Pooyan Nikeghbali

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Education Profile

Expected: 2022

- ✓ **M.Sc.** in Civil Engineering- Environmental/Water Resources Engineering
  Southern Illinois University Edwardsville

Graduated: 2014

- ✓ **M.Sc.** in Civil Engineering-Hydraulic Structures Engineering
  University of Sistan and Baluchestan, Iran

Graduated: 2011

- ✓ **B.Sc.** in Civil Engineering
  Azad University, Bandarabbas, Iran

Computer Skills

- ✓ FORTRAN, Python
- ✓ SPH open source code
- ✓ Fluent, Flow3D
- ✓ HEC-RAS, HEC-HMS
- ✓ Mike 21, