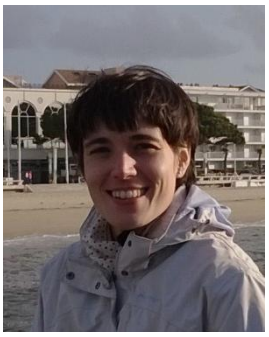
CURRICULUM VITAE

PERSONAL INFORMATION



Name **SARA MIZAR FORMENTIN**

Telephone **+39 051 2093661**

E-mail Academic: **saramizar.formentin2@unibo.it**

Nationality Italian

Date of Birth September 9th, 1987

Gender Female

CURRENT POSITION

• From October, 2022 to October, 2025 (presently) **Junior assistant professor (fixed-term)** the Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), University of Bologna.

• Since January, 2021 **Project manager** for the private company "No Gap Controls s.r.l." for the verification and audit of public projects of structures and infrastructural.

RESEARCH STATEMENT

• Research themes

Analysis of the phenomena of wave-structure interaction by means of physical and numerical modelling and machine-learning techniques. Integrated assessment of the hydraulic and structural performance of sea defence structures in a changing climate, based on a multidisciplinary approach accounting for environmental impact and technical-economic feasibility, for an optimal design.

Analysis of the effects of climate change in terms of sea-level rise, wave loads, sea storm frequency and intensity and related impact on coastal morpho-dynamics, coastal erosion and coastal flooding risk.

Analysis and modelling of innovative technologies and devices to combine coastal protection with wave energy production.

Development of low-cost and non-intrusive methodologies based on image analysis, to model complex, unsteady processes such as wave breaking, turbulence and bi-phase air/water flow.

Analysis and numerical modeling of fluid compressibility on bi-phase flows and unsteady processes.

• Research interests

Maritime Hydraulics, Coastal Engineering, wave-structure interactions, CFD, Artificial Intelligence, machine-learning, image analysis, turbulent flows, bi-phase flows.

EDUCATION AND TRAINING

• 2021-2032 **Italian National Scientific Qualification as Associate Professor 08/A1 – Idraulica, Idrologia, Costruzioni Idrauliche e Marittime**, MIUR, Italy. Valid from 03/06/2021 to 03/06/2032.

2021-2024 **Legally qualified as Project Manager, UNI 11648:2016 and UNI ISO 21500**. Valid from 26/11/2021 to 25/22/2024.

• May, 2015 **PhD in Civil, Environmental and Materials engineering**
Faculty of Engineering, University of Bologna
Age at graduation: 27

- Field: Water science and technology
- Topic: Coastal engineering and maritime hydraulics
- Supervisor: Prof. Barbara Zanuttigh
- Research activity: *analysis and modeling of coastal structures exposure and resilience*. The research focuses on numerical modeling of wave-structure interaction, by means of Artificial Neural Networks and 2DV RANS-VOF modeling.
- Dissertation title: *Neural network modelling of the wave-structure interaction processes.*

• September, 2013	**Legally qualified and registered to attest the Energy Performance Certificate for buildings** Certification obtained after professional practice examination at Beta Formazione institute, Lugo (Ravenna, Italy).
• July, 2012	**Legally qualified and registered to practice Civil and Environmental Engineer profession.** License obtained after professional practice examination at Faculty of Engineering, Bologna.
• December, 2011	**Master Degree in Civil Engineering – Hydraulics, final degree 110 out of 110 cum laude.** Faculty of Engineering, University of Bologna. Age at graduation: 24 First academic year of enrolment: 2009/2010 Last academic year of enrolment: 2010/2011 Official time limit for the degree course: 2 years Dissertation subject: Coastal Engineering Dissertation title: *Analysis of wave-structure interaction using artificial neural networks. The wave reflection.*
• October, 2009	**First Degree in Environmental Engineering – Land and soil protection, final degree 107 out of 110** Faculty of Engineering, University of Bologna. Age at graduation: 22 First academic year of enrolment: 2006/2007 Last academic year of enrolment: 2008/2009 Official time limit for the degree course: 3 years Dissertation/thesis subject: Mechanic of Machines
• July, 2006	**Scientific High School Diploma at secondary school, final degree 100 out of 100.** Scientific High School "Augusto Righi", Bologna.

