



# Dr. DEEP ROY

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Date of birth: 20/08/1992

Nationality: Indian

## Education

- PhD in Hydraulic Engineering, University of Pisa, Pisa, Italy (2017-2021)
- Master of Engineering (ME) in Water Resources and Hydraulic Engineering, Jadavpur University, Kolkata, India (2015-2017)  
First Class
- Bachelor of Engineering (BE) in Civil Engineering, Jadavpur University, Kolkata, India (2011-2015)  
First Class
- 12th standard (WBCHSE), South Point High School, Kolkata, India (2009-2011)  
First Division
- 10th standard (WBBSE), South Point High School, Kolkata, India (2009)  
First Division

## Profile

Innovative Researcher in Hydraulic and Water Resources Engineering with a proven track record of evaluating eco-friendly low-head river restoration structures and applying them to practical scenarios. Adept in carefully diagnosing and assessing issues and offering viable design solutions. Passionate teacher with nice oratory skills and the capacity to explain engineering subjects in great depth to students and junior colleagues. Committed to working as a collaborative and motivating person.

## Language skills

- English (Highly proficient)
- Bengali (Native speaker)
- Hindi (Adequate)
- Italian (A2 level)

## Hobbies

- Reading
- Cooking Indian cuisines
- Current affairs and social awareness

## Employment history

- Temporary Faculty at Indian Institute of Engineering Science and Technology, Shibpur (2023, January-Present)
- Temporary Faculty at Punjab Engineering College, Chandigarh (2022, August to December)
- Temporary Faculty at National Institute of Technology, Tiruchirappalli (2021, August-2022, July)
- Project member of Research Project funded by University of Pisa (2018-2020)

Project title: *Approcci eco-sostenibili per i sistemi idrici e la riqualificazione del territorio in ambito urbano* [in Italian] (Eco-sustainable approaches for water systems and territorial development in urban areas)

PI: *Professor Stefano Pagliara, University of Pisa*

- Assistant Professor, Department of Civil Engineering, Meghnad Saha Institute of Technology, Kolkata (2017, July to October)

## Internships

- Industrial trainee, Oil and Natural Gas Corporation Limited (ONGC), Dehradun (2014, May to June)

Topic: *Training on modernisation and retrofitting works*

- Industrial trainee, Northern Coalfields Limited, Madhya Pradesh (2013, May to June)

Topic: *Training on construction of Coal Handling Plant (CHP)*

## Achievements

- Winner of the silver medal in "Environmental Pollution and Control" and "Water and Waste Water Engineering" at Jadavpur University in BE (Civil engineering) examinations, Kolkata (2015)
- GATE qualified in Civil Engineering (CE)

## Courses attended

- Italian language (A2 level) Centro Linguistico (CLI), University of Pisa (2018, May to July)
- Academic english (C1 level) Centro Linguistico (CLI), University of Pisa (2018, January to March)
- Seminar on "Computational Two-Phase Fluid Dynamics for Hydraulic Structures" at University of Pisa by Professor Fabian A. Bombardelli, Department of Civil and Environmental Engineering, University of California, Davis (2018)
- A short course (6 hours) on "Eco-friendly approaches for river restoration" by Professor Michele Palermo, Department of Energy, Systems, Territory and Construction Engineering, University of Pisa (2018)
- Advances in Hydraulic Modelling, Indian Institute of Technology, Kharagpur (2016)

## Published articles

- **Roy, D., & Pagliara, S. (2022).** Equilibrium morphology and scour evolution at blunt nosed chevrons. *River Research and Applications*, 38 (3), 499-512. DOI: 10.1002/rra.3911 (**SCI IF: 2.443**)
- **Roy, D., Pagliara, S., & Palermo, M. (2021).** Experimental analysis of scour features at chevrons in straight channel. *Water*, 13 (7), 971. DOI: 10.3390/w13070971 (**SCIE IF: 3.103, this article has been selected as a feature paper in the journal**)
- **Roy, D., Pagliara, S., & Palermo, M. (2021).** Experimental analysis of structures for trapping SARS-CoV-2-related floating waste in rivers. *Water*, 13 (6), 771. DOI: 10.3390/w13060771 (**SCIE IF: 3.103, this article has been selected as a feature paper in the journal**)
- **Roy, D., Das, S., & Das, R. (2021)** Characterisation of B type hydraulic jump by experimental simulation and numerical modeling using MacCormack technique. *Modeling Earth Systems and Environment*, 7, 2753-2768. DOI: 10.1007/s40808-020-01056-6 (**Scopus**)
- **Pagliara, S., Roy, D., & Palermo, M. (2021).** Scour features at wood bundles. *Water*, 13 (15), 2118. DOI: 10.3390/w13152118 (**SCIE IF: 3.103, this article has been selected as an Editor's choice article in the journal**)
- **Palermo, M., Roy, D., & Pagliara, S. (2021).** Morphological characteristics of eco-friendly protected basins downstream of block ramps in river bends. *Geomorphology*, 377, 107587. DOI: 10.1016/j.geomorph.2020.107587 (**SCI IF: 4.139**)
- **Palermo, M., Pagliara, S., & Roy, D. (2021).** Effect of debris accumulation on scour evolution at bridge pier in bank proximity. *Journal of Hydrology and Hydromechanics*, 69 (1), 108-118. DOI: 10.2478/johh-2020-0041 (**SCIE IF: 2.512**)
- **Pagliara, S., Palermo, M., & Roy, D. (2020).** Scour around double-winged log frames under clear water condition. *Journal of Irrigation and Drainage Engineering (ASCE)*, 146 (12), 1-11, 04020038. DOI: 10.1061/(ASCE)IR.1943-4774.0001517 (**SCIE SJR IF: 1.3**)
- **Pagliara, S., Palermo, M., & Roy, D. (2020).** Experimental investigation of erosion processes downstream of block ramps in mild curved channels. *Environmental Fluid Mechanics*, 20 (2), 339–356. DOI: 10.1007/s10652-019-09681-1 (**SCIE IF: 2.551**)

