snow Mountain Ranch, CO.
- W.2 **Baudisch, P.** TV-Online: An Adaptive TV-Program Guide on the World Wide Web, In *Proceedings of the ABIS '96 Workshop*, October 9–11 1996, pp. D5.1 - D5.4, Dortmund.
- W.1 **Baudisch, P.** Virtuelle Akteure als Visualisierungswerkzeug (Virtual Actors as Visualization Tools), In *Proceedings of Simulation und Animation für Planung, Bildung und Präsentation '96*, Wien: AG Simulation in der Gesellschaft für Informatik (ASIM), pp. 203–212.

## THESES

- T.2 **Baudisch, P.** Dynamic Information Filtering. (Ph.D. thesis). *GMD Research Series 2001, No. 16*. GMD Forschungszentrum Informationstechnik GmbH, Sankt Augustin. ISSN 1435-2699, ISBN 3-88457-399-3.
- T.1 **Baudisch, P.** Development and implementation of a hardware antialiasing algorithm (Entwicklung und Implementierung eines Hardwareimplementierbaren Antialiasing Algorithmus). *Unpublished Master's Thesis*. Darmstadt University of Technology, 1994.

## MAGAZINE ARTICLES, NEWSLETTER ARTICLES, AND TECHNICAL REPORTS

- N.5 **Baudisch, P.** and Holz, C. My new PC is a mobile phone. In *XRDS: Crossroads, The ACM Magazine for Students - The Future of Interaction*. Volume 16 Issue 4, Summer 2010.
- N.4 **Baudisch, P.** Interacting with Large Displays. In *IEEE Computer vol. 39, no. 3*, April 2006, pp.96-97.
- N.3 Leopold, D., and **Baudisch, P.** Konzepte benutzerangepaßter Bannerwerbung im World Wide Web am Beispiel der adaptiven Programmzeitschrift TV-Online (Concepts of user-adapted banner advertising on the World Wide Web). Sankt Augustin: GMD, Technical Report GMD-Report no. 9, 1998.
- N.2 **Baudisch, P.**, Leopold, D., and Frühwein, M. Benutzerangepaßte Auswahl von Bannerwerbung im World Wide Web. (User-adapted banner advertising on the World Wide Web) In *Der GMD Spiegel 2*, 1998, pp. 46–48, 1998.
- N.1 Gibbs, S., and **Baudisch, P.** Interaction in the Virtual Studio. In *Computer Graphics* 30(4):29–32, 1996.

## ART INSTALLATIONS

**Ad Infinitum: a parasite that lives off human energy:** Ad infinitum is a parasitical entity which lives off human energy. It lives untethered and off the grid. This parasite reverses the dominant role that mankind has with respect to technologies: the parasite shifts humans from “users” to “used”. Ad infinitum parasitically attaches electrodes onto the human visitors and harvesting their kinetic energy by electrically persuading them to move their muscles using EMS. This piece is a critical take on the canonical HCI configuration, in which a human is always in control. It allows participants to experience a "machine on top" configuration.

Pedro Lopes, Alexandra Ion, Robert Kovacs, David Lindlbauer, and **Patrick Baudisch**

- A.5 Ars Electronica’17, Linz (Ad Infinitum)
- A.4 World Economic Forum, San Francisco (Ad Infinitum)
- A.3 Science Gallery Dublin (Ad Infinitum)
- A.2 Natural History Museum, Bern (Ad Infinitum)
- A.1 Laznia Centre for Contemporary Art, Gdansk (Affordance++)

## KEYNOTES

Baudisch, P.

### **Five Challenges of Interactive Fabrication**

Keynote at *Advanced Visual Interfaces*, Bari, Italy, June 2016.

Baudisch, P.

### **Five Challenges of Interactive Fabrication**

Keynote at the *Korean HCI Conference*, Tokyo, Japan, January 2016.

Baudisch, P.

### **The Five Grand Challenges of Interactive Fabrication**

Keynote at *Interaction*, Tokyo, Japan, March 2015.

Baudisch, P.

**Paper beats Scissors (about Moore's Law and Interactive Fabrication)**

Keynote at *Art Directors Club*, Hamburg, Germany, Mai 15, 2014.

Baudisch, P.

**Natural User Interfaces**

Opening Keynote at *ICEC 2013*, São Paulo City, Brazil, 16-18 October 2013.

Baudisch, P.

**Natural User Interfaces**

Opening Keynote at *MobiSys 2013*, Taipei, Taiwan, 25-28 June 2013.

Baudisch, P.

**Natural User Interfaces**

Opening Keynote at *3D User Interfaces 2013*, Orlando Florida, 16-17 March 2013.

Baudisch, P.

**Natural User Interfaces**

Opening Keynote at *British HCI 2012*, Birmingham, 12-14 September 2012

Baudisch, P.

**My new PC is a mobile phone-techniques and technology for the new smallness**

Opening Keynote at *MobileHCI 2010*, Lisbon, Portugal, September 7-10, 2010.

Baudisch, P.

**Mobile phones on their way to becoming the computational platform of the world**

Opening Keynote at *USAB 2010*, Klagenfurt, Austria, September 16, 2010.

Baudisch, P.

**My new PC is a phone - user interfaces for the new smallness**

Closing Keynote at *Mensch und Computer 2009*, Berlin, Germany, September 09, 2009.

## INVITED CONFERENCE TALKS AND PANELS

- P.1 What if We Could 3D Print in One Second? Talk sponsored by ACM at *SXSW 2016*, Austin, Texas.
- P.2 Invited Session on Haptic Human-Computer Interaction at *Haptics 2012*, Vancouver
- P.3 British HCI 2012: HCI Challenges for and from mobile and ubiquitous systems
- P.4 ITS 2010 Panel on Past and Future of Interactive Surfaces
- P.5 CHI 2008: Interactivity

## COURSES TAUGHT AT CONFERENCES

- P.1 Lopes, P., Pfeiffer, M., Rohs, M., **Baudisch, P.** Hands-on introduction to interactive electric muscle stimulation. Course taught at *CHI 2016, San Jose*.
- P.2 Mueller, S., **Baudisch, P.** Personal Fabrication: State of the Art and Future Research. Course taught at *CHI 2016, San Jose*.

