Bruno FRUCHARD
Lille - France
contact@brunofruchard.com
linkedin | portfolio | scholar

EDUCATION

PH.D. IN COMPUTER SCIENCE (FOCUS ON HUMAN-COMPUTER INTERACTION) *Oct. 2015 - Sep. 2018*
TÉLÉCOM PARISTECH / UNIVERSITÉ PARIS-SACLAY, FRANCE

M.SC. IN COMPUTER SCIENCE (FOCUS ON HUMAN-COMPUTER INTERACTION *Sep. 2013 - Sep. 2015*
UNIVERSITÉ PARIS-SACLAY, FRANCE

B.SC. IN COMPUTER SCIENCE *Sep. 2010 - Sep. 2013*
UNIVERSITÉ PARIS-SACLAY, FRANCE

EXPERIENCE

POSTDOCTORAL RESEARCHER *August. 2021 - now*
INRIA - LILLE (EQUIPE PROJET LOKI), FRANCE
- working with Stéphane Huot, Géry Casiez, Sylvain Malacria on the PerfAnalytics project

POSTDOCTORAL RESEARCHER *Feb. 2019 - Apr. 2021*
SAARLAND UNIVERSITY - HCI LAB, GERMANY
- head of the team: Jürgen Steimle
- worked on a variety of projects including psychophysical experiments [7, 13], developing design tools [7, 11, 14], designing ubiquitous interaction techniques [10], reflecting on critical designs [12] and designing DIY methods [5, 6]
- supervision of M.Sc. theses and teaching assistant (see Teaching)

PH.D. CANDIDATE *Oct. 2015 - Sep. 2018*
TÉLÉCOM PARISTECH - UNIVERSITÉ PARIS-SACLAY, FRANCE
- supervision: Eric Lecolinet, Olivier Chapuis
- design of gestural interaction techniques leveraging spatial memory and evaluation of their usability through user studies [1, 8], studying memorization strategies for gestural interaction [2, 3, 4]
- teaching assistant for several lectures (see Teaching)

RESEARCH ASSISTANT *Apr. 2015 - Sep. 2015*
UNIVERSITÉ PARIS-SACLAY, FRANCE
- Master's thesis
- supervision: Olivier Chapuis, Emmanuel Pietriga
- development and evaluation of interaction techniques for map navigation on wall-displays

RESEARCH ENGINEER *Apr. 2013 - Jul. 2013*
LIMSI, FRANCE
- supervision: Nicolas Sabouret
- development of a conversational AI with multi-scaled realism

PUBLICATIONS

15. Dennis Wittchen, Katta Spiel, **Bruno Fruchard**, Donald Degraen, Oliver Schneider, and Paul Strohmeier. Tactjam: An end-to-end prototyping suite for collaborative design of on-body vibrotactile feedback. In *16th Annual Conference on Tangible Embedded and Embodied Interactions*, 2022
14. **Bruno Fruchard**, Donald Degraen, Frederik Smolders, Emmanouil Potetsianakis, Seref Güngör, Antonio Krüger, and Jürgen Steimle. Weirding haptics: In-situ prototyping of vibrotactile feedback in virtual reality through vocalization. In *Proceedings of the 34th Annual ACM Symposium on User Interface Software and Technology*, New York, NY, USA, 2021. Association for Computing Machinery
13. **Bruno Fruchard**, Paul Strohmeier, Roland Bennewitz, and Jürgen Steimle. Squish this: Force input on soft surfaces for visual targeting tasks. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, New York, NY, USA, 2021. Association for Computing Machinery
12. Marc Teyssier, Marion Koelle, Paul Strohmeier, **Bruno Fruchard**, and Jürgen Steimle. Eyecam: Revealing relations

between humans and sensing devices through an anthropomorphic webcam. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, New York, NY, USA, 2021. Association for Computing Machinery

