



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

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Post Specification (Comp: 033173)

Post Title:	PhD Student by Research
Post Status:	4-year funded studentship
Research Group / Department / School:	Intelligent Nano Surfaces Group, Advanced Materials and BioEngineering Research Centre (AMBER)
Location:	Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
Reports to:	Principal Investigator (Dr P. Mokarian)
Terms & Conditions:	The scholarship comprises the cost of home/EU fees, and a stipend of €16,000 - €18,000 per annum. The start is in September 2018.
Closing Date:	12 Noon (Irish Standard Mean Time), Thursday 26th July

NOTE: Applicants must have been resident in an EU member state for 3 out of the last 5 years to be eligible for EU fees

Post Summary

A Ph.D studentship is available on bio-inspired nanopatterning, suiting a motivated early-stage researcher with a chemistry, physics or other relevant background.

The topic of the Ph.D thesis will be related to nanostructured interfaces. These are the underlying mechanism behind many fascinating macroscopic/biomimetic properties, including self-cleaning lotus leaves, colour-changing butterfly wings and extraordinarily sticky gecko's paws. Achieving chemical and topological control of surfaces at the nanoscale is therefore a worthy challenge that will directly affect the development of sensors, plasmonics and of many parts and devices in the electronic and optic industries. The research will involve significant practical experimental work and may include theory and modelling.

The Intelligent Nano Surfaces Group (under supervision of Dr Parvaneh Mokarian), based in the AMBER Centre, has developed internationally recognized knowledge on scalable preparation of such surfaces using block copolymer phase separation. The group is affiliated to both the School of Chemistry and the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN).

The successful candidate will find an interdisciplinary environment of excellence and innovation. They will join the team working on the [SUN-PILOT](#) European funded project on the Horizon2020 programme, operating in close collaboration with a consortium of universities and industry located in Spain, France, Germany, Denmark, Ireland, and the UK.

Standard duties and Responsibilities of the Post

The successful candidate will work in close collaboration with the Principal Investigator (Dr Mokarian). They will investigate the mechanisms that lead to nanophase separation of block copolymers on various substrates, ultimately enabling the on-demand nanopatterning of surfaces. A key target will be to demonstrate the capability of engineered interfaces for assembling anti-reflective lenses. Regular in-person and written reporting will be required. Where relevant and required, specific and general formal training can be taken.

It is expected that research is published (based on the advice of the Principal Investigator) and that students are available for international travel to present their work at conferences and to SUN-PILOT consortium members. The candidate may choose participate in and/or lead a wide range of dissemination and public outreach activities related to their work through the SUN-PILOT project and the AMBER Centre.

Funding Information

European Commission (Horizon 2020) Project ID: [760915](#)

Person Specification

Qualifications

- A master's degree (2.1 or higher) in Chemistry, Physics or related nanotechnology discipline. A bachelor's degree from a UK or Irish university is also acceptable.

Knowledge & Experience (Essential & Desirable)

- Hands on experience in the physics or chemistry lab
- Familiarity with polymers is desirable but not essential. Training will be provided.

Skills & Competencies

- Highly motivated with a passion for research and innovation
- Takes initiative, works well independently, organized, and is detail-oriented
- Experience with qualitative methodology and analysis
- Excellent written and oral communication skills in English

Further Information for Candidates

URL Link to School	www.tcd.ie
URL Link to Research Group	http://ambercentre.ie/people/dr-parvaneh-mokarian-tabari
Project Website	www.sunpilot.eu

Trinity College Dublin, the University of Dublin

Trinity is Ireland's premier university, with a proud tradition of excellence stretching back to its foundation in 1592. The oldest university in Ireland, and one of the oldest in Europe, today Trinity sits at the intersection of the past and the future, and is ideally positioned as a major university in the European Union. Our 47-acre campus is located in the heart of Dublin city centre and is home to historic buildings dating from the University's establishment, as well as some of the most cutting-edge teaching and research facilities in Ireland. Students at Trinity benefit from a unique educational experience across a range of disciplines in our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences. 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 [18 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. These internationally recognised themes include such diverse areas as Cancer, Immunology, Telecoms, Identities in Transformation, Nanoscience, Neuroscience, and Making Ireland. Researchers from across the University work together in innovative ways to develop new and exciting approaches to their research and explore the frontiers of knowledge in the 21st century. In creating these dedicated research themes, Trinity's researchers are able to become a more powerful force on the global stage, successfully competing for large-scale grants and attracting top students and faculty to the University. Trinity is home to Ireland's first purpose-built Nanoscience research institute, CRANN, which opened in January 2008. This state-of-the-art facility houses 150 scientists, technicians, and graduate students in specialised laboratories, fostering creative innovations that have seen Trinity's researchers make significant breakthroughs.

The Trinity Long Room Hub for Arts and Humanities Research Institute is the University's flagship institute for research in the Arts and Humanities, providing a world-class environment for cross-disciplinary collaborative projects. The Long Room Hub provides a central location through which the University's internationally respected Arts and Humanities research can become more visible, demonstrating its relevance for contemporary and future societies.

Researchers from across the University regularly participate in debates on topical issues facing the world today. As well as operating an International Visiting Research Fellowship programme, the Long Room Hub also hosts major EU-funded Digital Humanities projects.

One of the most instantly recognised parts of Trinity's campus is the famous Old Library, home to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps, and early printed material. Trinity's Library is the largest research library in Ireland and is an invaluable resource to Trinity's students and research community. Built up over the four centuries of the University's existence, the Library's collections have benefitted from its status as a Legal Deposit library for the past 200 years, granting Trinity the right to claim a copy of every book published in Ireland and the UK. At present, the Library's holdings span approximately 4.25 million books, 22,000 printed periodical titles, and access to 60,000 e-journals and 250,000 e-books.

