

Franco Salerno, MSc, PhD

CURRICULUM VITAE

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Istituto di Ricerca Sulle Acque (IRSA) / Water Research Institute Consiglio Nazionale delle Ricerche (CNR) / National Research Council

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Franco Salerno was born in Milan in 1973. He graduated at the University of Milan in 2001 and obtained a Ph.D. in Environmental Sciences at the University of Insubria in 2005. He is currently confirmed researcher at the Water Research Institute of the National Research Council, Milan, Italy (www.irsa.cnr.it). He has been involved in several research projects in the field of water quality, climate change and natural resource management in Italy and abroad. Since 2005 he is a member of the Ev-K2-CNR Committee (www.evk2cnr.org/cms/en). His main periods abroad were at Kathmandu (Nepal) and Islamabad (Pakistan) working at the HKKH Partnership Project (<http://www.hkkhpartnership.org>) (2006-2009). His current interests include the interactions of hydrology and water quality using and developing mathematical models coupled with Geographic Information Systems. In the last years his research activity focused on the impact of climate change on water resources at high elevations (glaciers and lake) analysing the effects both on quantity and quality. Managing natural resources, particular attention was posed also on the participatory modelling, as underlined by the last publications.

Education

- ◆ 2001 Degree in Natural Sciences - Conservation of Nature and its Resources (score: 110/110)
- ◆ 2001 Course on Naturalistic Engineering with AIPIN Genoa.
- ◆ 2002 Specialization course in Digital Cartography and GIS at the Italian Touring Club, Milan
- ◆ 2002 Specialization course in "Environmental policies and Landscape" held by the University of Milan
- ◆ 2005 Ph.D. in Environmental Sciences at the University of Insubria
- ◆ 2007 Specialization course in "Introduction to ACRGIS 9.X", ESRI Rome, Italy
- ◆ 2007 Specialization course in "Modelling with ArcObjects", ESRI Rome, Italy

Key qualifications

- ♣ Impact of climate change on quantity and quality of water bodies
- ♣ Environmental hydrology, in particular modification of rainfall-runoff processes.
- ♣ Eutrophication and effects on ecological quality of lakes and rivers
- ♣ Development of environmental model in System Dynamics.
- ♣ Application of the model SWAT (hydrology and transport of nutrients)
- ♣ Theoretical and experimental nutrient loads evaluation at watershed scale.
- ♣ Physical-chemical unit operations and processes for urban storm water and Combined Sewage Overflows.

Professional experience

- ♥ 1994-2000 Environmental educator for Italia Nostra Association, Milan (6 years)
- ♥ 2003 Two months stage at the Department of Hydrology and Landscape Ecology CAU University, Kiel, Germany.
- ♥ 2003 Teaching activity, as GIS expert, at the Course of Applied Ecology and at the Second Level Master "Planning and Protection of surface waters" of the University of Pavia.
- ♥ 2005 6 months project contract at the Water Research Institute (IRSA) of the National Research Council, on behalf of 'Ev-K2-CNR to realize a high altitude lake GIS in the Sagarmatha National Park (Nepal).

- ♥ 2005 Tutor at the First Level Master in Geographic Information for Economic and Spatial Decision (GIS expert).
- ♥ 2005 Professional office for Centro Volta (Co) for the study of the climatic, hydrological and anthropogenic of the Lake of Como Basin
- ♥ 2005-2010 Permanent position as Researcher at Water Research Institute (IRSA) of the National Research Council, Milan, Italy.

Research Projects

- ◆ 2004-2005 Participation as researcher in the national MICARI Project. Actions for restoring the water quality of Italian rivers
- ◆ 2006-2007 Participation as researcher in the national PLINIUS Project. Actions for restoring the water quality of Como Lake.
- ◆ 2006-2009 Scientific coordinator of international project DSS HKKH. Decision Support System for the Hindu, Kush, Karakorum, Himalaya.
- ◆ 2007-2009 Participation as researcher in the national RIMEDIA Project for evaluating the removal efficiency of narrow buffer zone.
- ◆ 2005-2007 Participation as researcher in the national QUALFALDA I Project: Preliminary definition of the Quantitative and Qualitative Status of groundwater of Provincia di Milano.
- ◆ 2007-2009 Participation as researcher in the national QUALFALDA II Project: Quantitative and Qualitative Status of groundwater of Provincia di Milano.
- ◆ 2009-2011 Scientific coordinator of the national Piroga Project for the restoring of Pusiano Lake.
- ◆ 2005-2008 Participation as researcher in the REBECCA and CIRCE Projects VI European Framework Programme
- ◆ 2009-2011 PIROGA Project (Integrate lake/catchment project for the restoration of ecological quality and hydrological management of the Lake Pusiano).
- ◆ 2010 Currently He is involved in the national Project SHARE Stelvio for evaluating the impact of climate change on the regional water resources.

