

Assessment and monitoring hydromorphological conditions of rivers: recent advances in the Italian and European context

[Seminario](#)

Data: Martedì, 24 Maggio, 2016 - 16:30

Aula: [Aula Arduino](#)

Relatore: Bruno Golfieri

Abstract:

The assessment of river conditions is crucial for appropriate management and planning of sound interventions of river restoration. Hydromorphology is the discipline that links hydrology and fluvial geomorphology, and the European Water Framework Directive (2000) introduced its evaluation in addition to the assessment of the physical-chemical and biological elements of rivers. Hydromorphological alteration is one of most severe impact on streams and several methods were developed in Europe, but also worldwide, in the last 15 years for the assessment and monitoring of hydromorphology.

The seminar will present the scientific activities and outputs of the post-doc fellowship "Assessment and monitoring the hydromorphological condition of rivers" (2014-16). The first part of the seminar will focus on the results of the analysis of the national-scale dataset (i.e. more than 2300 river reaches) that collects the applications of the Morphological Quality Index (MQI). The MQI is the national method for the assessment of hydromorphological conditions since 2010 and the analysis of this large dataset, based on data from different Regional Environmental Agencies (ARPA) and of research institutes (i.e. University of Padova, Firenze and Bolzano), allows to describe the status and to identify the main pressures affecting Italian streams.

The second part of the seminar will focus on the implementation of the MQI for its application in other European countries, in the context of the European FP7 project REFORM. Some integrations (e.g. the introduction of the assessment of aquatic vegetation in low-energy rivers) were carried out in order to ensure data comparability and to correctly evaluate channel morphologies (e.g. anabranching) that were under-represented in the Italian context. The study-cases, located in Germany and Poland, were also subjected to interventions of restoration and this offered the possibility to test the MQIm (Morphological Quality Index for monitoring), a tool that was specifically developed for monitoring short-term changes of channel conditions.

Afferenza: Assegnista di ricerca. Dipartimento di Geoscienze, Università di Padova.

Proponente: Bruno Golfieri
