



DANIELA MOLINARI

Curriculum Vitae

PERSONAL INFORMATION

Date of birth: 15-06-1980

Nationality: Italian

Address: Via Cesare Battisti 7, 21050
Lonate Ceppino (VA) – Italy

Telephone number: +39 02 2399 6206 (work)

Mobile number: +39 348 644 5 333 (private)

Fax number: +39 02 2399 6298 (work)

e-mail: daniela.molinari@polimi.it (work)

danimoli2003@yahoo.it (private)

WORK EXPERIENCE

From February 2021 onward

Associate Professor at Politecnico di Milano (Milan, Italy)

Research field: Flood risk assessment and management

Institutional roles:

From April 2020 onward: Delegate for communication of the Department of Civil and Environmental Engineering

July 2015 – February 2021

Researcher (RTD A/B) at Politecnico di Milano (Milan, Italy)

Research field: Flood risk assessment and management

March 2011 – July 2015

Post-doc researcher at Politecnico di Milano (Milan, Italy)

Research field: Flood risk assessment and management

January 2007-December 2010

PhD student at Politecnico di Milano (Milan, Italy)

Research field: design and verification of Flood Early Warning Systems

January 2006-December 2006

Temporary researcher at Politecnico di Milano (Milan, Italy)

Research field: Natural and man-made risks assessment and management (ref. to publications J2, b1)

EDUCATION AND TRAINING

February 2011:

PhD in Hydraulic Engineering at Politecnico di Milano (Milan, Italy)

Title of the thesis: Flood Early Warning Systems performance: an approach at the warning chain perspective (ref. to publications J3, J5, B1, P1, P2, P3)

October 2005

Degree (with honors) in Environmental Engineering at Politecnico di Milano (Milan, Italy)
Title of the thesis: Fire numerical models for tunnels safety" (**Award** "The best graduates of Politecnico di Milano" a.a. 2004/2005)

INTERNATIONAL EXPERIENCE

February 2009 -May 2009:

Research visitor at RMIT University - Centre for Risk and Community Safety (Melbourne, Australia)

Research topic: Early Warning Systems Effectiveness (ref. to publications J3, J7)

Supervisor: prof. John Handmer

February 2003 - April 2003:

Student visitor at University of Exeter – Centre for Water system (Exeter, UK)

Research topic: computational fluid dynamics – combustion (ref. to publication J1)

Supervisor: prof. Gavin Tabor

TEACHING

From 2015 onward

Professor at Politecnico di Milano (Milan, Italy)

Courses:

2015-2016	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2016-2017	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2017-2018	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2018-2019	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2018-2019	Laboratory of emergency planning – Master of Science in Civil Engineering for Risk Mitigation (International programme)
2019-2020	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2019-2020	Laboratory of emergency planning – Master of Science in Civil Engineering for Risk Mitigation (International programme)
2020-2021	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2020-2021	Laboratory of emergency planning – Master of Science in Civil Engineering for Risk Mitigation (International programme)
2020-2021	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2020-2021	Laboratory of emergency planning – Master of Science in Civil Engineering for Risk Mitigation (International programme)
2021-2022	Fluid Mechanics - Bachelor of Science in Mechanical Engineering
2021-2022	Laboratory of emergency planning – Master of Science in Civil Engineering for Risk Mitigation (International programme)

2006-2015

Assistant professor at Politecnico di Milano, Laboratory of emergency planning

from 2018 onward

(co) Supervisor/tutor of PhD thesis

2017 - 2021	Development of a multi-scale model for the estimation of flood damage, M. Galliani – PhD in Environmental and Infrastructure Engineering
From 2019	Verso una valutazione esaustiva del danno a supporto della mitigazione del rischio alluvioni, P. Asaridis - PhD in Environmental and Infrastructure Engineering
From 2020	Integrating climate change adaptation and flood risk mitigation at the building level, M. D'Angelo - PhD in Environmental and Infrastructure Engineering
From 2021	Flood risk assessment for a sustainable design of the environment, M. Ballocci, PhD in Sustainable Development and Climate change

From 2022 Comprehensive damage assessment in support of Flood Risk Management, A. Gallazzi - PhD in Environmental and Infrastructure Engineering

from 2010 onward

Supervisor of Thesis:

- 2016-2017 *Affidabilità delle stime di danno alluvionale al variare del livello di conoscenza della vulnerabilità*, M. Galliani – Master of Science in Environmental and land planning Engineering
- 2016-2017 *AGRIDE: un modello esperto per la valutazione del danno alluvionale al settore agricolo*, A. Gallazzi – Master of Science in Environmental and land planning Engineering
- 2017-2018 *Flood Damage Assessment in Support of the Definition of Risk Mitigation Strategies: The Case of Lodi*, E. Gattai - Master of Science in Civil Engineering for Risk Mitigation
- 2017-2018 Implementazione e sviluppo del modello AGRIDE per la valutazione del danno alluvionale al settore agricolo, P. Pituello - Master of Science in Environmental and land planning Engineering
- 2018-2019 The Flood damage model repository – an opportunity to bridge knowledge gaps on flood damage assessment tools, I. Bombelli - Master of Science in Environmental and land planning Engineering
- 2018-2019 La modellazione della rete di trasporto stradale a supporto della gestione del rischio alluvionale, M. Frattari - Master of Science in Civil Engineering
- 2019-2020 Adaptation of an Italian flood damage model: INSYDE, to the Wallon Region – Belgium, D. Rodriguez Castro - Master of Science in Civil Engineering for Risk Mitigation
- 2020-2021 An empirical flood mortality model using random forest algorithm, M. Yazdani, - Master of Science in Civil Engineering for Risk Mitigation
- 2021-2022 Flood damage model: Development of INSYDE in the Po River basin, G.G. Huayra Mena , - Master of Science in Civil Engineering for Risk Mitigation
- 2021-2022 Sviluppo del modello di danno alluvionale AGRIDE-c per le colture orticole nell'ambito del distretto idrografico del fiume Po, V. Caldano - Master of Science in Environmental and land planning Engineering

