

## PERSONAL INFORMATION

## Stefano Malavasi



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🌐 [www.fluidlab.polimi.it](http://www.fluidlab.polimi.it)

Sex male | *Date of birth* 10/10/1967 | *Nationality* Italian

## WORK EXPERIENCE

2017- today

**Full Professor in Hydraulics and Fluid Mechanics**

Department of Civil and Environmental Engineering, Politecnico di Milano

In charge of courses in the field of Fluid Mechanics and Hydraulics for M.Sc. and PhD programs at Politecnico di Milano. Supervisor of M.Sc. and PhD candidates. Research activities in the field of flow control devices, energy recovery in hydraulic process and fluid-structure interactions.

Scientific Director of the Hydraulics Laboratory of the Politecnico di Milano

Board member of the Ph.D. program in Environmental and Infrastructure Engineering of the Politecnico di Milano.

2008- 2017

**Associate Professor in Hydraulics and Fluid Mechanics**

Department of Civil and Environmental Engineering, Politecnico di Milano

In charge of courses in the field of “ Fluid Mechanics and Hydraulics for M.Sc. and PhD programs at Politecnico di Milano. Supervisor of M.Sc. and PhD candidates. Research activities in the field of flow control devices, energy recovery in hydraulic process and fluid-structure interactions

1999- 2008

**Assistant Professor in Hydraulics and Fluid Mechanics**

Department of Hydraulics, Environmental Engineering and of Infrastructures

In charge of courses in the field of “ Fluid Mechanics and Hydraulics for B.Sc. and M.Sc. programs at Politecnico di Milano. Supervisor of M.Sc. and PhD candidates. Research activities in the field of fluid-structure interactions, river hydraulics and flow control devices.

1996- 1999

**Adviser for the Politecnico di Milano Quality System**

In charge of supporting the certification of laboratories for force, temperature, acceleration and ionizing radiation measurements.

## EDUCATION AND TRAINING

1994- 1997

**PhD in Hydraulic Engineering**

Politecnico di Milano

Title of PhD thesis : “New two-colours PIV technique for the resolution of kinematic fields in fluid dynamics”

1994- 1997

**M. Sc. in Civil Engineering**

Politecnico di Milano

Title of M.Sc. thesis “Local scour at bridge piers”

## PERSONAL SKILLS

Job-related skills

Leader of the Fluid-lab research groups ([www.fluidlab.polimi.it](http://www.fluidlab.polimi.it)) which is composed by 9 researchers (3 Professors; 1 Post-doc Research Fellow; 1 Research Fellow; 1 PhD-Executive Student; 4 PhD-Students)

Scientific responsible of several research contracts and competitive research projects.

Partner and scientific consultant of the academic spin-off AppFlue S.r.l. ([www.appflue.eu](http://www.appflue.eu))

President of the ISA-Italy section (2024-2026)

Digital skills

Good command of Microsoft Office™ tools, any Internet Browser, Matlab, Phoenix (CFD).

Other skills

Author of 4 patents filed by Politecnico di Milano on new devices for energy recovery in fluid dynamics processes. The first two have been licensed and led to the creation of the GreenValve System ®, device in the marketing phase.

## ADDITIONAL INFORMATION

### Publications

Articles on scientific journals (last 3 years); Scopus Author Identifier:55009938100

