



Department of Civil, Environmental, Architectural Engineering and Mathematics
UNIVERSITÀ DEGLI STUDI DI BRESCIA, ITALY

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Settore scientifico-disciplinare di appartenenza: (Scientific sector in the Italian University classification system)
ICAR/02 Costruzioni idrauliche e marittime e Idrologia (Hydraulic structures and hydrology)

Teaching activity:

Academic year 2011-2012 to date: Idraulica e costruzioni idrauliche (Hydraulics and Hydraulic Structures)

Academic year 2015-2016 to date: Climate change Adaptation and Mitigation (in English)

She was Professor also of Hydraulic works, Hydrology, Urban drainage systems and River Restoration

Curriculum Vitae

Current position: *Associate Professor of Hydraulic Structures at the University of Brescia (Italy), Department of Civil Engineering, Architecture, Land, Environment and of Mathematics (DICATAM).*

Degree: *In 1992 she graduated Civil Engineering at University of Parma (Italy). In 1996 she obtained a 3 year-Research Doctorate in Hydraulic Engineering at the Polytechnic of Milan. During her Doctorate she studied at the University of Washington (Seattle, USA).*

Teaching experience: *At the University of Brescia she taught Hydraulic works for 1 academic year, Hydrology for 2 years, Urban drainage systems for 5 years and River restoration for 4 years; she has been tutoring students of the courses in Hydraulic Structures since the year 2000. She co-tutored 3 PhD students. She was Visiting Professor at McMaster University (Hamilton, Canada) from the 25th to the 29th of April 2016.*

Research activity: *She is researcher in Hydraulic Structures at the University of Brescia since 2001. Her research activity at DICATAM (Dep. of Civil Engineering, Architecture, Land, Environment and of Mathematics) has been mainly focused on alpine hydrology, as well as on the management of stormwater in drainage systems. Since June 1998 up to January 2000 she was contract researcher at the Dep. of Civil Eng. of the University of Brescia, in the framework of the EU funded research project named RAPHAEL ('Runoff and atmospheric Processes for flood Hazard forEcasting and controL'), coordinated by prof. Bacchi. The main goal of the project was the development and the implementation of procedures aimed at coupling meteorological and hydrological models in order to improve flood forecasting in mountain areas. During autumn 1999 she was involved in the field surveys of soil moisture and other physical properties of the soils coordinated by the Dep. of Civil Eng. during the Mesoscale Alpine Programme Special Observation Period (MAP-SOP '99). In the year 2003 she was holder of fundings for a research project whose title was "Indirect evaluation of floods in some alpine watersheds" (Young Researcher Project - funded by University of Brescia). Since the beginning of year 2003 she worked with ISAC-CNR and ECMWF on a research project aimed at the simulation of the 1966 Arno flood event through coupling of meteorological and hydrological models. She is member of a research group on Italian glaciers monitoring in the framework of the international research project named GLIMS - Global Land Ice Monitoring from Space. In 2007 she participated to the demonstrative phase of the international Mesoscale Alpine Project (MAP D-Phase), during which she provided real time flood forecasts in the Taro river (Emilia Romagna region) and in the Toce river (Piemonte region), using deterministic and ensemble meteorological predictions. In 2007-2008 she participated to a research project on "Feasibility study for the environmental and hydraulic restoration of the Franciacorta region. Action guidelines". She was member of the*

research unit of the project CARIPANDA (Climate change and water resources in the Adamello Natural Park), funded by Fondazione Cariplo for the years 2007 and 2008, aimed at the evaluation of water resources in the Adamello Park and to its potential variation of climate change. She was the chief of the Research Unit at University of Brescia of a national research project (PRIN 2006); the title of the unit project was “An integrated system aimed at the prediction of flood discharges including the estimate of its uncertainty”. She was also the chief of a research project funded by Regione Lombardia (Fondi montagna 2009) and Consorzio dell'Oglio, aimed at the 'Analysis of the sediment yield in the Guerna river (BG)'. Since 2010 she is member of the Italian Glaciological Committee. In 2010-2013 she worked at an EU funded cooperation research project named Kulturisk and aimed at the diffusion of a 'culture of risk' of river flood event. In December 2013 she obtained the National Academic Qualification as Associate Professor. Since March 2014 she is member of a working group of the COST Action TU1202 - Impacts of climate change on the engineered slopes for infrastructures. She is author of several scientific papers refereed in international journals and articles on journals, book chapters, specialised monographs and proceedings about hydrology and water engineering and is reviewer of several international journals.

