

	 <p>UCD Dooce Centre for Water Resources Research</p> <p>UCD Earth Institute</p> <p>UCD School of Civil, Structural and Environmental Engineering.</p> <p>PhD Opportunity</p>
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ESManage is a research project, funded by the Irish EPA under its STRIVE programme. It involves researchers from UCD and other commercial and governmental institutions. The overall objective is to harness the knowledge and tools required to embed an appreciation of the value of ecosystem services and the ecosystem services approach into policy and decision-making for sustainable management of water resources, as required by the Water Framework Directive.

A Ph.D. level research student is required to become involved in identifying, simulating (numerical, computer) and analysing the most important and feasible water resources management scenarios from the perspective of physical/chemical water quality and linking them to ecosystem conditions.

Catchment water quality scenarios will be analysed using the Catchment Management Support Tools (CMST) package already developed by the EPA Pathways project. These tools facilitate the analysis and planning required by the Water Framework Directive. These simulate water quality in rivers from knowledge of the physical features of its catchment, information about the pollution pressures involved and measured meteorological inputs (precipitation and evapotranspiration and temperature) and nutrient inputs calculated from the most recent maps of land-use and information on animal stocking densities. This project will produce add-on tools which will relate the physical-chemical water quality to ecological impact. The uncertainties, sensitivities and overall performance of the tools will also be assessed.

A three year scholarship is available for a suitable Ph.D. candidate with a good honours degree in Hydrology, Engineering (water or hydraulics), Computer Science, or a cognate discipline to participate in the numerical modelling aspects of the project. Demonstrated ability to code/write computer programs is essential and a familiarity with GIS and/or spatial data analysis or statistics is desirable. Review of applications will commence on 25th February and may continue until the position is filled.

Applications via e-mail please to michael.bruen@ucd.ie