



# MultiTOUCH

Deliverable 6.8

**ESRs meet their publication objectives**

March 28, 2024

<b>Project details</b>	
Project Acronym	multiTOUCH
Full Title	Multimodal haptic with touch devices
Grant Agreement	860114
Type of Action	MSCA-ITN-ETN

<b>Deliverable details</b>	
Title	ESRs meet their publication objectives
Version	1
Deliverable Number	6.8
Lead Beneficiary	UCL
Contributors	All
Dissemination Level	Public

<b>Acronyms</b>	
ESRs	Early Stage Researchers
MSCA	Marie Skłodowska-Curie Action
ToH	Transactions on Haptics
IMRF	International multisensory research forum
SFN	Society for Neuroscience
FENS	Federation of European Neuroscience Societies
WHC	World Haptics Conference
ICMI	International Conference on Multimodal Interaction
ECVP	European Conference on Visual Perception
EMBC	Engineering in Medicine and Biology Society
AIP	Associazione Italiana di Psicologia
CHI	Human Factors in Computing Systems
WIP	Work in progress
CNS	Cognitive Neuroscience Society
IHM	Interaction Human-Machine
BAPS	Belgian Association of Psychological Sciences
BSN	Belgian Society for Neuroscience
BAW	Brain Awareness Week
IJHCI	International Journal of Human-Computer Interaction
AVI	Conference International on Advanced Visual Interfaces
VIRE	Virtual Reality
ISS	International Conference on Interactive Surfaces and Spaces



# Contents

1	Introduction . . . . .	4
2	The achieved publication objectives . . . . .	4
2.1	ESR1 . . . . .	4
2.2	ESR2 . . . . .	4
2.3	ESR3 . . . . .	5
2.4	ESR4 . . . . .	5
2.5	ESR5 . . . . .	5
2.6	ESR6 . . . . .	5
3	Dissemination and Visibility . . . . .	6
3.1	Acknowledgment to EU . . . . .	6
3.2	Open Science . . . . .	6
3.3	Impact . . . . .	6
3.4	Visibility . . . . .	6
3.5	Newsletters . . . . .	7
4	Training . . . . .	7
4.1	Scientific and soft skills . . . . .	7
4.2	Collaborations . . . . .	8
5	Conclusion . . . . .	8
<b>A</b>	<b>List of conferences where ESRs published their work</b>	<b>9</b>

## 1 Introduction

Based on the European commission's requirements for the dissemination of science, the Early Stage Researchers (ESRs) had the objective to largely disseminate the project results with communications at international conferences and publications in high-impact peer-reviewed scientific journals. Therefore, the ESRs were encouraged to communicate their results as posters or oral communications in major international conferences in the fields of neuroscience (Society for Neuroscience [SFN], the Federation of European Neuroscience Societies [FENS], International multisensory research forum [IMRF]), haptics (IEEE World Haptics Conference), and human-computer interactions (ACM Conference on Human Factors in Computing Systems [CHI], ACM Conference on Multimodal Interaction [ICMI]), with an average of once a year along the project. In addition, the ESR had to publish their results to the leading specialist peer-reviewed scientific journals in the different fields; 2 journal publications were expected from each ESR. Moreover, wider public dissemination of results was expected by publishing lay summaries and a newsletter reporting progress on the multiTOUCH ITN website, press releases (with support from local university press relations offices), and general articles. In a nutshell, the publication objectives of the ESRs are summarized in the table 1. Elsewhere, as the aim of the Marie Skłodowska-Curie Action (MSCA) program is to train and give visibility to the ESRs, this deliverable will present the way in which these objectives have been achieved.

Objectives	International Conference	Peer-reviewed scientific journals	Newsletters	Other publications
For each ESR	4	2	min 1	min 1
For the project	24	12	min 6	min 6

Table 1: Table of publication objectives for each ESR and for the project

## 2 The achieved publication objectives

Overall, the objectives set for each ESR have been met. This section details the scientific production of each ESR. The figure 1 illustrates the distribution of publications per ESR.

### 2.1 ESR1

ESR 1 achieved his publication targets by publishing two articles ([1, 2]) in the peer-reviewed journal IEEE Transactions on Haptics (ToH). Additionally, he participated in four different international conferences (WHC'21, CNS22, IHM'23, and WHC'23) by presenting a poster ([3]), delivering two talks ([4]), and submitting two papers ([5], [6] [Figure 1]). Overall, ESR 1 successfully met his publication objectives.

