



## **Conquering a wicked problem: New challenges and opportunities for biogeochemistry and catchment science**

P. Haygarth

Lancaster Environment Centre, Lancaster University, Lancaster, United Kingdom (p.haygarth@lancaster.ac.uk)

Meeting the demands of good water quality such as those of the EU Water Framework Directive is a complicated, wicked problem. On the one hand the directive forces us to consider the catchment as a single functioning unit, a water body where ecological status can be assessed and classified. On the other hand, catchments are most obviously perturbed and managed in spatially and temporally discrete units. This makes assigning the 'cause' and 'response' particularly complicated – the familiar problem of managing diffuse pollution. This talk will explore some of these complexities in understanding the diffuse pollution 'cause' and 'response' in catchment science. Some particular opportunities may lie in cross team consortia style working, with multidisciplinary 'platforms' of study and value added information sharing. This should include nurturing full ownership and empowerment of the problem (and solutions) with the local communities – the solutions need to be encouraged to come from those who own and work in the catchments. The presentation will also consider some new opportunities for the sustainable management of phosphorus in catchments.