Co-supervisor of Thesis:

- 2010-2011 *Creazione di un database per la definizione dei modelli di danno da rischio alluvionale*, G. Ottomano - Master of Science in Civil Engineering
- 2011-2012 *Valutazione critica dei modelli di previsione delle piene ai fini dell'allertamento della protezione civile: il caso della Regione Umbria*, A. Libera - Master of Science in Civil Engineering
- La valutazione del rischio secondo la direttiva alluvioni: una proposta metodologica applicabile al contesto italiano*, L. Legnani - Master of Science in Civil Engineering for Risk Mitigation
- 2013-2014 *Flood damage assessment with the help of HEC-FIA model*, R. Hasanzadeh Nafari - Master of Science in Civil Engineering for Risk Mitigation
- 2014-2015 *Post-disaster loss accounting vs disaster forensic: insights from the November 2013 flood in the Umbria region*, M.C. Rodriguez Parra - Master of Science in Civil Engineering for Risk Mitigation
- 2015-2016 *Scenario di rischio alluvionale per la città di Sondrio*, A. Bettiga - Master of Science in Civil Engineering for Risk Mitigation
- 2015-2016 *Effectiveness of structural mitigation measures to reduce residential buildings vulnerability to floods*, V. Bezzam - Master of Science in Civil Engineering for Risk Mitigation
- 2019-2020 Un nuovo metodo per la stima del danno alluvionale, T. Lazzarin - Master of Science in Civil Engineering, Università degli studi di Padova
- 2019-2020 Quadro sinottico del danno di alluvione in Italia: proposta di un modello per il rapid mapping. A. Pogliani – Master of Science in Environmental and land planning Engineering

from 2009 onward

Invited lecturer at specializing masters:

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| 2006-2007 | Specialization certificate for the assessment and management of geological and climate related risk – University of Geneva |
| 2007-2008 | Specialization certificate for the assessment and management of geological and climate related risk – University of Geneva |
| 2009-2010 | Master universitario di II° livello in Progettazione per lo Sviluppo Sostenibile in Aree Montane e Politiche per la Montagna dell'Unione Europea – Politecnico di Milano e Regione Lombardia |
| 2014-2015 | Master universitario di II° livello in Territorio e Architettura Sostenibili – Politecnico di Milano |

2008-2009:

Student supervisor at Alta Scuola Politecnica (Milan, Italy) with the supervision of Prof. Fabio Inzoli (Department of Energy, Politecnico di Milano)

Title of the project: Preliminary risk analysis and emergency planning of an illegal settlement in Guayaquil

RESEARCH PROJECTS and ACTIVITY

Principal Investigator of the following Italian projects:

- Flood-IMPAT+: an Integrated Meso & micro scale Procedure to Assess Territorial flood risk (funded by Fondazione Cariplo)(ref. to publications J17, J18, J19, J25, P15, P16, P17, P18, P19)
- Modelli per la previsione e gestione del danno alle reti in caso di alluvione (funded by Fondazione AMGA)
- Verso una valutazione esaustiva del danno a supporto della mitigazione del rischio alluvioni (PhD scholarship funded by Banca D'Italia, ongoing)

Collaboration in the following **EU research projects**:

- Preparação para as mudanças climáticas e igualdade na província de Cabo Delgado (EU – Europeaid) (ongoing)
- LODE project (PREVENTION AND PREPAREDNESS PROJECTS IN CIVIL PROTECTION AND MARINE POLLUTION): Loss Data Enhancement for Disaster Risk Reduction and Climate Change Adaptation Management (ongoing)
- IDEA project (PREVENTION AND PREPAREDNESS PROJECTS IN CIVIL PROTECTION AND MARINE POLLUTION): Improving Damage assessments to Enhance cost-benefit Analyses (ref. to publications J10, P12, P13, P14, b7)
- KNOW-4-DRR project (SEVENTH FRAMEWORK PROGRAMME): Enabling knowledge for disaster risk reduction in integration to climate change adaptation
- ENSURE project (SEVENTH FRAMEWORK PROGRAMME): Enhancing resilience of communities and territories facing natural and na-tech hazards (ref. to publication J4)

- MIARIA project (INTERREG Project Italy-Switzerland 2007-2013): Monitoraggio Idrogeologico Adattativo a Supporto del Piano di Rischio Integrato Alpino (ref. To publication b4)
- SCENARIO project (SIXTH FRAMEWORK PROGRAMME): Support on Common European Strategy for sustainable natural and induced technological hazards mitigation (ref. to publications b2, b3)
- ARMONIA project (SIXTH FRAMEWORK PROGRAMME): Applied Multi Risk Mapping of Natural Hazards for impact assessment.

Collaboration in the following **Italian projects**:

- Poli-RISPOSTA - strumenti per la protezione civile a Supporto delle POPolazioni nel poST Alluvione, Polisocial Award 2012-2013, Politecnico di Milano (ref. to publications J6, J8, P8, b6)
- Sistemi di allerta precoce: aspetti tecnici, urbanistici e di comunicazione (PRIN project 2006)
- PROMETEO – RI-IMAGE (Politecnico di Milano project): strategic research on integration of methods and approaches of hydro-geological risk analyses in order to improve emergency management

Collaboration with Italian **authorities**:

