



## Job Description

<b>College/Management Unit</b>	UCD College of Science
<b>School/Unit</b>	UCD School of Computer Science
<b>Post Title &amp; Subject Area (if relevant)</b>	<b>UCD Post-doctoral Researcher (Level 1)</b>
<b>Project</b>	<b>VistaMilk SFI Research Centre</b>
<b>Post Duration</b>	Temporary 3 year post
<b>Reports to</b>	Dr. Derek Greene, Dr Mark Keane, Principal Investigators
<b>HR Reference No.</b>	012343
<b>HR Administrator</b>	Billie O’Gorman

### Position Summary

The VistaMilk SFI Research Centre represents a unique collaboration between Agri-Food and information communications technology research institutes and leading Irish/multinational food and ICT companies. The research programme for the centre will develop new electronic monitoring and actuation technologies to transform an already world-class dairy sector into a global leader in sustainable Agri-Tech.

This individual will be working on mapping the milk quality across Irish dairy farms. The candidate should have a good working knowledge of machine learning techniques (time-series analysis, case-based reasoning, word-embedding) and software engineering skills. Additionally, you will work on a variety of fundamental machine learning problems (in predicting grass growth and/or genetic analysis of microbiota). This particular post is most suitable for candidates with a Computer Science/Data Analytics/Machine Learning background. However, it may also be suitable for candidates with a Biosciences background in genetic analyses, who want to upskill in the area of machine learning. This is an opportunity to develop cutting edge research-based solutions to real-world problems and see these solutions deployed to have impact on real farms.

There will be collaborations between Teagasc, Tyndall, TSSG-WaterfordIT, Dublin City University, and University College Dublin in this project.

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 and work with industrial and academic partners in achieving the programme of research

### Equality, Diversity and Inclusion

UCD is committed to creating an inclusive environment where diversity is celebrated, and everyone is afforded equality of opportunity. To that end the university adheres to a range of equality, diversity and inclusion policies. We encourage applicants to consult those policies here <https://www.ucd.ie/equality/>. 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.

**Salary: €37,874 - €43,782 per annum**

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

### 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.

### 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 computer science, computer engineering, machine learning, data analytics, or other relevant technical discipline.
- 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.
- Demonstrated research and development expertise in machine learning and/or image processing.
- Experience developing and deploying solutions.
- 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 setting own research agenda
- Experience of working in agriculture, agri-tech or other relevant multi-disciplinary domain.
- Experience working with image capture and other data collection hardware.
- Expertise in python programming and relevant machine learning (e.g. scikit-learn) and image processing (e.g. OpenCV) packages.
- Experience working with deep learning libraries such as Tensorflow and pyTorch.
- Demonstrated ability to work with stakeholders from disparate domains to design and develop solutions.

## Further Information for Candidates

### Supplementary information

The University:	<a href="http://www.ucd.ie/aboutucd.htm">http://www.ucd.ie/aboutucd.htm</a>
UCD College of Science:	<a href="http://www.ucd.ie/science/">http://www.ucd.ie/science/</a>
UCD School of Computer Science:	<a href="http://www.cs.ucd.ie">http://www.cs.ucd.ie</a>
VistaMilk SFI Research Centre:	<a href="http://www.vistamilk.ie/">http://www.vistamilk.ie/</a>

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](#)

### Relocation Expenses:

- Will not apply

### Garda Vetting required:

- No

### Informal Enquiries ONLY to:

Name:	Dr. Derek Greene
Title:	Principal Investigator
Email address:	<a href="mailto:Derek.greene@ucd.ie">Derek.greene@ucd.ie</a>
Telephone:	0035317162496



<b>Eligibility to compete and certain restrictions on eligibility</b>	
<b>Incentivised Scheme for Early Retirement (ISER):</b>	It is a condition of the Incentivised Scheme for Early Retirement (ISER) as set out in Department of Finance Circular 12/09 that retirees, under that Scheme, are debarred from applying for another position in the same employment or the same sector. Therefore, such retirees may not apply for this position
<b>Department of Health and Children Circular (7/2010):</b>	The Department of Health Circular 7/2010 dated 1 November 2010 introduced a Targeted Voluntary Early Retirement (VER) Scheme and Voluntary Redundancy Schemes (VRS). It is a condition of the VER scheme that persons availing of the scheme will not be eligible for re-employment in the public health sector or in the wider public service or in a body wholly or mainly funded from public moneys. The same prohibition on re-employment applies under the VRS, except that the prohibition is for a period of 7 years, after which time any re-employment will require the approval of the Minister for Public Expenditure and Reform. People who availed of either of these schemes are not eligible to compete in this competition.
<b>Collective Agreement - Redundancy Payments to Public Servants:</b>	The Department of Public Expenditure and Reform letter dated 28th June 2012 to Personnel Officers introduced, with effect from 1st June 2012, a Collective Agreement which had been reached between the Department of Public Expenditure and Reform and the Public Services Committee of the ICTU in relation to ex-gratia Redundancy Payments to Public Servants. It is a condition of the Collective Agreement that persons availing of the agreement will not be eligible for re-employment in the public service by any public service body (as defined by the Financial Emergency Measures in the Public Interest Acts 2009 – 2011) for a period of 2 years from termination of the employment. Thereafter the consent of the Minister for Public Expenditure and Reform will be required prior to re-employment. People who availed of this scheme and who may be successful in this competition will have to prove their eligibility (expiry of period of non-eligibility) and the Minister’s consent will have to be secured prior to employment by any public service body.
<b>Declaration:</b>	Applicants will be required to a Pre-Employment Declaration to confirm whether they have previously availed of a public service scheme of incentivised early retirement and/or the collective agreement outlined above. The above represents the main schemes and agreements restricting a candidate’s right to be re-employed in the public service. However it is not intended to be an exhaustive list and candidates should declare details of any other exit mechanism they have availed of which restricts their right



