

Curriculum Vitae

Personal information

Name: **Giuseppe Roberto Pisaturo**

Education since leaving school

- 2017 PhD in Civil, Environmental and Mechanical Engineering, University of Trento. Main topics: hydropower plants and interaction with ecology, protection infrastructures and methods for reducing the impacts downstream of hydropower plants.
- 2012 Laurea Magistrale in Ingegneria per l'Ambiente ed il Territorio; Università degli Studi di Trento (110/110 with honour)
- 2010 Laurea Triennale in Ingegneria per l'Ambiente ed il Territorio; Università degli Studi di Trento (103/110)

Qualifications

- 2023. 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). Starting from the 09/06/2023 and will expire on the 09/06/2034.
- 2013. Esame di stato per la professione di Ingegnere in Ingegneria Civile ed Ambientale.

Present appointment

- Researchers with a fixed-term contract (RTD-A)
- start of appointment: 15/02/2021
- Level of appointment (in national / international context): RTD-A with PhD
- Employer: Free University of Bozen-Bolzano
- The main research topic is the interaction of hydropower plants with the sediment dynamics and the environment. Moreover, the research regards different aspects: sediment flushing, hydropeaking, human safety, surge tanks, turbines, water supply system (WSS) and energy recovery from WSS. Dr. Pisaturo performs laboratory and field experiments also using complex laboratory systems and techniques such as PIV, LDA, PDA, etc.

Professional experience

From / to	Job title	Name of academic Institution	Academic level	responsibilities
02/2018 – 01/2021	Researchers with a fixed-term contract (RTD-A)	Free University of Bozen-Bolzano	PhD	Researcher involved in the interaction of hydropower plants with the sediment dynamics and the environment. The research regarded different aspects: sediment flushing, hydropeaking, human safety, surge tanks, turbines, water supply system (WSS) and energy recovery from WSS.
01/2017 – 12/2017	Research fellow	University of Trento	PhD	Researcher involved in water supply systems, sediment transport in hydroelectric contexts, hydropower plants and effects of hydropower production on the ecosystem (AI-ALPEN)
11/2013 – 12/2013	Collaborator of hydraulic laboratory of Trento	University of Trento	Master level	Hydraulic sector expert: laboratory experiments and research on turbines
07/2013 – 08/2013	Collaborator of Ing. Garzon		Master level	Hydraulic and energy engineer: hydropower plants design

03/2013 – 06/2013	Collaborator of Engineering office SWS Trento		Master level	Hydraulic and energy engineer: hydropower plants design
11/2012 – 02/2013	Driver school assistant			Assistant

Awards received

Winner of the prize “Gino Bortollon” 2013 for the best master thesis for the "Environment" section organized by ETRA SpA (Energia Territorio Risorse Ambientali).

Winner of Best Poster Prize at IDRA2016 for the sector “Dinamiche acqua-società: sviluppo sostenibile e gestione del territorio”. Poster title: “Experimental analysis of the interaction between hydroelectric sluice gates and sediment transport”.

Experience in academic teaching

Most of the teaching were held in English within Master, Post-graduate and PhD Programs. In detail:

- **2023/2024 (30 hours scheduled)**
 - Teaching professor of Hydropower and wind power systems. 20 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Environmental Fluid Mechanics/Hydropower Plants. 10 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
- **2022/2023 (82 hours scheduled)**
 - Teaching professor of Hydropower and wind power systems. 30 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Environmental Fluid Mechanics/Hydropower Plants. 10 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Advanced application of fluid mechanics. 10 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Applications of fluid mechanics to energy engineering. 10 hours. Optional course in the Master in Energy Engineering. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Valutazione del rischio idro-geologico-Progettazione degli interventi strutturali di mitigazione. 22 hours. Master universitario di II livello "Gestione sostenibile del rischio idro-geologico in ambienti montani". Free University of Bolzano. Teaching language: Italian.
- **2021/2022 (60 hours scheduled)**
 - Teaching professor of Hydropower and wind power systems. 30 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Environmental Fluid Mechanics/Hydropower Plants. 10 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Advanced application of fluid mechanics. 10 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Applications of fluid mechanics to energy engineering. 10 hours. Optional course in the Master in Energy Engineering. Free University of Bolzano. Teaching language: English.