- Interregional Agency for the Po River (2020-2021)
Project Manager of the research team of Politecnico di Milano of the project: "Valutazione del danno alluvionale a supporto della gestione delle golene chiuse sul fiume Po ai fini della laminazione della portata di piena"
- Po River Basin District (ongoing)
Project Manager of the research team of Politecnico di Milano of the project: "Metodologie e applicazioni per l'aggiornamento delle mappe di danno alluvionale relativamente alla revisione del PGRA"
- Po River Basin District (ongoing)
Member of the research team of Politecnico di Milano on the theme: Floods Directive implementation – flood risk assessment and management (ref. to publications J9, P6, P7, P9, P10, P11)
- Umbria Region – Civil protection (2011-2016)
Project manager of the activities of Politecnico di Milano as Expertise Centre on the theme: forecasting and mitigation of hydrogeological risks (ref. to publications J6, J8, J10, b5, b6, b7, P4, P5)
- Valle d'Aosta Region (2014-2016)
Member of the research team of Politecnico di Milano on the theme: Floods Directive implementation – flood risk assessment and management (ref. to publications P9, P10, P11)
- Province of Varese (2008-2011)
Member of the research team of Politecnico di Milano for the development of the Provincial Emergency Plan for Drought

PUBLICATIONS

Articles in Journals

- J1) Tabor G.R., **Molinari D.**, Juleff G., Computational simulation of air flows through a Sri Lanka wind-driven furnace, *Journal of Archaeological Science*, 32(5), 753–766, 2005
- J2) **Molinari D.** Analisi di rischio e incertezza: l'uso dei metodi Monte Carlo per i rischi naturali. *Ingegneria Sismica*, 2, 36-44, 2007
- J3) **Molinari D.**, Handmer J., A behavioural model for quantifying flood warning effectiveness, *Journal of flood risk management*, 4(1), 23–32, 2011
- J4) Menoni S., **Molinari D.**, Parker D., Ballio F., Tapsell S., Assessing multifaceted vulnerability and resilience in order to design risk-mitigation strategies, *Natural Hazards*, 64(3), 2057-2082, 2012
- J5) **Molinari D.**, Ballio F., Menoni S., Modelling the benefits of flood emergency management measures in reducing damages: a case study on Sondrio, Italy, *Natural Hazards and Earth Systems Science*, 13, 1913-1927, 2013
- J6) **Molinari D.**, Menoni S., Aronica G.T., Ballio F., Berni N., Pandolfo C., Stelluti M., Minucci G., Ex-post damage assessment: an Italian experience, *Natural Hazards and Earth Systems Science*, 14, 901-916, 2014
- J7) **Molinari D.**, Ballio F., Handmer J., Menoni S., On the modeling of significance for flood damage assessment, *International Journal of Disaster Risk Reduction*, 10, part A, 381-391, 2014
- J8) Ballio F., **Molinari D.**, Minucci G., Mazuran M., Arias Munoz C., Menoni S., Atun F., Ardagna D., Berni N., Pandolfo C., The RISPOSTA procedure for the collection, storage and analysis of high quality, consistent and reliable damage data in the aftermath of floods, *Journal of Flood Risk Management*, 11, S604–S615 (2018), on line first, 2015
- J9) **Molinari D.**, Minucci G., Mendoza M.T., Simonelli T. Implementing the European “Floods Directive”: the Case of the Po River Basin, *Water Resources Management*, 30(5), 1739-1756, 2016
- J10) Menoni S., **Molinari D.**, Ballio F., Minucci G., Atun F., Berni N., Pandolfo C. Flood damage: a model for consistent, complete and multi-purpose scenarios, *Nat. Hazards Earth Syst. Sci.* 16, 2783-2797, 2016
- J11) Dottori F., Figueiredo R., Martina M.L.V., **Molinari D.**, Scorzini A. (N.B. authors in alphabetical order) INSYDE: a synthetic, probabilistic flood damage model based on explicit cost analysis, *Nat. Hazards Earth Syst. Sci.*, 16, 2577-2591, doi:10.5194/nhess-16-2577-2016, 2016.
- J12) Kreibich H., Di Baldassarre G., Vorogushyn S., Aerts J.C.J.H., Apel H., Aronica G.T., Arnbjerg-Nielsen K, Bouwer L.M., Bubeck P., Caloiero T., Chinh D.T., Cortès M., Gain A.K., Giampá V, Kuhlicke C., Kundzewicz Z.W., Llasat M.C., Mård J., Matczak P., Mazzoleni M., **Molinari D.**, Dung N.V., Petrucci O., Schröter K., Slager K., Thieken A.H., Ward P.J., Merz B. Adaptation to flood risk – results of international paired flood event studies, *Earth's Future*, doi: 10.1002/2017EF000606, 2017

J13) **Molinari D.**, Scorzini A., On the influence of input data quality to flood damage estimation: The Performance of the INSYDE Model, *Water*, 9(9), 688; doi:10.3390/w9090688, 2017

J14) Di Baldassarre G., Kreibich H., Vorogushyn S., Aerts J., Arnbjerg-Nielsen K., Barendrecht M., Bates P., Borga M., Botzen W., Bubeck P., De Marchi B., Llasat C., Mazzoleni M., **Molinari D.**, Mondino E., Mård J., Petrucci O., Scolobig A., Viglione A., Ward P.J., Hess Opinions: An interdisciplinary research agenda to explore the unintended consequences of structural flood protection, *Hydrol. Earth Syst. Sci.*, 22, 5629–5637, <https://doi.org/10.5194/hess-22-5629-2018>, 2018

J15) **Molinari D.**, De Bruijn K., Castillo-Rodríguez J.T., Aronica G.T., Bouwer L.M., Validation of flood risk models: Current practice and possible improvements, *International Journal of Disaster Risk Reduction*, 33, 441-44, <https://doi.org/10.1016/j.ijdr.2018.10.022>, 2019, (on line first 2018)

J16) Scorzini A.R., Radice A., **Molinari D.**, A New Tool to Estimate Inundation Depths by Spatial Interpolation (RAPIDE): Design, Application and Impact on Quantitative Assessment of Flood Damage, *Water* 10, doi:10.3390/w10121805, 2018

J17) **Molinari D.**, Scorzini A. R., Gallazzi, A., Ballio, F., AGRIDE-c, a conceptual model for the estimation of flood damage to crops: development and implementation, *Nat. Hazards Earth Syst. Sci.*, 19, 2565–2582, <https://doi.org/10.5194/nhess-19-2565-2019>, 2019