## CONSULTING AND WORK FOR INDUSTRY

- 05/15 *Plan: Emerging Consumer Practices*
- 12/12-12/13 *Samsung, 12 months, developed wrist-worn haptic device*
- 02/12 *Bosch*
- 07/11 *Siemens*
- 05/09 *Nokia*

### INTERNSHIPS AND CONTRACT WORK DURING STUDIES

- 10-12/92 *Contractor for Engineering Firm Dersch & Partner, Darmstadt, Germany*  
Implemented a driver for an ISDN board under MS-DOS
- 3-4/91 *Contractor for Delta Information Systems, Sprendlingen*  
Implemented modules of a text editor for the typesetting system MOPAS
- 3-4/90 *Contractor for Engineering Firm Born & Partner, Darmstadt*  
Wrote modules of a production calculation system in Cbase
- 4-9/89 *Research assistant at Fraunhofer Comp. Graphics, Darmstadt*  
Supported the programming of an animation sequence using digitized textures
- 6-9/88, *Two internships at Siemens, Frankfurt*  
3-4/89 *Designed and implemented a compiler for the EDIFACT-standard*

## INVITED TALKS TO ACADEMIA & INDUSTRY

- I.1 Mar 30, 2016: LEGO (Fabrication)
- I.2 Nov 5, 2015 Valve (Haptics based on People)
- I.3 Oct 2015 Film-University Potsdam (Haptics based on People and Virtual Reality)
- I.4 June 29, 2015 Oculus Research (Haptics based on People)
- I.5 June 24, 2015 Oculus (Haptics based on People)
- I.6 Mar 14, 2013: Microsoft Research Redmond (Interactive Fabrication)
- I.7 Mar 13, 2013: University of Washington (Touch Input, Fingerprints, and Fiber-Optic Bundles)
- I.8 Mar 7, 2013: University of British Columbia (Touch Input, Fingerprints, and Fiber-Optic Bundles)
- I.9 Aug 14, 2012: University of Maryland (Touch, Toes, & Tangible)
- I.10 Dec 6, 2011: Bauhaus University of Weimar (My New PC is a Mobile Phone)
- I.11 Dec 1, 2011: University of Duisburg Essen (My New PC is a Mobile Phone)
- I.12 Apr. 13, 2011: University Paris Sud (Touch, Toes, & Tangible)
- I.13 Nov 24, 2010: Nokia Copenhagen (Touch & Tangible)
- I.14 Aug 3, 2010: PARC (Touch & Tangible)
- I.15 Aug 2, 2010: FXPAL (Touch & Tangible)

- I.16 Aug 2, 2010: Nokia Research Palo Alto (Touch & Tangible)
- I.17 Jul 30, 2010: Nokia Research Hollywood Lab (Touch & Tangible)
- I.18 Dec 16, 2009: RWTH Aachen (Lumino, Mobile Devices)
- I.19 April 10, 2009: MIT CSAIL (Nanotouch)
- I.20 Jan 26, 2009: Berliner Kolloquium für Wissenschaftliche Visualisierung (Nanotouch)
- I.21 Oct 15, 2009: Copenhagen University
- I.22 Oct 23, 2008: Ricoh Innovations, Menlo Park, CA (Back-of-Device Interaction)
- I.23 Oct 15, 2008: Intel Research Laboratory @ Seattle, Seattle, WA (Back-of-Device Interaction)
- I.24 Oct 8, 2008: dub seminar, University of Washington, Seattle, WA (Back-of-Device Interaction)
- I.25 Jul 28, 2008: LMU Muenchen, Media Informatics Group, Munich, Germany (large screens)
- I.26 Jul 16, 2007: Hasso Plattner Institute, Potsdam, Germany (large screens)
- I.27 Apr 19, 2007 University of Toronto, Toronto, ON (escalation)
- I.28 Dec 7, 2006: Ricoh Innovations, Menlo Park, CA (small screen devices)
- I.29 Dec 6, 2006: Google, Mountain View, CA (small screen devices)
- I.30 Nov 8, 2006: dub seminar, Computer Science, University of Washington (soap and phosphor)
- I.31 Oct 27, 2006: Zentrum Mensch-Maschine-Systeme an der TU Berlin, Germany (large screens)
- I.32 Oct 25, 2006: T-Labs (German Telekom Labs), Berlin Germany (small screen devices)
- I.33 Oct 24, 2006: ETH Zurich, Zurich, Switzerland (large screens)
- I.34 Oct 13, 2006: Stuttgart University, Germany (large screens)
- I.35 Oct 12, 2006: Technical University Kaiserslautern, Germany (large screens)
- I.36 Oct 4, 2006: Keynote at GI Jahrestagung, Dresden, Germany (large screens)
- I.37 Aug 31, 2006: Adobe, Seattle (soap and phosphor)
- I.38 July 28, 2006: User Interface Group , CSAIL, MIT Boston, MA (small screens, soap)
- I.39 Mar 28, 2006: ETH Zurich, Zurich, Switzerland (small screen devices)
- I.40 Feb 22, 2006: Artificial intelligence seminar, Computer Science, University of Washington (flat volume, snap-and-go, panoramic viewfinder)
- I.41 Feb 3, 2006: Usability speaker seminar, Tech. Comm., University of Washington (small screens)
- I.42 Nov 4, 2005: Cingular, Redmond, WA (small screens)
- I.43 Oct 11, 2005: Computer Science Colloquium, University of Washington (small screens)  
View online at <http://norfolk.cs.washington.edu/htbin-post/unrestricted/colloq/details.cgi?id=440>
- I.44 Sep 30, 2005: Human Computer Interaction Seminar, Stanford University (small screens)
- I.45 Sep 30, 2005: Adobe, San Jose, CA (small screens)
- I.46 Sep 29, 2005: SAP Labs, San Jose, CA (large screens)
- I.47 Sep 28, 2005: IBM Research Almaden, San Jose, CA (small screens)
- I.48 Sep 27, 2005: Palo Alto Research Lab (PARC), Palo Alto, CA (small screens)
- I.49 June 23, 2005: Technical University Kaiserslautern, Germany (large screens)
- I.50 June 22, 2005: Hasso Plattner Institute, Potsdam, Germany (small screens)
- I.51 June 21, 2005: Zentrum Mensch-Maschine-Systeme an der TU Berlin, Germany (small screens)
- I.52 May 2, 2005: Technical University Kaiserslautern, Germany (small screen devices)