- **2020/2021 (92 hours scheduled)**
 - Teaching assistant of Hydropower and wind power systems. 30 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Environmental Fluid Mechanics/Hydropower Plants. 10 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Advanced application of fluid mechanics. 10 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Applications of fluid mechanics to energy engineering. 20 hours. Optional course in the Master in Energy Engineering. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Realizzazione e manutenzione delle opere di difesa. 22 hours. Master universitario di II livello "Gestione sostenibile del rischio idro-geologico in ambienti montani". Free University of Bolzano. Teaching language: Italian.
- **2019/2020 (83 hours scheduled)**
 - Teaching assistant of Hydropower and wind power systems. 25 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Environmental Fluid Mechanics/Hydropower Plants. 15 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Advanced application of fluid mechanics. 20 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Advanced measurement Techniques and Experimental Research. 23 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
- **2018/2019 (92 hours scheduled)**
 - Teaching assistant of Hydropower and wind power systems. 25 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Environmental Fluid Mechanics/Hydropower Plants. 16 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Applications of fluid mechanics to energy engineering. 11 hours. Optional course in the Master in Energy Engineering. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Advanced application of fluid mechanics. 8 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Valutazione ambientale degli interventi di mitigazione. 8 hours. Master universitario di II livello "Gestione sostenibile del rischio idro-geologico in ambienti montani". Free University of Bolzano. Teaching language: Italian.
 - Teaching assistant of Valutazione del rischio idro-geologico. 24 hours. Master universitario di II livello "Gestione sostenibile del rischio idro-geologico in ambienti montani". Free University of Bolzano. Teaching language: Italian.
- **2017/2018 (56 hours scheduled)**
 - Teaching assistant of Progetto di acquedotti e fognature. 10 hours. Mandatory course in the Master in Civil, Mechanical and Environmental engineering. University of Trento. Teaching language: Italian.

- Teaching assistant of Applications of fluid mechanics to energy engineering. 26 hours. Optional course in the Master in Energy Engineering. Free University of Bolzano. Teaching language: English.
 - Teaching assistant of Hydropower and wind power systems. 10 hours. Mandatory course in the Master in Energy Engineering. Free University of Bolzano and University of Trento. Teaching language: English.
 - Teaching assistant of Advanced application of fluid mechanics. 10 hours. PhD course in Sustainable Energy and Technologies. Free University of Bolzano. Teaching language: English.
- **2015/2016 (10 hours scheduled)**
 - Teaching assistant of Acquedotti e Fognature. 10 hours. Mandatory course in the Master in Civil, Mechanical and Environmental engineering. University of Trento. Teaching language: Italian.

PhD Supervision

- Bipa Nusrat Jahan. Ecological, morphological and human safety impacts of hydropeaking mitigation measurements. 2022/2025. XXVIII Cycle. PhD in Sustainable Development and Climate change (PhD SDC). Main University: IUSS Pavia. Host University: Free University of Bozen-Bolzano. Supervisors Dr. Giuseppe Roberto Pisaturo.
- Giulia Stradiotti. Sediment flushing as a mitigation measure for the hydropower production in silted reservoirs: a theoretical and experimental analysis. XXIV Cycle. PhD in Science and Technology (Free University of Bozen-Bolzano, 2022) Supervisors Prof. Maurizio Righetti and Dr. Giuseppe Roberto Pisaturo.

