Bruno Fruchard

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Education

Université Paris-Saclay / Télécom ParisTech — Sep 2015 — Dec 2018
PhD, Computer Science (focus on Human-Computer Interaction) — France

Université Paris-Saclay — Sep 2013 — July 2015
Master's of Science, Computer Science (focus on Human-Computer Interaction) — France

Université Paris-Saclay — Sep 2010 — July 2013
Bachelor's of Science, Computer Science — France

Work Experience

Research scientist (Inria Starting Faculty Position) — Oct 2022 — Present
Inria — Lille, FR
- working in the LOOP team
- full-time researcher with teaching obligations

Postdoctoral researcher — Aug 2021 — Oct 2022
Inria — Lille, FR
- working with Stéphane Huot, Géry Casiez, Sylvain Malacria on the PerfAnalytics project
- work on video annotations to produce analytical tools for sports federations that led to fundamental HCI questions [5], and a case study [6]

Postdoctoral researcher — Feb 2019 — Apr 2021
Saarland University — Saarbrücken, DE
- working with Jürgen Steimle in the HCI Lab
- worked on a variety of projects including psychophysical experiments [10, 16], developing design tools [9, 11, 16], designing ubiquitous interaction techniques [12], reflecting on critical designs [13] and designing DIY methods [17, 18]
- supervision of M.Sc. theses and teaching assistant (see Teaching)

Ph.D. candidate — Oct 2015 — Sep 2018
Saarland University — Université Paris-Saclay / Télécom ParisTech, FR
- supervised by Eric Lecolinet and Olivier Chapuis and titled “Interaction techniques using memory to facilitate command activation”
- designed and evaluated several interaction techniques [15, 22], and ran memorization experiments to evaluate benefits of interactions [19–21]
- teaching assistant (see Teaching)

Master's thesis - research assistant — Apr 2015 — Sep 2015
Saarland University — Université Paris-Saclay, FR
- supervised by Emmanuel Pietriga and Olivier Chapuis
- development and evaluation of pan & zoom interaction techniques on wall-displays

Research assistant — Apr 2013 — Jul 2013
Saarland University — Université Paris-Saclay, FR
- supervised by Emmanuel Pietriga and Olivier Chapuis
- development and evaluation of pan & zoom interaction techniques on wall-displays

Publications

[1] **Fruchard, B.**, Wittchen, D., Sabnis, N., Strohmeier, P. and Degraen, D. 2026. How are Vibrotactile Experiences Visually Represented? A Taxonomy of Illustration Characteristics. Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (CHI '26) 10.1145/3772318.3790598 🏆 **best paper**

[2] Wittchen, D., Ramian, A., Sabnis, N., Böhme, R., Chlebowski, C., Freitag, G., **Fruchard, B.** and Degraen, D. 2025. CollabJam: Studying Collaborative Haptic Experience Design for On-Body Vibrotactile Patterns. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2025) 10.1145/3706598.3713469 🎖 **honorable mention** (5% of 5014 submissions)

[3] **Fruchard, B.**, Maszewki, T. and Avezou, C. 2024. Etude de conception d'un outil d'analyse de données d'escalade de difficulté. IHM'24 - 35e Conférence Internationale Francophone sur l'Interaction Humain-Machine 10.1145/3649792.3649798 🎖️ honorable mention

[4] Gori, J., **Fruchard, B.** and Bailly, G. 2024. Model-based Evaluation of Recall-based Interaction Techniques. Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems 10.1145/3613904.3642637

[5] **Fruchard, B.**, Malacria, S., Casiez, G. and Huot, S. 2023. User Preference and Performance using Tagging and Browsing for Image Labeling. 2023 ACM CHI Conference on Human Factors in Computing Systems (CHI '23) 10.1145/3544548.3580926

[6] **Fruchard, B.**, Avezou, C., Malacria, S., Casiez, G. and Huot, S. 2023. A Case Study on the Design and Use of an Annotation and Analytical Tool Tailored To Lead Climbing. 2023 CHI Conference on Human Factors in Computing Systems (CHI23) 10.1145/3544549.3573876