- I.53 Apr. 28, 2005: Mitsubishi Electric Research (MERL), Boston, MA (small screen devices)
- I.54 Apr. 27, 2005: Alias, Interactive Graphics Research Group, Toronto, Canada (small screen devices)
- I.55 Dec 1, 2004: Intel Research Laboratory @ Seattle, Seattle, WA (small screen devices)
- I.56 May 13, 2004: Computer Science Colloquium, University of Washington, Seattle (large displays)  
View online at [http://norfolk.cs.washington.edu/htbin-post/unrestricted/mmedia/ondemand\\_colloq.cgi?year=2003](http://norfolk.cs.washington.edu/htbin-post/unrestricted/mmedia/ondemand_colloq.cgi?year=2003)
- I.57 May 7, 2004: Fraunhofer IgD, Darmstadt, Germany (large displays)
- I.58 May 5, 2004: University of Applied Sciences, Campus Dieburg, Germany (large displays)
- I.59 May 4, 2004: Darmstadt University of Technology, Germany (large displays)
- I.60 May 3, 2004: Fraunhofer IPSI, Darmstadt, Germany (large displays)
- I.61 Mar 11, 2004: Computer Science Colloquium, Oregon State, Portland, OR (large displays)
- I.62 Jan. 20, 2004: Design Machine Group, University of Washington, Seattle, WA (large displays)
- I.63 Jan. 12, 2004: iSchool Colloquium, University of Washington, Seattle, WA (large displays)
- I.64 Dec. 17, 2003: Intel Research Laboratory @ Seattle, Seattle, WA (large displays)
- I.65 June 17, 2002: Adobe, San Jose, CA (focus plus context screens)
- I.66 June 13, 2002: Microsoft Research, Redmond, WA (focus plus context screens)
- I.67 June 11 2002: Bay Area Computer Human Interaction (BayCHI) (focus plus context screens)
- I.68 Apr 11, 2002: IBM Watson Research Center, Hawthorne, NY (focus plus context screens)
- I.69 Mar 19, 2002: University of California at Berkeley, HCC seminar (focus plus context screens)
- I.70 Mar 8, 2002: Stanford Seminar on People, Computers, & Design (CS547) (focus+context screens)  
View online at <http://scpd.stanford.edu/scpd/students/courseList.asp>
- I.71 Mar 6, 2002: IBM Almaden Research Center, Mountain View, CA (focus plus context screens)
- I.72 Mar 1, 2002: Rutgers University, Rutgers Distributed Laboratory for Digital Libraries (RDLDL), Spring, 2002 Lecture Series (focus plus context screens)
- I.73 Feb 26, 2002: University of Maryland, Human-Computer Interaction Lab (focus+context screens)
- I.74 Feb 15, 2002: Microsoft Research Silicon Valley, Mountain View, CA (focus plus context screens)
- I.75 Jan 30, 2002: Fuji Xerox Palo Alto Lab. (FXPAL), Palo Alto, CA (focus plus context screens)
- I.76 Oct 26, 1999: Lotus Research, Boston, MA (dynamic information filtering)
- I.77 Oct 25, 1999: University of Massachusetts, MA (dynamic information filtering)
- I.78 Oct 22, 1999: University of Maryland, Human-Computer Interaction Lab (dynamic info. filtering)
- I.79 Oct 21, 1999: IBM Watson Research Center, Hawthorne, NY (dynamic information filtering)
- I.80 Sep 29, 1999: Fuji Xerox Palo Alto Lab (FXPAL), Palo Alto, CA (dynamic information filtering)
- I.81 Sep 29, 1999: Xerox (PARC), Palo Alto, CA (dynamic information filtering)
- I.82 Sep 28, 1999: DEC Compaq, Palo Alto, CA (dynamic information filtering)
- I.83 Sep 27, 1999: Microsoft, Redmond, WA (dynamic information filtering)
- I.84 Sep 13, 1999: Computer Science Colloquium at University of Minnesota (dynamic info. filtering)
- I.85 Aug 31, 1999: Netperceptions, Minneapolis (dynamic information filtering)

