

UNIVERSITÀ DEGLI STUDI DELL'AQUILA
Prof. Davide Pasquali
Curriculum scientifico

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PERSONAL INFORMATIONS

First Name: Davide

Last Name: Pasquali

Address: Piazzale Pontieri, 1, Monteluco di Roio (Laboratorio di Idraulica, Ambientale e Marittima)

Scopus: [Davide Pasquali](#)

Google Scholar [Davide Pasquali](#)

POSITION

2023 - present Assistant Professor (RTDb) , SSD ICAR/02, Costruzioni Idrauliche, Marittime e Idrologia, DICEAA, University of L'Aquila, Italy

2018 - 2023 Researcher (RTDa) , SSD ICAR/02, Costruzioni Idrauliche, Marittime e Idrologia, DICEAA, University of L'Aquila, Italy

2014 - 2018 Post-Doc Researcher, University of L'Aquila, Italy.

2011 - 2014 Ph.D. student, University of L'Aquila, Italy.

EDUCATION

2015 - Ph.D. in Civil and Environmental Engineering, University of L'Aquila, Italy;

2011 - Bachelor's Degree (cum laude) in Civil Engineering, University of L'Aquila, Italy

2008 - Master's Degree (cum laude) in Civil Engineering, University of L'Aquila, Italy.

RESEARCH FIELDS

Storm Surge Forecast and hindcast;

Analytical and numerical modelling of the hydrodynamic of floating bodies for energy extraction.

Analytical and numerical modelling of plume dispersion due to dredging operations;

Risk Analysis along coastal zone;

The use of Stereoscopy in the breakwaters stability analysis;

Statistical models (e.g. Neural Network) to forecast storm surge events.

Analytical and numerical modelling of the Hydrodynamic and Morphodynamic of Coastal Areas and river mouths;

Analytical, physical and numerical modelling of landslides generated tsunamis;

Analytical, physical and numerical modelling of hydraulic constructions;

Physical modelling of sea-walls and breakwaters.

Analytical and numerical modelling aimed at forecast the coastal evolution;

Analytical and numerical modelling of the hydrodynamic of floating bodies for energy extraction

TEACHING

Lecturer

- A.Y. 2020/2021 - present: Environmental Hydraulics (9 ECTS). Master's degree in Civil Engineering and Environmental Engineering
- A.Y. 2019/2020 - present: I level Specializing-Master in: Management tecnico-amministrativo post-catastrofe negli enti local (16 hours)
- A.Y. 2019/2020: A Basic Introduction to research tools for Engineers and Scientist (12 hours)- PhD Course. Ph.D. program Civil, Construction-Architectural and Environmental Engineering
- A.Y. 2018/2019: Numerical models for the design of hydraulic structures and for the analysis of environmental effects (3 ECTS). Master's degree in Civil Engineering and Environmental Engineering
- A.Y. 2017/2018: fundamentals of Coastal Engineering (3 ECTS). Master's degree in Civil Engineering and Environmental Engineering
- A.Y. 2016/2017: Numerical models for the design of hydraulic structures and for the analysis of environmental effects (3 ECTS). Master's degree in Civil Engineering and Environmental Engineering
- A.Y. 2015/2016: Coastal Engineering and shore protection (3 ECTS). Master's degree in Civil Engineering and Environmental Engineering

Seminars and Exercises

- A.Y. 2019/2020 - present: Advanced open channel flow and hydraulic structure. Master's degree in Environmental Engineering
- A.Y. 2020 - present: Hydraulic and hydraulic construction. Master's degree in Construction-Architectural Engineering U.E.
- A.Y. 2014-2018: Environmental and maritime hydraulic construction. Master's degree in Environmental Engineering
- A.Y. 2017/2018: Hydrology and hydraulic construction. Bachelor's degree in Environmental Engineering
- A.Y. 2012-2018: Hydrology and hydraulic construction. Master's degree in Construction-Architectural Engineering U.E.
- A.Y. 2014/2015: Probability and statistic for the design of hydraulic construction. Master's degree in Civil Engineering and Environmental Engineering
- A.Y. 2012/2013: Coastal Engineering. Master's degree in Environmental Engineering
- A.Y. 2011/2012: Harbor engineering and maritime hydraulics. Master's degree in Civil Engineering

