



Post Specification (035344)

| | |
|----------------------------|---|
| Post Title: | Fully funded PhD Scholarship |
| Post Status: | 48 months, full-time |
| Department/Faculty: | School of Psychology; Arts, Humanities and Social Sciences Department of Psychiatry; School of Medicine, Faculty of Health Sciences |
| Location: | Trinity College Institute of Neuroscience, Trinity College, Dublin 2 |
| Reports to: | Prof Jane McGrath, Associate Professor of Child Psychiatry, Trinity College Dublin Prof Robert Whelan, Associate Professor of Psychology, Trinity College Dublin |
| Funding: | Covers EU tuition fees and an annual stipend of €18,500 for four years |
| Closing Date: | 12 Noon (Irish Standard Time), December 6 th 2021 Interviews for shortlisted candidates will be held on Wed 15 th December 2021 |

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

Post Summary

This project will use precision medicine to improve treatment of childhood Attention Deficit Hyperactivity Disorder (ADHD). Methylphenidate is the first-line pharmacological treatment but there is wide individual variation in outcomes: 30% of children will have no clinically meaningful response. There is currently no validated objective, quantitative method for predicting who will ultimately respond. We propose to use neurally informed computational models derived from behaviour and electroencephalography to decompose medication effects on distinct neural mechanisms. Tasks will be gamified to maintain engagement. Interrogating this immense amount of data will be solved by using computational model parameters as inputs into machine learning algorithms. The goal will be to identify neurocognitive processes predicting who will respond clinically to methylphenidate.

The successful candidate will have a background in engineering, computer science or a cognate discipline, an outstanding academic record and demonstrate a strong commitment to PhD research. They will register as a full-time PhD student in the School of Psychology, in March 2022 (a later start is not possible). The candidate will have responsibility for acquisition & analysis of mobile EEG data during gamified test validation and testing & refinement of computational model methods using simulated data. The student will also be expected to publish outputs both in journals and as open-source software.

Standard Duties and Responsibilities of the Post

The successful applicant is expected to:

- Produce an independent piece of research in the form of a PhD thesis/dissertation under the guidance and supervision of the Principal Investigator (PI).
- Attend courses and seminars on research methods that underpin the project.
- Further develop coding skills relevant to the project (neuroimaging and computational modelling).
- Publish from the project (both during and immediately after the four-year PhD programme) in quality and impactful academic journals with the PI and the PI's collaborators on the project.
- Disseminate the work from the project at relevant conferences.
- As directed by the PI, take responsibility for administrative tasks that arise in relation to the project (e.g. seminars, papers, etc).
- Take opportunities to apply for small-scale funding to optimise dissemination of the research.
- As is the case for all registered PhD students at Trinity College Dublin (TCD), the candidate will undertake and complete a taught module or modules that accrue in total a minimum of 10 ECT credits / maximum of 30 ECT credits. Evidence of ECT credits accrued reflects the structured element to the TCD PhD programme.

The PhD candidate will be provided with office space in an environment that promotes opportunities for learning and development in Trinity College Institute of Neuroscience. The Trinity College Institute of Neuroscience (TCIN) is a Trinity Research Institute (TRI) with 50 Principal Investigators and 250 researchers from a wide range of disciplines including Psychology, Psychiatry, Physiology, Pharmacology, Medicine, Biochemistry, Engineering, and Genetics, among others. These diverse disciplinary origins contribute to its core activities: promoting and supporting interdisciplinary basic and translational research, as well as teaching, public engagement, and national leadership in Neuroscience. They will be welcomed by other doctoral students and the wider research community at TCD, where they can meet

and share experiences with other graduate students and researchers who span across a diverse range of research areas (<https://www.tcd.ie/graduatestudies/students/research/>).

Person Specification

Qualifications

- Master's degree in any of the following areas or disciplines: Computer Science, Engineering, Data Science, Psychology, Neuroscience, or other relevant fields. The applicant's primary degree must be a minimum 2.1 award.