Selected publications

1. Nguyen T.A., Grossi G., Ranzi R. (2015). Design Storm for Mixed Urban and Agricultural Drainage Systems in the Northern Delta in Vietnam. *Journal of Irrigation and Drainage Engineering*, ISSN: 1943-4774, doi: 10.1061/(ASCE)IR.1943-4774.0000962, 04015051.
2. Balistrocchi, M., G. Grossi, B. Bacchi (2013). Deriving a practical analytical-probabilistic method to size flood routing reservoirs, *Advances in Water Resources*, accepted for publication in *Advances in Water Resources*, September 2013.
3. Grossi, G., P. Caronna, R. Ranzi (2013). Hydrologic vulnerability to climate change of the Mandrone glacier (Adamello - Presanella group, Italian Alps), *Advances in Water Resources*, 55, 190-203, DOI:10.1016/j.advwatres.2012.11.014.
4. Grossi, G., B. Bacchi, R. Ranzi (2010). A real time ensemble flood forecasting in the Alps and in the Apennines, *Proc. of*

the AMHY-FRIEND International Workshop on Hydrological Extremes '*Analyses and images of hydrological extremes in Mediterranean environments*' edited by E. Ferrari and P. Versace, 103-113, ISBN:9788897181002.

5. Ranzi, R., G. Grossi, L. Gitti e S. Taschner (2010). Energy and mass balance of the Mandrone glacier (Adamello, Central Alps), *Geografia Fisica e Dinamica Quaternaria*, 33, 45-60.
6. Balistrocchi M, Grossi G., Bacchi B. (2009). An analytical probabilistic model of the quality efficiency of a sewer tank. *WaterResources Research*, ISSN: 0043-1397, doi: 10.1029/2009WR007822
7. Barontini S, Grossi G., Kouwen N., Maran S., Scaroni P., Ranzi R. (2009). Climate change and runoff regimes in the Southern Alps. *Hydrology and Earth System Sciences Discussions*, vol. 6; p. 3089-3191, ISSN: 1812-2108
8. Montanari A., Grossi G. (2008). Estimating the uncertainty of hydrological forecasts: a statistical approach. *Water Resources Research*, vol. 44, ISSN: 0043-1397, doi: 10.1029/2008WR006897.
9. Zappa M., Rotach M.W., Arpagaus M., Dorninger M., Hegg C., Montani A., Ranzi R., Ament F., Germann U., Grossi G., Jaun S., Rossa A., Vogt S., Walser A., Wehrhan J., Wunram C. (2008). MAP D-PHASE: real-time demonstration of hydrological ensemble prediction systems. *Atmospheric Science Letters*; p. 80-87, ISSN: 1530-261X, doi: 10.1002/asl.183.
10. Bacchi B., Balistrocchi M., Grossi G. (2008). Proposal of a semi-probabilistic approach for storage facility design. *Urban Water Journal*, vol. 5(3); p. 195-208, ISSN: 1573-062X, doi: 10.1080/1573062080198072310.
11. Malguzzi P., Grossi G., Buzzi A, Ranzi R, Buizza R (2006). The 1966 'century' flood in Italy: a meteorological-hydrological revisitation. *Journal of Geophysical Research. Atmospheres*, vol. 111: D24106, ISSN: 0148-0227.
12. Ranzi, R., G. Grossi, L. Iacovelli e S. Taschner, Use of multispectral Aster images for mapping debris-covered glaciers within the GLIMS Project, *2004 IEEE International Geoscience and Remote Sensing Symposium Proceedings Anchorage Alaska*, 20-24 September 2004.

13. Grossi, G., N. Kouwen (2004) Intercomparison among hydrologic simulations coupled to meteorological predictions provided by different mesoscale meteorological models, *Atti del XXIX Convegno di Idraulica e Costruzioni Idrauliche* Trento, 7-10 settembre 2004, Editorial Bios, 2, 265-271.
14. Ranzi, R. e B. Bacchi and G. Grossi, Runoff measurements and hydrological modeling for the estimation of rainfall volumes in an alpine basin, *Quart. Journal Royal Meteorol. Soc.*, Vol. 129 Part B, n. 588, 653-672, 2003.
15. Grossi, G. e L. Falappi, Comparison of energy fluxes at the land surface-atmosphere interface in an Alpine valley as simulated with different models, *Hydrology and Earth System Sciences*, 7(6), 920-936, 2003.
16. Ranzi, R., G. Grossi and B. Bacchi, Ten years of monitoring areal snowpack in the Southern Alps using NOAA-AVHRR imagery, ground measurements and hydrological data, *Hydrological Processes*, 13, 2079-2095, 1999.

Brescia, 18th May 2016.