

Name Elena Ridolfi
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 Dipartimento di Ingegneria Civile e Ambientale
 Università degli Studi di Perugia
Email elena.ridolfi@unipg.it
Birth 1984, 23rd June, Rome, Italy
Nationality Italian
Present appointment Assistant professor, Perugia University, PG, Italy
H-index 5 (Google Scholar) 4 (Scopus).

EDUCATION

2013-2014 **Post-doctoral fellow** at H2CU (Honors Center of Italian Universities) Sapienza University, Rome, Italy.
 2013 **PhD (European PhD Label)**, Hydraulic Engineering (emphasized Hydrology), Sapienza University, Rome, Italy, 03/06/2013.
 2011-2012 **Special Programme, UNESCO-IHE**, Delft, Netherlands.
 2009 Graduated in **Master of Science programme**, Civil Engineering (emphasized Hydraulic Engineering), Sapienza University, Rome (Italy), result: 110/110; 28/07/2009.
 2006 Graduated in **Bachelor programme** - Civil Engineering (emphasized Hydraulic Engineering), Roma Tre University, Rome (Italy) result:107/110; 20/12/2006.

AWARDS/SELECTIONS

2014 Sole candidate for Sapienza University of Rome to participate to **AXA Research Fund - Post-Doctoral Fellowships**. Project title: "Flood risk: it's time to assess, inform and mitigate!".
 2014 Scholarship granted by **German Academic Exchange Service (DAAD)**, spent at Stuttgart University. Mentor: Prof. Bardossy.
 2014 **Debut in Research Prize** ("Avvio alla ricerca-2014") funded by Sapienza University, Rome (Italy) for the research: "Defining and monitoring areas at flood risk through an entropy based method" ("Determinazione e monitoraggio delle aree a rischio di inondazione mediante un metodo basato sull'entropia").
 2013 **Debut in Research Prize** ("Avvio alla ricerca-2013") funded by Sapienza University, Rome (Italy) for the research: "Flood inundation maps determination through an entropy based approach" ("Determinazione delle mappe di inondazione tramite un approccio basato sull'entropia").
 2006 **Scholarship** for academic merit, **Roma Tre University**, Rome, Italy.

PEER-REVIEWED PAPERS

1. Ridolfi, E., Grimaldi, S., Napolitano, F., A bivariate analysis of temperature and rainfall series for snowfall return period estimation, AIP Conference Proceedings, 1648, 190006, 2015.

2. Montesarchio, V., Napolitano, F., Rianna, M., Ridolfi, E., Russo, F. and Sebastianelli, S., Comparison of methodologies for flood rainfall thresholds estimation, *Natural Hazard*, 75 (1), 909-934, 2015.
3. Ridolfi, E., Servili, F., Magini, R., Napolitano, F., Russo, F., Alfonso, L., Artificial Neural Networks and Entropy-based Methods to Determine Pressure Distribution in Water Distribution Systems, *Procedia Engineering*, 89, 648–655, 2014, Ed. Elsevier, The Netherlands.
4. Alfonso, L., Ridolfi, E., Gaitan, S., Napolitano, F., Russo, F., Ensemble entropy for monitoring network design, *Entropy*, 16, 1365-1375, 2014.
5. Ridolfi, E., Montesarchio, V., Rianna, M., Sebastianelli, S., Russo, F., and Napolitano, F., Evaluation of rainfall thresholds through entropy: influence of bivariate distribution, *Irrigation and Drainage*, 62 (2), 50-60, 2013, doi: 0.1002/ird.1807
6. Ridolfi, E., Alfonso, L., Di Baldassarre, G., Dottori, F., Russo, F., and Napolitano, F., An entropy approach for the optimization of cross-section spacing for river modelling. *Hydrological Sciences Journal*, 59 (1), 126–137, 2013.
7. Ridolfi, E., Vertommen, I., and Magini, R., Joint probabilities of demands on a water distribution network: A non-parametric approach, *AIP Conference Proceedings* 1558, 1681 (2013); doi: 10.1063/1.4825853.
8. Spina, S., Sebastianelli, S., Ridolfi, E., Russo, F., Baldini, L., and Alfonso, L., Data selection to assess bias in rainfall radar estimates: An entropy-based method, *AIP Conference Proceedings* 1558, 1665 (2013); doi: 10.1063/1.4825849.
9. Ridolfi, E., Yan, K., Alfonso, L., Di Baldassarre, G., Napolitano, F., Russo, F., Bates, P.D., An entropy method for floodplain monitoring network design, *AIP Conf. Proc.* 1479, 1780 (2012); doi: 10.1063/1.4756522.
10. Montesarchio, V, Napolitano, F., Ridolfi, E., and Ubertini, L., A comparison of two rainfall disaggregation models, *AIP Conf. Proc.* 1479, 1796 (2012); doi: 10.1063/1.4756526.
11. Ridolfi, E., Montesarchio, V., Russo, F., and Napolitano, F., An entropy approach for evaluating the maximum information content achievable by an urban rainfall network, *Natural Hazards Earth System Sciences*, 11, 2075-2083, doi:10.5194/nhess-11-2075-2011, 2011.
12. Montesarchio, V., Ridolfi, E., Russo, F., and Napolitano, F.: Rainfall threshold definition using an entropy decision approach and radar data, *Natural Hazards Earth System Sciences*, 11, 2061-2074, doi:10.5194/nhess-11-2061-2011, 2011.