[7] Dobinson, R., Teyssier, M., Steimle, J. and **Fruchard, B.** 2022. MicroPress: Detecting Pressure and Hover Distance in Thumb-to-Finger Interactions. Proceedings of the 2022 ACM Symposium on Spatial User Interaction (SUI 2022) 10.1145/3565970.3567698 🏆 best paper

[8] Wittchen, D., Spiel, K., **Fruchard, B.**, Degraen, D., Schneider, O., Freitag, G. and Strohmeier, P. 2022. TactJam: An End-to-End Prototyping Suite for Collaborative Design of On-Body Vibrotactile Feedback. Proceedings of the 16th International Conference on Tangible, Embedded, and Embodied Interaction (TEI 2022) 10.1145/3490149.3501307

[9] **Fruchard, B.**, Degraen, D., Smolders, F., Potetsianakis, E., Güngör, S., Krüger, A. and Steimle, J. 2021. Weirding Haptics: In-Situ Prototyping of Vibrotactile Feedback in Virtual Reality through Vocalization. UIST '21: The 34th Annual ACM Symposium on User Interface Software and Technology 10.1145/3472749.3474797

[10] **Fruchard, B.**, Strohmeier, P., Bennewitz, R. and Steimle, J. 2021. Squish This: Force Input on Soft Surfaces for Visual Targeting Tasks. 2021 ACM CHI Virtual Conference on Human Factors in Computing Systems (CHI '21) 10.1145/3411764.3445623

[11] Pourjafarian, N., Koelle, M., **Fruchard, B.**, Mavali, S., Klamka, K., Groeger, D., Strohmeier, P. and Steimle, J. 2021 2021. BodyStylus: Freehand On-Body Design and Fabrication of Epidermal Interfaces. CHI '21: CHI Conference on Human Factors in Computing Systems 10.1145/3411764.3445475

[12] Sharma, A., Hedderich, M.A., Bhardwaj, D., **Fruchard, B.**, Mcintosh, J., Nittala, A.S., Klakow, D., Ashbrook, D. and Steimle, J. 2021. SoloFinger: Robust Microgestures while Grasping Everyday Objects. CHI '21: CHI Conference on Human Factors in Computing Systems 10.1145/3411764.3445197

[13] Teyssier, M., Koelle, M., Strohmeier, P., **Fruchard, B.** and Steimle, J. 2021. Eyecam: Revealing Relations between Humans and Sensing Devices through an Anthropomorphic Webcam. CHI '21: CHI Conference on Human Factors in Computing Systems 10.1145/3411764.3445491

[14] Safin, S., Maitrallin, M., **Fruchard, B.** and Lecolinet, E. 2021. 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. 32eme conférence francophone sur l'interaction homme-machine

[15] **Fruchard, B.**, Lecolinet, E. and Chapuis, O. 2020. Side-Crossing Menus: Enabling Large Sets of Gestures for Small Surfaces. Proceedings of the ACM on Human-Computer Interaction 10.1145/3427317

[16] Strohmeier, P., Güngör, S., Herres, L., Gudea, D., **Fruchard, B.** and Steimle, J. 2020. bARefoot: Generating Virtual Materials using Motion Coupled Vibration in Shoes. UIST '20: The 33rd Annual ACM Symposium on User Interface Software and Technology 10.1145/3379337.3415828

[17] Honnet, C., Perner-Wilson, H., Teyssier, M., **Fruchard, B.**, Steimle, J., Baptista, A.C. and Strohmeier, P. 2020. PolySense: Augmenting Textiles with Electrical Functionality using In-Situ Polymerization. 2020 CHI Conference on Human Factors in Computing Systems (CHI '20) 10.1145/3313831.3376841

[18] Strohmeier, P., Pourjafarian, N., Koelle, M., Honnet, C., **Fruchard, B.** and Steimle, J. 2020. Sketching On-Body Interactions using Piezo-Resistive Kinesiology Tape. 2020 Augmented Humans International Conference (AHs '20) 10.1145/3384657.3384774