# PATENTS

- PAT.50 Wilson, A., Chen, B., Balakrishnan, R., and **Baudisch, P.** *Touch Interaction with a Curved Display*. MS Docket No. 324314.01. Filed August 5, 2009. (pending)
- PAT.49 **Baudisch, P.**, Petschnigg, G., Wykes, D., Shum, A., Hinckley, K., Friedman, J., Sinclair, M., Ho, R. *Tracking Input in a Screen-Reflective Interface Environment*. No 12/175,695. Filed July 18, 2008. (pending)
- PAT.48 **Baudisch, P.**, Lee, K., and Hinckley, K. *Active Use Lookup via Mobile Devices*. June 27, 2008 and September 18, 2008. (pending)
- PAT.47 Hinckley, K., Cutrell, E., Sarin, R., **Baudisch, P.** *Self-Revelation Aids for Marking Menus and Gesture Interfaces*. MS Docket No. 321339.01. Filed January 15, 2008. (pending)
- PAT.46 **Baudisch, P.**, and Liebling, D. *Online personal appearance advisor* MS Docket No. 321387.01. Filed November 28, 2007. (pending)
- PAT.45 **Baudisch, P.**, Krumm, J., and Liebling, D. *Location-to-landmark*. MS Docket No. 320938.01. Filed November 28, 2007 and September 29, 2008. (pending)
- PAT.44 **Baudisch, P.**, Krumm, J., and Liebling, D. *Population of landmarks for use with a map application*. MS Docket No. 320939.01. Filed November 28, 2007. (pending)
- PAT.43 Grossman, T., **Baudisch, P.**, Hinckley, K., Buxton, W., Sarin, R. *Handle flags*. MS320937.01 Filed October 5, 2007 and September 9, 2008. (pending).
- PAT.42 Zotov, A. and **Baudisch, P.** *Appropriately sized target expansion*. MS Docket No. 318688.01. Filed February 15, 2007 (pending)
- PAT.41 **Baudisch, P.**, Hinckley, K., Sarin, R., Cutrell, E., Wilson, A., and Vogel, D. *Operating Touch Screen Interfaces*. MS Docket-No: 318023.01. Filed December 14, 2006 (pending).
- PAT.40 **Baudisch, P.**, Sinclair, M., and Wilson, A. *Soap mobile electronic device*. Filed June 21, 2006 (pending)
- PAT.39 Abanami, T., **Baudisch, P.** *Touch sensitive and mechanical user interface device*. MS Docket-No: 315764.01. Filed March 18, 2006 (pending)
- PAT.38 Hinckley, K., **Baudisch, P.**, Ramos, G., Guimbretiere, F. *Delimiters for selection-action pen gesture phrases*. Filed March 16, 2006 (continuation, pending)
- PAT.37 **Baudisch, P.**, Tan, D., Robbins, D., Hinckley, K., Agrawala, M., Grossman, T., Drucker, S., and Robertson, G. *Displaying animation as a static image on a graphical user interface*. Filed December 2005. (pending)
- PAT.36 Costea, M., **Baudisch, P.**, and Delaney, A. *Graphical interface for defining mutually exclusive destinations*. MS#314528.01. Filed December 14, 2005 (pending)
- PAT.35 **Baudisch, P.**, and Eversole, *Target Acquisition*. Filed December 2005. (pending)
- PAT.34 Robertson, G., Robbins, D., Tan, D., Hinckley, K., Agrawala, M., Czerwinski, M., **Baudisch, P.**, and Ramos, G. *Accessing 2D Graphic Content using Axonometric Layer Views*. Filed December 2<sup>nd</sup> 2005 (pending).
- PAT.33 Grossman, T., Hinckley, K., **Baudisch, P.**, Agrawala, M. *Hover widgets: using the tracking state to extend capabilities of pen-operated devices*. MS-File No MS313688.02. Filed October 6<sup>th</sup>, 2005. (pending).

- PAT.32 **Baudisch, P.**, Tan, D., Steedly, D., Szeliski, R. and Pal, C. *Panoramic Viewfinder*. Filed July 2005 (pending).
- PAT.31 Ball, S., Crowley, A., Yerrace, F., Rundle, M., **Baudisch, P.**, Omiya, E., and Smith, S. *Volume control*. Filed June 27, 2005 (pending).
- PAT.30 Hinckley, K., Guimbretière, F., Apitz, G., Chen, N., Agrawala, M., Grossman, T., and **Baudisch, P.** *Extended capabilities of pen-operated devices*. Filed June 27, 2005 (pending).
- PAT.29 Wong; C. Drucker, S., Huynh, D., and **Baudisch, P.** *Time Quilt*. MS310426.01, Filed April 2005. (pending)
- PAT.28 Abanami, T., **Baudisch, P.**, Bentsen, B., Fong, J., Doll, M., Selman, J.L. *Space Efficient Lists For Thumbnails*, MS-File No 310450.0, Filed January 25, 2005 (pending).
- PAT.27 **Baudisch, P.** Facilitating target acquisition by expanding targets. Filed November 15, 2004. (pending)
- PAT.26 Basu, S and **Baudisch, P.** A System and Method for Increasing the Apparent Resolution of a Display via Progressive Display of Multiple Rasterizations, Filed November 15, 2004. (pending)
- PAT.25 Hinckley, K., **Baudisch, P.**, Ramos, G, Guimbretiere, F. *Delimiters for selection-action pen gesture phrases*. Filed October 18, 2004 (pending)
- PAT.24 **Baudisch, P.** and Lam, H. *Summary thumbnails*. Filed October 18, 2004. (pending)
- PAT.23 **Baudisch, P.** Xie, X, Wang, C. *System and method of displaying content on small screen computing devices*. Filed August 2004. (pending)
- PAT.22 **Baudisch, P.** Cutrell, E., Hinckley, K., and Gruen, R. *Displaying visually correct pointer movements on a multi-monitor display system*. Filed August 2004. (pending)
- PAT.21 **Baudisch, P.** System and method for determining display differences between monitors on multi-monitor computer systems. Filed June 2004. (pending)
- PAT.20 **Baudisch, P.**, Eversole, A., and Hellyar, P. *System and method for aligning objects using non-linear pointer movement*. Filed May 2004. (pending)
- PAT.19 **Baudisch, P.**, Eversole, A., and Hellyar, P. *System and method for acquiring a target with intelligent pointer movement*. Filed May 2004. (pending)
- PAT.18 Robertson, G., Meyers, B., Horvitz, E. Smith, G., Czerwinski, M. **Baudisch, P.** *Scalable Fabric Extensions*. MS File No. **306816.01**. Filed July 2004. (pending).
- PAT.17 Smith, G., Meyers, B., Czerwinski, M, **Baudisch, P.**, Robertson. G. *System and method for representing content in a file system*. (pending)
- PAT.16 Robertson, G., and **Baudisch, P.** *System and method for moving computer displayable content into a preferred user interactive focus area*. Issued October 23, 2008.
- PAT.15 **Baudisch, P.**, Basu, S. *System And Method For Implementing A Flat Audio Volume Control Model*, MS File No. **306164.01**, filed August 19, 2003, (pending)
- PAT.14 **Baudisch, P.**, Lee, B. *Fishnet*, MS. File No. **305944.01**, filed July 28, 2003, (pending)
- PAT.13 **Baudisch, P.** *System And Method For Displaying Images Utilizing Multi-Blending*, MS. File No. 305333.01, filed June 3, 2004. (pending)
- PAT.12 **Baudisch, P.** *System and Method for Accessing Remote Screen Content*, U.S. Application No. 60/444,993, filed February 3, 2003 (issued).

