



**Centre of excellence for  
neurodevelopmental disorders**

Lyon, France

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## RESEARCH PROJECTS

**PARTICIPATORY RESEARCH**

**CLINICAL RESEARCH**

**FONDAMENTAL RESEARCH**

## PARTICIPATORY RESEARCH

### → Autism Integrated Models:

#### Participatory Approach for Research Through Neurodevelopmental Endophenotype Refinement

This participatory research project aims to reconsider animal model of autism through participatory research that integrates insights from clinical and basic science researchers, as well as individuals with autism and their families.

Involving individuals with autism will help identify endophenotypes that are particularly relevant to autism symptoms and guide the development of more accurate and useful animal models.

## CLINICAL RESEARCH

### → Totoro Project

The Totoro project, led by Dr. Jérôme BRUNELIN and Dr. Caroline DEMILY, will use transcranial direct current stimulation (tDCS) to treat depression with catatonic symptoms in people with Down syndrome.

This project is funded by the prestigious Programme Hospitalier de Recherche Clinique National (PHRC-N).

### → Gender on the Spectrum:

**Exploring diversity at the intersection of gender and autism is the goal of this project.**

In fact, Élodie PEYROUX, a neuropsychologist, and Guilhem BONAZZI, a psychiatrist at the HU-ADIS Pole (Le Vinatier Hospital Center), started a research project on this topic because of the frequency of situations they encountered in their clinical practice.

Their systematic literature review and meta-analysis confirmed their clinical impressions and found an increased prevalence of gender variance in people diagnosed with autism spectrum disorders.

## FONDAMENTAL RESEARCH

### → Mapping Oxytocin and Vasopressin neural circuit that mediate social behaviors in autism:

**Deficits in social behavior are a core aspect of autism and can be quite debilitating.**

Despite significant progress in identifying genes associated with autism spectrum disorders, the neural circuits that mediate social behaviors remain unclear.

Whole-brain mapping using light sheet imaging will be used to delineate neural circuits that are differentially engaged during specific behaviors, such as social interactions.



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