QUALIFICATIONS

• From June, 2021 to June, 2032	National Academic Qualification as Associate Professor sector 08/A1 – Hydraulic, Hydrology, Hydraulic and Maritime Constructions
• From November, 2021 to November, 2032	Legally qualified as Project Manager, UNI 11648:2016 and UNI ISO 21500.
• Since September 2013	Legally qualified and registered to attest the Energy Performance Certificate for buildings.
• Since July 2012	Legally qualified and registered to practice Civil and Environmental Engineer profession.

WORK EXPERIENCE – ACADEMIC ACTIVITIES

RESEARCH ACTIVITIES

• From October, 2022 to October, 2025 (presently)	**Junior assistant professor (fixed-term)** the Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), University of Bologna.
• From June, 2018 to November, 2021	Holder of a research grant, funded by the Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), University of Bologna. Research activity: modelling of the interaction among wind, waves and structures for coastal defense and energy production. From **Dicember 19th, 2019** to **May 31st, 2020: maternity leave**.
• From May, 2016 to April, 2018	Holder of a research grant, funded by the Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), University of Bologna. Research activity: modelling of the interaction among wind, waves and structures for coastal defense and energy production.
• From May, 2015 to April, 2016	Holder of a research grant, funded by the UE project "THESEUS - Innovative technologies for safer European coasts in a changing climate". Research activity: analysis and modeling of coastal structures exposure and resilience.
• From May, 2013 to March, 2015	Holder of a research grant, funded by the Italian project "RitMare – Ricerca italiana per il Mare". Research activity: analysis and modeling of coastal structures exposure and resilience.

• From April, 2012 to March, 2013	Holder of a research grant, funded by the UE project "THESEUS - Innovative technologies for safer European coasts in a changing climate". Research activity: analysis and modeling of coastal structures exposure and resilience.

TEACHING AND TUTORING ACTIVITIES

• A.Y.2025-2025	**In charge of the course of the Module 2 of Hydraulics** (4 ECTS, 40 hours teaching), in italian, for Environmental Engineers at the University of Bologna, Bachelor course.
• A.Y.2023-2024	**In charge of the course of the Module 2 of Hydraulics** (3 ECTS, 30 hours teaching), in italian, for Environmental Engineers at the University of Bologna, Bachelor course.
• A.Ys. from 2016-2017 to 2021-2022	Holder of the tutoring activity for the course "Idraulica T" for the degree course in Environmental Engineering.
• A.Y. 2015-2016	Holder of the tutoring activity for the course "Idraulica T" for the degree course in Civil Engineering.
• Occasionally	Collaboration with Passepartout Cooperative (Bologna) for private lessons and tutoring of students, to prepare school tests, university exams and thesis.

THESIS ADVISOR ACTIVITIES

Co-supervisor of:

- 18 Master degree Theses in Maritime Hydraulics, Civil and Environmental Engineering courses
- 5 Bachelor's degree Theses in Hydraulics, Environmental Engineering course.

EDITORIAL ACTIVITIES

• Reviewer for the Journals:	*Coastal Engineering, Scientific Reports, Applied Ocean Research, Coastal Engineering Journal, Water, Fluids, Sustainability, Journal of Coastal Conservation, Journal of Ocean Engineering and Science, Journal of Civil Engineering*
• Editor	*Journal of Marine Science and Engineering* – Special Issue "Machine-Learning Methods and Tools in Coastal and Ocean Engineering" *Frontiers in Built Environment - Coastal and Offshore Engineering* – Research Topic "Recent Developments in Modelling Wave-Structure Interactions at Sea Defences in a Changing Climate"
• Review Editor for the Journal	*Frontiers in Built Environment - Coastal and Offshore Engineering*

