

Farhad Bahmanpouri

Birth date: 23. Jul.1984

Educational background

Post-Dostoral fellow: Hydraulic Engineering, Research Institute for Geo-Hydrological Protection National Research Council of Italy. IRPI-CNR (Consiglio Nazionale delle Ricerche). (Sep. 2020-Present).

Supervisor: Prof. Tommaso Moramarco

Project title:ENTERPRISING

“IntEractions between hydrodyNamics and bioTic communities in fluvial Ecosystems: advancement in the knowledge and undeRstanding of PRocesses and ecosystem sustainability by the development of novel technologieS with fIeld monitoRiNg and laboratory testing”

PhD: Civil Systems Engineering-Hydraulic Engineering. University of Naples Federico II, Naples, Italy. (Jan 2016 – Jun 2019)

Vissiting PhD student at the Hydraulic Laboratory of The University of Queensland, Brisbane, Australia (May 2017-Aug 2017)

PhD thesis: Experimental study of air entrainment in hydraulic jump on pebbled rough bed

Supervisors: Prof. Carlo Gualtieri, Prof. Hubert Chanson (The University of Queensland)

PhD: Civil Engineering (Hydraulic Structures), University of Tehran, Tehran, Iran

GPA: 4.0/4.0 (18.13/20.0) via 12 units, Sep. 2014- Dec. 2015 (three semesters)

M.Sc: Civil Engineering (Hydraulic Structures), University of Tehran, Tehran, Iran

GPA: 3.91/4.0 (18.02/20.0) via 35 units Sep 2010-Aug 2013

M.Sc. Thesis: Dam break flow over movable bed, experimental study

Supervisors: Prof. Masoud Montazeri Namin, Prof. S. Taghi Omid Naeeni

B.Sc: Water Engineering, University of Zabol, Zabol, Sistan o Balochestan, Iran

GPA: 3.39/4.0 (16.21/20.0) via 137 units. Sep 2003-Feb 2008

*2008-2010 military service

Honors:

The scholarship of University of Naples Federico II, Italy for PhD degree, starting from Academic year 2015/2016.

Ranked 1st among 709 participants (master students) in the Iran's National University Entrance Examination known as KONKOR for PhD degree in the field of civil engineering _hydraulic structures for academic year of 2014.

Ranked 2nd among 10 Hydraulic Structure graduate students based on GPA in the Department of Civil Engineering, University of Tehran (2013).

Ranked 3rd among 30 Water Engineering undergraduate students based on GPA in the Department of Water Engineering, University of Zabol (2008).

Ranked 278th among 29000 participants (top 1%) in Iran's National University Entrance Examination for graduate students (2010).

Ministry of Science, Research and Technology scholarship for Exceptional Talents for PhD degree at University of Tehran-Iran, academic year of 2014.

Ministry of Science, Research and Technology scholarship for Exceptional Talents for MSc degree at University of Tehran-Iran, academic year of 2010.

Ministry of Science, Research and Technology scholarship for Exceptional Talents for BSc degree at University of Zabol, academic year of 2003.

Teaching experience:

- Teaching Assistant of "Numerical Methods in Marine Engineering" course for graduate (M.Sc. and Ph.D.) students (winter semesters 2012 and 2014), University of Tehran, Instructor: Dr. M. M. Namin.
- Teaching Assistant of "Advection and Diffusion Models" course for graduate (M.Sc. and Ph.D.) students (fall semesters 2012, 2013 and 2014), University of Tehran, Instructor: Dr. M. M. Namin.
- Teaching Assistant of "Fluid Mechanics" course for undergraduate students (fall semesters 2007 and 2008), University of Zabol, Instructor: Dr. M. Mazaheri.
- Teaching Assistant of "Fluid Mechanics" course for undergraduate students (winter semester 2008), University of Zabol, Instructor: Dr. M. Delavar.

Research interests:

- Hydraulic jump
- Turbulent two-phase flow
- River engineering; hydrodynamic, morphodynamics and sediment transport
- Experimental and computational hydraulic
- Hydrology and hydrogeology

Publications:

Books:

- Dolatshahi, M., Bahmanpouri, F., Farehi Moghadam, K., "Applied problems in engineering mathematics". Gotenberg Press, 2016 (in Persian).
- Bahmanpouri, F. "Design of hydraulic structures and advanced hydraulics", Supplementary book for Ph.D. entrance exam for Hydraulic field in Iran, Mahan press 2017. (in Persian)

Journal papers:

