

PERSONAL INFORMATION

**Luca Molini**



WORK EXPERIENCE

- 01/07/2007-30/06/2009 **Post doc position**  
University of Florence, Florence, Italy
- 01/07/2009-present **Researcher**  
CIMA Research Foundation, Savona, Italy
- 01/08/2011-01/2024 **Head of the Operational Centre**  
CIMA Research Foundation, Savona, Italy
- 01/11/2022 – 31/10/2023 **Chairman of Global Flood Forecasting service**  
Aristotle ENSHP Project
- 01/01/2021-present **Head of User Support, Dissemination, and Outreach**  
Global Flood Monitoring service

EDUCATION AND TRAINING

- 15/09/1996 – 20/07/2003 **Master Degree in Environmental Engineering** Replace with EQF (or other) level if relevant  
University of Genoa, Italy
- 01/11/2003 – 30/10/2006 **Ph.D. in Environmental Monitoring**  
University of Basilicata, Italy

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
French	A2.1	A2.1	A2.1	A2.1	A2.1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

**Communication skills** Exercised teaching and communication skills. Excellent ability of dealing with public talks and exposition

**Organisational / managerial skills** Great ability of relations with other people and of team building as well as a natural recognized leadership (currently responsible for the 19 officers of the Operational Centre).

Job-related skills

Very good skill in critical reasoning and Problem solving; ability in formalizing complex problems into mathematical models.

**Key qualifications:** (Relevant to the project)

- more than 20 years of relevant experience in environmental engineering, early warning system
- more than 20 years of experience in end-users support related to early warning and real-time monitoring systems
- more than 15 years as lecturer in EWS-focussed international courses
- more than 15 years of experience in analysis and development of SOPs of Operations Centres
- more than 15 years of professional experience in flood risk management, flood early warning systems, disaster risk reduction

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent User	Independent User	Independent User	Independent User	Independent User

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

Database: Advanced; Internet/Mail: Advanced; Presentation tools: Advanced;

Spreadsheet:

- Advanced; Text processing: Advanced; Programming languages (Matlab, Fortran)

Driving licence

ADDITIONAL INFORMATION

B

Publications

Silvestro, F., Molini, L., Guzzetti, F., Schiavi, F., Castelli, F., & Ferraris, L. (2024). Severe floods predictive ability: A proxy based probabilistic assessment of the Italian early warning system. *Journal of Flood Risk Management*, e12970.

Michellini, A., Wotawa, G., Brovelli, P., Loughlin, S., Melis, N., Rossi, L., ... & Tiganescu, A. (2023). ARISTOTLE-A multi hazard scientific expert assessment service for the EC Emergency Response Coordination Center. In XXVIII General Assembly of the International Union of Geodesy and Geophysics (IUGG). GFZ German Research Centre for Geosciences.

Peter Salamon, Niall Mclormick, Christopher Reimer, Tom Clarke, Bernhard Bauer-Marschallinger, Wolfgang Wagner, Sandro Martinis, Candace Chow, Christian Böhnke, Patrick Matgen, Marco Chini, Renaud Hostache, Luca Molini, Elisabetta Fiori, Andreas Walli, "The New, Systematic Global Flood Monitoring Product of the Copernicus Emergency Management Service," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, Brussels, Belgium, 2021, pp. 1053-1056, doi: 10.1109/IGARSS47720.2021.9554214. keywords: {Training;Analytical models;Systematics;Redundancy;Geoscience and remote sensing;Emergency services;Robustness;floods;Sentinel-1;data cube},

Parodi, A., Ferraris, L., Gallus, W., Maugeri, M., Molini, L., Siccardi, F., and Boni, G.: Ensemble cloud-resolving modelling of a historic back-building mesoscale convective system over Liguria: the San Fruttuoso case of 1915. *Clim. Past*, 13, 455–472, <https://doi.org/10.5194/cp-13-455-2017>, 2017.

Parodi A., , Dieter Kranzlmüller , Andrea Clematis , Emanuele Danovaro, Antonella Galizia , Luis Garrote, Maria Carmen Llasat, Olivier Caumont, Evelyne Richard , Quillon Harpham, Franco Siccardi, Luca Ferraris, Nicola Rebor, Fabio Delogu, Elisabetta Fiori, Luca Molini, Efi Foufoula-Georgiou, and Daniele D'Agostino - DRIHM(2US): An e-Science Environment for Hydrometeorological Research on High-Impact Weather Events, *Bulletin of the American Meteorological Society*, <https://doi.org/10.1175/BAMS-D-16-0279.1>, 2149-2166, 2017.

