

# Yvonne Jansen

## Personal Information

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## Research Statement

My research lies in the intersection between human-computer interaction, data visualization, and physical computing. A main effort of my work is to find new ways to interact with computers beyond the classic desktop environment to take advantage of human's highly developed capabilities to perceive and manipulate the world around them. My empirical work is both confirmatory and exploratory: qualitative studies of people's behaviors and practices enable me to identify solutions which can augment their current practices, and quantitative studies allow me to evaluate the efficiency of alternative approaches. Overall, my work aims to contribute to establishing a *science of interaction* which will allow stakeholders to make evidence-based decisions for the design of interactive systems and devices.

## Education

2014 **PhD in computer science** (mention: très honorable) from Université Paris Sud XI

Title: Physical and Tangible Information Visualization

Thesis director: Jean-Daniel Fekete (Inria)

Defended March 10, 2014

2011 **Diplom Informatik** (German degree, equivalent to MSc / Bac+5) from RWTH Aachen, Germany

Title: MudPad–Localized Tactile Feedback on Multi Touch Surfaces

Advisors: Jan Borchers and Martina Ziefle (both RWTH Aachen University)

## Employment History

Oct 2016 CNRS research scientist at Institut des Systèmes Intelligents et de Robotique (ISIR), Sorbonne Université

2016 Assistant Professor at University of Copenhagen, Denmark

2014 Postdoctoral Researcher at the University of Copenhagen, Denmark, with Kasper Hornbæk

2011 PhD student with the AVIZ team, Inria Saclay, funded by *allocations de recherche de ministère*

## Prices & Awards

2019 Best paper award at ACM CHI (top 1% of submissions): *Increasing the Transparency of Research Papers with Explorable Multiverse Analyses*

2018 Best paper award at ACM CHI (top 1% of submissions): *How Relevant Are Incidental Power Poses for HCI?*

2014 Second price for *Prix de thèse Gilles Kahn* (out of 47 submissions, [official page](#))

2010 Second price for ACM CHI student research competition (out of 56 submissions, [link](#))

2010 Best note award at the ACM ITS conference for *MudPad: tactile feedback and haptic texture overlay for touch surfaces*. (awarded to a single submission by the program committee)

2010 Best demo award at ACM ITS for *MudPad: a tactile memory game*. (conference attendees voted to select a single demo out of 22 demos during the conference)

## Grants

2020-2024 Collaborator on EMBER – Visualisations situées pour l'analyse de données personnelles. Collaborative project financed by ANR PRC between Inria Saclay, Inria Bordeaux, and Sorbonne Université.

2018-2022 Coordinator affFABLE – Augmenting Fab Labs by Integrating Data Visualization. Project financed by ANR Jeune Chercheur / Jeune Chercheuse

2017/18 Coordinator SAHMI – Situated Analysis of Human-Machine Interactions in Smart Environments. Collaborative project between ISIR and COSTECH (UTC Compiègne) financed by the SMART Labex.

## Service Activities

2018 Technical Program Chair for ACM EICS (Symposium on Engineering Interactive Computing Systems)

**Program committee member** (as *associate chair*, in charge of 6-14 submissions for the full review cycle)

IEEE InfoVis program committee since 2017

ACM CHI program committee 2017, 2018, 2020

AFIHM IHM program committee 2017

ACM Interactive Tabletops and Surfaces papers track (2014)

## **Supervision**

- 2020 Clara Rigaud, PhD student from Oct 2019-2022  
Morgane Koval, M.Sc intern then PhD student from Oct 2020-2023  
Kevin Jabbour, M.Sc. Intern  
Vincent Roudaut, Research engineer Nov 2019-Oct 2020
- 2019 Clara Rigaud, PhD student from Oct 2019-2022  
Sheida Nozari, MSc Intern  
Ignacio Avellino, Postdoc  
Arthur Grisel-Davy, Intern
- 2018 Luiz Augusto Morais, PhD Intern  
Tiffany Wun, MSc Intern  
Ignacio Avellino, Postdoc  
Jingjing Xie, MSc Intern  
Lucas Rodrigues, MScIntern
- 2017/18 Steve Haroz, Postdoc  
Cedric Honnet, Research engineer
- 2016 Bo Carlsen, BSc thesis student, 90% together with Kasper Hornbæk
- 2014/15 Morgane Sanglier (tutor for final Master project at l'école de design Nantes Atlantiques)  
Topic: Information tangible, link: [morganesanglier.fr/phase-2-pfe/](http://morganesanglier.fr/phase-2-pfe/)
- 2013 Saiganesh Swaminathan (M1 student), Shi Conglei (visiting PhD student)  
80% (together with Pierre Dragicevic)  
Topic: Tools for the Fabrication of Physical Visualizations  
Publication: Swaminathan et al., *Supporting the design and fabrication of physical visualizations*. In CHI2014 (acceptance rate: 23%)

## **Teaching**

I hold a research position and only occasionally give guest lectures.