RESEARCH PRODUCTS

• Artificial Neural Network tool, 2017	**Development and release of the Graphical User Interface and of the related website** for the utilization of the Artificial Neural Network for the prediction of the wave overtopping discharge and the wave reflection and transmission coefficients. http://overtopping.ing.unibo.it/overtopping
• Wave overtopping database, 2016	**Collection, organization and delivery of a homogeneous database** of nearly 18,000 tests on wave overtopping, transmission and reflection. The database has been built by collecting the data available from previous databases, literature and submissions from organizations that performed tests. The database is available for free download upon registration at the website: http://overtopping.ing.unibo.it/overtopping

PUBLICATIONS – INTERNATIONAL JOURNALS

1. **Formentin S.M.**, Altomare C., Marzeddu A. and Zanuttigh B., 2024. Image clustering for overtopping volume measurements, Physics of Fluids 36(6), 065137. 10.1063/5.0207486
2. **Formentin S.M.**, Alcérreca Huerta J.C., Palma G. and Zanuttigh B., 2023. Statistical assessment of the wave loads at walls through two-phase CFD modeling of the effects of air compressibility, Frontiers in Built environment 9, 1282459. 10.3389/fbuil.2023.1282459
3. **Formentin S.M.** and Zanuttigh B., 2023. Statistical Analysis of the Wave Runup at Walls in a Changing Climate by Means of Image Clustering, Water 2023, 15(15), 2729. https://doi.org/10.3390/ w15152729
4. **Formentin S.M**., Gaeta M.G., De Vecchis R., Guerrero, M. and Zanuttigh B., 2021. Image-clustering analysis of the wave-structure interaction processes under breaking and non-breaking waves, Physics of Fluids 33(10), 105121. https://doi.org/10.1063/5.0065019
5. **Formentin S.M.**, 2021. Key Performance Indicators for the upgrade of existing coastal defense structures, Journal of Marine Science and Engineering 9(9), 994, 32 p.

https://doi.org/10.3390/jmse9090994.

6. **Formentin S.M**., Palma G. and Zanuttigh B. Integrated assessment of the hydraulic and structural performance of crown walls on top of smooth berms. Coastal Engineering 168, 103951, 18 pp. https://doi.org/10.1016/j.coastaleng.2021.103951
7. Gaeta M.G., Guerrero, M., **Formentin S.M.**, Palma G., and Zanuttigh B., 2020. Non-intrusive measurements of wave-induced flow over dikes by means of a combined ultrasound Doppler velocimetry and videography, *Water* 12(11), 3053, 19 pp. https://doi.org/10.3390/w12113053
8. Palma G., Contestabile P., Zanuttigh B., **Formentin S.M.** and Vicinanza D., 2020. Integrated assessment of the hydraulic and structural performance of the OBREC device in the Gulf of Naples, Italy, *Applied Ocean Research*, 101, 102217, 14 pp. https://doi.org/10.1016/j.apor.2020.102217
9. **Formentin S.M**., Gaeta M.G., Palma G., Zanuttigh B. and Guerrero, M., 2019. Flow depths and velocities across a smooth dike crest, *Water* 11(10), 2197, 33 pp. https://doi.org/10.3390/w11102197
10. **Formentin S.M.** and Zanuttigh B., 2019. Semi-automatic detection of the overtopping waves and reconstruction of the overtopping flow characteristics at coastal structures, *Coastal Engineering* 152, 18 pp. https://doi.org/10.1016/j.coastaleng.2019.103533
11. **Formentin S.M**. and Zanuttigh B., 2019. A Genetic Programming based formula for wave overtopping by crown walls and bullnoses, *Coastal Engineering* 152, 17 pp. https://doi.org/10.1016/j.coastaleng.2019.103529
12. Palma, G., **Formentin, S.M.**, Zanuttigh, B., Contestabile, P. and Vicinanza, D., 2019. Numerical Simulations of the Hydraulic Performance of a Breakwater-Integrated Overtopping Wave Energy Converter, *Journal of Marine Science and Engineering* 7(2), 38. https://doi.org/10.3390/jmse7020038
13. **Formentin S.M.** and Zanuttigh B., 2018. A methodological approach for the development and verification of artificial neural networks based on an example application to coastal engineering, *Coastal Engineering Journal*, 60(3), 260-279. https://doi.org/10.1080/21664250.2018.1503402
14. **Formentin S.M.** and Zanuttigh B., 2018. A new method to estimate the overtopping and overflow discharge at over-washed and breached dikes, *Coastal Engineering* 140, 240-256. https://doi.org/10.1016/j.coastaleng.2018.08.002
15. **Formentin S.M.**, Zanuttigh B. and Van der Meer J.W., 2017. A Neural Network Tool for Predicting Wave Reflection, Overtopping and Transmission, Coastal Engineering Journal 59(1), 31 pp. DOI: 10.1142/S0578563417500061
16. Zanuttigh B., **Formentin S.M.**, and Van der Meer J.W., 2016. Prediction of extreme and tolerable wave overtopping discharges through an advanced neural network, *Ocean Engineering* 127, 7-22. http://dx.doi.org/10.1016/j.oceaneng.2016.09.032
17. Villatoro M, Silva R., Méndez F.J., Zanuttigh B., Pand S., Trifonovae E., Losadab I.J., Izaguirre C., Simmonds D., Reeve D.E., Mendozan E., Martinelli L., **Formentin S.M.**, Galiatsatou P., Eftimovae P ., 2014. An approach to assess flooding and erosion risk for open beaches in a changing climate, *Coastal Engineering*, 87, 50-76. http://dx.doi.org/10.1016/j.coastaleng.2013.11.009
18. Zanuttigh, B., **Formentin, S.M.** e Briganti, R., 2013. A Neural Network for the prediction of wave reflection from coastal and harbor structures, *Coastal Engineering* 80, 49-67. http://dx.doi.org/10.1016/j.coastaleng.2013.05.004