- Taravatrooy, N., Bahmanpouri, F., Nikoo, M. R., Gualtieri, C., Izady, A., (2021) "Estimation of air-flow parameters and turbulent intensity in hydraulic jump on rough bed using Bayesian model averaging", *Applied Soft Computing*, Volume 103, 107165. <https://doi.org/10.1016/j.asoc.2021.107165>.
- Bahmanpouri, F., Gualtieri, C., Chanson, H. (2021) "Flow patterns and free-surface dynamics in hydraulic jump on pebbled rough bed", *Proceedings of the Institution of Civil Engineers - Water Management*, (pp. 1-47). <https://doi.org/10.1680/jwama.20.00040>.
- Khoshkonesh, A., Nsom, B., Bahmanpouri, F., Ahmadi Dehrashid, F., Adeli, A. (2021) "Numerical study of the dynamics and the structure of a partial dam-break flow using the

VOF method". *Water Resources Management*, (pp. 1-16). <https://doi.org/10.1007/s11269-021-02799-2>.

- Bahmanpouri, F., Daliri, M., Khoshkonesh, A., Namin, M. M., Buccino, M. (2020). **Bed compaction effect on dam break flow over erodible bed; experimental and numerical modeling**. *Journal of Hydrology*, 125645. <https://doi.org/10.1016/j.jhydrol.2020.125645>.
- Ahadiyan, J., Adeli, A., Bahmanpouri, F., Gualtieri, C., (2018) "**Numerical simulation of flow and scour in a laboratory junction**". *Geosciences*; 8(5):162. <https://doi.org/10.3390/geosciences8050162>.
- Ahadiyan, J., Bahmanpouri, F., Adeli, A. Khoshkonesh, A. "**Riprap effect on hydraulic fracturing process of cohesive and non-cohesive protective levees**". *Water Resources Management*, under review
- Bahmanpouri, F., Gualtieri, C., Chanson, H. **Air-water flow properties in hydraulic jumps on pebbled rough bed**. *ISH Journal of Hydraulics Engineering*. Under review
- Bahmanpouri, F., Barbetta, S., Gualtieri, C., Ianniruberto, M., Filizola, N., Termini, D., and Moramarco, T. **Prediction of river discharges at confluences based on Entropy theory and surface-velocity measurements**. *Journal of Hydrology*. Under review

Conference proceeding:

- Bahmanpouri, F., Barbetta, S., Gualtieri, C., Ianniruberto, M., Filizola, N., Termini, D., and Moramarco, T. (2021) "**Estimating the hydrodynamic and morphodynamic characteristics using Entropy theory at the confluence of Negro and Solimões Rivers**". EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-10330, <https://doi.org/10.5194/egusphere-egu21-10330>.
- Bahmanpouri, F., Gualtieri, C., Chanson, H., (2019) "**Air-water flow characteristics in hydraulic jump on pebbled rough bed**". 38th IAHR World Congress, Panama, 1-6 Sep 2019.
- Bahmanpouri, F., Gualtieri, C., Chanson, H., (2018) "**Basic characteristic of hydraulic jump on pebbled rough bed**". 9th International Congress on Environmental Modelling and Software, Colorado, USA, 24-28 Jun 2018.
- Bahmanpouri, F., Filizola, N., Ianniruberto, M., Gualtieri, C., (2017) "**A new methodology for presenting hydrodynamics data from a large river confluence**". 37th IAHR World Congress, Kuala Lumpur, Malaysia 13-18 Aug 2017.
- Bahmanpouri, F., Montazeri Namin, M., Bohluly, A. (2013) "**Dam break flow over movable beds, experimental study and comparison of results with PMO model**". World Environmental and Water Resources Congress. (EWRI) Cincinnati Ohio –USA, 19-23 May 2013.
- Bahmanpouri, F., Shahrinani, A., Montazeri Namin, M., Bohluly, A. (2013) "**Numerical modeling of wave propagation into the harbor, compare the results with PMO model, and case study**". 6th International Perspective on Water Resources & the Environment. (IPWE) Izmir-Turkey, 7-9 Jan 2013.
- Haddadian, S., Bahmanpouri, F., Montazeri Namin, M., (2014) "**Experimental and numerical investigation of bed compaction effect on dam break flow over movable bed**", 11th International Congress on Advances in Civil Engineering, Istanbul, 21-25 Oct 2014.
- Bahmanpouri, F., Moeini, M. R., Montazeri Namin, M., Naeeni, S. T., (2013) "**Effect of bed elevation on dam break flow over movable beds, experimental study**". 13th Iranian Hydraulic conference, Tehran Iran, 29-31 Oct 2013.

