



College Management Unit:	UCD College of Engineering and Architecture
School Unit:	UCD School of Mechanical and Materials Engineering
Post Title & Subject Area (if relevant)	UCD Post-doctoral Research Fellow Level 1
Project:	Validation and Commercialisation of Solid-state Nanopore and Micropore Chips for Biomedical Detection (FAST-Pore)
Post Duration:	18 months
Line Manager	Jufan Zhang
Competition Ref. N^o	019129
HR Administrator	Yasemin Ozdemir

Position Summary:

The Centre of Micro/Nano Manufacturing Technology (www.mnmt-dublin.org) has been established at the University College Dublin (UCD) to deliver high-impact, innovative science and engineering research. The Centre has particular focus on development of innovative medical devices enabled by its featured technologies and machines in high precision manufacturing and metrology. The Centre brings together a multi-disciplinary team of over 20 PhD and Post-doc researchers in micro/nano manufacturing, precision metrology, medical devices, optics, materials, in fundamental and translational research.

The project FAST-Pore is funded by Enterprise Ireland via a nearly one-million-euro Commercialization Fund. FAST-Pore brings together an interdisciplinary team to develop solid-state nanopore technologies for biomedical diagnostics and some innovative engineering applications. The project aims to research and commercialize cost-effective manufacturing process for single nanopore and large-scale nanopore array chips, develop nanopore-based detection systems, and validate the technology in selected industrial applications. The project will partner with some connected companies. By the end of the project, a spinout company is expected to be established to commercialize the project outcomes.

This is a research focused role, where you will conduct a specified programme of research supported by research training and development under the supervision and direction of a Principal Investigator.

The primary purpose of the role is to further develop your research skills and competences, including the processes of publication in peer-reviewed academic publications, the development of funding proposals, the mentorship of graduate students along with the opportunity to develop your skills in research led teaching.

In addition to the Principal Duties and Responsibilities listed below, the successful candidate will also carry out the following duties specific to this project:

- Engage in the partnership development with industry,
- Support the pre-commercialization activities,
- Support the preparation of a spinout.

The successful candidate has the opportunity to join the spinout company as a technical lead after completion of the project.

Principal Duties and Responsibilities:

- Conduct a specified programme of research and scholarship under the supervision and direction of your Principal Investigator.
- Engage in appropriate training and professional development opportunities as required by your Principal Investigator, your School or Institute, or the University.
- Engage in the dissemination of the results of the research in which you are engaged as directed by and with the support of and under the supervision of your Principal Investigator.
- Engage in the wider research and scholarly activities of your research group, School and Institute.
- Mentor and assist, as appropriate and as directed, the research graduate students in your group, School and Institute.
- Carry out administrative work associated with your programme of research.

PD1 Salary: €46,305 - €52,863 per annum

Appointment on the above range will be dependent on qualifications and experience

Details on eligibility to compete and pension information is available at

<https://www.ucd.ie/hr/resourcing/eligibilitytocompete/>

UCD is committed to creating an inclusive environment where diversity is celebrated and everyone is afforded equality of opportunity. We welcome applications from everyone, including those who identify with any of the protected characteristics that are set out in our Equality, Diversity and Inclusion policy. Learn more about Diversity at

<https://www.ucd.ie/workatucd/diversity/>

Reasonable accommodations will be provided to any applicant during the interview process who discloses they have a disability or are neurodiverse.

Selection Criteria

Selection criteria outline the qualifications, skills, knowledge and/or experience that the successful candidate would need to demonstrate for successful discharge of the responsibilities of the post. Applications will be assessed on the basis of how well candidates satisfy these criteria.

Mandatory:

- PhD in nanotechnology, nanomanufacturing, MEMES, biomedical device, physics, or other related disciplines.
- Experience in solid-state nanopore fabrication, nanopore-based application, nanostructures fabrication, or nanosphere lithography.
- A demonstrated commitment to research and publications
- An understanding of the operational requirements for a successful research project
- Evidence of research activity (publications, conference presentations, awards) and future scholarly output (working papers, research proposals, and ability to outline a research project).
- Excellent Communication Skills (Oral, Written , Presentation etc).
- Excellent Organisational and Administrative skills including a proven ability to work to deadlines.
- Candidates must demonstrate an awareness of equality, diversity and inclusion agenda.

The PD1 position is intended for early stage researchers, either just after completion of a PhD or for someone entering a new area for the first time. If you have already completed your PD1 stage in UCD or will soon complete a PD1, or you are an external applicant whose total Postdoctoral experience, inclusive of the duration of the advertised post, would exceed 4 years, you should not apply and should refer to PD2 posts instead.

Desirable:

- Enthusiastic in technology transfer and willing to join a spinout company.
- Experience in nanomanufacturing, ideally with skills in PVD, chemical etching, molecular self-assembly.
- Experience in collaborating with companies.
- Experience in setting own research agenda.

Supplementary information:

The University:	https://www.ucd.ie/
UCD Strategy 2030: Breaking Boundaries	https://strategy.ucd.ie/
The College/Management Unit:	https://www.ucd.ie/eacollege/
The School/Programme Office/Unit:	https://www.ucd.ie/mecheng/
Equality Diversity and Inclusion at UCD	https://www.ucd.ie/workatucd/diversity/
Other (Please specify):	https://www.mnmt-dublin.org/

UCD offers a comprehensive **Research Careers Framework** in line with the Advisory Science Council Report '*Towards a Framework for Researcher Careers*'. This model provides a structured and supportive **Career and Skills Development** system designed to ensure that Post-docs in UCD are able to plan their careers and prepare for future opportunities in academia, industry or the public sector. For more information, please [click here](#)

Informal Enquiries ONLY to:

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