Bachelor and Master Thesis Supervision

- Luca Provenzi. Flow dynamics and sediment entrapment into surge tanks: possible solutions through CFD approach. 2023. Supervisors Dr. Giuseppe Roberto Pisaturo and Prof. Maurizio Righetti. Corso di laurea magistrale in Ingegneria energetica. Corso di laurea interateneo fra Università di Trento e Libera Università di Bolzano
- Damiano Bettega. Archimedes Screw Turbine: novel approach on the Analysis of gap leakage flows and power output. Supervisors Prof. Massimiliano Renzi and Dr. Giuseppe Roberto Pisaturo. 2023. Corso di laurea triennale in Ingegneria Industriale Meccanica. Libera Università di Bolzano.
- Alessia Valerio. Efficiency of an Archimedes screw turbine for a run-of-the-river installation: an experimental 2022. Supervisors Prof. Massimiliano Renzi, Dr. Giuseppe Roberto Pisaturo, Prof. Maurizio Righetti. Corso di laurea magistrale in Ingegneria energetica. Corso di laurea interateneo fra Università di Trento e Libera Università di Bolzano
- Rebecca Scuncio. Analisi preliminare e modellazione del trasporto solido del tratto terminale del Rio Fago (Bolzano, Italia) per la mitigazione del rischio idraulico. 2021. Supervisor Dr. Giuseppe Roberto Pisaturo. Master universitario di II livello "Gestione sostenibile del rischio idro-geologico in ambienti montani". Libera Università di Bolzano
- Daniele Gusmerotti. The support of CFD for hydraulic design/verification of hydraulic devices. Applications to practical cases. 2020. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di laurea magistrale in Ingegneria energetica. Corso di laurea interateneo fra Università di Trento e Libera Università di Bolzano
- Ariele Zanfei. Applicazione dell'algoritmo genetico NSGA-II per il posizionamento ottimale di PRV e PAT: un caso in studio nella rete di Egna. 2018. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento

- Carolina Busseni. Il modello metabolico applicato agli acquedotti: il caso di studio dell'acquedotto di Laives. 2018. Supervisors Prof. Maurizio Righetti, Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento
- Filippo Zanforlin. Analisi teorico-sperimentale dell'interrimento di un pozzo piezometrico, il caso dell'impianto di Ponte Gardena. 2018. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento
- Angelica Reghellin. Analisi del trasporto solido di sedimenti fini in alvei a matrice grossolana. 2018. Supervisors Prof. Maurizio Righetti, Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento
- Claudio Castellana. Hydraulic hazard management on a creek affected by hydropeaking: the case study of rio Valsura. 2017. Supervisor Prof. Maurizio Righetti. Co-supervisor Prof. Michele Larcher, Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento.
- Domenico Cassanego. Modellazione idraulica di un corso d'acqua alpino, prove di campo e mitigazione ambientale. 2017. Supervisors Prof. Maurizio Righetti, Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria Civile. Università di Trento
- Nicolò Pozzani. Analisi ed ottimizzazione di una turbina ad acqua fluente in alvei torrentizi. Modellazione CFD. 2017. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento
- David Di Pauli. Ottimizzazione e caratterizzazione di sistemi idropotabili in Alto Adige: il caso studio di Laives (BZ). 2017. Supervisors Prof. Maurizio Righetti, Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento
- Stefano Cumer. Erosione e trasporto di sedimenti fini in alvei ghiaiosi, alcuni aspetti sperimentali e numerici. 2016. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale - Ingegneria per l'ambiente e il territorio. Università di Trento
- Matteo Antonaci. Il ruolo pervasivo della coesione biologica dei sedimenti: analisi sperimentale del caso del lago di Stramentizzo. 2015. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale – Ingegneria civile. Università di Trento
- Marco Canal. Analisi teorico-sperimentale dell'interazione tra traverse fluviali per la derivazione ad uso idroelettrico e trasporto solido. 2014. Supervisor Prof. Maurizio Righetti. Co-supervisor Dr. Giuseppe Roberto Pisaturo. Corso di Laurea Magistrale – Ingegneria civile. Università di Trento

Other academic responsibilities

At the Free University of Bolzano – Bozen:

- Member of the following commissions at the Faculty of Science and Technology:
 - Selection of a Research Assistant (AR) for the sector BIO/07 “An interdisciplinary approach to study sediment flushing operations from alpine reservoirs: Ecological, hydro-morphological and Management Aspects (FluEMMA)” – Rector’s Decree 1597/2023
 - Selection of a Research Assistant (AR) for the sector ICAR/01 “Approccio ibrido di analisi transitorio-machine learning per la rilevazione e la classificazione delle anomalie nelle condotte di adduzione dell’acqua (TANDEM)” – Rector’s Decree 1358/2023
 - Selection of a Research Assistant (AR) for the sector ICAR/01 “Research and Innovation Network on Food and Nutrition Sustainability, Safety and Security (Nel quadro delle attività dello Spoke 3 del Progetto PNRR-ONFOODS-paternariato esteso) + Eventi estremi in ambienti di montagna (EXTREME)”