- PAT.11 **Baudisch, P.**, Cutrell, E., and Robertson, G. *High-density cursor system and method*, 60/442,860, Filed 02/03 (pending).
- PAT.10 Smith, G., Czerwinski, M., Meyers, B., and **Baudisch, P.** *ProjectBar*, Provisional MS #301512.1 (pending).
- PAT.9 Robertson, G., Horvitz, E., Robbins, D., Smith, G., Czerwinski, M., and **Baudisch, P.** *System and Method that Facilitates Computer Desktop Use Via Scaling of Displayed Objects with Shifts to the Periphery*. MS Docket number MS302416.1, Filed 02/03 (pending).
- PAT.8 and
- PAT.7 Good, L., Stefik, M., **Baudisch, P.**, Mackinlay, J., and Zellweger, P. *System And Method For Interaction Of Graphical Objects On A Computer Controlled System*. Application number 10/371,017 and 10/371,263 Filed Feb 21<sup>st</sup> 2003 (pending).
- PAT.6 Good, L., Stefik, M., **Baudisch, P.**, Mackinlay, J., and Zellweger, P. *System And Method For Moving Graphical Objects On A Computer Controlled System*. (issued June 27, 2006).
- PAT.5 Good, L., Stefik, M., and **Baudisch, P.** *Methods and systems for indicating invisible contents of workspace*. United States Patent Application. 20030156124 Filed August 21, 03 (pending).
- PAT.4 **Baudisch, P.**, Good, N., Stewart P., *System Utilizing Mixed Resolution Displays* United States Patent Application 20020167458, Filed December 17, 2001 (pending).
- PAT.3 and
- PAT.2 **Baudisch, P.**, Good, N., Stewart P. *Methods Of Using Mixed Resolution Displays* United States Patent Application 20020167460 and 20020167459, Filed December 17, 2001 (pending).
- PAT.3 **Baudisch, P.** *Mixed Resolution Displays*, United States Patent Application 20020167531, Filed December 17, 2001 (pending).

## TEACHING

### CURRENT LECTURES AT HASSO PLATTNER INSTITUTE

- summers 11+ Building Interactive Devices and Machine Learning (HCI2), 2<sup>nd</sup> year bachelor  
The class teaches students how to build interactive prototypes for a post-GUI world using depth cameras, projectors, microcontrollers, fabrication equipment, such as laser cutters, and basic robotics. In a single 3h/weekly interactive design studio format students create functional interactive systems and try them out in interactive games and robot races.
- summers 09+ HCI Research/Future Interactive Technologies, 2<sup>nd</sup> year masters  
The class provides an overview of current topics in HCI research, including Haptics, Brain Computer Interfaces, Ubiquitous Computing, Multi-Touch Systems, Interactive Fabrication, Information Visualization, Augmented Reality, 3D Displays, Mechanical Turk, Computer Supported Collaborative Work, Affective Collaboration, and Art vs. Science. Furthermore students learn techniques for finding and answering scientific questions.
- winters 08+ Designing Interactive Systems (HCI1), 2<sup>nd</sup> year bachelors  
This class teaches design process (brainstorming, sketching, presentation, design critique, paper prototyping, refinement), user interface engineering (rapid prototyping, mobile, touch, interaction techniques, implementation in C++/Qt3), and evaluation (user-centered design, design patterns, discount usability evaluation, heuristic evaluation, interviews, quantitative user studies). In teams of four, students create interactive multi-touch systems on <2” mobile touch devices.
- winters 15+ Introduction to Programming (PT1), 1<sup>st</sup> year bachelors

A classic Introduction to programming based on C and Scheme up the simple data structures, such as lists and trees and the basics of how to implement object-oriented programming.

#### STUDENT PROJECTS ADVISED AT HASSO PLATTNER INSTITUTE

Every semester, we offer a *project seminar* in which individual undergrads and master students participate in selected research projects. My PhD students and I advise students 1:1 on a weekly basis and help them make their first steps in research. Some project seminars have led to paper publications with class participants as co-authors or first authors, such as Lumino (CHI'10 Best Paper Award) or LaserOrigami (CHI'12 best paper Award).

In addition, we advise a “master project” every semester in which 3-6 HPI students collaborate around a research question. On a yearly cycle, we advise a “bachelor project” in which 4-8 undergrads collaborate around a research question, such as our interactive floor project. Past projects have resulted in publications with HPI students as first authors or co-authors, such as Multitoe (Full paper UIST'10) and GravitySpace (Best Paper Nominee CHI'13).

#### PREVIOUS CLASSES TAUGHT AT THE UNIVERSITY OF WASHINGTON AND DARMSTADT UNIVERSITY

- spring 08      Guest lectured undergraduate class on Input and Interaction (INFO 498)  
at University of Washington with Prof. Jake Wobbrock (in *iSchool*)  
May 22 guest lectures on Interaction on large displays  
<http://faculty.washington.edu/wobbrock/info498/>
  
- winter 08      Guest lectured graduate class on Human-Computer Interaction (CSEP 510)  
at University of Washington with Prof. James Fogarty (in *Computer Science and Engineering*)  
Feb19 and Feb 21 guest lectures on interaction  
<http://www.cs.washington.edu/homes/jfogarty/teaching/2008.Winter.510/index.html>
  
- fall 07          Industry Mentor in undergraduate course *Introduction to HCI - User Interface Design, Prototyping & Evaluation (CSE 440)* at University of Washington with Prof. James Landay  
<http://www.cs.washington.edu/education/courses/440/07au/>
  
- spring 07      Guest lectured graduate class on Human-Computer Interaction (CSEP 510)  
at University of Washington with Prof. James Fogarty (in *Computer Science and Engineering*)  
May 16 and May 18 guest lectures on interaction  
<http://www.cs.washington.edu/homes/jfogarty/teaching/2007.Spring.510/index.html>
  
- fall 06          Co-advised students in course ART 316 Design for Industry at University of Washington with Prof. Axel Roesler and Prof. Ahn Sang (in *School of Art*).  
The 26 students of this class developed novel input devices.  
<http://www.washington.edu/students/crscat/art.html#art316>
  
- winter 06      Co-taught professional master course Human-Computer Interaction (CSEP 510)  
at University of Washington with Prof. Alan Borning (in *Computer Science and Engineering*)  
Selected research papers for the students to read. Worked on all aspects of the course, including assigning and advising student projects, grading, and lecturing.  
For additional details on this and the Spring class see *Research Statement*.  
More info at <http://cubist.cs.washington.edu/csep510-wiki> (access requires UW credentials)
  
- spring 05      Co-taught graduate course Advanced Topics in Human-Computer Interaction (CSE 510)  
at University of Washington with Prof. Alan Borning (in *Computer Science and Engineering*)  
Worked on all aspects of the course, including selecting research papers for the students to read, assigning and advising student projects, grading, and lecturing.  
More info at <http://www.cs.washington.edu/education/courses/cse510/01sp/index.html>
  
- fall 04          Assisted in undergraduate course User Interface Design, Prototyping & Evaluation (CSE 490jl)  
at University of Washington with Prof. James Landay

Contributed as design critique and graded some assignments.  
More info at <http://www.cs.washington.edu/education/courses/cse490jl/CurrentQtr>.