- 2020 Tutorial how to run online studies using the FROE (Framework to run online studies), held online, 18 participants, 3h TP
- 2016 Invited speaker for introductory lecture for information visualization at TU Twente, Enschede, Netherlands (2h + 3h TP), about 80 students
- 2015 Advanced Topics in Human-Centered Computing, guest lecturer (3h), UCPH, MSc class
- 2015 User Interface Technology (10h), UCPH, MSc class
- 2012/13 Fab Lab instruction, Université Paris Sud: Introduction to digital fabrication for individuals and small groups (40h), open to all researchers and students
- 2008 Interactive Systems II, RWTH Aachen, teaching assistant (24h), MSc class
- 2008 Programming for Everybody (Introduction to Java), RWTH Aachen, teaching assistant (24h)

## **Dissemination (selection)**

### **Websites**

- 2015 Launch of the *Data Physicalization Wiki* at [dataphys.org](http://dataphys.org)  
Since February 2015, I maintain this wiki as a communication platform for the emerging community of people working on physical data representations. The site attracts about 1000 page views per month.
- 2014 Launch of *The List of Physical Visualizations (and Related Artifacts)* at [dataphys.org/list](http://dataphys.org/list)  
The site attracts around 6000 page views per month, and has been featured on several visualization and design blogs.

### **Workshop organization**

- 2018 Dagstuhl seminar on *Data Physicalization*. Organizers: Yvonne Jansen, Bernice Rogowitz, Petra Isenberg, Jason Alexander, Andrew Vande Moere. Duration 1 week, 45 participants
- 2017 Pedagogy & Physicalization, Workshop at ACM DIS 2017. Organizers: Trevor Hogan, Uta Hinrichs, Yvonne Jansen, Samuel Huron, Pauline Gourlet, Eva Hornecker, Bettina Nissen.
- 2016 Exploring the Design Process of Data Physicalization, Workshop at DRS 2016  
Organizers: Yvonne Jansen, Pauline Gourlet, Samuel Huron, Uta Hinrichs, Trevor Hogan
- 2016 Tangible Data: Explorations in Data Physicalization. Workshop at ACM TEI 2016 (Feb 14/16).  
Organizers: Trevor Hogan, Eva Hornecker, Simon Stusak, Yvonne Jansen, Jason Alexander, Andrew Vande Moere, Uta Hinrichs, Kieran Nolan.

- 2015 Exploring the Challenge of Making Data Physical. Workshop at CHI 2015.  
Organizers: Jason Alexander, Yvonne Jansen, Kasper Hornbæk, Johan Kildal, Abhijit Karnik  
27 participants
- 2014 Death of the Desktop: Envisioning the Future of Visualization Beyond Desktop Computing. Workshop at  
IEEE VIS 2014.  
Organizers: Yvonne Jansen, Petra Isenberg, Jason Dykes, Sheelagh Carpendale, Daniel Keefe  
~100 participants

## **Publications**

In the field of Human Computer Interaction (HCI), publications at top-tier conferences are of highest impact due to their rigorous review processes and low acceptance rates (20-25%). The top-tier conference covering all areas of HCI is ACM CHI – the *SIGCHI Conference on Human Factors in Computing Systems* (~3000 attendees). For Information Visualization, IEEE VIS is the top publication venue (~1200 attendees). Articles accepted at VIS are published in the journal *Transactions on Visualization and Computer Graphics* (TVCG). Stars \* indicate articles I presented at a conference.

Summary of publications:

- 2 book chapters
- 7 journal articles
- 12 peer-reviewed conference articles
- 2 invited articles in French (not peer-reviewed)
- 5 workshop organizer proposals (peer-reviewed)
- 1 workshop submission (peer-reviewed)
- 5 posters
- 6 demonstrations

### **Book chapters**

- [BC2] 2020 Pierre Dragicevic, **Yvonne Jansen**, Andrew Vande Moere.  
Data Physicalization.  
In Springer Handbook of Human Computer Interaction, Edt. Jean Vanderdonckt  
Springer Reference.  
Online pre-print 2019, in print to appear in 2021.
- [BC1] 2018 Bruce Thomas, Gregory Welch, Pierre Dragicevic, Niklas Elmqvist, Pourang Irani, **Yvonne Jansen**,  
Dieter Schmalstieg, Aurélien Tabard, Neven Elsayed, Ross Smith, Wesley Willett.  
Situated Analytics.  
In *Immersive Analytics*, Lecture Notes in Computer Science 11190, Springer, pp.185-220, 2018.