- Rector's Decree 56/2023
- Selection of a Research Assistant (AR) for the sector ICAR/02 "Metodologie tecnico-economiche per l'analisi scenari disostenibilità energetica a livello urbano - TESES-Urb" – Rector's Decree 740/2021
- Selection of a Research Assistant (AR) for the sector ICAR/02 "Metodologie tecno-economiche per lo studio di scenari energetici sostenibili a livello urbano (TESES-Urb)" – Rector's Decree 435/2020
- Selection of a Research Assistant (AR) for the sector ICAR/02 "Simulazioni numeriche avanzate e esperimenti del trasporto di particelle anisotrope in flussi turbolenti (ACE)" – Rector's Decree 512/2020
- Selection of a Research Assistant (AR) for the sector ICAR/01 "Termo-Fluidodinamica di Sistemi di Conversione per Combustibili Solidi: Strategie di Ottimizzazione (THE-DYSCO) + Analisi di reattori a letto fluidizzato mediante refractive index matching (RIM-FluB) + Segregazione per dimensione e densità in flussi granulari (GraSeg)" – Rector's Decree 1326/2020
- Member of the commission for Master Degree in Master Energy Engineering LM-30 (2023)
- Member of the commission for Master Degree in Master Energy Engineering LM-30 (2022)
- Member of the commission for Master Degree in Master Energy Engineering LM-30 (2020)
- Member of the commission for Abilitazione alla professione di Ingegnere LM-30 (2019)

Third mission

- Invited speaker to the seminar "Sedimentmanagement und Gewässerökologie - Wissenschaftlicher Erfahrungsaustausch" in Wien. 2023. Presentation title: "Modellierung von Fischlebensräumen unter Berücksichtigung von Sedimentspülungen". 2023.
- Active participation in public events organized by other institutions (such as scientific fairs and festivals, etc.). "L'acqua fa il suo giro", partecipazione a "Le mille e una scienza 2022". 2022. Persons: Tavelli Maurizio, Carpentieri Bruno, **Pisaturo Giuseppe Roberto**, Stradiotti Giulia.
- Organisation and/or participation in public events (e.g. Long Night of Research, Open Day). W.A.T.E.R. - Workshop on Advanced measurement Techniques and Experimental Research. Summer School started in 2016 by the Vrije Universiteit Brussel and the IAHR Experimental Methods and Instrumentation Committee (EMI). 2021. Persons: Righetti Maurizio, Larcher Michele, **Pisaturo Giuseppe Roberto**, Avesani Diego, Piccolroaz Sebastiano.
- Organisation and/or participation in public events (e.g. Long Night of Research, Open Day). Fiera di progetti UE. 2021.
- Organizzazione del workshop "Tecniche di misura e di ricerca sperimentale avanzate applicate alla fluidodinamica", tenutosi in data 16 ottobre 2020, ore 9:00-13:00, presso il Laboratorio di TermoFluidodinamica (LTFD) di unibz. 2020. Persons: Righetti Maurizio, Larcher Michele, **Pisaturo Giuseppe Roberto**.
- Participation as invited lecturer during the event: Energy day 2019. 2019.
- Organizzazione e allestimento della postazione "Climate change in mountain environment: consequences, feedbacks and resilience" presso unibz e incontro con i visitatori durante l'evento del 27.09.2019. 2019.
- Organizzazione del workshop: Applicazioni di fluidodinamica per l'industria altoatesina, tenutosi il 12 giugno 2018, ore 9:00-12:00, presso il NOI Techpark. 2018. Persons: Righetti Maurizio, Larcher Michele, **Pisaturo Giuseppe Roberto**.
- Participation in the event "South Tyrol Free Software Conference (SFscon) 2018" organised by NOI park. The event is about the development of free software for any application. Participation was to present the free software QEPANET for the design of water supply systems. 2018.

Memberships

Member of:

- Gruppo Italiano di Idraulica (GII)
- Young Professional Network for International Association for Hydro-Environment Engineering and Research (YPN-IAHR)

Editorial and referee activities:

- Guest editor of the Special Issue "Advances in Catchments Hydrology and Sediment Dynamics". Editors: Dr. Konstantinos Kaffas, Dr. Giuseppe Roberto Pisaturo, Prof. Dr. Vlassios Hrisanthou. Journal Hydrology (ISSN 2306-5338). MDPI. Impact factor 3.2.
- Member of the Reviewer Board of Water journal (MDPI)
- Reviewer for the following scientific journals: Water, Hydrology, Processes, Applied Sciences, Science of the Total Environment, Ecological Engineering.