PUBLICATIONS – PROCEEDINGS OF CONFERENCES

1. **Formentin S.M.** and Zanuttigh B., 2022. Modelling the wave overtopping discharge at crown walls with Genetic Programming, XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Reggio Calabria (I), electronic support.
2. **Formentin S.M.**, Gaeta M.G., Guerrero M. and Zanuttigh B., 2022. Wave overtopping and air entrainment at dikes with crown walls with video clustering techniques, XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Reggio Calabria (I), electronic support.
3. **Formentin S.M.**, Dallavalle E., Zanuttigh B., 2022. Modelling wave overtopping and wave impacts by means of image clustering techniques, Proc. of XXXVII International Conference on Coastal Engineering, Sydney (AUS).
4. **Formentin S.M.**, Huerta, J.C.A., Zanuttigh B., 2022. Modelling wave-structure interaction with a new compressible two-phase flow solver, Proc. of XXXVII International Conference on

Coastal Engineering, Sydney (AUS).
5. Palma G., **Formentin S.M.**, Zanuttigh B., 2020. Analysis of the impact process at dikes with crown walls and parapets, Proceedings of virtual Conference on Coastal Engineering, 2020.
6. **Formentin S.M.**, Zanuttigh B., Palma G., Gaeta M.G., and Guerrero, M., 2019. *Experimental analysis of the wave loads on dike crown walls with parapets*, Proc. of Coastal Structures Conference, Hannover (D).
7. **Formentin S.M.** and Zanuttigh B., 2018. *A new and fully automatic procedure for the identification and coupling of the overtopping events*, Proc. of XXXVI International Conference on Coastal Engineering, Baltimore (Ma). Website http://www.icce2018.com/.
8. Zanuttigh B., **Formentin S.M.** 2018. *Reduction of the wave overtopping discharge at dikes in presence of crown walls with bullnoses*, Proc. of XXXVI International Conference on Coastal Engineering, Baltimore (Ma). Website http://www.icce2018.com/.
9. **Formentin S.M.**, Zanuttigh B. and Van der Meer J.W., 2017. *The new EurOtop neural network tool for an improved prediction of wave overtopping*. Proc. of ICE Coasts, Marine Structures and Breakwaters, Liverpool, UK.
10. Palma G., Contestabile P., **Formentin S.M.**, Vicinanza D. and Zanuttigh B., 2017. Investigation of the performance of a multifunctional harbour structure. Proc. of ICE Coasts, Marine Structures and Breakwaters, Liverpool, UK.
11. **Formentin S.M.** and Zanuttigh B., 2016. *Neural network modelling of wave-structure interaction processes*, Proc. of XXXV Congresso Nazionale di Idraulica e Costruzioni Idrauliche, Bologna, pp 169-172.
12. Zanuttigh B., **Formentin S.M.**, and Van der Meer J.W., 2016. *Update of the Eurotop Neural Network Tool: improved prediction of wave overtopping*, Proc. of XXXV International Conference on Coastal Engineering, Antalya (TR). https://doi.org/10.9753/icce.v35.waves.2