### 2.2 ESR2

ESR 2 participated in three different international conferences (Interact'23, ISS conference 2023, AVI 2024, mobileHCI 2024 - pending publication) by submitting five papers ([7, 8]), a poster ([9]), and delivering two oral presentations ([10, 11]).

In the field of computer science, conferences often hold more prestige than journals. Publishing in top conferences is typically more challenging and carries greater value within the community compared to journal publications. For these reasons, and in order to maximize impact, ESR 2 chose to prioritize publishing in top conferences over peer-reviewed journals, and therefore did not publish in a peer-reviewed journal.



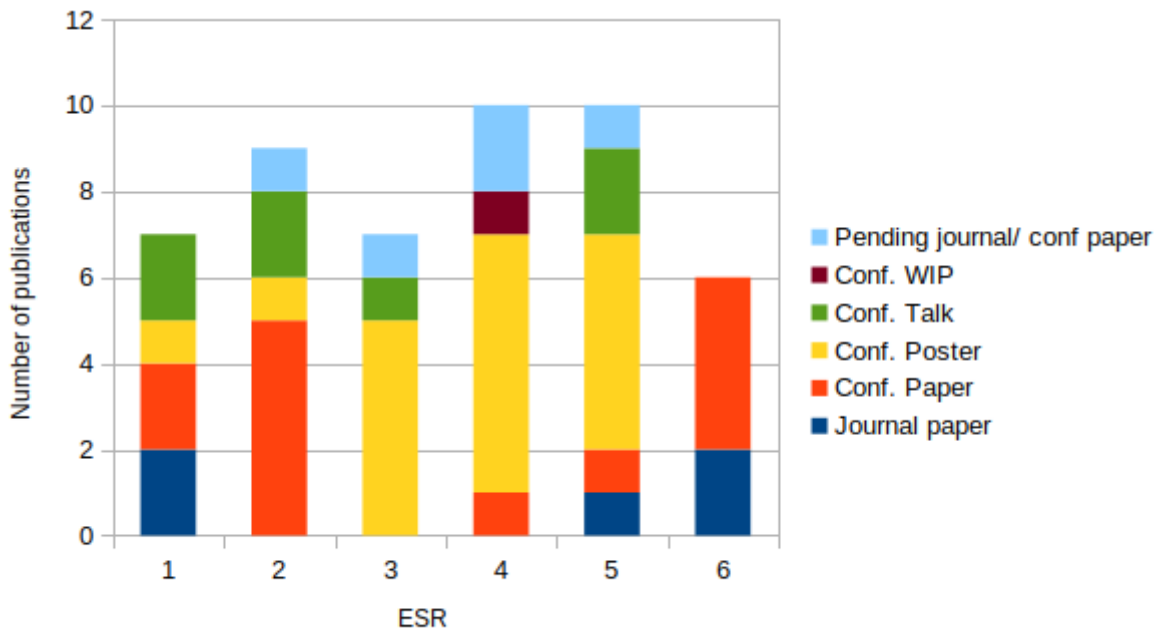


Figure 1: Publications distribution per ESR.

### 2.3 ESR3

ESR3 encountered delays in the overall progress of her research, primarily due to the pandemic situation, as the majority of her work involved human subjects receiving tactile stimulation to the hands. Despite these challenges, she seized the opportunity to present her work at five different international conferences (IMRF2022 & 2023, BAPS, BSN, SFN), showcasing five posters ([12, 13, 14]) and delivering one talk ([15]). Additionally, she has submitted a paper to the journal *Cognition* and is preparing another paper for submission to a peer-reviewed journal. With these efforts, she is on track to soon achieve her set goals.

### 2.4 ESR4

ESR4 participated in six different international conferences (WHC'23, IMRF2023, BSN 2023, CNS 22, Eurohaptics 2022, and Neurocog 2021). She presented her research work with six posters ([16, 17, 18]), one paper ([19]), and one work in progress (WIP). Additionally, she is the first author of two pending papers submitted to the journals *Imaging Neuroscience* and *PLOS ONE*. Like ESR4, she is on track to achieve her set goals soon.