International Publications

- 2010** Lami A., Marchetto A., Musazzi S., **Salerno** F., Tartari G., Guilizzoni P., Rogora M., Tartari G.A. 2010. Chemical and biological response of two small lakes in the Khumbu Valley, Himalayas (Nepal) to short-term variability and climatic change as detected by long-term monitoring and paleolimnological methods. *Hydrobiologia* 648:189–205.
- Balestrini R., Arese C., Delconte C.A., Lotti A., **Salerno** F. 2010. Narrow buffer strips in the intensive farming landscape of the Po River watershed (Italy). *Ecological Engineering*. In press.
- Salerno**, F., Cuccillato E., Caroli P., Bajracharya B., Manfredi E.C., Viviano G., Thakuri S., Flury B., Basani M., Panzeri D. 2010. Experience with a Hard and Soft Participatory Modeling Framework for Social-Ecological System Management in Mt Everest (Nepal) and K2 (Pakistan) Protected Areas. *Mountain Research and Development* 30(2): 80-93.
- Salerno**, F., Viviano G., Thakuri S., Flury B., Maskey R.K., Khanal S.N., Bhujju D., Carrer M., Bhojhibhoya S., Melis M.T., Giannino F., Staiano A., Carteni F., Mazzoleni S., Cogo A., Sapkota A., Shrestha S., Pandey R.K., and Manfredi E.C. 2010. Energy, Forest, and Indoor Air Pollution Models for Sagarmatha National Park and Buffer Zone, Nepal: Implementation of a Participatory Modeling Framework. *Mountain Research and Development* 30(2): 113-126.
- Manfredi, E.C., Flury B., Viviano G., Thakuri S., Khanal S.N., Jha P.K., Maskey R.K., Kayastha R.B., Kafle K.R., Bhojhibhoya S.B., Ghimire N.P., Shrestha B.B., Gyanendra C., Giannino F., Carteni F., Mazzoleni S., and **Salerno** F. 2010. Solid Waste and Water Quality Management Models for Sagarmatha National Park and Buffer Zone, Nepal: Implementation of a Participatory Modeling Framework. *Mountain Research and Development* 30(2): 127-142.
- Amatya, L.K., Cuccillato E., Haack B., Shadie P., Sattar N., Bajracharya B., Shrestha B., Caroli P., Panzeri D., Basani M., Schommer B., Flury B., **Salerno** F., Manfredi E. C. 2010. Improving Communication for Management of Social-ecological Systems in High Mountain Areas: Development of Methodologies and Tools – The HKKH Partnership Project. *Mountain Research and Development* 30(2): 69-79.
- Bajracharya, B., Pradhan S., Shrestha B., and **Salerno** F. 2010. An Integrated Decision Support

- Toolbox (DST) for the Management of Mountain Protected Areas. *Mountain Research and Development* 30(2): 94-102
- 2009** Salerno F. & Tartari G. 2009. A coupled approach of surface hydrological modelling and Wavelet Analysis for understanding the baseflow components of river discharge in karst environments. *Journal of Hydrology* 376: 295–306.
- 2008** Tartari G., Salerno F., Buraschi E., Bruccoleri G., Smiraglia C. 2008. Lake surface area variations in the North-Eastern sector of Sagarmatha National Park (Nepal) at the end of the 20th Century by comparison of historical maps. *Journal of Limnology* 67(2):139-154. ISI 2008
- Salerno F., Buraschi E., Bruccoleri G., Tartari G., Smiraglia C. 2008. Glacier surface-area changes in Sagarmatha national park, Nepal, in the second half of the 20th century, by comparison of historical maps. *Journal of Glaciology* 54 (187): 738-752. ISI 2008
- 2006** Tartari, G., E. Buraschi, D. Copetti, F. Salerno, C. Monguzzi, R. Pagnotta & A. Marchetto. 2006. Characterization of Italian lake types. *Verh. Internat. Verein. Limnol.*, 29: 1811-1816.
- Boguniewicz, J., F. Salerno, A.G. Capodaglio & G. Tartari. 2006. Impact of the Lambro River on the state of the Pusiano Lake: an in-stream nutrients modelling approach. *Verh. Internat. Verein. Limnol.*, 29 (3): 1249 -1252.