[19] **Fruchard, B.**, Lecolinet, E. and Chapuis, O. 2018. How Memorizing Positions or Directions Affects Gesture Learning?. Proceedings of the 2018 International Conference on Interactive Surfaces and Spaces 10.1145/3279778.3279787

[20] **Fruchard, B.**, Lecolinet, E. and Chapuis, O. 2018. Memorisation de Commandes : Positions Spatiales versus Gestes Directionnels. 30eme conférence francophone sur l'interaction homme-machine

[21] **Fruchard, B.**, Lecolinet, E. and Chapuis, O. 2018. Impact of Semantic Aids on Command Memorization for On-Body Interaction and Directional Gestures. AVI 2018 - International Conference on Advanced Visual Interfaces 10.1145/3206505.3206524

[22] **Fruchard, B.**, Lecolinet, E. and Chapuis, O. 2017. MarkPad: Augmenting Touchpads for Command Selection. Proceedings of the 35th international conference on Human factors in computing systems 10.1145/3025453.3025486

Funded Projects

Principal Investigator

- 2025-2030 - APPROPRIATE: Promoting the Personalization and Automation of Interactive Systems (ANR) - 270k€

Collaborator

- 2025-2030 - RPC-JaM: Robot Parallèle Continu à Jambes Modulaires (ANR) - 830k€

Scientific Manifestations

Invited Talks

- PEPR O2R, projet AS1 - "Quels facteurs influences le sentiment de sécurité lors d'interactions avec des robots souples ?" - March 3rd 2026

Workshops

- CollabJam, World haptics 2023 - Organizer
- 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

- Design of a software suite to support indexing, annotating, and analyzing climbing videos, ECSS'23: 28th Annual Congress of the European College of Sport Science - pdf
- Interaction Technique Exploiting Memorization to Facilitate Access to Commands, UEIS'17: New trends in User Expertise and Interactive Systems (2017) - png
- 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

- Démonstration d'un outil d'analyse d'annotations de vidéos de performance d'escalade de difficulté, IHM'24 - 35e Conférence Internationale Francophone sur l'Interaction Humain-Machine - hal
- Design and Fabrication of Body-Based Interfaces, CHI'23: Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems - 🥇 best demo - acm
- Démonstration d'un outil d'annotation et d'analyse de vidéos d'escalade de difficulté, IHM'23: Extended Proceedings of the 34ème conférence Francophone sur l'Interaction Humain-Machine
- 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

Scientific mediation

I am a **scientific communication officer** of the Inria centre of the University of Lille since November 2024.

Organization

- "Les Innovantes" - December 11th 2025
  - promotion of women's contributions in computer science to 80 highschoolers through presentations by Yosra Rekik and Iliana Fayolle
- RJMI "Rencontre Jeunes Mathématicienne et Informaticiennes" with Simon Lemaire and Anaïs Kolumban - October 21st-22nd 2025

- expose gender biases in computer science and mathematics research to 8 highschool girls, and run workshops over two days; keynotes by Camille Marchet and Ana Matos.

- 7e journée Interaction Humain Machine et Intelligence Artificielle (IHMIA) with Fabrice Jaoüen - 10 March 2025
- "Les Innovantes" with Alice Loizeau and Magda Guennadi - December 6th 2024
  - promotion of women's contributions in computer science to 40 highschoolers through presentations by Anne-Marie Jolly, Solène Lambert and Camille Dupré
- RJMI "Rencontre Jeunes Mathématicienne et Informaticiennes" with Simon Lemaire and Magda Guennadi - October 21st-22nd 2024
  - expose gender biases in computer science and mathematics research to 30 highschool girls, and run workshops over two days; keynotes by Clémentine Maurice and Mylène Maida.
- "Les Innovantes" with Alice Loizeau and Manon Campos - December 5th 2023
  - promotion of women's contributions in computer science to 120 highschoolers through presentations by Laurence Nigay, Elodie Bouzbiz, Sara Bouzit, Lisa Fericelli