### 2.5 ESR5

ESR5 participated in the following seven conferences: IMRF, ECVP, EMBC, CNS, SFN, WHC, and AIP, presenting a total of five posters ([20, 21, 22, 23, 24]), delivering two talks, and presenting one paper ([25]). Additionally, ESR5 enhanced the visibility of her research by publishing two papers in the journal *Scientific Reports* ([26]).

### 2.6 ESR6

ESR6 participated in three prestigious computer science conferences (ICMI, CHI'22, and CHI'24). Through the publication of four papers, he had the opportunity to share his research ([27, 28]). Additionally, ESR6 increased the impact of his work with two peer-reviewed papers in the *IJHCI'22* and the *VIRE* journals ([29]).



## 3 Dissemination and Visibility

### 3.1 Acknowledgment to EU

As per the MSCA project regulations, all research publication materials, including posters, articles, work-in-progress (WIP), oral presentations, and newsletters, have acknowledged the European Commission with the following sentence: *"This project has received funding from the European Union's Horizon 2020 research and innovation program under the Marie Skłodowska-Curie grant agreement No 860114"*.

### 3.2 Open Science

All project publications are accessible through the open archive HAL. We selected this platform due to its free access, user-friendly interface, and widespread recognition among researchers. HAL also provides the option to make preprints visible, enhancing the visibility of science as these articles can be cited even before official publication. In the bibliography of this document, all publications are linked to their respective HAL entries.

### 3.3 Impact

**Conferences** Eleven publications, including 9 papers and 2 talks, were presented at 8 prestigious conferences with an acceptance rate of less than 40%. These conferences are highly selective and attract leading researchers in their respective fields. Seven publications (2 papers, 4 posters, and 1 work in progress) were accepted at conferences with acceptance rates ranging between 42% and 58%. The remaining publications were accepted by other international conferences, for which acceptance rates were not available but which are well-regarded in their respective fields.

In Appendix A, Table A.1 lists the names of the conferences, their known acceptance rates, and the number and types of publications presented. The 6 ESRs of the project attended and participated in 23 international conferences. On average, each student attended one conference per year. The disciplines represented ranged from computer science, haptics, and neuroscience to the medical field. The project's impact was evident when students presented their scientific progress at various editions of the same conference. For example, ESR1 shared results through an oral presentation at WHC'21 and two years later submitted a paper with ESR5 to the subsequent edition, WHC'23. Additionally, the project's visibility and impact increased with presentations (posters + talks) from 50% of the ESRs (ESR3, 4 & 5) at the IMRF 2023 conference. Regarding the ratio of 0.87 conference papers/posters, it is evident that students contributed to perpetuating the project's scientific capital by converting posters into conference papers. Overall, Table A.1 clearly demonstrates that the project enabled students to present their research in an international context, which was highly beneficial for them.

**Peer-reviewed journals** With the goal of disseminating scientific and technical information and increasing their visibility within their community, the students published their findings in peer-reviewed journals. Nine articles were submitted, with four of them already published and five still pending, to seven scientific journals with impact factors ranging from 2.48 to 7.4. Table 2 provides a list of these peer-reviewed journals.

### 3.4 Visibility

Although not all of the project papers have been published yet, some have already been cited in scientific publications. ESR1 and ESR5 have been cited once each, while ESR6 has been cited twice. Given that the majority of the project results have been published in high-impact factor journals and conferences and are available in open access, it is anticipated that the number of citations will undoubtedly increase in the future, thereby enhancing the project's visibility.



Journal Name	Impact factor	Numb. papers	References	Comments
TOH	2.48	2	[2, 1]	-
IJHCI	3.35	1	[29]	-
Scientific reports	4.6	2	[26]	1 pending paper
VIRE	4.2	1	-	-
Cognition journal	3.65	1	-	1 pending paper
Imaging Neuroscience journal	7.4	1	-	1 pending paper
PLOS One journal	3.7	1	-	1 pending paper
Total	-	9	-	4 published papers and 5 pending papers

Table 2: Table of project publications submitted to peer-reviewed journals

### 3.5 Newsletters

To broaden the dissemination of the project's scientific results to a wider audience, the ESRs created a series of short newsletters on the multiTOUCH website (<https://multitouch-itn.eu/newsletters>). One newsletter was published each month.

## 4 Training

Another significant aspect of the MSCA project is to provide training to the ESRs in various areas, encompassing both scientific and more general domains. By encouraging the ESRs to publish articles and attend conferences, the project has effectively trained the students to develop scientific skills and broaden their professional network.