J18) Gaviglio A., Filippetti R., **Molinari D.**, Marescotti M.E., Demartini E., Evaluating the flood damage on dairy farms: a methodological proposal, *Aestimum*, 75, 25-47, 2019

J19) Minucci G., **Molinari D.**, Gemini G., Pezzoli S., Enhancing flood risk maps by a participatory and collaborative design process, *International Journal of Disaster Risk Reduction* 50, <https://doi.org/10.1016/j.ijdr.2020.101747>, 2020

J20) Sairam N., Schröter K., Carisi F., Wagenaar D., Domeneghetti A., **Molinari D.**, Brill F., Priest S., Viavattene C., Merz B., Kreibich H., Bayesian Data-Driven Approach Enhances Synthetic Flood Loss Models, *Environmental Modelling and Software* 132, <https://doi.org/10.1016/j.envsoft.2020.104798>, 2020

J21) Galliani M., **Molinari D.**, Ballio F., Brief communication: simple-INSYDE, development of a new tool for flood damage evaluation from an existing synthetic model, *Nat. Hazards Earth Syst. Sci.*, 20, 2937–2941, <https://doi.org/10.5194/nhess-20-2937-2020>, 2020

J22) **Molinari D.**, Scorzini A. R., Arrighi C., Carisi F., Castelli F., Domeneghetti A., Gallazzi A., Galliani M., Grelot F., Kellermann P., Kreibich H., Mohor G. S., Mosimann M., Natho S., Richert C., Schroeter K., Thieken A. H., Zischg A. P., Ballio F., Are flood damage models converging to reality? Lessons learnt from a blind test, *Nat. Hazards Earth Syst. Sci.*, 20, 2997–3017, <https://doi.org/10.5194/nhess-20-2997-2020>, 2020

J23) Radice A., Ballio F., Longoni L., Menoni S., **Molinari D.**, Papini M., Discussion of "Recommendations for teaching a successful design-based course: hydraulic structure design", by B. P. Tullis and S. L. Barfuss, *Journal of Hydraulic Engineering*, 147 (3), [https://doi.org/10.1061/\(ASCE\)HY.1943-7900.0001863](https://doi.org/10.1061/(ASCE)HY.1943-7900.0001863), 2021

J24) Pogliani A., Bertulesi M., Bignami D.F., Boschini I., Del Vecchio M., Menduni G., **Molinari D.**, Zambrini F., A Zero-Order Flood Damage Model for Regional-Scale Quick Assessments, *Water*, 13(9), 1292, <https://doi.org/10.3390/w13091292>, 2021

J25) **Molinari D.**, Dazzi S., Gattai E., Minucci G., Pesaro G., Radice A., Vacondio R., Cost-benefit analysis of food mitigation measures: a case study employing high-performance hydraulic and damage modelling, *Natural Hazards*, on line first: <https://doi.org/10.1007/s11069-021-04814-6>, 2021

J26) Manselli L., **Molinari D.**, Pogliani A., Zambrini F., Menduni G., Improvements and Operational Application of a Zero-Order Quick Assessment Model for Flood Damage: A Case Study in Italy. *Water*, 14, 373, <https://doi.org/10.3390/w14030373>, 2022

J27) Lazzarin T., Viero D.P., **Molinari D.**, Ballio F., Defina A., Flood damage functions based on a single physics- and data-based impact parameter that jointly accounts for water depth and velocity. *Journal of Hydrology*, 607, <https://doi.org/10.1016/j.jhydrol.2022.127485>, 2022

J28) Gain A.K., Bühler Y., Haegeli P., **Molinari D.**, Parise M., Peres D. J., Pinto J.G., Schröter K., Trigo R.M., Carmen Llasat M., Kreibich H.: Brief Communication: Key papers of 20 years in Natural Hazards and Earth System Sciences, *Nat. Hazards Earth Syst. Sci.*, 22, 985–993, <https://doi.org/10.5194/nhess-22-985-2022>, 2022.

J29) Scorzini A.R., Dewals B., Rodriguez Castro D., Archambeau P., **Molinari D.**: INSYDE-BE: Adaptation of the INSYDE model to the Walloon Region (Belgium), *Nat. Hazards Earth Syst. Sci.*, 22, 1743–1761, <https://doi.org/10.5194/nhess-22-1743-2022>, 2022.

J30) Simonelli T., Zoppi L., **Molinari D.**, Ballio, F.: Invited perspectives: When research meets practice: challenges, opportunities, and suggestions from the implementation of the Floods Directive in the largest Italian river basin, *Nat. Hazards Earth Syst. Sci.*, 22, 1819–1823, <https://doi.org/10.5194/nhess-22-1819-2022>, 2022.

Books

B1) **Molinari D.**, Ballio F., Menoni S., *Flood Early Warning Systems: knowledge and tools for their critical assessment*, WIT Press, 2013

Contributions in books

b1) **Molinari D.**, Cozzi S. Il recepimento in Lombardia delle direttive comunitarie sui rischi, In: M.C. Treu (ed) *Città, Salute, Sicurezza: Strumenti di governo e casi studio*, Maggioli editore, 2009

b2) Delmonaco G., Atun F., Ceudech A., Deemening H., De Roo A., Lumbroso D., Galderisi A., Kallache M., Kropp J.P., Kundak S., **Molinari D.**, Tweed F., Wade S., Walker G., Dandoulaki M., Barredo J. Europe at risk (following EU funded research on hazards and risks), In: Menoni S., Margottini C. (eds.): *Inside Risk: a strategy for sustainable risk mitigation*, Springer, 2011

b3) Esteban J.F., Izquierdo B., Lopez J., **Molinari D.**, Menoni S., De Roo A., Deeming H., Walker G., Effichidis G. Current mitigation practices in the EU, In: Menoni S., Margottini C. (eds.): *Inside Risk: a strategy for sustainable risk mitigation*, Springer, 2011

