



Personal information

First name / Surname

Davide Bavera

Contacts

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Desired employment

Research in hydrology, natural hazard management, and environmental sustainability

Work experience

Dates

From June 2021 to now

Occupation or position held

Data scientist – technical consultant for the Joint Research Centre – European Commission

Main activities and responsibilities

Developed and implemented real-time drought monitoring systems, hydrological models, and analytical tools for the European and Global Drought Observatory, Copernicus Emergency Management Service.

Name and address of employer

Arcadia SIT s.r.l – service provider for the Joint Research Centre - European Commission

Type of business or sector

Research activity in hydrology and risk management

Dates

from March 2013 to June 2021

Occupation or position held

Responsible of Hydropower service - Project Engineer and Project Manager – Hydraulic Engineer

Main activities and responsibilities

Managed mini-hydropower plant design and development, integrating irrigation and tourism needs, and coordinating with Enel Green Power and other stakeholders.

Name and address of employer

Consorzio di Bonifica Est Ticino Villoresi, Milano

Type of business or sector

Civil and hydraulic engineering

Dates

from December 2011 to December 2012

Occupation or position held

Project Engineer – Technical consultant

Main activities and responsibilities

Conducted hydrology and hydraulics studies for hydropower and irrigation plants, and provided technical support for natural hazard prevention and sustainable development projects in Europe, Africa and Asia.

Name and address of employer

ELC Electroconsult Baranzate MI, Puricelli Ambiente Verde s.r.l. Varese, Geoarbor Studio – Basiano MI

Type of business or sector

Civil and hydraulic engineering, Soil bioengineering

Dates

from November 2008 to October 2011

Occupation or position held

Post doc research contract – ClimateCost FP7 European Project (www.climatecost.cc)

Main activities and responsibilities

Assessed climate change impact on European floods using multi-model ensemble approach, hydrological simulation, and spatial analysis in ArcGIS and R.

Name and address of employer

European Commission - Joint Research Centre - Land Management and Natural Hazard Unit
Project coordinator: Tom Downing (Stockholm Environment Institute (SEI) Oxford, UK)

Type of business or sector

Hydrology and climate change research, floods, water availability

Dates

from February 2011 to September 2011

Occupation or position held

Technical consulting

Main activities and responsibilities

Developed a real-time snow warning system and snow cover mapping techniques using ArcGIS for local administrations.

Name and address of employer

Fondazione Montagna Sicura - Montagne Sûre –Courmayeur (AO)

Type of business or sector

Technical consulting in hydrology, meteorology and snow science sector. ArcGIS tool implementation.

Dates

from March 2004 to October 2008

Occupation or position held

Research collaborations / visiting scientist – AWARE European Project (During PhD studies)

Main activities and responsibilities

Expert in water resources assessment, snow hydrology, and mountain environment research, with experience in fieldwork, data analysis, and project management, and supervision of degree theses.

Name and address of employer

Politecnico di Milano. Persons in charge: R. Rosso, C. de Michele, A. Bianchi
Swiss Federal Institute for Snow and Avalanche Research (CH). Person in charge: Dr. M. Lehning
Università degli Studi di Brescia – Engineering faculty. Person in charge: prof. R. Ranzi
Project coordinator: A. Rampini (IREA-CNR, Milano)

Type of business or sector

Snow and mountain hydrology, water availability, water resource management, fluid dynamics