- summer 98 Taught seminar & project Adaptive Internet Services at Darmstadt University of Technology  
Prepared and taught weekly two-hour tutorial, graded written and oral assignments, and consulted with individual students.
- winter 97/98 Taught seminar & project Adaptive Internet Services at Darmstadt University of Technology
- summer/97 Taught seminar & project Adaptive Internet Services at Darmstadt University of Technology
- winter 96/97 Taught seminar & project Electronic Program Guides at Darmstadt University of Technology
- summer/96 Taught seminar & project Electronic Program Guides at Darmstadt University of Technology
- winter 94/95 Assisted in seminar & project Virtual Reality at Darmstadt University of Technology  
with Dr. Dieter Böcker and Prof. Erich Neuhold

#### PHD THESES ADVISED

- 11-16**      **Stefanie Müller—now faculty at MIT CSAIL**  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Interactive Fabrication*
- 09-13**      **Sean Gustafson—in industry**  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Imaginary Interfaces*  
graduated magna cum laude
- 09-13**      **Christian Holz—now researcher at Microsoft Research**  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *3D from 2D Touch*  
graduated summa cum laude  
 **LEIBNIZ AWARD 2014** from Potsdam University for the best student publication/dissertation of the Year 2014

#### CURRENTLY ADVISING

- 15-      Sebstein Marwecki  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Human Actuation*
- 15-      Thijs Roumen  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Fabricating Mechanisms*
- 15-      Robert Kovacs  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Large Scale Fabrication*
- 14-      Alexandra Ion  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Metamaterials*
- 12-      Lung-Pan Cheng  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Haptics based on People*
- 12-      Pedro Lopes  
Ph.D. Thesis in Computer Science at Hasso Plattner Institute on *Haptics based on Electrical Muscle Stimulation*

#### CO-ADVISED IN THE PAST

- 08-09 Kevin Li  
Co-advising Ph.D. Thesis in Computer Science at UC San Diego, with William Griswold and Jim Hollan
- 05-06 Susumu Harada  
Co-advising Ph.D. Thesis in Computer Science at University of Washington, with James Landay

#### POST-DOCS MENTORED

- 14- Tim Chen
- 12-15 Dominik Schmidt
- 11-12 Anne Roudaut
- 11 Liwei Chan

#### INTERNS MENTORED

- summer 15 Mentoring intern Saiganesh Swaminathan at HPI (from MIT TU Berlin)
- summer 14 Mentoring intern Harshit Agrawal at HPI (from MIT Media Lab)
- summer 14 Mentoring intern Udayan Umapathi at HPI (from Princeton)
- summer 14 Mentoring intern Patrick Jonell at HPI (from TU Berlin)
- summer 14 Mentoring intern Vikram Mehta at HPI (from Saarbrücken)
- summer 13 Mentoring intern Edward Wang at HPI (from University of Washington)
- winter 12/13 Mentoring intern Lung Pan Cheng at HPI, project *haptic turk* (submission *UIST'13*)
- fall 12 Mentoring intern Raf Ramakers at HPI, project *kickables* (submission *UIST'13*)
- summer 12 Mentoring intern Esben Warming Pederson at HPI, project *kickables* (submission *UIST'13*)
- summer 09 Sebastian Boring (LMU Munich) (fullpaper *CHI'10*)
- winter 08 Mentoring intern Tao Ni at HPI, project *disappearing mobile devices* (fullpaper *UIST'09*)
- summer 08 Mentoring intern Gerry Chu at MSR, *back-of-device interaction* (best paper nominee *CHI'09*)
- summer 07 Mentoring intern Kevin Li at Microsoft Research, project *blindSight* (fullpaper *CHI'08*)
- summer 06 Mentoring intern Dan Vogel at Microsoft Research, project *shift* (best paper award *CHI'07*)
- summer 04 Mentored intern Heidi Lam at Microsoft Research, project *summary thumbnails* (paper *CHI'05*)
- summer 03 Mentored intern Bongshin Lee at Microsoft Research, project *fishnet* (paper *AVI'04*)
- summer 01 Mentored interns Nathan Good & Michael Brückner at PARC,  
project *focus-plus-context screens* (fullpaper *UIST'01* and fullpaper *CHI'02*)

#### MASTER THESES ADVISED AT HASSO PLATTNER INSTITUTE

- 15 Lisa Pfisterer *Mutual Turk*
- 15 Alexander Teibrich *Patching 3D Printing*
- 15 Felix Leupold *YouCoaster*
- 14 Patrik Jonell *Affordance++*
- 14 Bernhard Rabe *Millcraft*
- 13 Dustin Beyer *Platener*
- 13 Tobias Mohr *FaBrickation*
- 13 Konstantin Kaefer *Cut-by-Cut*
- 13 David Eickhoff *Destructive Games*
- 13 Michael Karsch *Reader Drone*
- 12 Rene Meusel *Enhancing Kinect Skeletal Tracking Using A Hi-Res Floor*
- 12 Emilia Wittmers *Probabilistic Physical Games: Game Mechanics*
- 12 Alan Bränzel *User Identification Based on Sole Imprints*
- 12 Martin Konarski *Detection of poses using intensity histograms*
- 12 Stephan Richter *Ergonomic Foot Widgets*
- 12 Christian Steins *Imaginary Devices*
- 11 Daniel Bierwirth *Mobile See-through Augmented Reality*
- 11 Christian Loclair *Hand-Posture from Depth Cameras* (Hasso Plattner Institute, Uni Potsdam)
- 11 Frederik Rudeck *Rock Paper Sliders*
- 11 Torsten Becker *Imaginary Interaction in 3D*
- 09 Wieland Lindenthal *Language Learning via Chat*