b4) **Molinari D.**, Ballio F., Menoni S., Ottomano G. Le curve di danno quale strumento a supporto della Direttiva Alluvioni: criticità del contesto Italiano, In: Bignami D., Alippi C. (eds) *MIARIA (Monitoraggio Idrogeologico Adattativo a supporto del Piano di Rischio Integrato Alpino) - Tecnologia e conoscenza al servizio della sicurezza*. vol. II, Missaglia - LC: Bellavite Editore, 2012

b5) **Molinari D.**, Ballio F., Berni N., Pandolfo C. Towards more effective Early Warning Systems: the Italian Experience. Input Paper prepared for: United Nations Office for Disaster Risk Reduction – UNISDR *Making Development Sustainable: The Future of Disaster Risk Management. Global Assessment Report on Disaster Risk Reduction*, Geneva, Switzerland, 2015 , ISBN 978-92-1-132042-8,
<http://www.preventionweb.net/english/hyogo/gar/2015/en/home/documents.html>

b6) Berni N., **Molinari D.**, Ballio F., Minucci G., Arias C. Best practice of data collection at the local scale: the RISPOSTA procedure, In: Molinari D., Ballio F. Menoni S. (eds), *Flood Damage Survey and Assessment: New Insights from Research and Practice*, AGU-Wiley, 2017

b7) Menoni S., Atun F., **Molinari D.**, Minucci G., Berni N, Defining complete post flood scenarios to support risk mitigation strategies, In: Molinari D., Ballio F. Menoni S. (eds), *Flood Damage Survey and Assessment: New Insights from Research and Practice*, AGU-Wiley, 2017

b8) **Molinari D.**, Menoni S., Ballio F. Conclusions, In: Molinari D., Ballio F. Menoni S. (eds), *Flood Damage Survey and Assessment: New Insights from Research and Practice*, AGU-Wiley, 2017

b9) **Molinari D.**, Tsionis, G., Athanasopoulou, A., Bournas, D., Ciurean, R., De Gregorio, D., Leone, M., Rossetto, T., Sousa, M.L., Zuccaro, G., 'Residential sector', in: Casajus Valles, A., Marin Ferrer, M., Poljanšek, K., Clark, I. (eds.), *Science for Disaster Risk Management 2020: acting today, protecting tomorrow*, EUR 30183 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18182-8, doi:10.2760/571085, JRC114026.

b10) Toreti, A., Bassu, S., Perez Blanco, D., Capitano, F., Ramos Ribeiro, R.R., **Molinari D.**, Webber, H., 'Agriculture', in: Casajus Valles, A., Marin Ferrer, M., Poljanšek, K., Clark, I. (eds.), *Science for Disaster Risk Management 2020: acting today, protecting tomorrow*, EUR 30183 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18182-8, doi:10.2760/571085, JRC114026.

Conference papers

P1) **Molinari D.**, Ballio F., Menoni S., Flood forecast verification in EWS, *Atti del XXXII Convegno nazionale di idraulica e costruzioni idrauliche*, 14-17 September, 2010, Palermo, Italy

P2) **Molinari D.**, Ballio F., Menoni S., Flood forecast verification to support emergency management, *Proceeding of the 34th IAHR World Congress*, 26 June-1 July 2011, Brisbane, Australia

P3) **Molinari D.**, Ballio F., Menoni S., Flood emergency management: the value of potential and actual damage estimation. In: Proverbs D., Mambretti S., Brebbia C., De Wrachien D. (eds) *Flood Recovery Innovation and Response III*, WIT Press, 2012

P4) **Molinari D.**, Aronica G.T., Ballio F., Berni N., Pandolfo C., Le curve di danno quale strumento a supporto della direttiva alluvioni: criticita' dei dati italiani, *Atti del XXXIII Convegno nazionale di idraulica e costruzioni idrauliche*, 10-15 September, 2012 , Brescia, Italy

P5) **Molinari D.**, Ballio F., Berni N., Pandolfo C., Implementing the Floods Directive: the case of the Umbria Region, In: Klijn F., Schweckendiek T. (eds) *Comprehensive Flood Risk Management*, Taylor & Francis Group, London, 2013

P6) **Molinari D.**, Ballio F., Menoni S., Legnani L., Implementing the Floods Directive: a procedure for flood risk analysis and mapping, *Proceedings of 35th IAHR World Congress*, 2013 Tsinghua University Press, Beijing, China

P7) Legnani L., **Molinari D.**, Ballio F., Menoni S., La procedura Flood-IMPAT per la valutazione e mappatura del rischio alluvionale, *Atti della XIII giornata mondiale dell'acqua: calamità idrogeologiche - aspetti economici*, 22 March 2013, Accademia Nazionale dei Lincei, Roma, Italy

P8) **Molinari D.**, Mazuran M., Arias C., Minucci G., Atun F., Ardagna D., Implementing tools to meet the Floods Directive requirements: a "procedure" to collect, store and manage damage data in the aftermath of flood events, In: Proverbs D., Brebbia C. A. (eds) *Flood Recovery Innovation and Response IV*, WIT Press, 2014

P9) Ballio F., **Molinari D.**, Minucci G., Mendoza M.T., Atun F., Menoni S., Simonelli T., On the Flood-IMPAT procedure for flood risk analysis and mapping, *Proceedings of River Flow 2016*, St. Louis, USA, 12-14 July 2016- ISBN:978-1-138-02913-2

P10) Minucci G., Mendoza M.T., Atun F., Ballio F., **Molinari D.**, Simonelli T. Analysis of post-event damage data for supporting risk-modelling process, *Proceedings of River Flow 2016*, St. Louis, USA, 12-14 July 2016- ISBN:978-1-138-02913-2