Education and training	
Dates	from March 2004 to June 2008
Title of qualification awarded	Ph.D. in Hydraulic Engineering
Principal subjects/occupational skills covered	Dissertation on snow water equivalent estimation using MODIS images and ground data, with experimental fieldworks and collaboration with CNR IREA and SLF.
Name and type of organisation providing education and training	Politecnico di Milano - Environmental, Hydraulic, Infrastructures and Surveying Engineering Dep. (DIAR) - P.zza Leonardo da Vinci, 32 I-20133 Milano (Supervisor: Ing. Carlo de Michele)
Dates	from October 1997 to April 2003
Title of qualification awarded	Degree in Environmental and Land Planning Engineering with full marks (97 / 100)
Principal subjects/occupational skills covered	Award-winning thesis on ice safety and frozen waterfalls stability, recognized by the Italian Glaciological Committee and AINEVA. Professional Qualification to practice engineer profession (October 2003)
Name and type of organisation providing education and training	Politecnico di Milano - Engineering faculty, Environmental and Land Planning Engineering P.zza Leonardo da Vinci, 32 I-20133 Milano
Dates	from September 1992 to July 1997
Title of qualification awarded	Scientific Diploma – experimental section Informatics National Plan – mark 60 / 60
Name and type of organisation providing education and training	High school “Giovanni Battista Grassi” – Saronno (VA)
Personal skills and competences	
Mother tongue(s)	Italian
Other language(s)	English: Proficient user (C2) (T.O.E.F.L. March 2000. Certified English Language Courses (C2) 2010)
Social skills and competences	Proven team player with strong communication and leadership skills, and international experience
Organisational skills and competences	Results-driven project manager with strong leadership, organizational, and problem-solving skills
Technical skills and competences	Expert in hydropower, hydrology, and renewable energy with training in snow and glacier operations.
Computer skills and competences	Proficient in MS Office, ArcGIS, and hydrological models. Basic coding skills (Linux, Python, R, Fortran, C++, MatLab), with experience in various software tools (AutoCAD, Adobe)
Artistic skills and competences	Photography, theatre, guitar playing
Other skills and competences	Mountain Leader for Lombardy Region Alpine Guides Association, mountaineering, trekking, ski touring, climbing (Member of Italian Alpine Club from 1996)
Driving licence	B driving licence
Additional information	Military Duties fulfilled (civil service for Caritas Ambrosiana – Milano). Discharged on 02/04/2004
Selected Publications	• Fioravanti G., Toreti A., Cammalleri C., Muñoz C.A., Bavera D., De Jager A., Hraet Essenfelder A., Di Ciollo C., Masante D., Magni D., Navarro J.A., Mazzeschi M., Maetens W. A dataset for monitoring agricultural drought in Europe (2025) Scientific Data , 12 (1), art. no. 308 • Cammalleri C., Maffei S., Ceppi A.F.G., Bavera D., Fioravanti G., Peretti M., Spennemann P.C., Toreti A. Beyond simple flash drought detection: An operational index to analyse the development speed of droughts at global scale (2025) Weather and Climate Extremes, 49, art. no. 100800 • Brocca L., Gaona J., Bavera D., Fioravanti G., Puca S., Ciabatta L., Filippucci P., Mosaffa H., Esposito G., Roberto N., Dari J., Vreugdenhil M., Wagner W. Exploring the actual spatial resolution of 1 km satellite soil moisture products (2024) Science of the Total Environment, 945, art. no. 174087 • Cammalleri C., Acosta Navarro J.C., Bavera D., Diaz V., Di Ciollo C., Maetens W., Magni D., Masante D., Spinoni J., Toreti A. An event-oriented database of meteorological droughts in Europe based on spatio-temporal clustering (2023) Scientific Reports, 13 (1), art. no. 3145 • Fergnani N., Silva P., Bavera D., 2017. “Efficiency assessment of a commercial size Archimedean screw turbine based on experimental data” Paper for Hydro 2017 international conference proceedings • Bavera D., Jonas T., Lehning M., Bavay M., De Michele C., 2014. “A comparison between two statistically- and a physically-based model in snow water equivalent mapping” Advances in Water Resources DOI: 10.1016/j.advwatres.2013.11.011 • Rojas, R., Feyen, L., Dosio, A., and Bavera, D.: Improving pan-European hydrological simulation of extreme events through statistical bias correction of RCM-driven climate simulations, Hydrol. Earth Syst. Sci., 15, 2599-2620, doi:10.5194/hess-15-2599-2011, 2011 • Bavera D., De Michele C., 2009. “Snow water equivalent estimation in the Mallero basin using snow gauge data and MODIS images and fieldwork validation” Hydrological Processes 23(14), 1961-1972.