F. Viterbo, J. von Hardenberg, L. Molini, A. Parodi, A. Provenzale, O. Sy, S. Tanelli - High-Resolution Simulations of the 2010 Pakistan Flood Event: Sensitivity to Parameterizations and Initialization Time, *Journal of Hydrometeorology*, vol. 17, issue 4, pp. 1147-1167, 10.1175/JHM-D-15-0098.1

L. Campo, E. Fiori, L. Molini,- A rainfall spatial interpolation algorithm based on inhomogeneous kernels, EGU General Assembly 2015, held 12-17 April, 2015 in Vienna, Austria. id.4198

E. Fiori, A. Comellas, L. Molini, N. Rebora, F. Siccardi, D. J. Gochis, S. Tanelli, A. Parodi - Analysis and hindcast simulations of an extreme rainfall event in the Mediterranean area: The Genoa 2011 case, *Atmospheric Research* 03/2014; 138:13–29. DOI:10.1016/j.atmosres.2013.10.007

N. Rebora, L. Molini, E. Casella, A. Comellas, E. Fiori, F. Pignone, F. Siccardi, F. Silvestro, S. Tanelli, A. Parodi - Extreme Rainfall in the Mediterranean: What Can We Learn from Observations? *Journal of Hydrometeorology* 06/2013; 14(3):906-922. DOI:10.1175/JHM-D-12-083.1

#### Projects

P. Fiorucci, L. Molini, A. Parodi, M. D'Andrea - The capability of meteorological models in identifying the conditions associated with large scale fire events. 10th Symposium on Fire and Forest Meteorology 2013 American Meteorological Society; 10/2013.

A. Comellas, A. Parodi, Z. Fuchs, L. Molini - Saturation fraction and gross moist stability in severely precipitating systems in the midlatitude Mediterranean environment - *Atmospheric Research* 04/2012; 123:360–367. DOI:10.1016/j.atmosres.2012.07.010

A. Comellas, L. Molini, A. Parodi, A. Sairouni, M. C. Llasat, and F. Siccardi - Predictive ability of severe rainfall events over Catalonia for the year 2008, *Nat. Hazards Earth Syst. Sci.*, 11, 1–15, 2011.

M. Schiffers, D. Kranzmueller, A. Clematis, D.D'Agostino, A. Galizia, A. Quarati, A. Parodi, N. Rebora, M. Morando, N. Rebora, E. Trasforini, L. Molini, F. Siccardi, G. C. Craig, A. Tafferfer - Towards a Grid Infrastructure for Hydro-Meteorological Research *Computer Science*, Vol. 12, pp. 45-62, ISSN 1508-2806 ,2011.

Molini L, Parodi A, Rebora N, Craig GC. Classifying severe rainfall events over Italy by hydrometeorological and dynamical criteria. *Q. J. R. Meteorol. Soc.* 137: 148–154, 2010.

Molini L., Parodi A., Siccardi F., "Dealing with uncertainty: a climatologic analysis of the severe events over Italy", *Nat. Hazards Earth Syst. Sci.*, 9, 1775–1787, 2009.

Bagnera A., Massabò M., Minciardi R., Molini L., Robba M., Sacile R., "Optimal Groundwater Exploitation and Pollution Control", iEMSs 2004 International Congress on Complexity and Integrated Resources Management, Osnabrück, Germany, 2004.

Molini L., Parodi A., Siccardi F. "Assessing uncertainty in radar measurements on simplified meteorological scenarios", *Advances in Geosciences*, 7, 1–6, 2006.

Molini L., Parodi A., Rebora N., Marzano F.S., Siccardi F. "Brightband detection and evaluation using a radar simulator in a numerically-modelled atmospheric scenario", *Proceedings of European Radar Conference*, 2006.

De Sanctis K., Montopoli M., Marzano F.S., Molini L., Parodi A., Siccardi F., Ferretti R. "Role of the microphysics for a convective event in the Po valley: COSMO-MODEL and MM5 high resolution simulations", 4.th European Conference on Severe Storms, Trieste, Italy, 2007.