13. **Formentin S.M.**, Palma G., Contestabile P., Vicinanza D. and Zanuttigh B., 2016. *2DV RANS-VOF numerical modeling of a multi-functional harbour structure*, Proc. of XXXV International Conference on Coastal Engineering, Antalya (TR).
14. Palma G., Contestabile P., **Formentin S.M.**, Vicinanza D. and Zanuttigh B., 2016. *Design optimization of a multifunctional wave energy device*, Proceedings of the 2nd International Conference on Renewable Energies Offshore, Lisbon (P).
15. Palma G., Contestabile P**., Formentin S.M.**, Zanuttigh B. and Vicinanza D., 2016. *Modeling the performance of a wave energy converter integrated in a harbour breakwater*, Proc. of XXXV Congresso Nazionale di Idraulica e Costruzioni Idrauliche, Bologna, pp 165-168.
16. Zanuttigh B., **Formentin S.M.**, and Van der Meer J.W., 2015. *An advanced and improved Artificial Neural Network for the prediction of wave overtopping*, Proceedings of the Coastal Structures and Solutions to Coastal Disasters Joint Conference 2015, Boston (Ma), *pp. 719-730*, ASCE. http://dx.doi.org/10.1061/9780784480304.076
17. **Formentin S.M.**, Zanuttigh B., Van der Meer J.W. and Lopez Lara J., 2014. *Overtopping flow characteristics at emerged and over-washed dikes*, Proc. of XXXIV International Conference on Coastal Engineering, Seoul (ROK). http://dx.doi.org/10.9753/icce.v34.structures.7
18. Zanuttigh B., **Formentin S.M.** and Van der Meer J.W., 2014. *Advances in modelling wave-structure interaction through Artificial Neural Networks*, Proc. of XXXIV International Conference on Coastal Engineering, Seoul (ROK). http://dx.doi.org/10.9753/icce.v34.structures.69
19. **Formentin, S. M.**, Zanuttigh, B. e Briganti, R., 2012. *Stima del coefficiente di riflessione ondosa mediante modellazione alle reti neurali*, Proc. of XXXIII Congresso Nazionale di Idraulica e Costruzioni Idrauliche, Brescia, electronic support, 11 pp.
20. **Formentin, S. M.**, Zanuttigh, B., 2013. *Prediction of wave transmission trough a new artificial neural network developed for wave reflection*, Proc. of VII International Conference on Coastal Dynamics, Arcachon (F). https://doi.org/10.9753/icce.v35.structures.3

PUBLICATIONS – BOOKS AND BOOK CHAPTERS

1. Burcharth H. F., Zanuttigh B., Lykke Andersen T., Lara J. L., Jan Steendam G., Ruol P., Sergent P., Ostrowski R., Silva R., Martinelli L., Nørgaard J. Q. H., Mendoza E., Simmonds D., Ohle N., Kappenberg J., Pan S., Kim Nguyen D., Toorman E. A., Prinos P., Hoggart S., Chen Z., Piotrowska D., Pruszak Z., Schönhofer J., Skaja M., Szmytkiewicz P., Szmytkiewicz M., Leont'yev I., Angelelli E., **Formentin S. M.**, Smaoui H., Bi Q., Sothmann J., Schuster D., Li M., Ge J., Lendzion J., 2014. *Innovative engineering solutions and best practices to mitigate coastal risk*. Chap. 3 in Coastal risk management in a changing climate, Zanuttigh et al. eds., Elsevier ed., pp. 171-236.