Skills & Competencies

Expected skills

- Knowledge and some experience of undertaking research.
- The motivation to enhance their research skills in order to conduct research at PhD level.
- Very strong English language writing skills.
- Excellent communication skills.
- Strong organisational skills and the ability to set and adhere to research goals.
- The ability to work as part of a team.

Desirable skills

- Evidence of research dissemination (e.g. conference papers/presentations, published abstracts, journal articles, etc).
- Prior experience of computational modelling (*Drift Diffusion* models, in particular)
- Prior experience of using neuroimaging and/or EEG software for analysis.

| | |
|-----------------------------|---|
| URL Link to Area | www.tcd.ie |
| URL Link to Human Resources | https://www.tcd.ie/hr/ |

GARDA CLEARANCE:

Police vetting will be sought in respect of individuals who come under consideration for a post.

PLEASE NOTE: Applicants will be required to complete and return a Garda vetting form should they come under consideration for appointment. In some cases they may be requested to complete the form on the day of interview. This form will be forwarded to An Garda Síochána (Irish Police) for security checks on all Irish addresses at which they have resided. An Garda Síochána will make enquiries with the Police Service of Northern Ireland with respect to addresses in Northern Ireland. If an applicant is not successful in obtaining the post for whatever reason, this information will be destroyed. If an applicant, therefore, subsequently comes under consideration for another position, they will be required to supply this information again.

While applicants must complete information in relation to all addresses at which they have resided, the vetting is only done on addresses on the island of Ireland.

If an applicant has resided / studied in countries outside of Ireland for a period of 6 months or more, it is mandatory for them to furnish a Police Criminal Records Check/ Police Certificate from those countries stating that they have no convictions recorded against them while residing there. Applicants will need to provide a separate Police Criminal Records Check/ Police Certificate for each country in which they have resided. The Police Criminal Records Check/ Police Certificate must be dated after the date the applicant left the relevant country. Applicants should provide documentation in the English and/or Irish language. Translations must be provided by a registered translation company/institute in the Republic of Ireland; all costs will be borne by the applicant. Only original version documents will be accepted.

Applicants should be aware that any information obtained in the Garda Vetting process can be made available to the employing area.

It is the responsibility of the applicant to seek security clearances in a timely fashion as they can take some time. No applicant will be appointed without this information being provided and being in order.

The following websites may be of assistance in this regard:

www.disclosurescotland.co.uk

www.psnipolice.uk

This website provides information on obtaining a national police clearance certificate for Australia

www.afp.gov.au

This website provides information on obtaining police clearance in New Zealand.

www.courts.govt.nz

For other countries not listed above applicants may find it helpful to contact the relevant embassies who could provide information on seeking Police Clearance. Original Police Clearance documentation should be forwarded to Human Resources where it will be copied and the original returned to the applicant by post. **Any cost incurred in this process will be borne by the Applicant.**

Trinity College Dublin, the University of Dublin

Trinity is Ireland's leading university and is ranked 108th in the world (QS World University Rankings 2020). Founded in 1592, the University is steeped in history with a reputation for excellence in education, research and innovation.

Located on an iconic campus in the heart of Dublin's city centre, Trinity has 18,000 undergraduate and postgraduate students across our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences.

Trinity is ranked as the 17th most international university in the world (Times Higher Education Rankings 2020) and has students and staff from over 120 countries.

The pursuit of excellence through research and scholarship is at the heart of a Trinity education, and our researchers have an outstanding publication record and strong record of grant success. Trinity has developed 19 broad-based multidisciplinary research themes that cut across disciplines and facilitate world-leading research and collaboration within the University and with colleagues around the world. Trinity is also home to 5 leading flagship research institutes:

- Trinity Biomedical Sciences Institute (TBSI)
- Trinity College Institute of Neuroscience (TCIN)
- Trinity Translational Medical Institute (TTMI)
- Trinity Long Room Hub Arts and Humanities Research Institute (TLRH)
- Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

Trinity is the top-ranked European university for producing entrepreneurs for the past five successive years and Europe's only representative in the world's top-50 universities (Pitchbook Universities Report).

