

MARCELLO GIORDANO, PH.D.

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SUMMARY

I am a Human-Computer Interaction (HCI) researcher, and in my career I worked on ground breaking technologies that will fundamentally change the way we interact with computers. My experiences spans across haptic feedback design, wearable sensing, motion capture and gestural analysis, eye tracking and AR/VR interactions. I am a competent programmer, and I thrive in a stimulating environment where working with cutting-edge technology and solving challenging problems is always on the agenda.

EXPERIENCE

Apple

Toronto, Canada

Research Scientist

August 2022 to Present

At Apple, I am part of the Human Interface Devices (HID) group. I am responsible for researching and prototyping new interaction techniques for current and next generations of Apple products.

Meta (Facebook) - Reality Labs Research

Toronto, Canada

Research Scientist

July 2019 to June 2022

At Reality Labs Research Toronto (previously Chatham Labs - acquired by Facebook in September 2020) I worked on developing **new interactions and experiences** that will enable users to interact with a smart, AI-powered ecosystem of **AR/VR** devices and applications. My research projects included: **modeling of user intent** to facilitate input, **haptic feedback design** for all-day wearable devices, and multimodal feedback and guidance for **gesture learning**.

Huawei Technologies

Toronto, Canada

Human-Computer Interaction Researcher

March 2018 to July 2019

At Huawei Technologies, I worked on designing new **haptic interactions for mobile and wearable devices**, as well as AI powered, **context aware applications** for wearables and smart-home.

Ultraleap Ltd

Bristol, UK

Haptics Engineer

May 2016 to February 2018

During my time at Ultraleap (formerly Ultrahaptics) I worked on designing of **haptic feedback and interactions** for mid-air haptic technology. My responsibilities included: **user evaluation** by means of qualitative and quantitative methods, **statistical data analysis**, physical measurements of vibrating structures and **data processing**.

SKILLS

• Technical Skills

- Human-Computer Interaction
- Multimodal Interactions, Wearables, AR/VR
- Quantitative and Qualitative Research Methods
- Haptic Technology and Haptic Experience Design
- Python, C#, Unity, Machine Learning Frameworks (TensorFlow)
- Digital Signal Processing (DSP), Laser Doppler Vibrometry (Polytec), Motion Capture Systems (Qualisys), Eye Tracking (Tobii)

• Organization, communication, time management

- Self-driven, curious, able to work under pressure and in fast-paced teams
- Excellent communication skills
- Reliable, capable of meeting strict deadlines

• Languages

- English (Fluent), French (Fluent), Italian (Native), Spanish (Intermediate)

EDUCATION

- **Ph.D**, Music Technology – Haptics, *McGill University (Montreal, Canada)*, 2016
 - Thesis: *Vibrotactile Feedback and Stimulation in Music Performance*
 - Advisor: Marcelo M. Wanderley
- **M.A**, Media Technology, *Grenoble Institute of Technology (Grenoble, France)*, 2010
- **M.Sc**, Mathematics and Applications, *Pierre and Marie Curie University (Paris, France)*, 2009
- **B.Sc**, Mathematics, *"Sapienza" University of Rome (Rome, Italy)*, 2008

SELECTED PUBLICATIONS

Sidenmark L., Parent M., Wu C.-H., Chan J., Glueck M., Wigdor D., Grossman T., **Giordano M.** - "Weighted Pointer: Error-aware Gaze-based Interaction through Fallback Modalities", *IEEE Transactions on Visualization and Computer Graphics* - 2022

Cheng T., Park J. W., Li J., Ramey C., Lin H., Abowd G. D., Medeiros C., Oh H., **Giordano M.** - "PITAS: Sensing and Actuating Embedded Robotic Sheet for Physical Information Communication", *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* - 2022

Ahn S., Santosa S., Parent M., Wigdor D., Grossman T., **Giordano M.** - "StickyPie: A Gaze-Based, Scale-Invariant Marking Menu Optimized for AR/VR", *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* - 2021

Chilles J., Frier W., Abdouni A. **Giordano M.**, Georgiou O. - "Laser Doppler Vibrometry and Fem Simulations of Ultrasonic Mid-Air Haptics" - *IEEE World Haptics Conference (WHC)* - 2019

Frier W., Ablart D., Chilles J., Long B., **Giordano M.**, Obrist M., Subramanian S. - "Using Spatiotemporal Modulation to Draw Tactile Patterns in Mid-Air" - *International Conference on Human Haptic Sensing and Touch Enabled Computer Applications* - 2018

Giordano M., Georgiou O., Dzidek B., Corenthy L., Kim J. R., Subramanian S., Brewster S. A. - "Mid-Air Haptics for Control Interfaces" - *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* - 2018

Corenthy L., **Giordano M.**, Hayden R., Griffiths D., Jeffrey C., Limerick H., ... Subramanian S. - "Touchless Tactile Displays for Digital Signage: Mid-Air Haptics Meets Large Screens" - *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* - 2018

Tranchant P., Shiell M. M., **Giordano M.**, Nadeau A., Peretz I., Zatorre R. J. - "Feeling the beat: Bouncing Synchronization to Vibrotactile Music in Hearing and Early Deaf People" - *Frontiers in neuroscience* - 2017

Giordano M., Wanderley M.M. - "Follow the Tactile Metronome: Vibrotactile Stimulation for Tempo Synchronization in Music Performance" - *Proc. of the Sound and Music Computing Conference (SMC)* - 2015

Giordano M., Hattwick I., Franco I., Egloff D., Frid E., Lamontagne V., Martinucci M., Salter C., Wanderley M.M. - "Design and Implementation of a Whole-Body Haptic Suit for "Ilinx", a Multisensory Art Installation" - *Proc. of the Sound and Music Computing Conference (SMC)* - 2015

Frid E., **Giordano M.**, Schumacher M., Wanderley M.M. - "Physical and Perceptual Characterization of a Tactile Display for a Live-Electronics Notification System" - *Proc. International Computer Music Conference - Sound and Music Computing (ICMC | SMC)* - 2014

Schumacher M., **Giordano M.**, Wanderley M.M. - "Vibrotactile Notifications for Live Electronics Performance: A Prototype System" - *Proc. International Symposium on Computer Music Multidisciplinary Research (CMMR)* - 2013

Giordano M., Wanderley M.M. - "Perceptual and Technological Issues in the Design of Vibrotactile-Augmented Interfaces for Music Technology and Media" - *Haptic and Audio Interaction Design (HAID) - Lecture Notes in Computer Science, Springer* - 2013

Giordano M., Sinclair S., Wanderley M.M. - "Bowing a vibration-enhanced force-feedback device" - *Proc. New Interfaces for Musical Expression Conference (NIME)* - 2012