CONFERENCES

1. Rianna, M., Ridolfi, E., Ubertini, L, Graphical flow duration curves regularization method based on instantaneous measures, *WLC15, World Lake Conference*, Perugia (IT), 2014, Ed. Science4Press, Germany.
2. Ridolfi, E., Grimaldi, S. and Napolitano F., A Bivariate Analysis of Temperature and Rainfall Series for Snowfall Return Time Estimation, *ICNAAM 2014 International Conference of Numerical Analysis and Applied Mathematics*, Rodi (Grecia), 2014, Ed. AIP Publishing, NY, USA.
3. Alfonso, L., Ridolfi, E., Gaitan, S., Napolitano, F., Russo, F., Evaluating North Sea water level monitoring network considering uncertain Information Theory quantities, *HIC 2014 – 11th International Conference on Hydroinformatics*, New York, 2014.
4. Ridolfi, E., Servili, F., Magini, R., Napolitano, F., Russo, F., Alfonso, L., Pressure distribution determination coupling an artificial neural network and an entropy-based methods, *Water Distribution Analysis Conference*, Bari (IT), 2014.

5. Ridolfi, E., Vertommen, I., Magini, R., Napolitano, F., Alfonso, L., Russo, F., Estimation of joint probabilities for nodal water demands: a comparison of different approaches, Water Distribution Analysis Conference, Bari (IT), 2014.
6. Ridolfi E, Grimaldi S, Napolitano F, A bivariate analysis of temperature and rainfall series for snowfall return time estimation, EGU General Assembly, Geophysical Research Abstracts Vol. 15, EGU2013-11357, 2013.
7. Ridolfi, E., Grimaldi, S., Napolitano, F., Snowfall return time estimation using precipitation and temperature time series, IAHS, IAPSO, IASPEI Joint Assembly, Gothenburg, Abstract n.: HPS1PS.08, 2013.
8. Ridolfi, E., Vertommen, I., and Magini, R., Joint probabilities of demands on a water distribution network: A non-parametric approach, ICNAAM Conference, Rhodes, Greece, 2013.
9. Spina, S., Sebastianelli, S., Ridolfi, E., Russo, F., Baldini, L., and Alfonso, L., Data selection to assess bias in rainfall radar estimates: An entropy-based method, ICNAAM Conference, Rhodes, Greece, 2013.
10. Ridolfi, E., Yan, K., Alfonso, L., Di Baldassarre, G., Napolitano, F., Russo, F., Bates, P.D., An entropy method for floodplain monitoring network design, ICNAAM Conference, Kos, Greece, 2012.
11. Montesarchio, V., Napolitano, F., Ridolfi, E., and Ubertini, L., A comparison of two rainfall disaggregation models, ICNAAM Conference, Kos, Greece, 18-25 Settembre 2012.
12. Rianna, M., Ridolfi, E., Lorino, L., Alfonso, L., Montesarchio, V., Di Baldassarre, G., Russo, F., Napolitano, F., Definition of homogeneous regions through entropy theory, STAHY International Workshop on Statistical Methods For Hydrology And Water Resources Management, Tunis, 2012.
13. Ridolfi, E., Yan, K., Alfonso, L., Di Baldassarre, G., Napolitano, F., Russo, F., Bates, P.D., 2012. Optimization of floodplain monitoring sensors through an entropy approach, EGU General Assembly, Geophysical Research Abstracts, Vol. 14, EGU2012-12407.
14. Spina, S., Lombardo, F., Ridolfi, E., Russo, F. and Napolitano, F., 2012. Uncertainty in rainfall-runoff modelling: an application of GLUE approach to the Rome's urban area, EGU General Assembly, Geophysical Research Abstracts, Vol. 14, EGU2012-10433.
15. Ridolfi, E., Alfonso, L., Di Baldassarre, G., Dottori, F., Russo, F., Napolitano, F., 2011. An entropy approach for the optimization of river cross-sectional spacing. EGU Leonardo Conference, Bratislava.
16. Ridolfi E., Montesarchio V., Rianna M., Sebastianelli S., Russo F., and Napolitano F., 2011. Comparison of probabilistic methodologies for flood rainfall thresholds evaluation, 13th Plinius Conference on Mediterranean Storms, Plinius Conference Abstracts, Vol. 13, Plinius13-24.