FUNDEND RESEARCH PROJECTS OR INSTITUTIONAL COLLABORATION

As a scientific coordinator or head

- Study commissioned by Autorità di Bacino Distrettuale dell'Appennino Centrale. The scientific head of the project is Prof. Marcello Di Risio. Davide Pasquali has been appointed by the scientific head as scientific coordinator of the activities (project management, supervision of numerical simulations and reports) - **Sviluppo e implementazione delle indagini idrauliche con approccio multiscala delle UoM IT131 e IT023 per la difesa e la gestione del territorio**
- Topics are related on the one hand to mathematical modeling in the management of bathing waters, on the other hand, the definition of survey methodologies for the assessment of turbidity levels in marine-coastal areas. - **Involved (as an academic expert) in the writing of two manuals in collaboration with the Italian Institute for Environmental Protection and**

Research

- Activities: Research activities, scientific support to the office, dissemination activities and organization of seminar and workshop - Scientific head of the **memorandum of understanding with the Abruzzo Region hydrographic office**
- Activities: Research activities, and scientific support to the municipality regarding hydraulic and hydrologic studies in the municipal area - Scientific head of the **memorandum of understanding with the Popoli Municipality (Italy, Abruzzo Region)**
- Collaboration with the Italian Institute for Environmental Protection and Research. - **Analisi degli impatti dei cambiamenti climatici in area costiera**
- Study commissioned by Regional Production Activities Company (Azienda Regionale delle Attività Produttive (ARAP). Amount of the contract 31.860 euro. - Scientific coordinator in the research contract: **Studio numerico dell'idrodinamica e della morfodinamica di una foce fluviale**
- Subject matter of the Fixed-term Researcher contract L.240/10 type A within the PON Programm Research and Innovation 2014 - 2020, A.I.M. Attraction and International Mobility of National (PON) Research and Innovation 2014 - 2020, A.I.M. Attraction and International Mobility of which he was awarded in July 2019 - Scientific head in the research project: **Development and implementation of methods and techniques for optimizing energy extraction from sea waves**
- Study Financed by SIAP-MICROS S.p.a. operations coordinator in the research contract: **Installazione, manutenzione ed assistenza alla gestione di stazioni di monitoraggio della Rete Ondametrica Nazionale (RON) Caratterizzazione matematica del sistema scafo-ormeggio**
- Agreement with Cooperative Balneatori di Pineto e Roseto - **Scientific research activities aimed at developing projects and/or patents related to new systems for the protection of sandy shorelines from erosive phenomena**
- Study commissioned by Regional Production Activities Company Azienda Regionale delle Attività Produttive (ARAP). - Scientific coordinator in the research contract: **del porto canale di Pescara – 1° stralcio – completamento pennello di foce e scogliera di radicamento**
- Study commissioned by Consorzio Venezia Nuova (CVN). Amount of the contract 50.358,00 euro - Scientific coordinator in the research contract: **Diga Foranea della Bocca di Lido Treporti-Bocca di Lido S.Nicolo Progetto di rinforzo - Modello 2D**
- Study commissioned Ersi Abruzzo. Amount of the contract 15.575 euro - Scientific coordinator in the research contract: **Disinquinamento Fiume Pescara–Potenziamento del sistema depurativo–Nuovo Parco Depurativo -Realizzazione vasche di prima pioggia e disinfezione presso sollevamento B0 (Madonnina)**

EDITORIAL POSITIONS

- Editorial board member: Journal of Coastal and Hydraulic Structures (Associate Editor), Journal of Marine Science and Engineering (topic board member), Current Trend in Oceanography and Marine Sciences, Current Trends in Civil & Structural Engineering
- Guest Editor in the Journal of Marine Science and Engineering' Special Issue: "Marine Sediments: Processes, Transport and Environmental Aspects"
- Reviewer for: Ocean Engineering, International Journal of Disaster Risk Science, Continuum Mechanics and Thermodynamics, Journal of Marine Science and Engineering, Sustainability, Water, Progress in Physical Geography, Aquatic Ecosystem Health & Management, Italian Journal of Engineering Geology and Environment, Journal of Marine Science and Application,

AWARDS, FELLOWSHIP, & GRANTS

- National Scientific qualification as associate in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) for the disciplinary field of 08/A1 - Hydraulics, hydrology, hydraulic and marine constructions. (Academic Recruitment Field 08/A - Landscape and infrastructural engineering, according to the national classification).
 - Keynote lecturer during the Short Course/Conference on Applied Coastal (SCACR), Bari 9-11 September 2019.
 - Best poster presentation in the *XXXV Convegno Nazionale di Idraulica e Costruzioni Idrauliche*. Title: Previsione di eventi di sovrizzo di tempesta mediante un metodo in tempo reale
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PUBLICATIONS

