

Université Paris Cité, La Sorbonne & Centre National de la Recherche Scientifique (CNRS)

Two Research Positions

1. PhD in DEVELOPMENTAL COGNITIVE NEUROSCIENCE / EDUCATIONAL NEUROSCIENCE

Applications are invited for a fully funded 3-year PhD position to investigate the neurocognitive and emotional outcomes of a digital intervention designed to enhance arithmetic problem-solving skills in elementary school children. The project adopts an interdisciplinary approach, integrating neuroscience methods with cognitive and affective models of arithmetic learning.

The successful candidate will be based at the LaPsyDÉ Laboratory (CNRS UMR 8240, Université Paris Cité) at La Sorbonne in Paris, France.

Qualifications:

- Master's degree in Psychology, Neuroscience, Computer Science, or a related field
- Experience working with children (e.g., in research, educational, or clinical settings)
- Good written and spoken English
- Good written and spoken French
- Ability to work independently and manage time effectively
- Strong organizational skills
- Strong programming skills in Python or R (highly desirable)
- Previous experience or training in neuroimaging (e.g., fMRI, EEG) is highly desirable

To apply:

Please send a CV, cover letter, and contact information for two professional references to:

Dr. Teresa Iuculano (<https://www.lapsyde.com/members/teresa-iuculano>)

Email addresses: teresa.iuculano@uparis.fr ; teresa.iuculano@googlemail.com

Application deadline: 18/07/2025

Short description of the project

Numerical information pervades nearly every aspect of human activities and interactions in today's society: the vast majority of information we process on a daily basis is delivered and explained in terms of numerical data (i.e. medical- and banking-information, global environmental- and economic-issues, etc.). Yet, despite its importance, up to 20% of individuals experience significant difficulties with mathematics, which can have long-term consequences on academic achievement, professional opportunities, and overall socio-economic

well-being. Improving mathematical competence—particularly among those with persistent difficulties—is therefore a societal imperative.

Low math abilities may arise from many factors including environmental, cognitive, and psycho-emotional ones. However, much remains to be understood about how these factors interact and how they can be addressed through targeted interventions.

This PhD project will investigate the efficacy of a novel digital intervention designed to enhance arithmetic problem-solving by addressing both cognitive and affective components of math learning. The intervention will be tested in primary school children—including those from low socio-economic backgrounds—using a multi-layered approach that integrates behavioral, cognitive, and neuroscientific measures.

The successful candidate will contribute to evaluating how individual pre-training profiles relate to intervention outcomes, thereby advancing our understanding of the sources of individual differences in mathematical development. The findings are expected to inform both theory and practice in educational neuroscience and may provide new insights for the continued development and optimization of inclusive, evidence-based interventions for early mathematics education.

2. Research Assistant in DEVELOPMENTAL COGNITIVE NEUROSCIENCE / EDUCATIONAL NEUROSCIENCE

Applications are invited for a 2-year research position in the laboratory of Dr. Teresa Iuculano, focused on projects investigating how socio-economic status and the home environment influence children's emotional and cognitive development, with the ultimate goal of better understanding sources of individual differences in mathematical achievement.

The successful candidate will be based at the LaPsyDÉ Laboratory (CNRS UMR 8240, Université Paris Cité) at La Sorbonne in Paris, France.

Qualifications:

- Bachelor's degree in Psychology, Neuroscience, Computer Science, or a related field
- Experience working with children (e.g., in research, educational, or clinical settings)
- Good written and spoken English
- Good written and spoken French
- Ability to work independently
- Strong organizational skills
- Programming skills in Python or R (strongly preferred)
- Previous experience or training in neuroimaging is highly desirable

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