



Bruno FRUCHARD

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 linkedin |  portfolio |  scholar

## EDUCATION

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### 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

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### POSTDOCTORAL RESEARCHER

Feb. 2019 - now

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], 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

- supervision: [Olivier Chapuis](#), [Emmanuel Pietriga](#)
- development and evaluation of interaction techniques for map navigation on wall-displays

### RESEARCH ENGINEER

Apr. 2012 - Jul. 2013

LIMSI, FRANCE

- supervision: [Nicolas Sabouret](#)
- development of a conversational AI with multi-scaled realism

## PUBLICATIONS

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13. **Bruno Fruchard**, Paul Strohmeier, Roland Bennewitz, and Jürgen Steimle. Squish this: Force input on soft surfaces for visual targeting tasks [\[to appear\]](#). In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 2021
12. Marc Teyssier, Marion Koelle, Paul Strohmeier, **Bruno Fruchard**, and Jürgen Steimle. Eyecam: Revealing relations between humans and sensing devices through an anthropomorphic webcam [\[to appear\]](#). In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 2021
11. Narjes Pourjafarian, Marion Koelle, **Bruno Fruchard**, Sahar Mavali, Konstantin Klamka, Gröger Daniel, Paul Strohmeier, and Jürgen Steimle. Bodystylus: Freehand on-skin design and fabrication of epidermal interfaces [\[to appear\]](#). In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 2021
10. Adwait Sharma, Michael A. Hedderich, Divyanshu Bhardwaj, **Bruno Fruchard**, Jess McIntosh, Dietrich Klakow, Daniel Ashbrook, and Jürgen Steimle. Solofinger: Robust microgestures while grasping everyday objects [\[to appear\]](#). In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 2021
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 [\[to appear\]](#). 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

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- WORKSHOPS**
- [TactJam: a Collaborative Playground for Composing Spatial Tactons](#), TEI'21 Studio - Organizer
  - [Motor Memory in HCI](#), CHI'20: CHI Extended Abstracts 2020 - Organizer
  - [Workshop on Immersive Analytics](#), CHI'19: CHI Extended Abstracts 2019 - 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: Adjudation 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

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**CHAIRING** I have been Associate Chair for the ACM [ISS'18](#) and [PerDis'20](#) conferences

**REVIEWING** I have been reviewing for the following conferences:

- ACM AH'20 '21
- ACM CHI'17 '18 '19 '20 '21
- IHM'18 '20
- ACM ISS'18 '19 '20
- ACM MobileHCI'19
- ACM NordiCHI'18
- ACM TEI'18
- ACM UIST'18 '19 '20

## TEACHING

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- 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 (2020 - ongoing)
  - "Microinteractions for Single-Handed Finger Input", Rhett Dobinson, Master thesis (2020 - ongoing)
  - "Human Actuation for Fast-Prototyping of Haptics in Virtual Reality", Ziqian "Charlie" Chen, Master thesis (2020 - ongoing)
- THESIS REVIEW** I reviewed numerous M.Sc. theses (#6) and B.Sc. theses (#3) from Saarland University