Research and scholarships

Responsible of the following projects:

Date granted	Award Holder(s)	Funding Body	Title	Amount received
2023-2025	Dr. Giuseppe R. Pisaturo (Unit coordinator)	MIUR-PRIN	An interdisciplinary approach to study sediment Flushing operations from alpine reservoirs: Ecological, hydro-Morphological and Management Aspects (FluEMMA)	69000 €
2022-2022	Dr. Giuseppe R. Pisaturo (PI)	Contract for research project from Gerit srl.	Experimental and fluid dynamic simulation of pool nozzle jets (EXALT)	5950 €
2021-2023	Dr. Giuseppe R. Pisaturo (PI)	Free University of Bolzano - Bozen	Fine Sediment dynamics over Coarse river bed (FiSeCo)	13000 €
2021-2021	Dr. Giuseppe R. Pisaturo (PI)	Contract for research project from Vito Adami	Compare fish habitat model approaches: CaSiMir vs MesoHabsim (MesoCa)	14006 €
2019-2022	Dr. Giuseppe R. Pisaturo (Unit coordinator)	MIUR-PRIN	Advanced Computations and Experiments for anisotropic particle transport in turbulent flows (ACE)	117624 €
2018-2020	Dr. Giuseppe R. Pisaturo (PI)	Free University of Bolzano - Bozen	Human safety assessment on a creek affected by hydropeaking (HSAH)	10500 €

Partner of the following projects:

Date granted	Award Holder(s)	Funding Body	Title
2021-2024	Prof. Maurizio Righetti (PI); Dr.	Start-up fund	Sediment management at hydropower plants. Towards long term sustainability

	Giuseppe R. Pisaturo (Co-I)		
2021-2022	Prof. Maurizio Righetti (PI); Dr. Giuseppe R. Pisaturo (Co-I)	Contract for research project from Ufficio Sistemazione Bacini Montani Sud	Mitigation of the hydraulic hazard and ecological restoration in the stretch of the Adige between Bronzolo and Ora (RAZOR)
2021-2021	Prof. Maurizio Righetti (PI); Dr. Giuseppe R. Pisaturo (Co-I)	Contract for research project from Ingegneri Consulenti Srl(IC)	Sediment management in Sicilia reservoir (SED_SIC)
2021-2021	Prof. Maurizio Righetti (PI); Dr. Giuseppe R. Pisaturo (Co-I)	Contract for research project from Ufficio Sistemazione Bacini Montani Sud	Experimentation on a physical laboratory model to experimentally verify the hydraulic behavior of the current state of the Sill bridle (BZ) (SILL-PM2)
2020-2021	Prof. Maurizio Righetti (PI); Dr. Giuseppe R. Pisaturo (Co-I)	Contract for research project from Comune di Laives	WSS_Laives optimization of the water Supply system of laives (WSS_Laives)
2017-2021	Prof. Maurizio Righetti (PI), Dr. Giuseppe R. Pisaturo (Co-I)	CRC call 2016	Sustainable management of hydroelectric production, Hydropeaking Mitigation: morphological mitigation measures assessment through development of a 3D fluid dynamic model coupled with physical habitat suitability model– HM (HM)
2018-2021	Prof. Maurizio Righetti, Dr. Massimiliano Renzi	ERDF 2014-2020	Hydro Turbines optimization for a sustainable production (TURB_HYDRO)
2016-2020	Dr. Francesca De Serio	Hydralab+	Jets interacting with Vegetation in Rotating Basin (JEVERB)
2014-2020	Prof. Francesco Comiti	EFRE-FESR 2014-2020	Sediment budgeting and planning for rivers in South-Tyrol: from hazard mitigation to environmental restoration (SEDIPLAN-r)

Collaborations (proved by scientific articles):