Trinity is home to the famous Old Library and to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps and early printed material. The Trinity Library is a legal deposit library, granting the University the right to claim a copy of

every book published in Ireland and the UK. At present, the Library's holdings span approximately 6.5 million printed items, 400,000 e-books and 150,000 e-journals. With over 120,000 alumni, Trinity's tradition of independent intellectual inquiry has produced some of the world's finest, most original minds including the writers Oscar Wilde and Samuel Beckett (Nobel laureates), the mathematician William Rowan Hamilton and the physicist Ernest Walton (Nobel laureate), the political thinker Edmund Burke, and the former President of Ireland Mary Robinson. This tradition finds expression today in a campus culture of scholarship, innovation, creativity, entrepreneurship and dedication to societal reform.

Rankings

Trinity is the top ranked university in Ireland and ranked 108th in the world (QS World University Rankings 2020). Trinity ranks in the top 50 in the world on 4 subjects and in the top 100 in 18 subjects (QS World University Rankings by Subject 2020). Full details are available at: www.tcd.ie/research/about/rankings.

The Selection Process in Trinity

The Selection Committee (Interview Panel) may include members of the Academic and Administrative community together with External Assessor(s) who are expert in the area. Applications will be acknowledged by email. If you do not receive confirmation of receipt within 1 day of submitting your application online, please contact the named Recruitment Partner on the job specification immediately and prior to the closing date/time.

Given the degree of co-ordination and planning to have a Selection Committee available on the specified date, the University regrets that it may not be in a position to offer alternate selection dates. Where candidates are unavailable, reserves may be drawn from a shortlist. Outcomes of interviews are notified in writing to candidates and are issued no later than 5 working days following the selection day.

In some instances the Selection Committee may avail of telephone or video conferencing. The University's selection methods may consist of any or all of the following: Interviews, Presentations, Psychometric Testing, References and Situational Exercises.

It is the policy of the University to conduct pre-employment medical screening/full pre-employment medicals. Information supplied by candidates in their application (Cover Letter and CV) will be used to shortlist for interview.

Applications from non-EEA citizens are welcomed. However, eligibility is determined by the Department of Business, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations

<https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Highly-Skilled-Eligible-Occupations-List/>

and the Ineligible Categories of Employment are set out in Schedule 4 of the Regulations

<https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Ineligible-Categories-of-Employment/>

. Non-EEA candidates should note that the onus is on them to secure a visa to travel to Ireland prior to interview. Non-EEA candidates should also be aware that even if successful at interview, an appointment to the post is contingent on the securing of an employment permit.

Equal Opportunities Policy

Trinity is an equal opportunities employer and is committed to employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community. On that basis we encourage and welcome talented people from all backgrounds to join our staff community. Trinity's Diversity Statement can be viewed in full at <https://www.tcd.ie/diversity-inclusion/diversity-statement>.

Application Procedure

Applicants should submit their application by email to Prof. Robert Whelan (robert.whelan@tcd.ie). The subject line in the email should read 'Application for PhD: Application of computational models in ADHD'.

The following documentation must be submitted in order to be considered for the post:

1. A full Curriculum Vitae (including the names and contact details (including email address) of two academic referees).
2. A cover letter (no longer than 2 A4 pages) outlining your motivation for applying for this PhD Scholarship.

Those invited to interview will be requested to give a 10 minute presentation comprised of a 5 minute presentation on their career to date and a 5 minute presentation entitled "Computational Psychiatry in ADHD".

Enquiries about this PhD Scholarship should be directed to Prof Jane McGrath (jane.mcgrath@tcd.ie) and Prof Robert Whelan (Robert.whelan@tcd.ie)



**UNIVERSITY
VACANCIES IRELAND**
universityvacancies.com



**DIVERSITY
CHAMPIONS**

