



## Agricultural, forestry and biosystems engineering

### Research Area

### Water resources, soil and watershed protection

#### Topics

- Hydrological processes, forest hydrology and vegetation controls on the hydrological cycle (Zuecco, Borga, Dalla Fontana).
- Flash floods: processes and risk management (Borga, Dalla Fontana).
- Remote sensing, monitoring and modelling hydrological-erosional processes (Borga, Tarolli).
- Soil and water resources management in agricultural land and hilly-mountainous area (Tarolli).
- Climate change, snow and glacier hydrology (Dalla Fontana).
- Torrential hydraulic, check-dams and torrent control (Lenzi, D'Agostino).
- Open and filtering-retention check-dams efficiency (D'Agostino, Gregoretti).
- Phenomenology of debris flow and torrential sediment transport (Gregoretti, D'Agostino).
- Connectivity, sediment and large wood transport in forested mountain basins (Lenzi, Picco).
- Linking riparian vegetation and morphodynamics of gravel-bed rivers (Picco).
- Morphological changes and stream-river dynamics following natural disasters (Picco, Lenzi).
- The perception of risk/social vulnerability/resilience to natural disasters (Tarolli, Borga).
- Sustainable urban drainage practice and devices (D'Agostino).

#### People

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#### Research Projects

- FRANCA: Flood Risk Anticipation and Communication in the Alps, EC-LIFE project.
- COMPLEX: Knowledge Based Climate Mitigation Systems for a Low Carbon Economy, EC-FP7 Project.
- Ecohydrological dynamics and water pathways in forested catchments, Fondazione Cariparo.
- WOODALP-Linking large wood and morphological dynamics of alpine gravel bed rivers, UNIPD-TeSAF.
- International Networking "Natural risks in mountain areas and their effects in river morphology"; RiNA UACH Res. Center, University Austral, Chile; UNIPD-TeSAF; University of Bern; University of Bolzano.
- High-LandDEM in rainfed Mediterranean cultivated Landscapes (ENVI-MED).



**TESAF**