P11) Minucci G., Mendoza M.T., **Molinari D.**, Atun F., Ballio F., Menoni S., Applying the Flood-IMPAT procedure for assessing and mapping flood risk in the Valle D'Aosta region, *Atti del XXXV Convegno nazionale di idraulica e costruzioni idrauliche*, 14-16 September, 2016 , Bologna, Italy

P12) **Molinari D.**, Prades R., Garcia-Fernandez M., Dolan M., Menoni S., Marcellini D., Flood damage data analysis: towards an improvement of data quality and usability, *Proceedings of FLOODrisk 2016 - 3rd European Conference on Flood Risk Management*, 18-20 October 2016, Lyon, France, ISBN: 978-2-7598-9005-7

P13) Minucci G., Garcia-Fernandez M., Menoni S., **Molinari D.**, Jimenez M.J., Mendoza M.T., Ballio F., Berni N., Cedazo Tabernero C., Mata Francès R., Comparing post-event and pre-event damage assessment: Information gaps and lessons learnt, *Proceedings of FLOODrisk 2016 - 3rd European Conference on Flood Risk Management*, 18-20 October 2016, Lyon, France, ISBN: 978-2-7598-9005-7

P14) Dolan M., Walliman N., **Molinari D.**, Menoni S. , Ogden R , Amouzad S., Ballio F., Post-flood damage data: requirements for disaster forensic investigation, *Proceedings of FLOODrisk 2016 - 3rd European Conference on Flood Risk Management*, 18-20 October 2016, Lyon, France, ISBN: 978-2-7598-9005-7

P15) Radice A., Bettiga A., Figueiredo R. and **Molinari D.**, On urban inundation and damage modelling, *European Water*, 57, 11-17, 2017, *Proceedings of the 10th World Congress of EWRA 'Panta Rhei', 5-9 July 2017, Athens, Greece*

P16) Galliani M., A.R. Scorzini, **Molinari D.**, Minucci G., On flood damage models validation and uncertainty assessment: the case of the 2002 flood in Lodi (Northern Italy), *Proceeding of the 5th IAHR Europe Congress, Trento, 12-14 June, 2018*

P17) **Molinari D.**, Radice A., Agosti A., Crippa J., Scorzini A. R., Dazzi S., Bertuzzi F., Vacondio R. Modellazione dell'evento alluvionale che ha interessato la città di Lodi nel novembre 2002., *Atti del the XXXVI Convegno di Idraulica e Costruzioni Idrauliche, 12-14 September, 2018, Ancona, Italy*

P18) **Molinari D.**, Minucci G., Scorzini A.R., Galliani M., Ballio F., La diffusione della conoscenza sul rischio alluvionale nel progetto Flood-IMPAT+, *Atti del XXXVI Convegno di Idraulica e Costruzioni Idrauliche, 12-14 September, 2018, Ancona, Italy*

P19) Minucci G., **Molinari D.**, Gemini G., Pezzoli S., Galliani M., Gallazzi A., Co-mapping lab: un'esperienza di costruzione collaborativa delle mappe di rischio alluvionale. Atti della XXII Conferenza Nazionale SIU - Società Italiana degli Urbanisti, 5-7 June 2019, Bari-Matera, Italy (**awarded as best paper**)

P20) Bombelli I., **Molinari D.**, Asaridis P., Ballio F., The "Flood Damage Model" repository, *Proceeding of the 4th European Conference on Flood Risk Management, 22-24 June 2021 - Virtual Conference*

P21) Gallazzi A., **Molinari D.**, Ballio F., Scorzini A.R., Development of a flood damage model for urban drainage networks, *Proceeding of the 4th European Conference on Flood Risk Management, 22-24 June 2021 - Virtual Conference*

PARTICIPATION IN COLLOQUIA

Molinari D., Menoni S., Monte Carlo methods in natural hazards analyses, 16th SRA Europe Annual Meeting, June 17 - 19, 2007, The Hague, Netherlands

Molinari D., Menoni S., First results from Scenario project: images of Europe at risk, AESOP Conference "Planning for the risk society", 10-14 July 2007, Napoli, Italy

Molinari D., Vulnerabilità territoriale: Quali implicazioni per la mobilità in fase di emergenza?, XI Convegno di Varenna: Prevenzione del rischio e gestione dell'emergenza nei sistemi di trasporto, 7- 9 October 2008, Varenna, Italy

Molinari D., Ballio F., Menoni S., Utility of flood warning systems for emergency management, EGU General Assembly 2010, 2-7 May 2010, Vienna, Austria

Molinari D., Ballio F., Menoni S. , Flood forecast verification in EWS, XXXII Convegno nazionale di idraulica e costruzioni idrauliche, 14-17 September, 2010 , Palermo, Italy

Molinari D., Ballio F., Menoni S. , The role of vulnerability for flood early warning systems (FEWSs) effectiveness , EGU General Assembly 2011, 4-8 April 2011, Vienna, Austria

Molinari D., Ballio F., Menoni S., Flood forecast verification to support emergency management, 34th IAHR World Congress, 26 June-1 July 2011, Brisbane, Australia

Molinari D., Aronica G.T., Ballio F., Berni N., Pandolfo C., Flood damage data gathering: procedures and use, EGU General Assembly 2012, 22-27 April 2012, Vienna, Austria

Molinari D., Ballio F., Menoni S., Flood early warning systems performance: an approach at the warning chain perspective, 3rd International Conference on Flood Recovery, Innovation and Response, 30 May – 1 June 2012, Dubrovnik, Croatia

Molinari D., Field survey of flood damage data: utility and procedures, International PhD seminar "Cities at risk: understanding, perceiving and responding", 8-9 November 2012, Politecnico di Milano, Italy

Molinari D., Ballio F., Berni N., Pandolfo C., Implementing the Floods Directive: the case of the Umbria Region, FLOODRisk 2012, 20-22 November, 2012, Rotterdam, Netherlands