### 4.1 Scientific and soft skills

The various skills required to write a scientific article include :

- explore the state-of-the-art
- structure the thinking
- Communicate in-depth information using scientific vocabulary
- design graphics
- explain and interpret the results



- use the language code of the research area

The achievements described in sections 2 and 3 unequivocally demonstrate that the ESRs have undergone comprehensive training and have acquired both scientific and soft skills.

## 4.2 Collaborations

**Network** Writing papers for conferences provided the ESRs with opportunities to connect with renowned researchers in their respective fields. Consequently, these conferences served as valuable platforms for expanding their professional networks. Moreover, all six ESRs ([6, 8, 13, 19, 20, 29]) have collaborated with researchers from external laboratories or research teams, thereby fostering new collaborations. Thus, the multiTOUCH project facilitated the initiation of genuine synergy between research teams through the training of the ESRs.

**Joint publications** As part of the multiTOUCH project, the ESRs have collectively produced five joint publications. Table 3 illustrates that each ESR has collaborated on a scientific article or poster with one of their colleagues within the consortium. These publications emerged from secondments undertaken by the ESRs during the project, facilitating collaborations among ESRs from disparate research areas. The existence of these publications underscores the quality of the training imparted to the students.

	ESR1	ESR2	ESR3	ESR4	ESR5	ESR6
ESR1		-	-	[5, 3]	-	-
ESR2			1	-	-	-
ESR3				-	-	-
ESR4					[24]	-
ESR5						1
ESR6						

Table 3: Table of joint publications

## 5 Conclusion

With a total of 49 publications (including 5 pending), averaging 8 articles per student, the objectives of the project were evidently achieved. The scientific results were disseminated through significant and prestigious conferences and journals. The training provided not only equipped the students with the necessary tools, methods, and instincts to produce high-quality scientific articles but also afforded them the opportunity to broaden their professional networks. Additionally, the ESRs were able to develop valuable soft skills throughout the duration of the project.





## **Appendix A**

### **List of conferences where ESRs published their work**

Conf. Name	Acc. rate (%)	Tot.	Papers	Posters	Talks	WIP	Comments
mobileHCI 2024	20	1	1	-	-	-	
AVI 2024	24.2	2	2	-	-	-	
CHI'22	27	1	1	-	-	-	
CHI'24	29	2	2	-	-	-	1 joint paper (ESR6 & 5)
EMBC	30	1	1	-	-	-	-
WHC'21	40	2	-	-	2	-	-
WHC'23	40	2	1	-	1	-	1 joint paper (ESR1 & 4)
ICMI'21	42	1	1	-	-	-	-
SFN 2023	43	1	-	1	-	-	-
SFN 2022	43	1	-	1	-	-	-
NeuroCog 2021	43	1	-	1	-	-	-
IHM23	52	1	1	-	-	-	-
EuroHaptics 22	58	2	-	1	-	1	-
IMRF 2023	-	5	-	4	1	-	1 joint poster (ESR4 & 5)
IMRF 2022	-	2	-	2	-	-	-
BAPS 2022	-	1	1	-	-	-	-
BSN 2023	-	2	-	2	-	-	-
ECVP 2023	-	1	-	1	-	-	-
AIP 21	-	1	-	-	1	-	-
CNS 22	-	2	-	2	-	-	1 joint poster (ESR1 & 4)
Interact'23	-	4	2	-	2	-	-
ISS 2023	-	1	1	-	-	-	-
ISS 2024	-	1	1	-	-	-	Pending joint publication ESR2 & 3
Total	-	38	14	16	7	1	-