OTHER PUBLICATIONS –

1. **Formentin, S. M.**, Zanuttigh, B., 2012. Le interazioni onda-struttura: la riflessione ondosa. Id 3209, electronic support.
2. **Formentin, S. M.**, Zanuttigh, B., 2012. Le reti neurali artificiali in idraulica marittima. Id. 3210, electronic support.

AUTHOR LEVEL METRICS (TO DATE DECEMBER 30TH, 2024)

	# articles	# citations	H-index
Scopus	31	435	12
Web of Science	19	305	10
Google Scholar	50	576	12

RESEARCH PROJECTS

Mar, 2012 - 2020

Participant in the Research Units of the University of Bologna for the following projects:

- H2020 Programme "BRIGAID - Bridging the Gap for Innovations in Disaster Resilience", May 2016 – Apr 2020. Project website: https://brigaid.eu/#
- National Programme RITMARE "Italian Research on the Sea), WP "Modelling of off-shore and coastal infrastructures", Jan 2012 – Dec 2016. Project website: www.ritmare.it/en/.
- UE project "THESEUS - Innovative technologies for safer European coasts in a changing climate", Dec 2009 - Nov 2013. Project website: www.theseusproject.eu.

PATENTS

Co-inventor of "SeAbacus", a novel floating device for the wave energy conversion, patent request submitted on Feb, 14th 2023, proprietor Alma Mater Studiorum – Università di Bologna. International Application Number PCT/IT2023/050045. Patent number 102022000002747; date of issue: 08/02/2024; type: industrial invention patent.
SeAbacus is a floating wave energy converter which is able to capture energy from any direction. Thanks to its modest inertia, it is efficient also in low-energetic climate conditions. It is scalable, size-adaptable, small, modular and it can be installed at different depths. **https://www.unibo.it/it/terza-missione/universita-e-impresa/brevetti-ateneo/brevetti-ateneo/scheda/2414**

CONFERENCE ATTENDANCE

1. 38th International Conference on Coastal Engineering, Roma (I), September, 8th -14th 2024. Contribution as co-author of two papers, oral presentation.
2. 39th Convegno di Idraulica e Costruzioni Idrauliche, Parma (I), September 15th-18th, 2022. Website: https://www.convegno-idra.it/. Contribution as co-author of three papers, oral presentation.
3. 37th International Conference on Coastal Engineering, Sydney (AU), December, 4th -9th 2022. Contribution as co-author of two papers, oral presentation.
4. 38th Convegno di Idraulica e Costruzioni Idrauliche, Reggio Calabria (I), September 4th-7th, 2022. Website: http://www.convegno-idra.it/convegno/. Contribution as co-author of one paper, oral presentation.
5. 37th Convegno di Idraulica e Costruzioni Idrauliche – Online Edition, 2021, June 14th-16th. Contribution as co-author of one paper, oral presentation.
6. Virtual International Conference on Coastal Engineering, 2020, October 6th-9th. Contribution as co-author of two papers, oral presentation.
7. 36th Convegno di Idraulica e Costruzioni Idrauliche, Ancona (I), 2018, September 12th – 14h. Website: http://www.gii-idraulica.net/sezioni-tematiche/idra-2016. Contribution as co-author of three papers, oral and poster presentation.
8. 36th International Conference on Coastal Engineering, Baltimore (MD), 2018, July, 30th – August, 3rd. Website http://www.icce2018.com/. Contribution as co-author of two papers, oral presentation.
9. 11th Coasts, Marine Structures and Breakwaters conference, Liverpool (UK), 2017, September 5th-7th. Website: http://www.ice-conferences.com/coasts,-marine-structures-and-breakwaters-2017. Contribution as co-author of two papers, oral presentation.
10. 35th International Conference on Coastal Engineering, Istanbul (TR), 2016, November, 17th – 20th. Websitehttp://www.icce2016.com/en/. Contribution as co-author of two papers, oral presentation.
11. 35th Convegno di Idraulica e Costruzioni Idrauliche, Bologna (I), 2016, September 14th – 16th. Website: http://www.gii-idraulica.net/sezioni-tematiche/idra-2016. Contribution as co-author of two papers, oral presentation.
12. Coastal Structures & Solutions To Coastal Disasters Joint Conference, Boston (Ma), 2015, September 9th – 11th. Website: http://www.copricoastalconference.org/ . Contribution as co-author of one paper.
13. 34th International Conference on Coastal Engineering, Seoul (ROK), 2014, June, 15th – 20th. Website: http://icce2014.com/home/. Contribution as co-author of two papers, oral presentation.
14. *Thesues* Project – Final Event meeting, Bruxelles (B), 2013, October 17th – 18th. Website: http://www.theseusproject.eu/finalconference.
15. 7th International Conference on Coastal Dynamics, Arcachon (F), 2013, June 24th – 28th. Website: http://www.coastaldynamics2013.fr/. Poster presentation.
16. 33rd Convegno di Idraulica e Costruzioni Idrauliche, Brescia (I), 2012, September 10th – 15th. Website: http://www.idra2012.it/. Oral presentation.