11. Narjes Pourjafarian, Marion Koelle, **Bruno Fruchard**, Sahar Mavali, Konstantin Klamka, Daniel Groeger, Paul Strohmeier, and Jürgen Steimle. Bodystylus: Freehand on-body design and fabrication of epidermal interfaces. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, New York, NY, USA, 2021. Association for Computing Machinery
10. Adwait Sharma, Michael A. Hedderich, Divyanshu Bhardwaj, **Bruno Fruchard**, Jess McIntosh, Aditya Shekhar Nittala, Dietrich Klakow, Daniel Ashbrook, and Jürgen Steimle. Solofinger: Robust microgestures while grasping everyday objects. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, New York, NY, USA, 2021. Association for Computing Machinery
9. Stéphane Safin, Marie Maitrallin, **Bruno Fruchard**, and Eric Lecolinet. Processus d'appropriation et de mémorisation de raccourcis gestuels sur trackpad : Etude longitudinale des stratégies et usages des utilisateurs et impact d'une aide visuo-sémantique. In *32eme conférence francophone sur l'interaction homme-machine*, 2021
8. **Bruno Fruchard**, Eric Lecolinet, and Olivier Chapuis. Side-crossing menus: Enabling large sets of gestures for small surfaces. *Proc. ACM Hum.-Comput. Interact.*, 4(ISS), November 2020
7. Paul Strohmeier, Seref Güngör, Luis Herres, Dennis Gudea, **Bruno Fruchard**, and Jürgen Steimle. Barefoot: Generating virtual materials using motion coupled vibration in shoes. In *Proceedings of the 33rd Annual ACM Symposium on User Interface Software and Technology*, UIST '20, page 579–593, New York, NY, USA, 2020. Association for Computing Machinery
6. Cedric Honnet, Hannah Perner-Wilson, Marc Teyssier, **Bruno Fruchard**, Jürgen Steimle, Ana C. Baptista, and Paul Strohmeier. Polysense: Augmenting textiles with electrical functionality using in-situ polymerization. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, CHI '20, page 1–13, New York, NY, USA, 2020. Association for Computing Machinery
5. Paul Strohmeier, Narjes Pourjafarian, Marion Koelle, Cedric Honnet, **Bruno Fruchard**, and Jürgen Steimle. Sketching on-body interactions using piezo-resistive kinesiology tape. In *Proceedings of the Augmented Humans International Conference*, AHs '20, New York, NY, USA, 2020. Association for Computing Machinery
4. **Bruno Fruchard**, Eric Lecolinet, and Olivier Chapuis. How memorizing positions or directions affects gesture learning? In *Proceedings of the 2018 ACM International Conference on Interactive Surfaces and Spaces*, ISS '18, page 107–114, New York, NY, USA, 2018. Association for Computing Machinery
3. **Bruno Fruchard**, Eric Lecolinet, and Olivier Chapuis. Memorisation de Commandes : Positions Spatiales versus Gestes Directionnels. In AFIHM, editor, *30eme conférence francophone sur l'interaction homme-machine*, Articles Scientifiques, pages 92–99, Brest, France, October 2018
2. **Bruno Fruchard**, Eric Lecolinet, and Olivier Chapuis. Impact of semantic aids on command memorization for on-body interaction and directional gestures. In *Proceedings of the 2018 International Conference on Advanced Visual Interfaces*, AVI '18, New York, NY, USA, 2018. Association for Computing Machinery
1. **Bruno Fruchard**, Eric Lecolinet, and Olivier Chapuis. Markpad: Augmenting touchpads for command selection. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, CHI '17, page 5630–5642, New York, NY, USA, 2017. Association for Computing Machinery

Scientific Manifestations

Workshops

- Sustainable Haptic Design, CHI'22 - Organizer
- TactJam: a Collaborative Playground for Composing Spatial Tactons, TEI'21 - Organizer
- Motor Memory in HCI, CHI'20 - Organizer
- Workshop on Immersive Analytics, CHI'19 - Attendee

Posters

- Interaction Technique Exploiting Memorization to Facilitate Access to Commands, UEIS'17: New trends in User Expertise and Interactive Systems (2017)
- Techniques d'Interaction Exploitant la Mémoire pour Faciliter l'Accès aux Commandes, IHM'17: Doctoral Consortium of the 29th international conference of the Association Francophone d'Interaction Homme-Machine

Demos

- Demo of PolySense: How to Make Electrically Functional Textiles, CHI'20: Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems
- Démonstration de MarkPad : Augmentation du pavé tactile pour la sélection de commandes, IHM'17: Adjuction Proceedings of the 29th international conference of the Association Francophone d'Interaction Homme-Machine
- Démonstration de MarkPad : Augmentation du pavé tactile pour la sélection de commandes, IHMIA'17: Journée Interaction Homme-Machine et Intelligence Artificielle

Volunteering

Organization I helped organizing international conferences and events: I was social co-chair for the ACM UIST'22 conference.

Chairing I have been on the several Program Committees: the ACM ISS'19 ISS'21 ISS'22 conferences, the ACM DIS'22 conference, the PerDis'20 conference, and the AHs'21 conference.

Reviewing I have been reviewing for the following conferences:

- ACM AHs'20 '21
- ACM DIS'22
- ACM CHI'18 '19 '20 '21 '22
- IHM'18 '20'21
- ACM ISS'18 '19 '20 '21 '22
- ACM MobileHCI'19 '20 '21
- ACM NordiCHI'18 '20
- ACM TEI'18 '22
- ACM UIST'19 '20 '21

And the following journals:

- IJHCI
- ACM ToCHI

Teaching

Teaching Assistant

- HCI core lecture, Saarland University, Winter semester 2019-2020
- Développement d'applications interactives 2D, 3D, Mobile et Web, Télécom ParisTech, 2015-2018
- Interaction Homme-Machine, Télécom ParisTech, 2015-2018
- Paradigmes de programmation, Télécom ParisTech, 2015-2018
- Visualization, Télécom ParisTech, 2015-2018

Thesis supervision

- "Physics-based Interactions for Virtual Reality", Arsen Tabaku, Master thesis (2020)
- "Design Space of Graphical User Interfaces for Body-based Interactions", Saumya Agarwal, Master thesis (2021)
- "Microinteractions for Single-Handed Finger Input", Rhett Dobinson, Master thesis (2021)
- "Human Actuation for Fast-Prototyping of Haptics in Virtual Reality", Ziqian "Charlie" Chen, Master thesis (2021)
- "Evaluation of Plant-based Devices in the Home", Patrick Speroff, Master thesis (2021)

Thesis Review I reviewed numerous M.Sc. theses (#4) and B.Sc. theses (#10) from Saarland University