



<b>College   Management Unit:</b>	UCD College of Engineering & Architecture
<b>School   Unit:</b>	UCD School of Mechanical & Materials Engineering
<b>Post Title &amp; Subject Area (if relevant)</b>	<b>UCD Post-doctoral Research Fellow Level 1</b>
<b>Project:</b>	Microfluidic in-vitro diagnostics for biomarker and pathogen detection
<b>Post Duration:</b>	6 months
<b>Line Manager</b>	Prof. Michael Gilchrist
<b>Competition Ref. N<sup>o</sup></b>	017982
<b>HR Administrator</b>	Natalia McDonagh

### Position Summary:

This post will appeal to a motivated postdoctoral researcher with experience of microfluidic in vitro diagnostic device development for biomarker and pathogen detection from biological specimens. This research will involve producing design optimized polymer parts, process development of on-chip assays, integration of functional components that enable biomolecule detection and data acquisition of results based on fluorescent microscopy to achieve high resolution and accurate gene detection. The successful candidate will work on polymer based DNA/RNA capture techniques, on-chip translation of amplification techniques and polymer chip fabrication, while collaborating with a multidisciplinary team to enhance the performance and application of these technologies.

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:

- Design and execute experimental plans,
- Responsible for producing micron-scale polymer parts, surface functionalization and characterization of surfaces and biomolecules using physical, chemical and biological analytical techniques,
- Optimise the operational efficiency of a prototype microfluidics instrumentation.

### 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.

## Fixed Salary: €44,847 Per Annum

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 mechanical engineering, with experience of microfluidic chip fabrication.
- Experience in developing polymer-based in-vitro diagnostics.
- Experience in surface functionalisation of polymers for biomolecule capture.
- 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:

- Experience in design, execution and troubleshooting of biomarker detection assays.
- Proven collaborative and teamwork skills appropriate to working in a shared laboratory area.
- Experience in setting own research agenda.

## Supplementary information:

The University:	<a href="https://www.ucd.ie/">https://www.ucd.ie/</a>
UCD Strategy 2020-2024: Rising to the Future	<a href="https://strategy.ucd.ie/">https://strategy.ucd.ie/</a>
The College/Management Unit:	<a href="https://www.ucd.ie/eacollege/">https://www.ucd.ie/eacollege/</a>
The School/Programme Office/Unit:	<a href="https://www.ucd.ie/mecheng/">https://www.ucd.ie/mecheng/</a>
Equality Diversity and Inclusion at UCD	<a href="https://www.ucd.ie/workatucd/diversity/">https://www.ucd.ie/workatucd/diversity/</a>

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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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