Molinari D., Mazuran M., Arias C., Minucci G., Atun F., Ardagna D., Poli-RISPOSTA: Overcoming present limits of flood damage data, EGU General Assembly 2014, 27 April – 2 May 2014, Vienna, Austria

Molinari D., Mazuran M., Arias C., Minucci G., Atun F., Ardagna D., Implementing tools to meet the Floods Directive requirements: a "procedure" to collect, store and manage damage data in the aftermath of flood events, 4th International Conference on Flood Recovery, Innovation and Response, 18-20 June 2014, Poznan, Poland

Molinari D., Berni N., Menoni S., Ballio F., Towards better knowledge of flood impacts: the RISPOSTA procedure for the collection of data in the aftermath of floods, EGU Workshop on Validation in Flood Risk Modelling, 9-10 December 2014, Delft, Netherlands

Molinari D., La valutazione del danno alluvionale in Italia: esperienze di stima ex-ante ed ex-post, Workshop "Valutazione del danno alluvionale: metodologie, strategie, soluzioni", 13 February 2015, Torino, Italy (**invited talk**)

Molinari D., Ballio F., Mazuran M., Arias C., Minucci G., Atun F., Ardagna D., Developing tools and procedures for the collection and storage of flood damage data in the aftermath of flood events: the Poli-RISPOSTA project, EGU General Assembly 2015, 12-17 April 2015, Vienna, Austria

Martina M., **Molinari D.**, Dottori F., Scorzini A.R., Development of synthetic flood damage curves by explicit cost analysis, EGU General Assembly 2015, 12-17 April 2015, Vienna, Austria

Molinari D., Menoni S., Ballio F., Dalla pericolosità al rischio alluvionale: la valutazione dei danni, Seminar "Il dissesto idrogeologico: dalla conoscenza del territorio alla sua protezione", Politecnico di Milano, 20 May 2015, Milan, Italy

Molinari D., Menoni S., Modelling flood damage to lifelines: data requirements and critical points, 7th International Conference on Flood Management (ICFM7), 5-7 September 2017, Ledds, UK

Molinari D., Scorzini A.R., Minucci G., Galliani M. A complete event scenario for the flood of Lodi (Northern Italy) in 2002, EGU General Assembly 2018, 8-13 April 2018, Vienna, Austria

Scorzini A.R., **Molinari D.**, Gallazzi A., On the transferability of flood damage models for agriculture, EGU General Assembly 2018, 8-13 April 2018, Vienna, Austria

Galliani M., Scorzini A.R., Minucci G., **Molinari D.**, On uncertainty quantification with different availability of data – the case of flood damage estimation for the 2002 flood in Lodi (Northern Italy) with the INSYDE model, EGU General Assembly 2018, 8-13 April 2018, Vienna, Austria

Ballio F., **Molinari D.**, Scorzini A.R., Gallazzi A., Galliani A., AGRIDE-c, a conceptual model for the estimation of flood damage to crops, EGU General Assembly 2019, 7-12 April 2019, Vienna, Austria

Galliani M., Ballio F., **Molinari D.**, Scorzini A.R., Gallazzi A., On the development of usable multi-variate damage models for residential buildings, EGU General Assembly 2019, 7-12 April 2019, Vienna, Austria

Molinari D., Minucci G., Gemini G., Pezzoli S., Galliani M., Gallazzi A., Ballio F., Co-mapping labs: a participatory design of risk maps, EGU General Assembly 2019, 7-12 April 2019, Vienna, Austria

Gallazzi A., **Molinari D.**, Ballio F., Scorzini A.R., Galliani M., On the development of damage-dysfunction matrices for the urban drainage network, EGU General Assembly 2019, 7-12 April 2019, Vienna, Austria

Molinari D. Challenges and gains of post-event data collection, Workshop on Flood Impacts Observation, 5-7 November, 2019, Montpellier, France (**invited talk**)

Molinari D. Are we able to estimate flood damage?, Weak points in the flood modelling chain, online webinar within the IAHR 85th Anniversary Summit, 17 December 2020 (**invited talk**)

Galliani M., Carisi F., Domeneghetti A., Menduni G., **Molinari D.**, Sterlacchini S., Zazzeri M., Ballio F. An analysis of Italian damage data to economic activities, EGU General Assembly 2021, 19-30 April 2021, on-line event

Molinari D., Ballio F. and the Flood damage group - Po River District's updating maps project. On the update of flood hazard and risk maps in the Po River District: results obtained for flood damage modelling, EGU General Assembly 2021, EGU General Assembly 2021, 19-30 April 2021, on-line event

Grelot F., Galliani M., Bremond P., **Molinari D.**, Pugnet L., Richert C., Ballio F. Flood damage assessment to economic activities: implementation and transferability of French methodology, EGU General Assembly 2021, 19-30 April 2021, on-line event

Asaridis P., **Molinari D.**, Ballio F. A conceptual model for the estimation of flood damage to power grids, EGU General Assembly 2021, 19-30 April 2021, on-line event

Doppagne A., Archambeau P., Teller J., Scorzini A. R., **Molinari D.**, Erpicum S., Piroton M., Dewals B. What is the value of a multi-decadal regional database of compensation claims

for flood damage modelling and risk management?, EGU General Assembly 2021, 19-30 April 2021, on-line event

Gattai E., **Molinari D.**, Radice A., Vacondio R., Dazzi S., Minucci G., Pesaro G., Ballio F. , Flood Damage Assessment in Support of the Definition of Risk Mitigation Strategies: The Case of Lodi, *4th European Conference on Flood Risk Management, 22-24 June 2021 - Virtual Conference*

Molinari D., IL PROGETTO MOVIDA: Modello per la Valutazione Integrata del Danno alluvionale, RemTech Expo 202, 22-24 September, Ferrara, Italy