Table A.1: Table of project publications by conference



# Bibliography

- [1] D. Brahimaj, M. Ouari, A. Kaci, F. Giraud, C. Giraud-Audine, and B. Semail, "Temporal Detection Threshold of Audio-Tactile Delays With Virtual Button," *IEEE Transactions on Haptics (ToH)*, vol. 16, no. 4, pp. 491–496, Oct. 2023. [Online]. Available: <https://hal.science/hal-04169371>
- [2] D. Brahimaj, E. Vezzoli, F. Giraud, and B. Semail, "Enhancing Object Localization in VR: Tactile-Based HRTF and Vibration Headphones for Spatial Haptic Feedback," *IEEE Transactions on Haptics (ToH)*, 2024. [Online]. Available: <https://hal.science/hal-04376358>
- [3] D. Brahimaj, G. Esposito, A. Mouraux, O. Collignon, F. Giraud, and B. Semail, "Spatiotemporal detection threshold of audio-tactile delays under conditions of active touch with and without a visual clue," *Cognitive Neuroscience Society*, Apr. 2022, poster. [Online]. Available: <https://hal.science/hal-03778253>
- [4] D. Brahimaj, F. Giraud, and B. Semail, "Technological issues with multimodal touch input devices," in *World Haptics 2021*, Montreal, Canada, France, Jul. 2021. [Online]. Available: <https://hal.univ-lille.fr/hal-03632579>
- [5] D. Brahimaj, G. Esposito, A. Courtin, F. Giraud, B. Semail, O. Collignon, and A. Mouraux, "Temporal detection threshold of audio-tactile delays under conditions of active touch with and without a visual cue," in *IEEE World Haptics Conference (WHC), WHC 2023*, Delft, Netherlands, Jul. 2023. [Online]. Available: <https://hal.science/hal-04169411>
- [6] D. Brahimaj, F. Berthaut, F. Giraud, and B. Semail, "Cross-modal interaction of stereoscopy, surface deformation and tactile feedback on the perception of texture roughness in an active touch condition," in *IHM'23 - 34e Conférence Internationale Francophone sur l'Interaction Humain-Machine AFIHM*. Troyes, France: Ines di Loreto, Apr. 2023, iHM'23 - 34e Conférence Internationale Francophone sur l'Interaction Humain-Machine AFIHM, Université de Technologie de Troyes. [Online]. Available: <https://hal.science/hal-04014962>
- [7] M. Jamalzadeh, Y. Rekik, and L. Grisoni, "The Effect of Attention Saturating Task on Eyes-Free Gesture Production on Mobile Devices," in *ISS '23: Conference on Interactive Surfaces and Spaces*. Pittsburgh PA, United States: ACM, Nov. 2023, pp. 27–31. [Online]. Available: <https://hal.science/hal-04274861>
- [8] M. Jamalzadeh, Y. Rekik, L. Grisoni, R.-D. Vatavu, G. Volpe, and A. Dancu, "Effects of Moving Speed and Phone Location on Eyes-Free Gesture Input with Mobile Devices," in *19th IFIP TC13 International Conference, York, UK, August 28 – September 1, 2023, Proceedings, Part I*, ser. Lecture Notes in Computer Science, vol. 14142. York, United Kingdom: Springer Nature Switzerland, Aug. 2023, pp. 469–478. [Online]. Available: <https://hal.science/hal-04204264>
- [9] M. Jamalzadeh, Y. Rekik, and L. Grisoni, "The Effect of Attention Saturating Task on Eyes-free Gesture Production on Mobile Devices," *ISS '23: Conference on Interactive Surfaces and Spaces*, Nov. 2023, poster. [Online]. Available: <https://hal.science/hal-04328965>
- [10] M. Jamalzadeh, Y. Rekik, L. Grisoni, R.-D. Vatavu, G. Volpe, and A. Dancu, "Effects of Moving Speed and Phone Location on Eyes-Free Gesture Input with Mobile Devices," Aug. 2023, lecture. [Online]. Available: <https://hal.science/hal-04204270>
- [11] M. Jamalzadeh, Y. Rekik, A. Dancu, and L. Grisoni, "Hap2Gest: An Eyes-Free Interaction Concept with Smartphones Using Gestures and Haptic Feedback," Aug. 2023, lecture. [Online]. Available: <https://hal.science/hal-04204271>

