

The role of spatial cognition in Science, Technology, Engineering and Mathematics (STEM) education

Primary Supervisor: [Dr Katie Gilligan-Lee](#)

Summary: We are recruiting for a funded PhD position in educational neuroscience/developmental psychology at the [Cognition, Development and Learning Lab](#) supervised by Dr. Katie Gilligan-Lee. This PhD project will investigate the role of spatial cognition for Science, Technology, Engineering and Mathematics (STEM) achievement.

There is convincing evidence that spatial skills play an important role in STEM achievement. However, preliminary evidence suggests that this association may differ for children from different socio-economic status (SES) backgrounds. The goal of this project is to investigate the cognitive mechanisms that underpin spatial-STEM associations and explore the moderating effect of SES on these associations. Wider goals of the project are to promote children's STEM success inside and outside of the classroom, and to reduce SES-based attainment gaps using cognitive intervention.

We are looking for a PhD candidate who will be an active member of our lab by attending lab meetings, and collaborating both within the lab and through the lab's network. Aligned with the goals of the lab, the PhD candidate should have a strong interest in educational neuroscience, a willingness to learn/adopt open research practices during their PhD, and be enthusiastic about generating research impact through engagement with our key stakeholders (teachers, children and their families). This PhD will offer opportunities to design and complete new experiments and develop skills in cognitive task design, administering educational assessment, neuroimaging, statistical analysis, dissemination (written and oral) and public engagement. There will be flexibility in the design of specific studies.

Informal enquiries: katie.gilligan-lee@ucd.ie

Essential Criteria

- Undergraduate degree (BA/BSc) in Psychology, Neuroscience or a related field
- Clear interest in developmental psychology /educational neuroscience
- Experience of research with children, or other relevant work experience with children
- Experience in research design and statistics, and respect for scientific rigour
- Strong communication skills including written dissemination (e.g., publications) and oral dissemination (e.g., presentations, posters, talks)
- Very good self-organisation, ability to meet deadlines and excellent task completion.

Desirable Criteria

- Experience working as a research assistant
- Experience of research dissemination (e.g., research publications, conference presentations)
- A masters degree (MSc, or equivalent) that included a research thesis/dissertation
- Experience with behavioural/neuropsychological assessment
- Experience or knowledge of Open Research practices
- Programming experience (or willingness to learn) (e.g., R, matlab, PsychoPy)

How to apply- Necessary documents and important dates: The awarding of the funding is dependent on the successful applicant being accepted for a PhD by [UCD School of Psychology](#). To apply for Project 1, please send a Curriculum Vitae, and a complete [application form](#) by **5pm May 6th 2024** to katie.gilligan-lee@ucd.ie with subject '*Ad Astra PhD Application 2024 Spatial Cognition*'. Interviews to be held later in May with a **September 2024 start date**. Academic transcripts will be required to support your application should you proceed to the final stages, but are not required for the initial application. Please outline relevant grades in the application form.