## Conference proceedings

- **Roy, D.**, & Pagliara, S. (2022). Preliminary analysis of the effect of worked wood piles in straight channels. In Palermo et al. (Eds), *Proceedings of the 9th IAHR International Symposium on Hydraulic Structures – 9th ISHS, IIT Roorkee, Roorkee, India, 24-27 October 2022*. DOI: 10.26077/34f4-8489 (ISBN 978-1-958416-07-5).
- Das, R., Das, S., Palermo, M., **Roy, D.**, & Pagliara, S. (2022). Scour geometry and dune formation characteristics around customized structure in channels. In Palermo et al. (Eds), *Proceedings of the 9th IAHR International Symposium on Hydraulic Structures – 9th ISHS, IIT Roorkee, Roorkee, India, 24-27 October 2022*. DOI: 10.26077/54c1-fd55 (ISBN 978-1-958416-07-5).
- Rawat, V.S., Roshni, T., Palermo, M., Pagliara, S., & **Roy, D.** (2022). Investigation of energy attenuation, flow resistance and impending motion of downstream bed material in rock ramps. In Palermo et al. (Eds), *Proceedings of the 9th IAHR International Symposium on Hydraulic Structures – 9th ISHS, IIT Roorkee, Roorkee, India, 24-27 October 2022*. DOI: 10.26077/8b70-3ba4 (ISBN 978-1-958416-07-5).
- **Roy, D.**, & Pagliara, S. (2021). Scour downstream of log-frame structures in the presence of rigid vegetation. In *Proceedings of the 8th IAHR International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWHS) 2021, Galway, Ireland, 5-8 July 2021*. DOI: 10.26077/6da9-2295
- Pagliara, S., & **Roy, D.** (2021). Comparison of pressure distribution in 2D and 3D jet-driven scour processes. In *Proceedings of the 8th IAHR International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWHS) 2021, Galway, Ireland, 5-8 July 2021*. DOI: 10.26077/bd85-0729
- Pagliara, S., Palermo, M., & **Roy, D.** (2020). Scour profiles downstream of wood structures in vegetated channels. In Uijttewaal et al. (Eds), *River Flow 2020: Proceedings of the 10th Conference on Fluvial Hydraulics, Delft, Netherlands, 7-10 July 2020* (pp. 1645-1652). London: **Taylor and Francis Group**, ISBN 978-0-367- 62773-7.

- Pagliara, S., Palermo, M., & **Roy, D.** (2019). The role of shrubs in river bed erosion: A preliminary morphological analysis. In *E-Proceedings of the 38th International Association for Hydro-environment Engineering and Research (IAHR) World Congress, Panama City, Panama, 1-6 September 2019* (pp. 2346-2355). ISSN 2521-7119(print), ISSN 2521-716x(online). DOI: 10.3850/38WC092019-0351
- Palermo, M., Pagliara, S., & **Roy, D.** (2019). Effect of flexible vegetation on stilling basin erosion downstream of log-frame structures. In *E-Proceedings of the 38th International Association for Hydro-environment Engineering and Research (IAHR) World Congress, Panama City, Panama, 1-6 September 2019* (pp. 1577-1586). ISSN 2521-7119(print), ISSN 2521-716x(online). DOI: 10.3850/38WC092019-0350
- Palermo, M., Pagliara, S., & **Roy, D.** (2019). Erosive processes downstream of arch shaped sills in vegetated channels. In *E-Proceedings of the 38th International Association for Hydro-environment Engineering and Research (IAHR) World Congress, Panama City, Panama, 1-6 September 2019* (pp. 1560-1569). ISSN 2521-7119(print), ISSN 2521-716x(online). DOI: 10.3850/38WC092019-0348

## Reviewership

- I served as reviewer for reputed international journals: *Acta Geophysica*, *Journal of Hydro-Environment Research*, *Water Supply* and *The International Journal of River Basin Management*.

## Invited position

- Member of International Scientific Committee (ISC) of the 9<sup>th</sup> International Symposium on Hydraulic Structures (ISHS 2022), 24-27 October, 2022, Indian Institute of Technology, Roorkee, Uttarakhand, India.
- Chaired a technical session at the 8<sup>th</sup> IAHR International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWHS 2021), 5-8 July, 2021, National University of Ireland, Galway, Ireland.

## References

- Professor Stefano Pagliara

*Professor, Department of Energy, Systems, Territory and Construction Engineering (DESTEC), University of Pisa, Pisa, Italy.*

Email: *stefano.pagliara@unipi.it*

- Professor Michele Palermo

*Associate Professor, Department of Energy, Systems, Territory and Construction Engineering (DESTEC), University of Pisa, Pisa, Italy.*

*Associate Editor of the Journal of Hydraulic Engineering (American Society of Civil Engineers)*

Email: *michele.palermo@unipi.it*

**Declaration:** I hereby declare that all the information stated above are true to the best of my knowledge.