#### MASTER THESES ADVISED AT DARMSTADT UNIVERSITY

- 99 Andreas Brügelmann *Content-based and Collaborative Retrieval Method*
- 99 Martin Koehler *Recommender Components for Web-based Systems*
- 98 Olav Gröhn *User Profile Editors using Star Field Displays*
- 98 Martin Franke *Design of a personalized contact service on the World Wide Web*
- 97 Marcus Frühwein *User-based Relevance Measures for a Web-based TV program guide*
- 97 Dirk Leopold *Concepts of user-adapted banner advertising in the World Wide Web*
- 97 Jerome Dugué *Designing an Evolving Internet TV Program Guide* (IRESTE, Université Nantes)

-96 Ulrich Schulz *Supporting Video Conferences* (Bachelor's Thesis, FH-Mainz)

#### HABILITATIONS COMMITTEES

-12 Géry Casier (Lille)

-96 Martin Hachet (Bordeaux)

## FUNDING

2011-2015 Principal investigator of *Multitoe* project funded by Microsoft Research Cambridge (\$340.000)

2008- Continuous funding for six students and travel out of the Hasso Plattner Foundation

2011- PMD is supporting us with custom hardware, advance prototypes of depth cameras

2012 Incom supported *Fiberio* with custom fiber optics

2012 Schott supported *Fiberio* with custom fiber optics

2012 Elektronik-Kontor supported our project *Time Domain Reflectometry*

2009 Microsoft Research Redmond provided mobile phones

2009 Nokia supported provided mobile phones

2009 Crossmatch supported Ridgepad with fingerprint sensing technology

2010 LopTek supported Lumino with custom fiber optics

1996-2000 Principal investigator in *TV Scout* project funded by publisher TV TODAY (€100.000)

1994-1996 Main Contributor to EU Project *Desktop Video Production* (€600.000)

## PRODUCT TRANSFER

Research projects that shipped as commercial product

2011 Panoramic Viewfinder shipped as *Photosynth* iPhone app

2007 Snap-and-go shipped with *Microsoft Publisher 2007*

2004 Flat volume control shipped with Microsoft Vista

1999 TV Scout publicly available at the home page of TV TODAY Hamburg. 17,000 registered users.

## **PATENT CASES**

2017: Expert Witness for Apple vs. Immersion. Wrote six reports, provided testimony during deposition.

2012: Expert Witness for Apple vs. HTC. Wrote six reports, provided testimony during deposition and in front of the International Trade Commission.

## **COMMITTEES & REVIEWING**

### **TECHNICAL CHAIR / PAPERS CHAIR / SUBCOMMITTEE CHAIR**

- PC.1 Technical Chair at CHI 2013
- PC.2 Papers Chair MobileHCI 2012
- PC.3 Subcommittee Chair at CHI 2012 (“Techniques and Devices”)
- PC.4 Subcommittee Chair at CHI 2011 (“Techniques and Devices”)
- PC.5 Subcommittee Chair at CHI 2009 (“Techniques and Devices”)

### **PROGRAM COMMITTEE MEMBER—ASSOCIATE CHAIR (AC)**

- AC CHI 2007, 2008, 2010, 2015, 2018
- AC UIST 2005, 2006, 2008, 2009, 2010, 2012, 2013, 2015
- AC SIGGRAPH 2012
- AC Eurographics 2011 (Short papers)
- AC Augmented Human: 2013, 2014
- AC Foundation for Digital Games 2011
- AC Tabletops and Interactive Surfaces 2008, 2009, 2010
- AC Graphics Interface 2006, 2008, 2011
- AC INTERACT 2003, 2005, 2007, 2011
- AC WWW 2007, 2008 (User Interfaces track)
- AC HT 2007 (ACM Conference on Hypertext and Hypermedia)
- AC Mobile HCI 2005, 2009, 2010, 2011
- AC GI 2005
- AC International Conference on Accessible Design in the Digital World 2005

### **CONFERENCE COMMITTEE MEMBER**

- CC.1 Conference co-chair at UIST 2018 in Berlin.

- CC.2 Doctoral consortium chair UIST 2013, UIST 2014, UIST 2015, UIST 2016
- CC.3 Doctoral consortium co-chair MobileHCI 2012
- CC.4 Interactivity co-chair at CHI 2012.
- CC.5 alt.chi co-chair at CHI 2011.
- CC.6 Doctoral consortium co-chair ITS 2010
- CC.7 Posters co-chair at UIST 2008.
- CC.8 Doctoral consortium faculty member at UIST 2007.
- CC.9 CHI Madness Chair at CHI 2007.
- CC.10 CHI Madness Chair at CHI 2006.
- CC.11 Conference co-chair at UIST 2005.
- CC.12 Posters co-chair at UIST 2004.
- CC.13 2004-2005: Steering Committee Member at the ACM Distinguished Lecturer Series
- CC.14 Posters co-chair at UIST 2003.
- CC.15 Doctoral consortium faculty member at CUU 2003 (ACM Conference on Universal Usability).

#### **WORKSHOP COMMITTEE MEMBER**

- WC.1 Second Workshop on Mobile and Embedded Interactive Systems MEIS'08, September 2008, Munich, Germany.
- WC.2 Program committee member of the Informatik 2006 Workshop Mobile and Embedded Interactive Systems, October 2-6, 2006 Dresden, Germany.
- WC.3 Organizer of the CHI 2006 Workshop Information Visualization and Interaction Techniques for Collaboration across Multiple Displays, April 22nd-23rd, Montreal, Canada.
- WC.4 Committee member of the CHI 2006 Workshop The Many Faces of Consistency in Cross-platform Design, April 22nd-23rd, Montreal, Canada.
- WC.5 Program committee member of the AH 2004 Workshop TV'04: the 4<sup>th</sup> Workshop on Personalization in Future TV, August 23–26, 2002, Eindhoven, The Netherlands.
- WC.6 Program committee member of the UM 2003 Workshop TV'03: the 3rd Workshop on Personalization in Future TV, June 22-26, 2003, Pittsburgh, PA.
- WC.7 Program committee member of the AH 2002 Workshop TV'02: the 2nd Workshop on Personalization in Future TV, May 28, 2002, Malaga, Spain.
- WC.8 Program committee member of the UM 2001 Workshop Personalization in Future TV, July 13 to July 17, 2001, Sonthofen, Germany.
- WC.9 Organizer and chairperson of the CHI '99 Workshop Interacting with Recommender Systems, May 16th-17th, Pittsburgh, PA.