Trinity attracts top students from Ireland and abroad and prides itself on the consistently high standard of student admitted to the University every year. These students are drawn to Trinity for the excellence of our research-led teaching and for the quality and prestige a degree from this University confers. Trinity has also pioneered accessibility to education in Ireland, becoming the first university in the country to reserve 15% of its undergraduate places for students from non-traditional learning groups. Trinity is the top-ranked European university for student entrepreneurship and Europe's only representative in the world's top-50 universities.

Our alumni have gone on to shape the history of Ireland and of Western Europe in a wide range of fields. These include such notable figures as Jonathan Swift, Oscar Wilde, William Rowan Hamilton, Edmund Burke, William Stokes, Denis Burkitt, Louise Richardson, Lenny Abrahamson, and Anne Enright. Three of Trinity's graduates have been awarded Nobel prizes: Ernest Walton for Physics in 1951; Samuel Beckett for Literature in 1968; and William Campbell for Physiology / Medicine in 2015. Trinity also counts the first female President of Ireland among its alumni in Mary Robinson, as well as other notable former Presidents Douglas Hyde and Mary McAleese. At Trinity we are justifiably proud of our tradition, and we strive to uphold this excellence as we face the demands of the 21st century.

Ranking Facts

Trinity is the top ranked university in Ireland. Using the QS methodology, the University is ranked 104th in the world and using the Times Higher Education World University Rankings methodology Trinity is 117th in the world.



Overall

- Trinity is Ireland's No.1 University in the QS World University Ranking, THE World University Ranking and the Academic Ranking of World Universities (Shanghai).
- Trinity is ranked 104th in the World, and 36th in Europe, in the 2018/2019 QS World University Ranking.
- Trinity is ranked in the Top 120 for Graduate Employability in the QS 2018 Rankings.
- Trinity is in the Top 50 most innovative universities in Europe according to Reuters.¹
- Between 2010 and 2015, Trinity was ranked the top university in Europe for entrepreneurship according to Pitchbook's independent analysis.²

¹ <http://www.reuters.com/article/us-innovative-stories-europe-idUSKCN0Z00CT>

² <http://pitchbook.com/news/reports/2015-2016-pitchbook-universities-report>

Internationalisation

- **Trinity is ranked 52nd in the world in the THE World University Ranking for international outlook.**

Research Performance

- **Of the 981 institutions included in the THE World University Rankings for 2017, Trinity is in the top 15% internationally for research performance.**
- **Trinity is ranked in the top 15% internationally by QS for citations.**

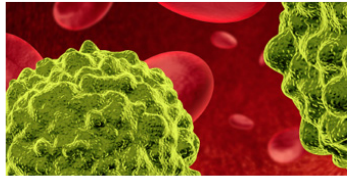
In the QS World University Subject Rankings:

- **Trinity is ranked in the top 50 worldwide in four subject areas according to the QS World University Subject Rankings 2018. The University is ranked in the top 100 globally for 20 subjects overall.**
- **Trinity's Top 50 subjects include Nursing (25th), Classics (28th), English (28th) and Politics (43rd).**
- **Trinity is ranked in the top 100 for each of the following 16 subjects: History, Languages, Philosophy, Theology, Computer Science, Biology, Medicine, Pharmacy, Chemistry, Geography, Materials Science, Education, Law, Social Policy, Sociology and Sport.**
- **The University is ranked in the top 100 for three broad subject areas: Arts & Humanities (57th), Life Sciences & Medicine (87th), and Engineering & Technology (89th).**

Research Themes



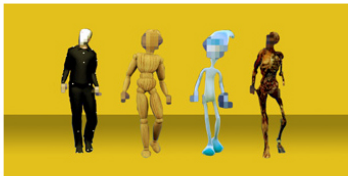
Ageing



Cancer



Creative Arts Practice



Creative Technologies



Digital Engagement



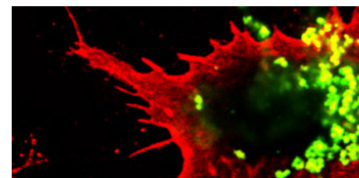
Digital Humanities



Genes & Society



Identities in Transformation



Immunology, Inflammation & Infection



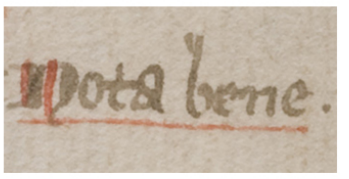
International Development



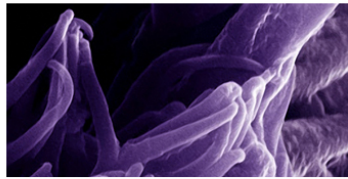
International Integration



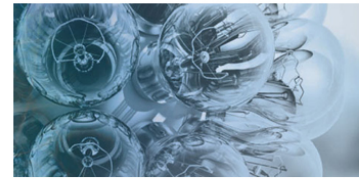
Making Ireland



Manuscript, Book and Print Cultures



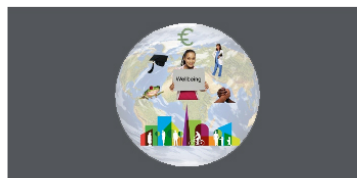
Nanoscience



Neuroscience



Telecommunications



Smart Sustainable Planet



Next Generation Medical Devices

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 Jobs, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations <https://www.djei.ie/en/What-We-Do/Jobs-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://www.djei.ie/en/What-We-Do/Jobs-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

Application Procedure

Candidates should submit a cover letter together with a full curriculum vitae to include the names and contact details of 2 referees (email addresses if possible) to:

Name / Title: Dr. Parvaneh Mokarian

Email Address: mokariap@tcd.ie



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