

4-year Senior Research Fellow in Eco-Hydrology - iCRAG

*Scaling evapotranspiration from plant to catchment level under present and future climate.
Implications for water resources and flooding*

A new 4-year Research Fellow is being sought for the Irish Centre for Applied Geosciences (iCRAG) SFI research centre. The position will be based at Trinity College Dublin, between the Schools of Natural Sciences and Engineering under the leadership of Professors McElwain and Gill respectively.

This unique research fellowship position will involve the integration of both research and coordination roles. The coordination responsibilities will involve managing the Earth System Change (catchment and climate research) research programme within iCRAG. The successful candidate will also play a key role in the development of the new E3 initiative between the Schools of Engineering, Natural Sciences and Computing Sciences in Trinity College Dublin.

The project aims to bring together unique cross-disciplinary understanding from the plant sciences and catchment hydrology to better characterize the properties of vegetation and vegetation responses to global change that impact evapotranspiration and runoff. This study will use existing data sets generated by Professor McElwain's lab on different plant species resistances to water loss as well hydrological field data sets from different scale catchments to improve catchment hydrology models regularly used in Professor Gill's research. The major outcomes of this research will be: (1) better attribution studies on the impact of past vegetation change on historical trends in Irish and international stream flow; (2) improved future predictions of water resource availability and flood risk for case study Irish catchments, and (3) better understanding of how to design appropriate nature-based solutions for hydrological challenges.

The candidate should be either a plant ecophysiological, terrestrial earth system / hydrological modeler or dynamic vegetation modeler, experienced with plant-water interactions. The candidate will have a strong quantitative background in modelling with experience in plant physiological processes and how they scale from leaf to whole plant and ecosystem / catchment scale. Published papers on transpiration/ plant ecophysiology are beneficial.

The post is for four years duration and will be starting at point 1 on the Senior Research Fellow scale at a gross salary of €67,890 (plus PRSI and employers' pension) with annual increments. The position will be advertised on Trinity College Vacancy page in May 2021 with an application deadline of June 10th and start date of October 2021

(https://my.corehr.com/pls/trrecruit/erg_search_version_4.search_form).

Please contact: Laurence Gill (laurence.gill@tcd.ie) and/or Jennifer McElwain (jmcelwai@tcd.ie) for additional details.

Essential Skills and Experience required:

- Significant post-doctoral research experience
- Record of post-graduate supervision
- Record of international collaboration
- Record of independent funding acquisition
- Record of research leadership and research management