Participation

- panel on "Intelligence Numérique" for the "Fête de la Science" at the Forum des Sciences of Villeneuve d'Ascq - October 6th 2025
- "Fête de la Science" at the Inria center of the University of Lille - October 11th 2023
  - presentations of research projects on sport analytics to mid-school and high-school students
- VivaTech 2023, June 15-16th 2023
  - demonstration of the data processing tools developed with the French Climbing Federation [5, 6]
- "La Fête de la Science" with Timo Maszewski - October 6th-7th 2023
  - demonstration of the data processing tools developed with the French Climbing Federation [5, 6], and interview with "l'Esprit Sorcier" to present the broad scope of the PerfAnalytics project (video sequence available here).
- Participation in an Xperium round table with former Olympic medalist Daouda Sow – October 12th 2023
  - presentation of projects with the FFBoxe and reflection with Daouda Sow's own practice (video available here).

Supervision

Postdocs

- "Characterizing Tailoring Tasks and their Workflow(s)" - Victor Paredes, co-supervised with Mathieu Nancel

PhD theses

- "Promoting Tailoring Possibilities and Evaluating their Impact" - Pradakshina Goswami, started in March 2026, directed by Sylvain Malacria and co-supervised with Mathieu Nancel
- "Investigating Benefits and Limitations of Asymmetric Collaboration for Designing Sensory Experiences in Mixed Reality" - Ramakrishnan Kumaravelu, started in October 2025, directed by Thomas Pietrzak and co-supervised with Donald Degraen
- "Automatic Information Management for Collaborative Spaces" - Antoine Nollet, started in October 2024, directed by Sylvain Malacria and co-supervised with Carla Griggio

Master's and Bachelor's theses

- "Impact of Switching Spatial Configurations on Learning Software Features", Rabii Lamharzi Alaoui - Master internship (2026)
- "Implémentation de techniques d'interaction pour naviguer dans des vidéos à l'aide de technologies Web", David Adamov - Bachelor internship (2024)
- "Création d'un environnement expérimental pour étudier l'impact d'annotations automatiques dans l'annotation manuelle de vidéos", Audrey Heurtaux - BUT internship 3 (2024)
- "Comparaison de vidéos d'escalade de vitesse par manipulation directe", Baptiste Kieffer - Bachelor internship (2022)
- "Effects of Damaging Plants in Human Plant Interactions", Patrick Speroff, Master thesis (2021)
- "Human Actuation for Fast-Prototyping of Haptics in Virtual Reality", Ziqian ''Charlie'' Chen, Master thesis (2021)
- "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)
- "Physics-based Interactions for Virtual Reality", Arsen Tabaku, Master thesis (2020)

Volunteering

Organization

National organizations:

- GDR IHM - coordinator of the UX/ID working group since 2025

International conferences and events:

- IHM'25 - Publication co-chair
- IHM'24 - Doctorial Consortium co-chair
- ACM UIST'22 - Social co-chair

Chairing

I have been in the program committees or editorial boards of the following conferences:

- ACM ISS'19 ISS'21 ISS'22 ISS'23
- ACM DIS'22
- PerDis'20
- ACM AHs'21 conference
- ACM CHI'25 and CHI'26

Reviewing

I have reviewed for the following conferences:

- ACM AHs'20 '21
- ACM DIS'22
- ACM CHI'18 '19 '20 '21 '22 '23 '24 '25
- IHM'18 '20 '21 '22 '25
- ACM IMX'24
- ACM ISS'18 '19 '20 '21 '22 '23
- ACM MobileHCI'19 '20 '21
- ACM NordiCHI'18 '20
- ACM TEI'18 '22
- ACM UIST'19 '20 '21
- ECCE'24
- IEEE EuroHaptics'24
- IEEE VRST'25

And the following journals:

- IJHCI
- IEEE TAFFC
- ACM ToCHI

Teaching

Teaching assistant

- Introduction à l'Interaction Humain-Machine, IUT de Lille, every year from 2022 to 2025
- IHM, Université de Lille (L3) every year from 2022 to 2025
- Technologies Web, Université de Lille (L1), 2022-2023
- 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