

# Polytechnic School Seminars

2013-14

Scientific Sessions  
in Engineering  
and Biosciences

Lecture

## Coupling modeling of climate, water temperature, flow regimes, and biota to predict biodiversity response to climate change in USA stream ecosystems

**Dr. Charles Hawkins:** Professor and Interim Department Head  
(Stream Ecology, Aquatic Biodiversity, Ecological Assessment)

We have just completed a large (USA-wide) study on projected effects of climate change on stream macroinvertebrate biodiversity and how climate induced changes in biodiversity will affect interpretation of existing biological indices used in water quality assessments. That project involved climate modeling, stream flow regime modeling, stream temperature modeling, and species distribution modeling. We have also recently completed a similar analysis on USA lakes. In both cases, one of the things we were most interested in was understanding differential vulnerability of individual sites to climate change.

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Universitat de Vic  
Aula TS116

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