Trinity College Dublin's new programme **"Disorders of Brain Development Across the Lifespan: Insights from Rare Genetic Conditions"** is offering a **fully-funded TRDA PhD** for a computer science/statistics graduate to explore the role of generative AI in studying rare genetic conditions. This will involve working with a team of three other PhD students in neuroscience, psychiatry, and genetics, respectively who will be looking rare neuropsychiatric disorders, for example, **Rett Syndrome** . The computer science student will have the opportunity to explore the possibilities and the downsides of generative AI. The student will evaluate the knowledge offered by systems like ChatGPT, DeepSeek and others for studying rare diseases and how to extend the current knowledge bases. Given that generative AI is based on statistical learning an excellent knowledge of statistics will be a clear advantage here. The PhD project will be enriched by journal clubs, cross-lab secondments and annual retreats.

Applicants should hold a 1st-class degree or an MSc in computer science and/or statistics degree. Programming and analytical skills are essential. The award provides a tax-free stipend (≈ €25 000 p.a.) **plus full fee derogation for all students—EU and international—for four years**, as well as generous travel/training funds and access to a state-of-the-conferences in generative AI and statistical learning. The ability to work with others is a key requirement . The PhD begins in **September 2025**; to apply, email a single PDF (CV, 1-page statement, transcripts and contact details for three academic referees) to **Khurshid Ahamd (kahmad@tcd.ie) and Athanasios Georgiadis (georgiaa@tcd.ie)** by **14 June 2025**—informal enquiries welcome.

We invite applications for a **Trinity Research Doctorate Award (TRDA)** PhD within the programme **"Disorders of Brain Development Across the Lifespan: Insights from Rare Genetic Conditions."** One studentship (AIM-4) will help in extending the scope of generative AI based systems to specifically deal with **Rett Syndrome (RTT)**.

The student will

- **Design** Extensions to general purpose generative-AI based knowledge bases for the various aspects of Rett syndrome;
- **Investigate** the statistical basis of machine learning algorithms with special reference to mixture of experts models that will form the basis of pooling the knowledge of experts in psychiatry, neuroscience, and in genetics;
- **Work alongside** with PhD students, academics, and potential collaborators.

Essential profile

- **1st- Bachelor's** or MSc with distinction in computer science, data science, or statistics.
- Evidence of an **excellent academic record**.
- **Skilled in programming (e.g. Python) and in the use of packages like Matlab, R, and others**.
- **Ability and keen interest** in working with others

Funding & timeline

- **TRDA award:** tax-free stipend (~€ 25 000 p.a.) **plus full fee derogation for all students—EU & international—for four years**.
- **Project start: September 2025** (AY 2025-26).
- Travel budget for attending landmark conferences and summer schools in generative AI .
- Weekly journal clubs, PI secondments, annual retreat and cross-disciplinary mentoring.

How to apply (deadline 14 June 2025)

Email a **single PDF** to **kahmad@tcd.ie & georgiaa@tcd.ie** with subject *"GenAI_PhD – [Your Name]"* containing:

1. CV (max 3 pages)
2. 1-page motivation statement
3. Academic transcripts
4. Contact details for **three academic referees**

Informal queries welcome. Please circulate to outstanding candidates!