### **Journal articles**

- [J7] 2020 Luiz Morais, **Yvonne Jansen**, Nazareno Andrade, Pierre Dragicevic.  
“Showing Data about People: A Design Space of Anthropographics.”  
IEEE Transactions on Visualization and Computer Graphics, in press.
- [J6] 2018 Pierre Dragicevic, **Yvonne Jansen**.  
Blinded with Science or Informed by Charts? A Replication Study.  
IEEE Transactions on Visualization and Computer Graphics 24(1), 2018.
- [J5] 2017 Wesley Willet, **Yvonne Jansen**, Pierre Dragicevic.  
Embedded Data Representations.  
IEEE Transactions on Visualization and Computer Graphics 23(1), 2017.
- [J4] 2017 Faisal Taher, **Yvonne Jansen**, Jonathan Woodruff, John Hardy, Kasper Hornbæk, and Jason  
Alexander.  
Investigating the Use of a Dynamic Physical Bar Chart for Data Exploration and Presentation.  
IEEE Transactions on Visualization and Computer Graphics 23 (1), 2017.
- [J3] 2016 **Yvonne Jansen**, Kasper Hornbæk.  
\* A Psychophysical Investigation of Size as a Physical Variable.  
IEEE Transactions on Visualization and Computer Graphics 22(1), 2016.  
(acceptance rate: 22%) [pdf](#)

- [J2] 2014 Samuel Huron, **Yvonne Jansen**, Sheelagh Carpendale.  
Constructing Visual Representations: Investigating the Use of Tangible Tokens.  
IEEE Transactions on Visualization and Computer Graphics, 20(12): 2102-2111, 2014.  
(acceptance rate: 23%) [pdf](#)
- [J1] 2013 **Yvonne Jansen** and Pierre Dragicevic.  
\* An interaction model for visualizations beyond the desktop.  
IEEE Transactions on Visualization and Computer Graphics, 19(12): 2396-2405, 2013.  
(acceptance rate: 25%) [pdf](#)