	<p>to be re-employed in the public service. Applicants will also be required to declare any entitlements to a Public Service pension benefit (in payment or preserved) from any other Public Service employment and/or where they have received a payment-in-lieu in respect of service in any Public Service employment.</p>
<p><b>Superannuation and Retirement:</b></p>	<p>The successful candidate will be offered the appropriate superannuation terms and conditions as prevailing in the University, at the time of being offered an appointment. In general, and except for candidates who have worked in a pensionable (non-single scheme terms) public service job in the 26 weeks prior to appointment (see paragraph d below), this means being offered appointment based on membership of the Single Public Service Pension Scheme (“Single Scheme”).</p> <p>Key provisions attaching to membership of the Single Scheme are as follows:</p>
<p><b>a. Pensionable Age</b> - The minimum age at which pension is payable is 66 (rising to 67 and 68) in line with State Pension age changes.</p> <p><b>b. Retirement Age</b> - Scheme members must retire at the age of 70.</p> <p><b>c. Pension Abatement:</b></p> <ul style="list-style-type: none"> <li>• If the appointee was previously employed in the Civil Service or in the Public Service please note that the Public Service Pensions (Single Scheme and Other Provisions) Act 2012 includes a provision which extends abatement of pension for all Civil and Public Servants who are re-employed where a Public Service pension is in payment. This provision to apply abatement across the wider public service came into effect on 1 November 2012. This may have pension implications for any person appointed to this position who is currently in receipt of a Civil or Public Service pension or has a preserved Civil or Public Service pension which will come into payment during his/her employment in this position.</li> <li>• Department of Education and Skills Early Retirement Scheme for Teachers Circular 102/2007</li> </ul> <p>The Department of Education and Skills introduced an Early Retirement Scheme for Teachers. It is a condition of the Early Retirement Scheme that with the exception of the situations set out in paragraphs 10.2 and 10.3 of the relevant circular documentation, and with those exceptions only, if a teacher accepts early retirement under Strands 1, 2 or 3 of this scheme and is subsequently employed in any capacity in any area of the public sector, payment of pension to that person under the scheme will immediately cease. Pension payments will, however, be resumed on the ceasing of such employment or on the person’s 60th birthday, whichever is the later, but on resumption, the pension will be based on the person’s actual reckonable service as a teacher (i.e. the added years previously granted will not be taken into account in the calculation of the pension payment).</p> <ul style="list-style-type: none"> <li>• Ill-Health-Retirement</li> </ul> <p>Please note that where an individual has retired from a Civil/Public Service body on the grounds of ill-health his/her pension from that employment may be subject to review in accordance with the rules of ill-health retirement within the pension scheme of that employment.</p> <p><b>d. Prior Public Servant</b> - While the default pension terms, as set out in the preceding paragraphs, consist of</p>	



Single Scheme membership, this may not apply to certain appointees. Full details of the conditions governing whether or not a public servant is a Single Scheme member are given in the Public Service Pensions (Single Scheme and other Provisions) Act 2012. However the key exception case (in the context of this competition and generally) is that a successful candidate who has worked in a pensionable (non-single scheme terms) capacity in the public service within 26 weeks of taking up appointment, would in general not become a member of the Single Scheme. In this case such a candidate would instead be offered membership of the UCD Pension Scheme. This would mean that the abatement provisions at (c) above would apply, and in addition there are implications in respect of pension accrual as outlined below:

*e. Pension Accrual* - A 40-year limit on total service that can be counted towards pension where a person has been a member of more than one existing public service pension scheme would apply. This 40-year limit, which is provided for in the Public Service Pensions (Single Scheme and other Provisions) Act 2012 came into effect on 28 July 2012. This may have implications for any appointee who has acquired pension rights in a previous public service employment.

*f. Pension-Related Deduction* - This appointment is subject to the pension-related deduction in accordance with the Financial Emergency Measure in the Public Interest Act 2009.

For further information in relation to the Single Public Service Pension Scheme for Public Servants please see the following website: <http://www.per.gov.ie/pensions>.

