



Post Specification

Post Title:	Research Fellow in CRANN/School of Chemistry
Post Status:	Specific Purpose
Research Group / Department / School:	Characterisation & Processing of Advanced Materials Research Group, CRANN/School of Chemistry. Trinity College Dublin, the University of Dublin
Location:	Advance Microscopy Laboratory Unit 27/29 Trinity Enterprise Centre Grand Canal Quay, Dublin 2, Ireland. Trinity College Dublin, the University of Dublin
Reports to:	Professor Valeria Nicolosi, Principal Investigator
Salary:	Appointment will be made on the appropriate point of the IUA Post-Doctorate Researcher Level 2 salary scale in line with government pay policy i.e. €40,000 - €46,000 gross per annum
Hours of Work:	37.5
Closing Date:	17:00h (Irish Standard Time) on Monday the 15 th of November of 2021

Post Summary

The Characterisation & Processing of Advanced Materials Research Group, led by Professor Valeria Nicolosi, is currently seeking a Research Fellow with significant practical experience in High-resolution Transmission Electron Microscopy (HRTEM) and aberration corrected Scanning Transmission Electron Microscopy (AC-STEM). The post is available from the 1st of December 2021 (or as soon thereafter as possible) for 4 years.

The candidate will have a PhD in Physics, Chemistry, Materials Science or a related discipline, or equivalent experience, with significant postdoctoral research experience in advanced electron microscopy. We are looking for someone with a high level of expertise in both the theory and practical operation of aberration-corrected scanning transmission electron microscopes; with the organisation and self-motivation to be able to support a wide range of programmes ranging from nanomaterials to energy storage research. You will have excellent communication skills and will be able to work cooperatively with colleagues at all levels.

Experience in in-situ TEM (liquid-cell, heating, gas-heating, cryo, etc.) techniques would be also desirable.

The Research Fellow will be based at the Advanced Microscopy Laboratory part of the CRANN Institute, Trinity College Dublin (<https://www.tcd.ie/crann/aml/>). The centre centralises cutting-edge microscopy activities in Ireland. Key instruments to this project are a NION UltraSTEM200 and an FEI Titan300 (equipped with an EELS and EDS spectrometers and a range of in-situ TEM holders such as a Hummingbird liquid-biasing holder, a DENNS heating holder and a DENNS gas-heating holder).

Background to the Post

Professor Nicolosi leads the Characterisation & Processing of Advanced Materials Group (<https://www.tcd.ie/Physics/>) within the School of Chemistry and the Advanced Microscopy Laboratory in CRANN. The group is devoted to the processing and electron microscopy structural characterisation of low-dimensional nanostructures and devices. Dispersability, processability and manipulation of these objects are important objectives of the group, together with full structural characterisation of devices. In the group, particular attention is given to the study of material's atomic structures to better understand their fundamental

physical and chemical properties. The group works on a range of low-dimensional nanomaterials.

Standard Duties and Responsibilities of the Post

The post holder will be responsible for the structural characterization of exfoliated 2D nanosheets by aberration-corrected STEM and in-situ TEM, and the investigation of their structure by atomic-resolution EELS and EDX. Key to this project will be the close collaboration within the team (especially with regard to nanomaterials processing and device fabrication), with the technical staff at the Advanced Microscopy Laboratory.

The post holder will be expected to take on the day-to-day running of the research programme under the supervision/direction of Prof. Nicolosi. In addition to the core work outlined above, the post holder will be expected to:

1. Write papers and give presentations on the research conducted;
2. Assist with the day to day running of the research group including, training and supervising of students, general administration, procuring orders etc.;
3. Engage with both new and existing collaborators, visitors, and seminar speakers,
4. Work in close collaboration with the CRANN's Advanced Microscopy Laboratory's technical staff, including representing the group at the monthly 'AML Steering Committee'.
5. Develop and maintain a data management plan for results generated in the Advanced Microscopy Laboratory.

Funding Information

Science Foundation Ireland

Qualifications

A PhD in Materials Science, Physics, Chemistry, Materials Science or a related discipline (Essential).