#### Peer-reviewed articles at international conferences

- [C15] 2021 Luiz Morais, Yvonne Jansen, Nazareno Andrade, Pierre Dragicevic.  
“Can Anthropographics Promote Prosociality? A Review and Two Large-Sample Experiments.”  
In Proceedings of ACM CHI 2021, in press.
- [C14] 2019 Pierre Dragicevic, **Yvonne Jansen**, Abhraneel Sarma, Matthew Kay, Fanny Chevalier.  
Increasing the Transparency of Research Papers with Explorable Multiverse Analyses.  
In Proceedings of CHI 2019. ACM. **Best paper award.**
- [C13] 2019 **Yvonne Jansen**, Jonas Schjerlund, Kasper Hornbæk.  
Effects of Locomotion and Visual Overview on Spatial Memory when Interacting with Wall Displays.  
In Proceedings of CHI 2019. ACM.
- [C12] 2018 **Yvonne Jansen**, Kasper Hornbæk.  
How Relevant are Incidental Power Poses for HCI?  
In Proceedings of CHI’18. ACM. **Best paper award.**
- [C11] 2017 Samuel Huron, Pauline Gourlet, Uta Hinrichs, Trevor Hogan, **Yvonne Jansen**.  
Let’s Get Physical: Promoting Data Physicalization in Workshop Formats.  
In Proceedings of DIS 2017, pp.1409 - 1422, 2017, [pdf](#).
- [C10] 2015 Mikkel R. Jakobsen, **Yvonne Jansen**, Sebastian Boring, Kasper Hornbæk.  
Should I Stay or Should I Go? Selecting Between Touch and Mid-air Gestures For Large-Display  
Interaction.  
In Proceedings of INTERACT’15. Springer, 2015, pp. 455-473, [pdf](#).
- [C9] \* **Yvonne Jansen**, Pierre Dragicevic, Petra Isenberg, Jason Alexander, Abhijit Karnik, Johan Kildal,  
Sriram Subramanian, Kasper Hornbæk.  
Opportunities and Challenges in Data Physicalization.  
In Proceedings of CHI’15. ACM, 2015, pp. 3227-3236. (acceptance rate: 23%) [pdf](#)
- [C8] Faisal Taher, John Hardy, Abhijit Karnik, Christian Weichel, **Yvonne Jansen**, Kasper Hornbæk, Jason  
Alexander.  
Exploring Interactions with Physically Dynamic Bar Charts.  
In Proceedings of CHI’15. ACM, 2015, pp. 3237-3246. (acceptance rate: 23%) [pdf](#)
- [C7] 2014 Saiganesh Swaminathan, Conglei Shi, **Yvonne Jansen**, Pierre Dragicevic, Lora Oehlberg, Jean-Daniel  
Fekete.  
Supporting the design and fabrication of physical visualizations.  
In Proceedings of CHI’14. ACM, 2014, pp. 3845-3854. (acceptance rate: 23%) [pdf](#)
- [C6] 2013 **Yvonne Jansen**, Pierre Dragicevic, Jean-Daniel Fekete.  
\* Evaluating the efficiency of physical visualizations.  
In Proceedings of CHI’13. ACM, 2013, pp. 2593-2602. (acceptance rate: 20%) [pdf](#)
- [C5] 2012 **Yvonne Jansen**, Pierre Dragicevic, Jean-Daniel Fekete.  
\* Tangible remote controllers for wall-size displays.  
In Proceedings of CHI’12. ACM, 2012, pp. 2865-2874. (acceptance rate: 23%) [pdf](#)
- [C4] 2010 **Yvonne Jansen**, Thorsten Karrer, Jan Borchers.  
\* Mudpad: tactile feedback and haptic texture overlay for touch surfaces.  
ACM International Conference on Interactive Tabletops and Surfaces. ACM.  
(acceptance rate: 28%, **best note award**) [pdf](#)
- [C3] 2009 Malte Weiss, Julie Wagner, **Yvonne Jansen**, Roger Jennings, Ramsin Khoshabeh, James D Hollan,  
Jan Borchers.  
Slap widgets: bridging the gap between virtual and physical controls on tabletops.  
In Proceedings of CHI’09. ACM, 2009, pp. 481-490. (acceptance rate: 25%) [pdf](#)
- [C2] Malte Weiss, Julie Wagner, Roger Jennings, **Yvonne Jansen**, Ramsin Khoshabeh, James D Hollan,  
Jan Borchers.  
Slapbook: tangible widgets on multi-touch tables in groupware environments.  
In Proceedings of TEF’09. ACM, 2009, pp. 297-300. (acceptance rate: 44%) [pdf](#)

- [C1] 2007 Eric Lee, Marius Wolf, **Yvonne Jansen**, Jan Borchers.  
Rexband: a multi-user interactive exhibit for exploring medieval music.  
Proceedings of NIME, New interfaces for musical expression. ACM, 2007, [pdf](#)

#### Invited articles

- [I2] 2015 **Yvonne Jansen**, Pierre Dragicevic,  
Les représentations physiques de données, I2D—Information, données & documents, 52 (2), 37-37.
- [I1] 2015 **Yvonne Jansen**  
Visualisation physique et tangible de l'information  
1024- Bulletin de la société informatique de France - numéro 6 - Juillet 2015

#### Workshop organizer proposals

- [WP5] 2017 T. Hogan, U. Hinrichs, **Y. Jansen**, S. Huron, P. Gourlet, E. Hornecker, B. Nissen.  
Pedagogy & Physicalization. Designing Learning Activities around Physical Data Representations.  
Workshop co-located with the ACM DIS conference, June 2017.
- [WP4] 2016 **Y. Jansen**, P. Gourlet, S. Huron, U. Hinrichs, T. Hogan.  
Exploring the Design Process of Data Physicalization.  
Workshop co-located with the DRS conference 2016.
- [WP3] 2016 T. Hogan, E. Hornecker, S. Stusak, **Y. Jansen**, J. Alexander, A. Vande Moere, U. Hinrichs, K. Nolan.  
Tangible Data: Explorations in Data Physicalization.  
Workshop at ACM TEI, Feb 14, 2016.
- [WP2] 2015 J. Alexander, **Y. Jansen**, K. Hornbæk, J. Kildal, A. Karnik.  
Exploring the Challenges of Making Data Physical.  
Workshop at CHI2015, April 19, 2015.
- [WP1] 2014 **Y. Jansen**, P. Isenberg, J. Dykes, S. Carpendale, D. Keefe.  
Death of the Desktop: Envisioning the Future of Visualization Beyond the Desktop.  
Workshop at IEEE VIS 2014, Nov 2014.