- [12] S. Iqra, B. Ceren, C. Filippo, A. Alice Van, M. André, and C. Olivier, "Aligned motion-direction information for touch and vision in the human brain," Belgian Society for Neuroscience (BSN), Jun. 2023, poster. [Online]. Available: <https://hal.science/hal-04209537>
- [13] S. Iqra, O. Valeria, M. André, and C. Olivier, "Does visual experience shape body schema ?" International Multisensory Research Forum (IMRF), Jul. 2022, poster. [Online]. Available: <https://hal.science/hal-04209536>
- [14] —, "Does visual experience shape body schema ?" Belgian Association for Psychological Sciences - BAPS, Jun. 2022, poster. [Online]. Available: <https://hal.science/hal-04209535>
- [15] S. Iqra, B. Ceren, C. Filippo, A. Alice Van, M. André, and C. Olivier, "Aligned motion-direction information for touch and vision in the human brain," Jun. 2023, lecture. [Online]. Available: <https://hal.science/hal-04210604>
- [16] G. Esposito, A. Courtin, O. Collignon, and A. Mouraux, "Psychophysical investigation of localization of audio-tactile stimuli in active touch," International multisensory research forum (IMRF), Jun. 2023, poster. [Online]. Available: <https://hal.science/hal-04198930>
- [17] G. Esposito, S. Nozaradan, O. Collignon, and A. Mouraux, "EEG frequency-tagging suggests that fine-grained vibrotactile contrast is (partly) implemented in S1," Belgian Society for Neuroscience Meeting, Belgian Society for Neuroscience (BSN), Jun. 2023, poster. [Online]. Available: <https://hal.science/hal-04199994>
- [18] —, "EEG frequency-tagging suggests that fine-grained vibrotactile contrast is (partly) implemented in S1," NeuroCog, Nov. 2021, poster. [Online]. Available: <https://hal.science/hal-04200080>
- [19] —, "Measuring oddball responses to vibrotactile textures," in *EUROHAPTICS 2022*, Hamburg, Germany, May 2022. [Online]. Available: <https://hal.science/hal-04200029>
- [20] M. Casado-Palacios, A. Tonelli, C. Campus, and M. Gori, "Electrophysiological responses of the movement-related tactile gating in blindness," European Conference on Visual Perception, Aug. 2023, poster. [Online]. Available: <https://hal.univ-lille.fr/hal-04192983>
- [21] —, "Effects of a non-informative auditory feedback over touch in the blindness," International Multisensory Research Forum, Jul. 2022, poster. [Online]. Available: <https://hal.univ-lille.fr/hal-04192673>
- [22] M. Casado-Palacios, C. Campus, A. Tonelli, and M. Gori, "The role of active touch: differential mechanism in blindness," Cognitive Neuroscience Society Annual Meeting, Apr. 2022, poster. [Online]. Available: <https://hal.univ-lille.fr/hal-04192656>
- [23] M. Casado-Palacios, C. Campus, and M. Gori, "Audio-Tactile dynamic multisensory integration in sighted and blind individuals," International Conference on Spatial Cognition, Sep. 2021, poster. [Online]. Available: <https://hal.univ-lille.fr/hal-04192585>
- [24] M. Casado-Palacios, G. Esposito, A. Tonelli, A. Courtin, O. Collignon, and A. Mouraux, "Auditory pitch modulates the localization of audiotactile stimuli during active touch," International Multisensory Research Forum, Jun. 2023, poster. [Online]. Available: <https://hal.univ-lille.fr/hal-04192979>
- [25] M. Casado-Palacios, C. Campus, and M. Gori, "Multisensory spatial processing of dynamic stimuli in sighted and in blind individuals," in *XXII Congresso Nazionale Sezione di Psicologia Clinica e Dinamica*, Lecce, Italy, Sep. 2021. [Online]. Available: <https://hal.univ-lille.fr/hal-04192603>
- [26] M. Casado-Palacios, A. Tonelli, C. Campus, and M. Gori, "Movement-related tactile gating in blindness," *Scientific Reports*, Oct. 2023. [Online]. Available: <https://hal.science/hal-04229374>
- [27] M. Terenti and R.-D. Vatavu, "Measuring the User Experience of Vibrotactile Feedback on the Finger, Wrist, and Forearm for Touch Input on Large Displays," in *CHI '22: CHI Conference on Human Factors in Computing Systems*. New Orleans LA USA, France: ACM, Apr. 2022, pp. 1–7. [Online]. Available: <https://hal.science/hal-03695523>
- [28] —, "How Do HCI Researchers Describe Their Software Tools? Insights From a Synopsis Survey of Tools for Multimodal Interaction," in *ICMI '21: INTERNATIONAL CONFERENCE ON MULTIMODAL INTERACTION*. Montreal, France: ACM, Oct. 2021, pp. 7–12. [Online]. Available: <https://hal.science/hal-03634703>



- [29] —, “VIREO: Web-based Graphical Authoring of Vibrotactile Feedback for Interactions with Mobile and Wearable Devices,” *International Journal of Human-Computer Interaction*, 2022. [Online]. Available: <https://hal.science/hal-03782516>