- Prof. Dr.-Ing. Silke Wieprecht. Institute for Modelling Hydraulic and Environmental Systems. Stuttgart.
- Dr.-Ing. Markus Noack. Faculty of Architecture and Civil Engineering, Karlsruhe University of Applied Science. Karlsruhe
- With the group of JEVERB project:
 - Dr. Francesca De Serio. Dipartimento di Ingegneria Civile, Ambientale, del Territorio, Edile e di Chimica. Politecnico di Bari
 - Prof. Michele Mossa Dipartimento di Ingegneria Civile, Ambientale, del

Territorio, Edile e di Chimica. Politecnico di Bari

- Dr. Joel Sommeria. Laboratoire des Écoulements Géophysiques et Industriels. Grenoble.
- Prof. Donatella Termini. Dipartimento di Ingegneria. Università di Palermo.
- With the group of PRIN Projects:
 - Prof. Alfredo Soldati. Università degli Studi di UDINE
 - Dr. Francisco Alves Pereira. Consiglio Nazionale delle Ricerche
 - Prof. Giovanni Paolo Romano. Università degli Studi di ROMA "La Sapienza"
 - Dr. Francesco Granata. Università degli Studi di Cassino e del Lazio Meridionale
 - Dr. Alberto Doretto. Università del Piemonte Orientale.
 - Dr. Silvia Quadroni. Università degli Studi dell'Insubria.
 - Prof. Paolo Espa. Università degli Studi dell'Insubria
 - Prof. Giuseppe Corsa. Università degli Studi dell'Insubria

Publications

Journal articles (*corresponding)

Citations last 10 years: 182

H-index last 10 years: 8

Scopus 19/01/2024

1. Bipa, N.J., Stradiotti, Gi., Righetti, M., **Pisaturo, G.R.** * (2024). Impacts of hydropeaking: A systematic review. *Science of the Total Environment*, 912. DOI: 10.1016/j.scitotenv.2023.169251
2. Tavelli, M., Boscheri, W., Stradiotti, G., **Pisaturo, G. R.**, & Righetti, M. (2022). A mass-conservative semi-implicit volume of fluid method for the Navier–Stokes equations with high order semi-Lagrangian advection scheme. *Computers and Fluids*, 240 doi:10.1016/j.compfluid.2022.105443
3. **Pisaturo, G.R.***, Folegot, S., Menapace, A., Righetti, M. Modelling fish habitat influenced by sediment flushing operations from an Alpine reservoir (2021) *Ecological Engineering*, 173, art. no. 106439. DOI: 10.1016/j.ecoleng.2021.106439
4. De Serio, F., Goldshmid, R.H., Liberzon, D., Mossa, M., Negretti, M.E., **Pisaturo, G.R.**, Righetti, M., Sommeria, J., Termini, D., Valran, T., Viboud, S. Turbulent jet through porous obstructions under Coriolis effect: an experimental investigation (2021) *Experiments in Fluids*, 62 (10), art. no. 218 DOI: 10.1007/s00348-021-03297-2.
5. Folegot, S., Bruno, M.C., Larsen, S., Kaffas, K., **Pisaturo, G.R.**, Andreoli, A., Comiti, F., Maurizio, R. The effects of a sediment flushing on Alpine macroinvertebrate communities (2021) *Hydrobiologia*, 848 (17), pp. 3921-3941. DOI: 10.1007/s10750-021-04608-8
6. Tavelli, M., Piccolroaz, S., Stradiotti, G., **Pisaturo, G.R.**, Righetti, M. A new mass-conservative, two-dimensional, semi-implicit numerical scheme for the solution of the