#### **JOURNAL EDITOR**

2009-12: Associate Editor of the International Journal of Human-Computer Studies

## **JOURNAL REVIEWER**

- JR.1 2007: IEEE Computer Graphics and Applications Journal (CG&A), Special Issue on Mobile Graphics
- JR.2 2007 International Journal of Human-Computer Studies (IJHCS), Regular issue and Special Issue on Mobility
- JR.3 2006 ACM Computing Surveys
- JR.4 2006 International Journal of Human-Computer Studies (IJHCS)
- JR.5 2006: IEEE Computer Graphics and Applications Journal (CG&A)
- JR.6 2005: Human Computer Interaction A Journal of Theoretical, Empirical, and Methodological Issues of User Science and of System Design (HCI Journal)
- JR.7 2005: IEEE Pervasive Computing, Special issue on Pervasive on Sports
- JR.8 2005: IEEE Computer Graphics and Applications Journal (CG&A) Special issue on Large Displays
- JR.9 2005: IEEE Computer Graphics and Applications Journal (CG&A) Special issue on Smart Depiction for Visual Communication
- JR.10 2005: Transactions on Computer-Human Interaction journal (TOCHI)
- JR.11 2004: Transactions on Computer-Human Interaction journal (TOCHI)
- JR.12 2004: ACM Multimedia Systems Journal.
- JR.13 2003: Transactions on Computer-Human Interaction journal (TOCHI)
- JR.14 2003: Communications of the ACM (CACM), special issue on Attentive User Interfaces 46(3), 03/03.
- JR.15 2003: User Modeling and User-Adapted Interaction: An International Journal (UMUAI). Special issue on Personalized TV. Department of Information & Comp Science, University of California at Irvine, California
- JR.16 2000: User Modeling and User-Adapted Interaction: An International Journal (UMUAI). Department of Information & Comp Science, University of California at Irvine, California.

## **CONFERENCE REVIEWER**

- CR.1 CHI 2003, 2004, 2005, 2006.
- CR.2 UIST 2001, 2002, 2003, 2004, 2007.
- CR.3 SIGGRAPH 2006, 2007, 2010, 2011.
- CR.4 SIGGRAPH Asia 2013.
- CR.5 Augmented Human 2015
- CR.6 ITS 2015
- CR.7 CSCW 2004, 2008.
- CR.8 ICME 2005, 2007, 2013 (International Conference on Multimodal Interfaces).
- CR.9 EGSR2007 (Eurographics Symposium on Rendering)

- CR.10 InfoVis 2003, 2007.
- CR.11 Hypertext 2007.
- CR.12 EUROGRAPHICS 2007.
- CR.13 Pervasive 2007.
- CR.14 VIZ 2006.
- CR.15 Pervasive 2006
- CR.16 UBICOMP 2005.
- CR.17 OZCHI 2005.
- CR.18 AVI 2004.
- CR.19 GI 2004, 2007.
- CR.20 UbiComp 2003.
- CR.21 HICCS 2002.

## SELECTED POPULAR PRESS

2014: Several press articles on Fiberio and FaBrickation.

2013: Several press articles on GravitySpace (e.g., in the *New Scientist*), LaserOrigami, and Muscle-propelled force feedback.

- P.39 Tabletop Computer Knows You by Your Shoes. In *Technology Review*, Jan 23, 2012.
- P.38 Freehand laser cutter creates instant flat-pack design. In *New Scientist*, July 19, 2012.
- P.37 Kinect system tracks you with an eye on your shoes. In *New Scientist*, Jan 8, 2012.
- P.36 A Versatile Touch Sensor. In *Technology Review*, Nov 1, 2011.
- P.35 The Invisible iPhone. In *Technology Review*, May 23, 2011.
- P.34 Imaginary phone lets you answer calls on your palm. In *New Scientist*, May 23, 2011.
- P.33 An Invisible Touch for Mobile Devices. In *Technology Review*, May 25, 2010.
- P.32 Touch floors could be next step in computer interfaces. In *New Scientist*, April 13, 2010.
- P.31 Floor shows us the logical next step. In *Engadget*, April 13, 2010
- P.30 Get ready to tap, zoom, three-toe swipe. In *c'net*. April 13, 2010.
- P.29 Project Offers New Touch Interface. In *PC World*, April 13, 2010.
- P.28 Multitoe Turns Floors Into Massive Multitouch Screens You Control With Your Feet. In *Popular Science*, April 13, 2010.
- P.27 Smart 'Lego' blocks take touch screens into 3D, in *New Scientist*. Oct 6 2009
- CHI.46 Fat fingers' can become dainty for touch screens. In *New Scientist*, November 24, 2009
- P.25 The personal touch. In *The Economist*, November 18, 2009

- P.34 Touché! Forscher verbessern Eingabegenauigkeit bei Touchscreens. In *c't* 24/09.
- P.23 Next Generation Lego crossed with Microsoft Surface. In *Gizmodo*. December 8, 2009
- P.22 Smart 'Lego' blocks take touch screens into 3D. In *New Scientist*. Oct 6 2009
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## MEMBERSHIPS

- ACM (Association for Computing Machinery) <http://www.acm.org>

- BayCHI (the San Francisco Bay Area ACM Special Interest Group on Computer-Human Interaction), <http://www.baychi.org>
- Deutscher Hochschulverband (German Academic Society) <http://www.hochschulverband.de>

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## OTHER ACTIVITIES

Karate (style Modern Sports Karate), black belt since 1996. Active participation in international tournaments in 1993-1997. 1997 vice champion at the F.E.K.D.A European Cup (kumite, light weight). Trainer and head of the Modern Sports Karate group at Darmstadt University of Technology 1995-2000.  
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