Peer-Reviewed Journal Articles (Scopus database)

1. Celli, D., Pasquali, D., Di Nucci, C., & Di Risio, M. (2024). Influence of short-term configurations of a mouth deviation on river hydraulics: the Pescara River case study. *Natural Hazards*, 1-26.
2. Scipione, F., De Girolamo, P., Castellino, M., Pasquali, D., Celli, D., & Di Risio, M. (2024). Reduced wave time series for long-term morphodynamic applications. *Coastal Engineering*, 104453.
3. Pasquali, D., Celli, D., Di Nucci, C., Fischione, P., & Di Risio, M. (2023, September). Extreme sea level variation in future climate change scenarios: the case of Abruzzo Region coastal area. In *International Conference on Innovation in Urban and Regional Planning* (pp. 446-456). Cham: Springer Nature Switzerland.
4. Ferraro, D., Aristodemo, F., Lauria, A., Lazzaro, E., Pasquali, D., & Di Risio, M. (2023). Effect of wave motion on the scouring caused by a marine propeller jet: An experimental and numerical study. *Ocean Engineering*, 290, 116426.
5. Castellino, M., Antonini, A., Celli, D., Dermentzoglou, D., Pasquali, D., Di Risio, M., & De Girolamo, P. (2022). NUMERICAL EXPERIMENTS ON OVERHANGING PARAPETS UNDER NON-BREAKING WAVE CONDITIONS. *Coastal Engineering Proceedings*, (37), 85-85.
6. Antonini, A., Dermentzoglou, D., de Almeida, E., Hofland, B., Celli, D., Pasquali, D., Castellino, M., & De Girolamo, P. (2022). PHYSICAL EXPERIMENTS ON OVERHANGING PARAPETS UNDER NON-BREAKING WAVE CONDITIONS. *Coastal Engineering Proceedings*, (37), 81-81.
7. Pasquali, D., Bruschi, A., Lisi, I., & Risio, M. D. (2023). Wave Forcing Assessment at Regional Scale in a Climate Change Scenario: The Sardinia Case Study. *Journal of Marine Science and Engineering*, 11(9), 1786.
8. Ragno, E., Antonini, A., & Pasquali, D. (2023). Investigating extreme sea level components and their interactions in the Adriatic and Tyrrhenian Seas. *Weather and*

Climate Extremes, 41, 100590.