17. Montesarchio V., Napolitano F., Rianna M., Ridolfi E., Russo F., and Sebastianelli S., 2011. Comparison of methodologies for flood rainfall thresholds evaluation, 13th Plinius Conference on Mediterranean Storms, Plinius Conference Abstracts, Vol. 13, Plinius13-23.
18. Ridolfi E., Montesarchio V., Russo F., Napolitano F., Lombardo, F., An entropy approach for evaluating an urban rainfall network: an operative case of study, 12th Plinius Conference on Mediterranean Storms, Plinius Conference Abstracts, Vol. 12, Plinius12-88.
19. Montesarchio V., Ridolfi E., Napolitano F., 2010. Un approccio basato sull'entropia per il calcolo delle soglie pluviometriche di piena (in Italian), XXXII Conferenza Italiana di Idraulica e Costruzioni Idrauliche, Palermo, Italy.
20. Ridolfi E., Montesarchio V., Lombardo, F., Russo F., Napolitano F., 2010 . Evaluation of rainfall network using entropy over the urban area of Rome, STAHY International Workshop Advances In Statistical Hydrology, Taormina, Italy.
21. Montesarchio V., Napolitano F. and Ridolfi E, 2009. An entropy decision approach in flash flood warning: rainfall thresholds definition, 11th Plinius Conference

TEACHING EXPERIENCE

- 2014-2015 **Teacher Assistant**, *Hydrology university course* held by Prof. Francesco Napolitano, Sapienza University, Rieti, Italy
- 2014-2015 **Teacher Assistant**, *Water Management university course* held by Prof. Fabio Russo, Sapienza University, Rome, Italy
- 2013-2014 **Teacher Assistant**, *Hydraulic buildings university course* held by Prof. Fabio Russo, Sapienza University, Rieti, Italy
- 2012-2013 **Teacher Assistant**, *Water Management university course* held by Prof. Roberto Magini, Sapienza University, Rome, Italy
- 2009-2013 **Teacher Assistant**, *Coasts Protection university course* held by Prof. Fabio Russo, Sapienza University, Rome, Italy.
- From 2009 **Teacher Assistant** in the *Technical Hydrology and Hydraulic Protection of the Territory and Coasts university course* held by Prof. Francesco Napolitano, Sapienza University, Rome, Italy.

CONFERENCE

- 2015 International Conference **Freshwater and Culture**. Milano Expo 6-7 Ottobre, 2015.
- 2014 **WLC 15: 15th World Lake Conference**, Lakes: The Mirrors of the Earth, Perugia (IT): "Graphical flow duration curves regionalization method based on instantaneous measures - M. Rianna, E. Ridolfi, L. Ubertini".
- 2014 **ICNAAM 2014** International Conference of Numerical Analysis and Applied Mathematics, Rodi (Grecia): "A Bivariate Analysis of Temperature and Rainfall Series for Snowfall Return Time Estimation – E. Ridolfi, S. Grimaldi and F. Napolitano".
- 2014 **16th International WDSA Conference** - Water Distribution System Analysis, Bari (IT): "Artificial neural networks and entropy-based methods to determine pressure distribution in water distribution systems - Ridolfi E., Servili F., Magini R., Napolitano F., Russo F., Alfonso L."
- 2014 **Unesco Chair** «Water Resources Management and Culture» Inaugural Meeting, Università per Stranieri di Perugia (IT), "Optimize hydrologic network to improve flood forecasting".
- 2012 **ICNAAM 2012** International Conference of Numerical Analysis and Applied Mathematics, Kos Island (Greece): "An entropy method for floodplain monitoring network design - E. Ridolfi, K. Yan, L. Alfonso, G. Di Baldassarre, F. Napolitano, F. Russo and P.D. Bates".
- 2012 **ICNAAM 2012** International Conference of Numerical Analysis and Applied Mathematics, Kos Island (Greece): "A comparison of two rainfall disaggregation models - V. Montesarchio, F. Napolitano, E. Ridolfi, and L. Ubertini".