Molini L., Parodi A., Siccardi F., "An observing system simulation experiment for the study on attenuation of C-band radar measurements", *Meteorological Applications*, Vol. 15, Issue 4, 523-533, 2008.

Fiori E., Molini L., Parodi A., Siccardi F., "Uncertainty in numerical simulation of deep moist convection dynamics", *Geophysical Research Abstracts*, 8, 07948, EGU Assembly, Vienna, Austria, April 2006.

Molini L., De Sanctis K., Parodi A., Ferretti R., Marzano F.S., Montopoli M., Siccardi F., "Characterization of rainfall C-band radar response and dual-polarized measurement", QPF-Hydro 2006, University of Colorado, Boulder, Colorado, USA.

02/2024 Coordinator of the R. Lazio – F. CIMA agreement for the development of the avalanche criticality bulletin

01/2021 – today Head of user support and external communication service of the Global Flood Monitoring Service

01/2019 – today Responsible of many work packages for the development of integrated monitoring, forecasting and reporting systems in the F. CIMA- Dip. Prot. Civ. Agreements. National team 2019-2021, 2023-2023 and 2024-2026

2021/09 Lecturer for the course "Technical Assistance to Enhance the Capacity of AFAD in the Adaptation and Reduction of Disaster Risks Resulting from the Climate Change in Turkey"

2021/09 Lecturer for the VFDM project entitled ' Integrating Flood and Drought management and Early Warning for climate change adaptation in the Volta Basin

#### Prizes and awards

2021/05 Lecturer for UNDRR Programme for a continental coordination, early warning and action system in Africa

12/2020- present Coordinator of WP5000 for CEMS' Global Flood Monitoring service

06/2020-11/2020 Lecturer for PPRD South III – Prevention, Preparedness and Response to Natural and Man-Made disasters in Middle East and North Africa Partnership Countries

06/2019 Lecturer for IPCAM2 Project @ Tunisian Civil Protection

01/2019 – present Coordinator of WPs 3.1, 3.2, 3.5, 3.7, 3.8 of CIMA Foundation/National Civil Protection convention

11/2018 – present Coordinator of CIMA's global hydrological prediction service in the framework of DG-ECHO's Aristotle2 (All Risk Integrated System TOwards Trans-boundary hoListic Early-warning - European Natural Hazards Scientific Partnership)

06/2017 – present expert in liability analysis in many projects with regional civil protection authorities (P.A. Bolzano, R.A. Valle d'Aosta, Lombardy Meteorological Service, Ligurian Functional Centre

03/2015-10/2015 Non-key expert in EU Floods Directive for the Flood Risk Management Expert for Programme on Prevention, Preparedness and Response to man-made and natural Disasters in the ENPI East Region (PPRD East 2)

07/2014-12/2014

Training coordinator for Serbia-Belgrade: IPA — Developing a more efficient early warning and response system, in line with EU standards

06/2013

Lecturer for UNDP's Enhancing resilience to reduce vulnerability in the Caribbean

09/2011-02/2015

Member of EU FP7 project DRIHM – Distributed Research Infrastructure for Hydro-Meteorology Study  
Environmental Risk Operational Forecast

04/2011

Lecturer for Strengthening the National Framework to Mitigate Rural-Forest Fire Risk for Lebanon for the Italian Ministry of Foreign Affairs

10/2010

Lecturer for Wildfire and Floods Risk Prediction and Mitigation Programme for Albania for the Italian Ministry of Foreign Affairs

03/2009-05/2009

Lecturer for CIMA Foundation and Venezuela Government contract: CENAPRAD – Activities of preparedness and training for Civil Protection Managers -Tropical Meteorology of the extremes and Early Warning Systems

2009-2010

Member of EU FP7 project DRIHMS – Distributed Research Infrastructure for Hydro-Meteorology Study

2008-2009

Researcher for CIMA Foundation - National Civil Protection Department Contract  
Applied research contract for advances in flood and forest fire forecast procedures and action of international cooperation (2008-2009)

"Med-Storm Prize for young researcher", 13th "Plinius Conference on Mediterranean Storms, Savona, Italy, September 2011