9. Ferraro, D., Aristodemo, F., Lauria, A., Lazzaro, E., Pasquali, D., & Di Risio, M. (2023). Effect of wave motion on the scouring caused by a marine propeller jet: An experimental and numerical study. *Ocean Engineering*, 290, 116426.
10. Fischione, P., Celli, D., Pasquali, D., Barajas, G., Di Paolo, B. & Lara, J. L. (2023). Inside a Beach Drainage System: A Three-Dimensional Modeling. *International Journal of Offshore and Polar Engineering*, 33(02), 196-203.
11. Di Nucci, C., Celli, D., Pasquali, D., & Di Risio, M. (2022). New Dimensionless Number for the Transition from Viscous to Turbulent Flow. *Fluids*, 7(6), 202.
12. Fischione, P., Pasquali, D., Celli, D., Di Nucci, C., & Di Risio, M. (2022). Beach Drainage System: A Comprehensive Review of a Controversial Soft-Engineering Method. *Journal of Marine Science and Engineering*, 10(2), 145.
13. Di Nucci, C., Celli, D., Fischione, P., & Pasquali, D. (2022). Classical irreversible thermodynamics versus extended irreversible thermodynamics. The role of the continuity equation. *Archives of Thermodynamics*, 43(2).
14. Ciallella, A., Pasquali, D., D'Annibale, F., & Giorgio, I. (2022). Shear rupture mechanism and dissipation phenomena in bias-extension test of pantographic sheets: Numerical modeling and experiments. *Mathematics and Mechanics of Solids*, 27(10), 2170-2188.
15. Di Nucci, C., Celli, D., Fischione, P., & Pasquali, D. (2022). Elementary scales and the lack of Fourier paradox for Fourier fluids. *Meccanica*, 1-4.
16. Celli, D., Pasquali, D., Fischione, P., Di Nucci, C., & Di Risio, M. (2021). Wave-induced dynamic pressure under rubble mound breakwaters with submerged berm: An experimental and numerical study. *Coastal Engineering*, 170, 104014.
17. Pratola, L., Rinaldi, A., Molfetta, M. G., Bruno, M. F., Pasquali, D., Dentale, F., & Mossa, M. (2021). Investigation on the Reflection Coefficient for Seawalls Protected by a Rubble Mound Structure. *Journal of Marine Science and Engineering*, 9(9), 937.
18. Fischione, P., Celli, D., Pasquali, D., Barajas, G., Di Paolo, B., & Lara, J. L. (2021, June). Inside a Beach Drainage System: a tridimensional modeling. In *The 31st International Ocean and Polar Engineering Conference*. OnePetro.
19. Ciallella, A., Pasquali, D., Gołaszewski, M., D'Annibale, F., & Giorgio, I. (2021). A rate-independent internal friction to describe the hysteretic behavior of pantographic structures under cyclic loads. *Mechanics Research Communications*, 116, 103761.
20. Pasquali, D., & Marucci, A. (2021). The Effects of Urban and Economic Development on Coastal Zone Management. *Sustainability*, 13(11), 6071.
21. Di Risio, M., Hayes, D. F., & Pasquali, D. (2020). Marine Sediments: Processes, Transport and Environmental Aspects. *Journal of Marine Science and Engineering*, 8(4), 243.
22. Molfetta, M. G., Bruno, M. F., Pratola, L., Rinaldi, A., Morea, A., Preziosa, G., Pasquali, D., Di Risio M. & Mossa, M. (2020). A Stereoscopic System to Measure Water Waves in Laboratories. *Remote Sensing*, 12(14), 2288.
23. Di Nucci, C., Pasquali, D., Celli, D., Pasculli, A., Fischione, P., & Di Risio, M. (2020). Turbulent bulk viscosity. *European Journal of Mechanics-B/Fluids*, 84, 446-454.
24. Fischione, P.; Celli, D.; Pasquali, D., Di Risio, M. (2020) Drains influence on the beach groundwater hydrodynamics. *Italian Journal of Engineering Geology and Environment*, 1 (2020)
25. Scipione, F., Di Risio, M., Castellino, M., Pasquali, D., De Girolamo P. (2020). Wave induced hydrodynamics field around a long submerged groin: the case study of the Latina (Italy) nuclear power plant cooling system intake. *Italian Journal of Engineering Geology and*