Knowledge & Experience (Essential & Desirable)

1. Strong and proven postdoctoral research experience in advanced electron microscopy and high level of expertise in both the theory and practical operation of aberration-corrected scanning transmission electron microscopes (Essential)
2. Experience of working with collaborators (Essential).

3. Experience in the training and supervision of junior researchers (Desirable).
4. Experience and proven ability in: in-situ electron microscopy techniques (Desirable).
5. Evident good knowledge of the physics behind all of the above described fields (Essential).
6. A strong publication record in internationally peer-reviewed journals commensurate with the stage of career (Essential)

Skills & Competencies

1. Well-organised and self-motivated with the ability to manage the day-to-day running of a research project, to identify research objectives and to carry out appropriate research activities within a given timescale.
2. Excellent oral and communication skills, including the proven ability to write in English at a suitable standard for the preparation of written reports, publications and presentations of the work at generalist and specialist levels, including discussions with engineers and scientists in different fields.
3. Willingness to travel to collaborators across Europe and to conferences to disseminate results.

Further Information for Applicants

For additional details on these research positions please contact:

Jesus Barco Montero
CRANN
Trinity College Dublin
barcomoj@tcd.ie

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 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.

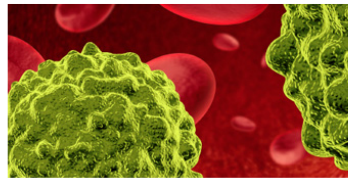
In the QS World University Subject Rankings:

- 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



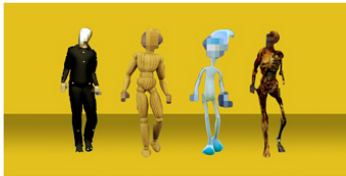
Ageing



Cancer



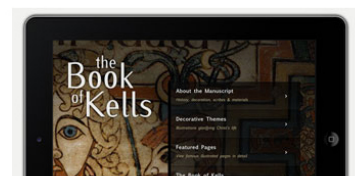
Creative Arts Practice



Creative Technologies



Digital Engagement



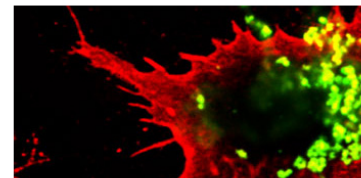
Digital Humanities



Genes & Society



Identities in Transformation



Immunology, Inflammation & Infection



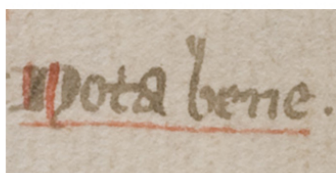
International Development



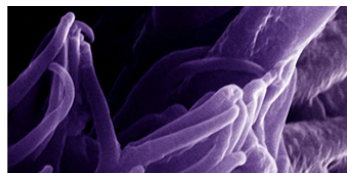
International Integration



Making Ireland



Manuscript, Book and Print Cultures



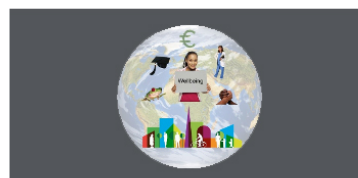
Nanoscience



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>.

Pension Entitlements

This is a pensionable position and the provisions of the Public Service Superannuation (Miscellaneous Provisions) Act 2004 will apply in relation to retirement age for pension purposes. Details of the relevant Pension Scheme will be provided to the successful applicant.

Applicants should note that they will be required to complete a Pre-Employment Declaration to confirm whether or not they have previously availed of an Irish Public Service Scheme of incentivised early retirement or enhanced redundancy payment. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Irish Public Service employment.

Applicants formerly employed by the Irish Public Service that may previously have availed of an Irish Public Service Scheme of Incentivised early retirement or enhanced redundancy payment should ensure that they are not precluded from re-engagement in the Irish Public Service under the terms of such Schemes. Such queries should be directed to an applicant's former Irish Public Service Employer in the first instance.

Application Procedure

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Applicants should submit a full Curriculum Vitae to include the names and contact details of 2 referees (including email addresses), to:-

Jesus Barco Montero

Trinity College Dublin

barcomoj@tcd.ie



**UNIVERSITY
VACANCIES IRELAND**
universityvacancies.com



**DIVERSITY
CHAMPIONS**