WORK EXPERIENCE
PROFESSIONAL ACTIVITIES

• Since February 2021 — **Project manager** for the private company "No Gap Controls s.r.l." for the verification and audit of public projects of structures and infrastructural. 800 million euros of public projects verified to date, including: ports and harbours, roads, highways and railways, viaducts, bridges and public buildings such as schools, hospitals, etc.

• From June 2015 to August 2015 — Freelance activity of numerical modelling with SWMM of the hydraulic and water quality aspects on the urban drainage system of Cervia (RA).

• From January 2014 to May 2014 — Freelance activity of vectorization and implementation in GIS environment of hardcopy archive databases of urban hydraulic and drainage networks.

LANGUAGES

MOTHER TONGUE: Italian

ENGLISH: **First Certificate of English (B2)**
University of Cambridge, ESOL Examinations

FRENCH: **Diplôme d'études en langue française, DELF (A2)**
Alliance Française, Bologna

VISITING RESEARCH PERIODS

• April 2014: Visiting researcher at TUDelft University, Delft, The Netherlands. Funded by funded by the Italian project "RitMare – Ricerca italiana per il Mare". Data collection activity to build up the Wave Overtopping Database, in cooperation with Prof. J. Van der Meer in the framework of the EurOtop team.

• November-December 2014: Visiting researcher at Aalborg University, Aalborg, Denmark. Funded by REDEM project through the FP 7 MARINET access. Experiments in the shallow water wave basin on mooring systems of wave energy converters. Cooperation with Prof. J. P. Kofoed.

PERSONAL SKILLS AND COMPETENCES

SOCIAL SKILLS AND COMPETENCES

During my academic research activity, I have had the opportunity to co-operate within international projects (BRIGAID, THESEUS, MARINET and MERMAID), developing a good attitude to team working and a good degree of communicative skill.

By participating to international conferences and presenting original papers, I have acquired the ability to speak before an audience and argument the results of my research.

The frontal lessons hold during the tutoring activity taught me how to explain concepts adapting the topic and the language based on the audience target and experience.

ORGANISATIONAL SKILLS AND COMPETENCES

My Project Manager activity involves the role of coordinator and supervisor of multidisciplinary teams of people having different backgrounds, different experiences and working in various contexts.

Within my academic activity I gained a 12-years' experience of co-supervising degree thesis (Civil and Environmental engineering), taking part and coordinating the research activities, the thesis drafting and the preparation of presentations by means of slides.

I got experience in training and supporting students in preparing school tests and university exams gained through a collaboration with *Passepartout* cooperative (Bologna).

TECHNICAL SKILLS AND COMPETENCES

Informatics skills regarding numerical modelling, database management, drawing, GIS applications:

- Operating sistems: Good
- Word processing: Excellent
- Electronic spreadsheet : Excellent
- Data base administrators: Good
- GIS: Good
- CAD: Good
- Programming languages known: Matlab (Excellent), C/C++ (Good), Fortran (Good)

OTHER SKILLS AND COMPETENCES

Laboratory experience gained participating at lab experiments and activities at the shallow water basin at the University of Aalborg (DK) within the context of the project MARINET.

DRIVING LICENCE(S): **B**

Bologna, December, 30th 2024,