STUDENTS MENTORING

- 2015 Filippo Servili-MSc: "Uso delle Artificial Neural Network (ANN) per la gestione di una rete di distribuzione".
- 2014 Edoardo Giulianelli - Tesi Triennale: "Criteri di dimensionamento idraulico di una rete di drenaggio urbano".
- 2014 Nicola Pinto- Tesi Triennale: "Criteri di dimensionamento di una rete acquedottistica".
- 2013 Matteo Pacilli-MSc: "Ottimizzazione della distanza delle sezioni fluviali nella simulazione di profili di piena attraverso l'entropia informativa".

- 2013 Ileana Lepanto-MSc: “Stima del tempo di ritorno della neve attraverso un’analisi bivariata delle serie di pioggia e temperatura”.
- 2013 Gianpiero Trani-MSc: “Metodi di regionalizzazione delle portate basati sull’entropia informativa”.
- 2013 Giulia Latini-BSc: “Stima dell’afflusso meteorico ragguagliato all’area nell’Italia centrale”.
- 2012 Luca Lorino-BSc: “Definizione di metodo basato sull’entropia per l’individuazione di valori regionali omogenei di portata”.
- 2011 Sandra Spina-MSc: “Stima dell’incertezza nei modelli di drenaggio urbano”.

PROFESSIONAL EXPERIENCE

- 2014 Support to draw up the **Final design of primary urban development plans**, Monte Sarleo (Rome, IT).
- 2014 Support to draw up the **Inspection Report** to verify and validate the final design of the “Modernizing and development works in the Ancona harbour – Completion works of the new quay and of the corresponding service area” (Opere di ammodernamento e potenziamento in attuazione del piano regolatore portuale – Lavori di 2^a fase delle opere a mare – 1° stralcio – Lavori di completamento e funzionalizzazione della nuova banchina rettilinea e dei piazzali retrostanti – 1° stralcio funzionale del porto di Ancona).
- 2013 Support to draw up the **Inspection Report** to verify and validate the preliminary design of the “Refurbishment works of the quays in the shrinkage area of the Fiumicino channel” (Opere di rifacimento delle banchine nell’area di restringimento del canale di Fiumicino).
- 2011 Support to draw up the **Inspection Report** to verify and validate the working plan of the “Extension of the Breakwater C. Colombo Civitavecchia Harbor (IT)” (Prolungamento antemurale C. Colombo, porto di Civitavecchia).
- 2011 Support to draw up the **Inspection Report** to verify and validate the final design of the “New Turistic Harbor of Formia (IT)” (Nuovo Porto Turistico, Formia).
- From 2011 **Consultancy**, Ing. Servizi Tecnici per Amministrazioni s.r.l., Roma (IT).
- From 2006 **Consultancy**, CET-srl, Rome (IT).

LANGUAGES

Italian	Mother tongue.
English	Fluent, spoken and written.
French	Scholar

INFORMATIC SKILLS

- Microsoft Office (Word, Excel, PowerPoint);
- Matlab;
- Hec-Hms;
- Hec-Ras;
- Hec_GeoRas;
- LISFLOOD-FP;
- SWMM;
- EPANET;
- Autocad.

AFFILIATIONS

2013 **GII** (Gruppo Italiano di Idraulica)
2013 **Hydraulic Constructions Committee** - Association of Engineers, Rome.
2009 **Association of Engineers**, Rome (n. A31638).

From 2009 **Reviewer for international scientific journals** such as Hydrological Sciences Journal, Hydrology and Earth System Sciences, Advances in Water Resources, Entropy.

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Rome, 13 October 2015

Dr. Elena Ridolfi