UCD Ad Astra Fellows PhD Studentship

Terms and Conditions 2020-2021

1. The overall aim of the Ad Astra Fellows PhD Studentship is to attract applicants of the highest academic standards to participate in the UCD School of Psychology PhD programme which will provide them with the training, experience and mentorship necessary to their professional development.
2. There are two Ad Astra Scholarships currently on offer. Each Scholarship will comprise a fee remission at up to the scheduled non-EU rate of the programme to which they are registered plus a tax-free annual stipend of €22,000 payable in 12 equal monthly instalments. In addition, the scholarship comes with a yearly research budget of a set amount which can be used for conducting research, attending conferences and visiting collaborators.
3. EU and non-EU students are equally eligible for studentships under this award.
4. All students are liable for the yearly Student Centre Levy. Fee varies, for indicative purposes 2019-2020 levy was €254.
5. Scholarships are open to any new PhD students to the PhD in Psychology.
6. Scholarships will typically be awarded for up to four years, with annual reviews of progress. Continuation of the scholarship is contingent on satisfactory progress, to be determined by the Research Studies Panel (RSP) and the Graduate Programme assessment process. The scholarship will terminate on any student's withdrawal from their programme.
7. Students accepted under this scheme must meet the UCD School of Psychology Graduate research programme university standard entry requirements. Details can be found here: <https://www.ucd.ie/psychology/research/researchdegreesandresearchers/phdresearchprogramme/>
8. The award is made on the basis of full-time engagement by the PhD student. Students should not take on other duties or work that will negatively impact their ability to commit to their research programme, other than demonstratorships or teaching assistantships activities or other activities which form part of their professional development as directed by their research supervisor.
9. It is not permissible to hold this studentship alongside an external award for the same student. However, if a student applies for and secures an equivalent individual award, this studentship can be replaced by a top-up stipend and a top-up (if necessary) to the appropriate level of consumables costs.
10. By the end of the first year of the award, the PhD student must have completed research integrity training. The PhD student should also complete appropriate transferrable skills modules and record these in their RPDP (e.g. research skills and academic writing).
11. All PhD Scholarship students are welcomed as part of the UCD School of Psychology research community and, as such, are expected to participate fully in the scholarly life of the School, inclusive of research seminars, conferences and other scholarly events.
12. Applications will be accepted from suitably qualified applicants regardless of nationality or residence. Applicants, however, must make their own visa/consular arrangements to ensure that they are eligible to reside in Ireland for the duration of their studies. Applicants are **STRONGLY** advised to make any visa application as early as possible as this process may be time consuming and failure to obtain a visa in time for the commencement of the academic year will likely necessitate cancellation of the scholarship award.
13. The School Graduate Studies Committee will construct an appropriate selection board and make its recommendations on selection to the Head of School.
14. Applications will be evaluated and ranked by a Selection Board according to the following criteria:
 - o Transcripts and other evidence of academic skills (publications, research assistance, etc);

- o Quality (clarity, feasibility, academic relevance, innovation) of the research proposal;
 - o Personal motivation;
 - o Fit with the research strengths of the school and prospective supervisor.
15. Scholarships will be awarded only to those who will be full-time students and who will engage full-time in research during the period of the scholarship.
16. It is the responsibility of the Scholarship holder to inform the University of any change to the circumstances on which the award of the Scholarship was based. The Scholar must also take responsibility for updating their personal records including any change of address, telephone, or e-mail on the UCD Student Web system within two weeks of such a change.
17. Once scholarship awards are issued, students must indicate acceptance in writing within two weeks of the notification being distributed by the committee. It is the student's responsibility to formally accept the scholarship offer – a non-response will be considered as declining the offer. Offers will be conditional on verification of original transcripts.
18. Successful applicants must be present at UCD by the start of the semester in which they start their programme either Sep 2020 or January 2021.
19. Should a scholar be unable for any reason (including medical reasons) to pursue his/her studies in accordance with the Terms and Conditions of the Scholarship, he/she must inform the School (via his/her supervisor and the PhD Director) within two weeks of such a situation coming to his/her attention. However, given the basis on which scholarships are awarded, UCD reserves the right to withdraw, suspend, reallocate or seek reimbursement of all or part of the scholarship.
20. Continuation is conditional on annual progress reports to be reviewed by the Selection Board Research Studies Panel and on passing the Transfer Assessment as part of the structured PhD Graduate Research programme.
21. These Scholarships are held subject to these Terms and Conditions. If any of the above are breached by a Scholarship holder, UCD School of Psychology reserves the right to suspend or terminate the Scholarship and/or will require the Scholar to reimburse UCD School of Psychology for such payments as have already been made.
22. Successful applicants may be required to sign a form of consent under the Data Protection Act 1998 in relation to data records concerning their registration status and academic record as well as the handling of student and other data.
23. Scholarship holders must be available to assist in the promotion of graduate studies at UCD recruitment events and within associated activities at School, College and University levels.
24. All publicity, including public lectures, publications, print materials and press releases, television and radio advertisements, websites, film, video and audio recordings associated with or arising from the research undertaken by a Scholar while in receipt of a Scholarship must contain acknowledgment of funding received from the UCD Ad Astra fellows PhD Studentship.

Equality, Diversity & Inclusion

UCD believes in equality, diversity and inclusion and embeds these fairness principles into all aspects of University life. UCD's vision for EDI is to be a leader and role model in equality and diversity in the higher education sector nationally and internationally, and for EDI to be at the heart of all we do. Learn more about how we do this in our [policy on Equality, Diversity & Inclusion](#).