Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

PhD Studentship

Job Title:	PhD Studentship in Infant Cognitive Neuroscience
Post Status:	Four-year studentship
Research Group/ School/Department:	Cusack Lab Trinity College Institute of Neuroscience
Location:	Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
Job Category andLevel:	Appointment will be at the Research Ireland stipend level (€25,000 per annum, plus fees and conference travel)
Hours of Work:	39 hours per week

The Purpose of the Role

Infants are acquiring the brain representations that form the foundations of cognition. These powerful representations allow the infant to rapidly master many tasks during childhood. The InfantNeuroAI project aims to measure these developing representations, using neuroimaging with fMRI and OPM-MEG, and to model the developmental process using computational models from AI.

The project aims to better understand infant cognition, develop neuroimaging methods to better detect disrupted function following neonatal brain injury, and identify new more energy efficient learning algorithms that could reduce the economic and environmental cost of AI.

The post presents a rich opportunity for training in neuroimaging methods, developmental cognitive neuroscience and computational modelling with DNNs.With Professor Cusack and as part of an interdisciplinary team, the postholder will participate in the full process from setting up awake infant fMRI and/or OPM-MEG, experimental design, data acquisition, analysis, computational modelling, presenting work and writing manuscripts.

Context

The team is based in the Cusack Lab, an interdisciplinary team of neuroscientists, cognitive scientists, neuroimagers and AI engineers. The Lab is housed in the Trinity College Institute of Neuroscience (TCIN), which brings together 60 groups and 250 scientists from a broad range of disciplines, to study the brain from molecules to mind to society. It houses state of the art equipment, including a Siemens 3T Prisma MRI scanner, a CERCA OPM-MEG system, and an NVIDIA GPU cluster. TCIN aims also to span levels from fundamental research to translation (bench-to-bedside). The postholder will report to Professor Rhodri Cusack and be part of a diverse team working to use brain imaging and NeuroAI to understand the infant brain.

Funding Information

This post is funded by ERC Advanced Grant InfantNeuroAI (101265741) and the Research Ireland Frontiers for the Future Award 2022.

Main Responsibilities

- Be collaborative and constructive, working with the interdisciplinary team and Professor Cusack to conduct insightful, original research
- Apply robust and reproducible methods to produce the highest quality science
- Maintain the highest ethical standards
- Develop expertise in identifying important scientific questions and designing experiments to answer them
- Develop technical skills including neuroimaging analysis and AI modelling
- Present work at local, national and international meetings
- Write clear, authoritative and impactful manuscripts
- Provide constructive feedback to other team members and Professor Cusack, to strengthen other's work
- Supervise undergraduate research students as a co-supervisor
- Contribute to the administrative and practical operations of the lab

Person Specification

This section sets out the knowledge, skills and attributes the post-holder will need for successful

performance in the role.

Qualifications

- A Bachelor'sdegree in psychology, cognitive science, computer science or a relevant field is essential
- A Master's degree in developmental science, cognitive neuroscience, computer science or a relevant field is desirable

Knowledge and Expertise

- Expertise or a strong interest in cognitive neuroscience is essential
- Experience with python or another relevant programming language is essential
- Proven research experience in neuroimaging and the development of new methods would be an advantage
- Experience in developmental science is desirableand an interest to develop expertise in infant development is essential
- Experience in using DNNs is highly desirable

Skills

- strong critical thinking and good judgement
- excellent organisation and time management
- the ability to find, read, critique and synthesize complex bodies of literature
- the ability to generate strong scientific hypotheses and to design experiments to test them
- the ability to work thoroughly through tasks until they are completed, even if they turn out to be more difficult than you first expect
- the ability to write clearly and concisely
- enthusiasm and aptitude to acquire expertise in diverse areas of the project
- enthusiasm and aptitude to share expertise with other team members
- enthusiasm for communication with a broader audience
- a desire to develop your transversal and cross-sectoral skills

Personal Attributes

- The ability to generate new ideas and build on existing to generate unique concepts and

solutions with integrity

- The ability to contribute to broader organisational and management processes
- The ability to manage self, time, resources and people
- The capacity to work independently on research projects as well as part of a team

Please note that Garda vetting will be sought in respect of individuals who come under consideration for a post

Application Process

Applicants should submit the following as a single PDFto **admin@cusacklab.org** with the subject line "InfantNeuroAI PhD 2026":

- full curriculum vitae including a list of publications (if applicable)
- statement of research interest outlining current experience and plans for the future, not exceeding 2 pages
- names and email addresses of two referees
- links to any relevant code repositories, preprints, media articles, blogs, or other supporting media (if applicable)

Excellent candidates from outside of the EU will also be considered.

Selection will begin on 4 October, 2026.

If you have any query please contact Tamrin Holloway, **admin@cusacklab.org**

Trinity Competencies

In Trinity there are 6 Core Competencies that are applicable to all roles across a range of professional, administrative and support jobs, unlike specialist or technical skills which may be job specific. They provide a common language for describing performance and the abilities/attributes displayed by individuals. They focus on 'how' tasks are achieved, not 'what' is achieved.

Below is a summary definition of the 6 Core Competencies.

	Competency	Summary Definition
1	**Agile Leader**	Sees the big picture and harnesses opportunities to achieve the University's goals. Creates clear direction for the future and how to get there.
2	**Unlocks Potential**	Energised, capable and confident to take ownership and responsibility for their development and goals. Motivates, supports and develops people to perform to the best of their ability.
3	**Service Ethos**	Finds ways to increase stakeholder and customer satisfaction. Builds relationships, is proactive and delivery focused in order to anticipate, meet & exceed expectations.
4	**Builds Trusted Relationships**	Communicates in a clear and respectful manner building trust and commitment for mutually beneficial outcomes.
5	**Decision-making**	Confidently makes timely decisions based on knowledge, evidence and sound judgement.
6	**Achieves Results**	Delivers results by setting direction, planning, executing and evaluating impact.