- Environment, 1 (2020).
26. Pasquali, D., Bruno, M. F., Celli, D., Damiani, L., & Di Risio, M. (2019). A simplified hindcast method for the estimation of extreme storm surge events in semi-enclosed basins. *Applied Ocean Research*, 85, 45-52.
 27. Lisi, I., Feola, A., Bruschi, A., Pedroncini, A., Pasquali, D., & Di Risio, M. (2019). Mathematical Modeling Framework of Physical Effects Induced by Sediments Handling Operations in Marine and Coastal Areas. *Journal of Marine Science and Engineering*, 7(5), 149.
 28. De Girolamo, P., Crespi, M., Romano, A., Mazzoni, A., Di Risio, M., Pasquali, D., Bellotti, G., Castellino, M. & Sammarco, P. (2019). Estimation of Wave Characteristics Based on Global Navigation Satellite System Data Installed on Board Sailboats. *Sensors*, 19(10), 2295.
 29. Saponieri, A., Di Risio, M., Pasquali, D., Valentini, N., Aristodemo, F., Tripepi, G., Celli, D., Streicher, M., & Damiani, L. (2018). Beach profile evolution in front of storm seawalls: A physical and numerical study. *Coastal Engineering Proceedings*, 1(36), 70.
 30. Celli, D., Pasquali, D., De Girolamo, P., Di Risio, M. (2018). Effects of submerged berms on the stability of conventional rubble mound breakwaters. *Coastal Engineering*.
 31. Saponieri, A., Valentini, N., Di Risio, M., Pasquali, D., & Damiani, L. (2018). Laboratory Investigation on the Evolution of a Sandy Beach Nourishment Protected by a Mixed Soft-Hard System. *Water*, 10(9), 1171.
 32. Di Risio, M., D'Ovidio, G., Celli, D., & Pasquali, D. (2018, October). Underwater Remotely Operated Vehicles for fast and low cost bathymetry surveys. In 2018 IEEE International Workshop on Metrology for the Sea; Learning to Measure Sea Health Parameters (MetroSea) (pp. 23-27). IEEE.
 33. De Girolamo, P., Crespi, M., Romano, A., Mazzoni, A., Di Risio, M., Pasquali, D., Bellotti, G., Castellino, M. & Sammarco, P. (2018, October). Wave characteristics estimation by GPS receivers installed on a sailboat travelling off-shore. In 2018 IEEE International Workshop on Metrology for the Sea; Learning to Measure Sea Health Parameters (MetroSea) (pp. 18-22). IEEE.
 34. Di Risio, M., Bruschi, A., Lisi, I., Pesarino, V., & Pasquali, D. (2017) Comparative Analysis of Coastal Flooding Vulnerability and Hazard Assessment at National Scale. *Journal of Marine Science and Engineering*, 5(4), 51.
 35. Di Risio, M., Pasquali, D., Lisi, I., Romano, A., Gabellini, M., & De Girolamo, P. (2017). An analytical model for preliminary assessment of dredging-induced sediment plume of far-field evolution for spatial non homogeneous and time varying resuspension sources. *Coastal Engineering*, 127, 106-118.
 36. De Girolamo, P., Di Risio, M., Beltrami, G. M., Bellotti, G., & Pasquali, D. (2017). The use of wave forecasts for maritime activities safety assessment. *Applied Ocean Research*, 62, 18-26
 37. Totani, G., Totani, F., Celli, D., Pasquali, D., & Di Risio, M. (2017). Post-Event Site Investigation, Monitoring, Stability Analysis, and Modeling of a Gas Pipeline Explosion. *Journal of Failure Analysis and Prevention*, 17(1), 86-92.
 38. Romano, A., Di Risio, M., Molfetta, M. G., Bellotti, G., Pasquali, D., Sammarco, P., Damiani L., & De Girolamo, P. (2017). 3D physical modeling of tsunamis generated by submerged landslides at a conical island: the role of initial acceleration. *Coastal Engineering Proceedings*, 1(35), 14.
 39. De Girolamo, P., Romano, A., Bellotti, G., Pezzoli, A., Castellino, M., Crespi, M., Mazzoni A., Di Risio M., Pasquali D., Franco L.o, Sammarco P. (2015). *Met-Ocean and*

Heeling Analysis During the Violent 21/22 October 2014 Storm Faced by the Sailboat ECO40 in the Gulf of Lion: Comparison Between Measured and Numerical Wind Data. In: Cabri J., Pezarat Correia P. (eds) Sports Science Research and Technology Support. icSPORTS 2015. Communications in Computer and Information Science, vol 632. Springer, Cham.

40. Pasquali, D., Di Risio, M., & De Girolamo, P. (2015). A simplified real time method to forecast semi-enclosed basins storm surge. *Estuarine, Coastal and Shelf Science*, 165, 61-69.
 41. De Girolamo, P., Romano, A., Bellotti, G., Pezzoli, A., Boscolo, A., Crespi, M., Mazzoni A., and Di Risio M., and Pasquali D., and Franco L., and Sammarco P., (2015). Analysis of the 21/22 october 2014 storm experienced by the sailboat eco40 in the gulf of lion. In 3rd International Congress on Sport Sciences Research and Technology Support, icSPORTS 2015. SciTePress.
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Books and manuals

1. Lisi I., Feola A., Orasi A., Cutroneo L., Bruschi A., De Angelis R., Filipponi F., La Valle P., Nicoletti L., Paganelli P., Capello M., Di Risio M., Pasquali, D., De Gaetano P., Gaino F., Magrì S., Barbone E., Ungaro N. (2023). *Metodi per la stima di livelli di torbidità in aree marine: criteri di valutazione e gestione. Manuali e Linee Guida ISPRA, MLG 206/2023. ISBN 978-88-448-1193-8*
2. Lisi, I., Feola, A., Bruschi, A., Di Risio, M., Pedroncini, A., Pasquali, D., & Romano, E. (2017). *La modellistica matematica nella valutazione degli aspetti fisici legati alla movimentazione dei sedimenti in aree marino-costiere. ISPRA – Manuali e Linee Guida. ISBN 978-88-448-0872-3*
3. Pasquali, D., (2015) *Implementation of a real time forecast system of Adriatic Storm Surge. Ph.D Thesis*

Complete list of publication: [click here](#)