Yazdani M., **Molinari D.**, Gencarelli C., Zazzeri M., Hammouti M., Salvati P., Sterlacchini S., L'uso dei metodi Random Forest per la modellazione dei decessi legati a fenomeni alluvionali, XV Convegno Nazionale GIT - Sezione di Geoscienze e Tecnologie Informatiche, 20-21 December 2021, Ripatransone, Italy

Rrokaj S., Corti B., Cancelliere G., Costa A., Giovannini A., **Molinari D.**, Radice A., Analisi di pericolosità e vulnerabilità idraulica per i corsi d'acqua Megaruma e Muaguide, nella provincia di Cabo Delgado, Mozambico, XV Convegno Nazionale GIT - Sezione di Geoscienze e Tecnologie Informatiche, 20-21 December 2021, Ripatransone, Italy

Molinari D., Ballio F. and the MOVIDA group, MOVIDA: a procedure for flood damage assessment and mapping at the river district scale, EGU General Assembly 2022, 23-27 May 2022, Vienna (Austria) and on-line

Asaridis P., **Molinari D.**, Di Maio F., Ballio F., Zio E., Impact assesement of flood damage on power grid customers, EGU General Assembly 2022, 23-27 May 2022, Vienna (Austria) and on-line

EDITORIAL ACTIVITY

Editor of the journal Natural Hazards and Earth System Sciences (from September 2020)

Editor of the journal Journal of Flood Risk Management (from January 2021)

Reviewer for:

- Natural Hazards, Springer
- Natural Hazards and Earth System Sciences, Copernicus
- International Journal of Safety and Security Engineering, WIT
- Sustainability, MDPI
- Water Resource Management, Springer
- Journal of Flood Risk Management, Wiley
- Science of the Total Environment, Elsevier
- Water Resources Research, Wiley

- Journal of Environmental Management, Elsevier
- SN Applied Science, Springer
- Geomatics, Natural Hazards and Risk, Taylor & Francis
- International Journal of Disaster Risk Reduction, Elsevier
- Sustainable Cities and Society, Elsevier

Co-Editor of the book "Flood damage survey and assessment: new insights from research and practice", AGU-Wiley, 2017

Invited as **Guest Editor** of the Special Issue "Natural hazard event analyses for risk reduction and adaptation", Natural Hazards and Earth System Sciences (2015)

Invited as **Guest Editor** of the Special Issue "Damage of natural hazards: assessment and mitigation", Natural Hazards and Earth System Sciences (2016)

Organiser of the international seminar "Flood damage survey and assessment: which priorities for future research and practice?" 24-25 January 2013, Milan, Italy

Organiser of the international seminar "Flood damage survey and assessment: new insights from research and practice" 11-12 April 2014, Bastia Umbra, Italy

Member of the International Scientific Advisory Committee of FRIAR 2014: 4th International Conference on Flood Recovery, Innovation and Response, 18-20 June 2014, Poznan, Poland

Co-convener and organiser of the session "Valutazione del danno e gestione del rischio alluvionale in Italia alla luce della Direttiva Europea 2007/60" at the XXXIV Convegno nazionale di idraulica e costruzioni idrauliche, 8-10 September 2014, Bari, Italy

Co-convener and organiser of the session "Forensic Disaster Analyses – Learning from Disasters" at EGU General Assembly 2015, 12-17 April 2015, Vienna, Austria

Co-convener and organiser of the session "Costs of Natural Hazards" at EGU General Assembly 2015, 12-17 April 2015, Vienna, Austria

Member of the International Scientific Advisory Committee of FRIAR 2016: 5th International Conference on Flood Recovery, Innovation and Response, 29 June - 1 July, 2016, San Servolo, Italy

Co-convener and organiser of the session "Natural hazard event analyses for risk reduction and adaptation" at EGU General Assembly 2016, 17-22 April 2016, Vienna, Austria

Co-convener and organiser of the session "Costs of Natural Hazards" at EGU General Assembly 2016, 17-22 April 2016, Vienna, Austria

Co-organiser of the special session "Validation in Flood Risk Modelling" at FLOODrisk 2016 3rd European Conference on Flood Risk Management, 18-20 October 2016, Lyon, France

Co-convener and organiser of the session “Natural hazard event analyses for risk reduction and adaptation” at EGU General Assembly 2017, 23-28 April 2017, Vienna, Austria

Co-convener and organiser of the session “Costs of Natural Hazards” at EGU General Assembly 2017, 23-28 April 2017, Vienna, Austria

Organiser and member of the Scientific Committee of the international workshop “Validation in Flood Risk Modelling: combining scientific, policy and market perspectives”, 20-21 November 2017, Milan, Italy

Co-convener and organiser of the session “Natural hazard event analyses for risk reduction and adaptation” at EGU General Assembly 2018, 8-13 April 2018, Vienna, Austria

Co-convener and organiser of the session “Costs of Natural Hazards” at EGU General Assembly 2018, 8-13 April 2018, Vienna, Austria

Co-convener and organiser of the session “New hydraulic engineering contributions to flood resilience and mitigation” at 5th IAHR Europe Congress, Trento, 12-14 June 2018

Member of the Scientific Committee of the 39th IAHR World Congress: From Snow to Sea, 19-24 June 2022, Granada, Spain

Member of the Scientific Committee of the 7th IAHR Europe Congress: Innovative Water Management in a Changing Climate, 7-9 September 2022, Athens, Greece

MEMBERSHIPS

From 2010 onward

Member of the European Geophysical Union

From 2014 onward

Member of Gruppo Italiano di Idraulica

From 2013 onward

Member of the International Association for Hydro-Environment Engineering and Research, from January 2018 elected member of the Flood Risk Management Technical Committee, from January 2020 **vice – chair of the of the Flood Risk Management Technical Committee**

From 2014 onward

Member of the Panta Rhei Working Group “Changes in flood risk”, research initiatives within the IAHS (International Association of Hydrological Sciences) scientific decade 2013-2022 (ref. to publication J12, J14)