- Navier-Stokes equations in gravel bed rivers with erodible fine sediments (2020) *Water (Switzerland)*, 12 (3), art. no. 690. DOI: <https://doi.org/10.3390/w12030690>
7. Menapace, A., **Pisaturo, G.R.**, de Luca, A., Gerola, D., Righetti, M. EPANET in QGIS framework: The QEPANET plugin (2020) *Journal of Water Supply: Research and Technology - AQUA*, 69 (1), pp. 1-5. DOI: <https://doi.org/10.2166/aqua.2019.087>
 8. Alberizzi, J.C., Renzi, M., Righetti, M., **Pisaturo, G.R.**, Rossi, M. Speed and pressure controls of pumps-as-turbines installed in branch of water-distribution network subjected to highly variable flow rates (2019) *Energies*, 12 (24), art. no. 4738. DOI: <https://doi.org/10.3390/en12244738>
 9. Boscheri, W., **Pisaturo, G.R.**, Righetti, M. High-order divergence-free velocity reconstruction for free surface flows on unstructured Voronoi meshes (2019) *International Journal for Numerical Methods in Fluids*, 90 (6), pp. 296-321. DOI: <https://doi.org/10.1002/flid.4723>
 10. **Pisaturo, G.R.***, Righetti, M., Castellana, C., Larcher, M., Menapace, A., Premstaller, G. A procedure for human safety assessment during hydropeaking events (2019) *Science of the Total Environment*, 661, pp. 294-305. DOI: <https://doi.org/10.1016/j.scitotenv.2019.01.158>
 11. Menapace, A., Avesani, D., Righetti, M., Bellin, A., **Pisaturo, G.R.** Uniformly Distributed Demand EPANET Extension (2018) *Water Resources Management*, 32 (6), pp. 2165-2180. DOI: <https://doi.org/10.1007/s11269-018-1924-6>
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National and International Conference contributions and proceedings (*oral presentation by Pisaturo)

1. * **Giuseppe R. Pisaturo**, Tommaso Trentin, Anna Prati, Giulia Stradiotti, Maurizio Righetti, Paolo Salandin. Experimental analysis of Cepparello dam duckbill spillways. (2023). IAHR 2023 Vienna.
2. Giulia Stradiotti, **Giuseppe R. Pisaturo**, Giorgio Moscato, Maurizio Righetti. Flow field in a penstock-surge tank T-junction: an experimental study. (2023). IAHR 2023 Vienna.
3. **Giuseppe Roberto Pisaturo**, Francesco Fabio Nicolosi, Daniele Gusmerotti, Maurizio Righetti and Massimiliano Renzi. Laser Doppler Anemometry technique to study the flow field in the nozzle and in the water jet of a Pelton turbine. (2023). *Journal of Physics: Conference Series*, Volume 2511, XXVI Biennial Symposium on Measuring Techniques in Turbomachinery (MTT2622) 28/09/2022 - 30/09/2022 Pisa, Italy. DOI 10.1088/1742-6596/2511/1/012008.

4. * **Pisaturo GR**, Menapace A, Folegot S, Righetti M. Fish Habitat Modelling Considering Sediment Flushing Operations. (2022). IAHR 2022 Granada. Spain. DOI: <https://doi.org/10.3850/IAHR-39WC252171192022785>
5. Stradiotti G, **Pisaturo GR**, Noack M, Righetti M. Experimental Velocity Measurements of a Low-Submerged Flow Coupling RIM and PIV in a Gravel-Bedded Laboratory Flume. (2022). IAHR 2022 Granada. Spain. DOI: <https://doi.org/10.3850/IAHR-39WC252171192022787>
6. Silvia Folegot, Velio Coviello, Andrea Andreaoli, Konstantinos Kaffas, Giulia Marchetti, Shusuke Miyata, * **Giuseppe Pisaturo**, Giulia Stradiotti, Sebastiano Piccolroaz, Silvia Simoni, Walter Gostner, Corrado Lucarelli, Gianluca Vignoli, Maria Cristina Bruno, Maurizio Righetti and Francesco Comiti. Aspects and impacts of sediment flushing in alpine streams: results from the case of Rio di Pusteria reservoir (NE Italy). (2022). IDRA 2022. Reggio Calabria. Italy.
7. Giulia Stradiotti, **Giuseppe Roberto Pisaturo**, Maurizio Righetti and Markus Noack. Misure sperimentali di velocità in bassa sommergezza accoppiando RIM e PIV in una canaletta con letto in ghiaia. (2022). IDRA 2022. Reggio Calabria. Italy.
8. Francesca De Serio, Roni H. Goldshmid, Dan Liberzon, Michele Mossa, M. Eletta Negretti, **Giuseppe Pisaturo**, Maurizio Righetti, Joel Sommeria, Donatella Termini, Thomas Valran and Samuel Viboud. Effects of Coriolis force and vegetation on jets. (2022). IDRA 2022. Reggio Calabria. Italy.
9. * **Pisaturo, G.R.**, Righetti, M., Castellana, C., Larcher, M., Menapace, A., Premstaller, G. A procedure for human safety assessment during hydropeaking events. (2020). YPN IAHR 2020. ISBN: 978-90-82484-6-63
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11. Rossi, M., Nigro, A., **Pisaturo, G.R.**, Renzi, M. Technical and economic analysis of Pumps-as-Turbines (PaTs) used in an Italian Water Distribution Network (WDN) for electrical energy production (2019) Energy Procedia, 158, pp. 117-122. DOI: <https://doi.org/10.1016/j.egypro.2019.01.055>
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16. * **Pisaturo, G.R.**, Righetti, M., Gabl, R., Zanforlin, F. Sediment entrapment into surge tanks: an experimental study. (2018). IAHR Europe Congress. doi: 10.3850/978-981-11-2731-1_279-cd, pp. 507-508
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18. Zanfei, A., **Pisaturo, G.R.**, Bottazzi, M., Righetti, M. Optimal PRV and PAT location using genetic algorithms: application to Egna water supply system (2018). XXXVI Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Ancona, IDRA2018
19. * **Pisaturo, G.R.**, Righetti, M., Amante, F., Bigliotti, E. Experimental analysis of the interaction between hydroelectric sluice gates and sediment transport (2017) River Sedimentation - Proceedings of the 13th International Symposium on River Sedimentation, ISRS 2016, pp. 1147-1153
20. * **Pisaturo, G.R.**, Righetti, M., Dumbser, M., Noack, M., Schneider, M., Kopecki, I., Cavedon, V. The role of 3D-hydraulics in habitat modelling of hydropeaking events (2016) River Flow - Proceedings of the International Conference on Fluvial Hydraulics, RIVER FLOW 2016, pp. 1999-2005
21. * **Pisaturo, G.R.**, Righetti, M. Experimental analysis of the interaction between hydroelectric sluice gates and sediment transport (2016) XXXV Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Bologna, IDRA2016