- Quaroni, L.N., Benzi, S., Ramadan, I.A., Malavasi, S. (2023) Experimental investigation of pressure-reducing instabilities in perforated plates for compressible and cavitating flows. *Flow Measurement and Instrumentation*. doi: 10.1016/j.flowmeasinst.2023.102455.
- La Rosa, D.M., Rossi, M.M.A., Ferrarese, G., Malavasi, S. (2023) Numerical Investigation of Parameters Affecting Energy Losses in Multi-Stage Perforated Plates. *Journal of Fluids Engineering, Transactions of the ASME*. doi: 10.1115/1.4062406.
- Giudicianni C., Mitrovic D., Wu W., Ferrarese G., Pugliese F., I. Fernandez-Garcia, Campisano A., De Paola F., Malavasi S., Maier H.R., Savic D., Creaco E. (2023) Energy recovery strategies in water distribution networks: literature review and future directions in the net-zero transition. *URBAN WATER JOURNAL*, doi: 10.1080/1573062X.2023.2212271
- Quaroni, LN; Rampoux, S; Ramadan, I; Malavasi, S; Perrey-Debain, E (2022) Experimental investigation of multimodal noise generation by ducted low Mach number flows through orifice plates. *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*. doi:10.1121/10.0015197
- Ferrarese, G.; Malavasi, S. (2022) Performances of Pressure Reducing Valves in Variable Demand Conditions: Experimental Analysis and New Performance Parameters. *WATER RESOURCES MANAGEMENT*, 36/8 pp.2639-2652
- Negri, M., Malavasi, S. (2022) Laboratory testing of a combined heaving-surgings wave energy converter for the nearshore zone. *Ocean Engineering*, 244, 110421.
- Ferrarese, G., Benzi, S., Rossi, M.M.A., Malavasi, S. (2022) Experimental characterization of a self-powered control system for a real-time management of water distribution networks. *Urban Water Journal*, 19(2), pp. 208–219
- Messa, G. V., Wang, Y., Negri, M., & Malavasi, S., 2021. An improved CFD/experimental combined methodology for the calibration of empirical erosion models. *Wear*, 203734.
- Ferrarese, G., Pagano, A., Fratino, U., Malavasi, S. (2021). Improving Operation of Pressurized Irrigation Systems by an Off-grid Control Devices Network. *Water Resources Management*, 35(9), pp. 2813–2827
- La Rosa, D.M., Rossi, M.M.A., Ferrarese, G., Malavasi, S. (2021). On the pressure losses through multistage perforated plates. *Measurement and Control*, 54(3-4), pp. 189–195

### Main activities

(last 5 years : Competitive Research projects-CR, Research Contract -RC; Training Course -TR, Consulting Contract CC)

- RC-2024-27 “Controllo e sviluppo di valvole di regolazione”, PIBIVIESSE S.p.A.
- TC 2023-24 “Reti di distribuzione idrica: verso la digitalizzazione”, LARIO RETI HOLDING S.p.A.
- CR 2023-25 “Residual Energy for Distribution system Sustainability (REDS)”, CRP, MUSA-Multilayered Urban Sustainability Action, ECS 000037 Spoke n.3, PNRR-MUR.
- CR 2023-24 “Off-grid Automatic System for Irrigation Sustainability (OASIS)”, Boostech MISE (PcO)
- TC 2023-24 “Less Leakage”, Acqua Novara VCO S.p.A.
- CC 2023 “Caratterizzazione sperimentali del coefficiente di flusso di valvole di regolazione”, KOSO-PARCOL S.p.A.
- CC 2022-23 “Realizzazione di un modello fisico per valutare l’efficacia di vortex breaker su un opera di scarico C43 west basin reservoir – structure S-471”, ATB-RIVACALZONI S.p.A.
- CC 2022 “Supporto per la definizione delle caratteristiche di un modello fisico per la valutazione dell’efficacia di vortex breaker a monte di un opera di scarico”, ATB-RIVACALZONI S.p.A.
- RC 2021-22 “Supporto alla realizzazione e applicazione del GreenValve System”, PIDE S.r.l.
- RC 2021 “Caratterizzazione sperimentale di un Microturbina”, GAIA TURBINE S.A.
- CC 2021 “Prove sperimentali per la caratterizzazione fluidodinamica di Valvole”, PARKER S.p.A.
- RC 2021 “Analisi del degrado della funzionalità dell’impianto frenante ECS 54”, BREMBO S.p.A.
- CC 2020-21 “Progettazione, realizzazione ed esecuzione delle prove di laboratorio del modello fisico per la verifica della capacità di scarico della diga di Vinchiana”, LUIGI NOTARI S.p.A.
- RC 2020 “Sviluppo per la realizzazione del prototipo industriale di un sistema di misura per fanghi di perforazione petrolifere”, GEOLOG S.r.l
- RC 2019 “Test, Develop and support the installation of GreenValve System”, INTERAPP VALCOM S.A.
- RC 2019 “Analisi del potenziale della rete acquedottistica relativamente al progetto Ctrl M.E.”, A2A S.p.A
- RC 2019-2022 “Controllo e sviluppo di valvole di regolazione” PIBIVIESSE S.p.A.