

## Master project

**Location:** HUG, CIBM MRI HUG-UNIGE,  
Boulevard de la Tour 8, Genève

**Dates/Duration:** Spring/Fall 2025

## Evaluating the Effectiveness of Virtual Reality Training to Improve MRI Compliance in Children

This project aims to test the effectiveness of the "MRI Adventure" virtual reality application in reducing head motion during MRI scans in children. Using a dataset of 100 children who participated in the VR training before an MRI session, the study will compare their head motion and data quality during an 8-minute resting-state scan to a control dataset of 30 children who did not undergo the training. The outcomes will provide insights into the role of immersive VR experiences in improving data quality and the overall MRI experience for sensitive populations.



## References

- [1] Badier E, Hadjiat A, Bonet B, Mermoud C, Gaignot C, Delplanque S, Moccozet L, Grouiller F. [MRI Adventure Prepare children in VR before an MRI scan](#) – 16ème Journée de l'Innovation, HUG, October 2022
- [2] Badier E, Hadjiat A, Bonet B, Mermoud C, Gaignot C, Delplanque S, Moccozet L, Grouiller F. [MRI Adventure: Protocol](#)

## Supervisor

- **Main Supervisor:** Carole Guedj, CIBM MRI HUG-UNIGE, [Carole Guedj - CIBM | Center for Biomedical Imaging](#), [carole.guedj@unige.ch](mailto:carole.guedj@unige.ch)

- **Co-Supervisor:** Damien Marie, CIBM MRI UNIGE, [Damien Marie - CIBM | Center for Biomedical Imaging](#), [Damien.marie@unige.ch](mailto:Damien.marie@unige.ch)
- **Collaborators:** Emmanuel Badier, Brain and Behaviour Laboratory, Swiss Center for Affective Sciences, [Virtual Reality - Brain and Behaviour Laboratory - UNIGE](#), [Emmanuel.badier@unige.ch](mailto:Emmanuel.badier@unige.ch)
- **Collaborators:** Clara James, Geneva Musical Minds Laboratory, Haute Ecole de Santé, [GEMMI Lab | HEdS - Genève](#), [clara.james@hesge.ch](mailto:clara.james@hesge.ch)

## Skills

### Qualifications, previous experience and background:

- Basic knowledge of neuroscience and MRI techniques.
- Interest in virtual reality applications and pediatric studies.
- Basic knowledge in Statistical analysis.
- Familiarity with data analysis tools (e.g., MATLAB, Python, or FSL) are a plus.

**How to apply:** Please send your CV and motivation letter to the main supervisor: [carole.guedj@unige.ch](mailto:carole.guedj@unige.ch)

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## About CIBM

The CIBM Center for Biomedical Imaging was founded in 2004 and is the result of a major research and teaching initiative of the partners in the Science-Vie-Société (SVS) project between the Ecole Polytechnique Fédérale de Lausanne (EPFL), the Université de Lausanne (UNIL), Université de Genève (UNIGE), the Hôpitaux Universitaires de Genève (HUG) and the Centre Hospitalier Universitaire Vaudois (CHUV), with the generous support from the Fondation Leenaards and Fondation Louis-Jeantet.

CIBM brings together highly qualified, diverse, complementary and multidisciplinary groups of people with common interest in biomedical imaging.

**We welcome you in joining the CIBM Community.**

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