Others

Chairman during ISRS 2016 conference in “River morphodynamics” section.

Publications about the applicant

A newspaper article in the Alto Adige (12.03.2019, p 25) entitled “Sicurezza nei fiumi. Una ricerca individua le vie di fuga più scientifiche” has been dedicated to the scientific research “A procedure for human safety assessment during hydropeaking events, Pisaturo et al 2019.”

Statement of interest

Dr. Pisaturo, between the master thesis and the PhD, worked for an engineering office. The projects in which he was involved were the design of hydropower plants. The projects merged the optimization of energy production and the minimization of the environmental impact. This topic was then deeply investigated during the PhD where the candidate studied the interaction between hydropower plant and the downstream habitat. The candidate developed a 3D CFD model based that can be easily converted in 2D model.

Moreover, during the master thesis, the candidate used different CFD model such as Flow3D, Ansys CFD and Basement. The candidate is therefore able to use commercial and academic CFD software.

About the sediment transport topic, the candidate was co-supervisor of master and PhD thesis about the sediment flushing phenomena from dams, weirs and the interaction with civil structure such as surge tanks. Moreover, collaborated for the sediment flushing of Stramentizzo lake, Rio di Pusteria lake, Fortezza lake and Soraga lake. Finally, about this topic, he won a Poster Prize at IDRA2016 of the study about the interaction between hydroelectric sluice gates and sediment transport.

After the PhD, Dr. Pisaturo worked as research fellow. The main topic was water supply systems, regarding the optimization of the network, pressure and leakages minimization and energy recovery. He also performed field measurements of flow rates and pressure in the network.

During the present appointment, Dr. Pisaturo focused the research topic is the interaction of hydropower plants with the sediment dynamics and the environment. The research regarded different aspects: sediment flushing, hydropeaking, habitat modelling, human safety, surge

tanks and turbines. Moreover, Dr. Pisaturo performs laboratory and field experiments also using complex laboratory systems and techniques such as PIV, LDA, PDA, etc. He participates to the Hydralab+ group with the Jets interacting with Vegetation in Rotating Basin (JEVERB) project. In this occasion Dr. Pisaturo worked in the rotating LEGI platform.

From 2015, Dr. Pisaturo has experience in academic teaching about: water supply systems, hydropower system, fluid mechanics and experimental fluid mechanics.

**Language
competence**

- Italian (First Language)
- English (C1) – IELTS certificate band 7.
- German (A2) – Goethe certificate band A2.

Date 24/01/2024