#### Workshop submission

- [WS1] 2014 Pierre Dragicevic, **Yvonne Jansen**.  
Computer-Mediated Alleviation of the Planning Fallacy.  
DECISIVE Workshop: Dealing with Cognitive Biases in Visualisations.  
Workshop at IEEE VIS 2014, Nov 2014.

#### Extended abstracts for posters

- [EA5] 2013 Benjamin Bach, Pierre Dragicevic, Samuel Huron, Petra Isenberg, **Yvonne Jansen**, Charles Perin,  
Andre Spritzer, Romain Vuillemot, Wesley Willett, Tobias Isenberg.  
Illustrative Data Graphics in 18th-19th Century Style: A Case Study.  
Electronic Proceedings of IEEE VIS 2013, Oct 2013.
- [EA4] Pierre Dragicevic, Benjamin Bach, Nicole Dufournaud, Samuel Huron, Petra Isenberg, **Yvonne Jansen**, Charles Perin, Andre Spritzer, Romain Vuillemot, Wesley Willett, Tobias Isenberg.  
Visual Showcase: An Illustrative Data Graphic in an 18th-19th Century Style.  
Visual Showcase at the Joint ACM/EG Symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non- Photorealistic Animation and Rendering (Expressive 2013), Jul 2013.
- [EA3] Céline Coutrix, Guillaume Riviere, Katarzyna Borgiel, Julien Castet, Nadine Couture, Ullmer Brygg, Geelhaar Jens, Patrick Reuter, Nawel Takouachet, Christophe Kolski, Sophie Lepreux, Jérémy Legardeur, Sebastien Kubicki, **Yvonne Jansen**, Amira Bouadid.  
Methods for Designing Tangible UI: A First Comparative Case Study.  
ACM TEI – Conference on Tangible, Embedded and Embodied Interaction, Feb 2013.
- [EA2] 2012 **Yvonne Jansen**, Pierre Dragicevic, and Jean-Daniel Fekete.  
Investigating Physical Visualizations.  
Electronic Proceedings of IEEE VisWeek 2012.

- [EA1] 2010 **Yvonne Jansen**.  
Mudpad: Fluid Haptics for Multitouch Surfaces.  
Extended Abstracts on Human Factors in Computing Systems (CHI'10). ACM.  
(student research competition, awarded the second price)

#### **Extended abstracts for demonstrations**

- [D6] Saiganesh Swaminathan, Shi Conglei, **Yvonne Jansen**, Pierre Dragicevic, Lora Oehlberg, Jean-Daniel Fekete. Creating Physical Visualizations with MakerVis. Extended Abstracts of the 2014 annual conference on Human factors in computing systems (CHI'14). ACM.
- [D5] **Yvonne Jansen**, Thorsten Karrer, and Jan Borchers. MudPad: Tactile Feedback for Touch Surfaces. Extended Abstracts of the 2011 annual conference on Human factors in computing systems, (CHI'11).
- [D4] **Yvonne Jansen**, Thorsten Karrer, and Jan Borchers. MudPad - A Tactile Memory Game. Adjunct Proceedings of the ACM International Conference on Interactive Tabletops and Surfaces (ITS'10). ACM. (Best Demo Award)
- [D3] **Yvonne Jansen**, Thorsten Karrer, and Jan Borchers. MudPad: Localized Tactile Feedback on Touch Surfaces. UIST'10 Extended Abstracts, New York, NY, October 2010.
- [D2] Malte Weiss, Julie Wagner, Roger Jennings, **Yvonne Jansen**, Ramsin Khoshabeh, James D. Hollan, and Jan Borchers.  
SLAP Widgets: Bridging the Gap Between Virtual and Physical Controls on Tabletops.  
Extended Abstracts on Human Factors in Computing Systems (CHI'09), New York, NY, USA, 2009.  
ACM Press.
- [D1] Malte Weiss, Julie Wagner, Roger Jennings, **Yvonne Jansen**, Ramsin Khoshabeh, James D. Hollan, and Jan Borchers.  
SLAPbook: Tangible Widgets on Multi-touch Tables in Groupware Environments.  
TEI'09: Proceedings of the 3rd international conference on Tangible and embedded interaction.

#### **Theses**

- 2014 Yvonne Jansen, Physical and Tangible Information Visualization,  
PhD thesis, Université Paris-Sud XI, 2014, [pdf](#).
- 2011 Yvonne Jansen, MudPad – Localized Tactile Feedback on Multi Touch Surfaces.  
Diploma thesis, RWTH Aachen University, 2011, [pdf](#).