- Bahmanpouri, F., Montazeri Namin, M., Naeeni, S. T., (2013) "**Dam break flow over movable beds, experimental study**". 9th International River Engineering Conference. Ahwaz-Iran, 22-24 Jan 2013, (in Persian).
- Bahmanpouri, F., Montazeri Namin, M., Naeeni, S. T., (2013) "**Slope effect on dam break flow over movable bed, experimental study**". 7th National Congress on Civil Engineering, Zahedan, Iran, 7-8 May 2013.
- Bahmanpouri, F., Moghadamnia, A., (2013) "**Retrofitting homes against flooding and an overview on the principles of crisis management**". 7th National Congress on Civil Engineering, Zahedan, Iran, 7-8 May 2013 (in Persian).
- Haddadian, S., Bahmanpouri, F., Montazeri Namin, M., Eshaghi, N., (2013) "**Slope effect on dam break flow over movable bed, experimental study**". International Conference on Civil Engineering Architecture & Urban Sustainable Development, Tabriz , Iran, 27&28 Nov 2013.

Professional experience:

Clim Amazon:

Joint Brazilian-European facility for climate and geodynamic research on the Amazon River Basin sediments.

- Hydrodynamics, morphodynamics, stratigraphy, sediment transport and mixing about a large confluence in the Amazon Basin
- Hydraulic complexity in rivers

Project link:

<http://www.clim-amazon.eu/>

Namrood Consulting Engineers Company:

Working as a member of the modeling team in Namrood Co. (From Aug 2012 – Aug 2014), Tehran, Iran.

An overview of works done in Namrood Co:

Monitoring and Modeling study of Iranian Coasts (Project Employee: Ports & Maritime Organization of Iran)

The project aimed at obtaining a deeper understanding of the Caspian Sea coastal region near the Iranian shoreline. This was gained by:

- Monitoring and modeling the Caspian Sea waves by MIKE21 and PMODynamics models using satellite data
- Continuous observation of coastal physical properties meteorology, sea level, wave, currents and sediment transport
- High resolution (10km) Modeling of Caspian Sea wind field using WRF
- Numerical modeling of the Caspian Sea 2D and 3D currents using MIKE21 and MIKE3
- Storm Surge modeling of Caspian Sea using MIKE21
- Wave and sediment transport modeling of Southern Caspian Sea
- Calibrating result of model and observed buoy data using Mike21 autocalibration and other statistical parameters

Project link:

<http://irancoasts.pmo.ir/en/phases/phase5/abtdprjct>

Other experiences:

- Passed the course of "Flood predicting using COGSYS KBS expert system" under supervision of Dr. Moghadamnia, University of Tehran, Nov 2012.
- Worked as a translator at "Students' Translation Office", University of Zabol (Sep 2005-Jan 2008), Zabol, Iran.
- Experimental studies on the "Dam break flow due to over topping" under supervision of Dr. Naeeni (2012).
- Numerical simulation of sea water's salinity rate under well discharge using finite volume method with different advection and diffusion schemes.
- Numerical simulation of tidal wave effects on the Persian Gulf using finite volume method.
- Numerical simulation of 2D vertical and 2D plane flow using finite volume methods based on unstructured mesh system (generated by EASYmesh)

Reviewer for journals of:

Journal of Hydrology
 Water Resources Management
 Energies (MDPI)
 Water (MDPI)
 Iranian Journal of Science and Technology, Transactions of Civil Engineering

Invited lecturer to the:

AmirKabir University of Tecknology (Iran)
 Title of seminar: *Air entrainment in hydraulic jump* (Dec 2017)
 Shiraz University (Iran)
 Title of seminar: *Air entrainment in hydraulic jump* (Dec 2017)
 Title of seminar: *Hydrodynamics and mixing at the confluence of Rio Negro and Rio Solimões* (Dec 2016)
 Shiraz University of Tecknology (Iran)
 Title of seminar: *Hydrodynamics and mixing at the confluence of Rio Negro and Rio Solimões* (Jan 2016)

Relevant skills:

MIKE 21, FLOW 3D, HEC RAS, PMODynamics, GEOSTUDIO, WEAP, Surfer, TECPLOT, R & RStudio, Plot-Digitizer, MATLAB, Lingo, WinRiver II, VMT, QGIS, Microsoft Office
 Programming Languages: Proficient in FORTRAN, preliminary skill in C#
 Preliminary skill in Linux operation system (Ubuntu and Centos)

Academic membership:

International Association for Hydro-Environment Engineering and Research (IAHR)
 European Geosciences Union (EGU)
 Iranian Association for Hydraulic Engineering

Academic link:

https://www.researchgate.net/profile/Farhad_Bahmanpouri
<https://scholar.google.com/citations?hl=en&user=kr37k4YAAAAJ>

Language:

Persian (Native), English, Turkish, Italian

Last update: Sep. 2021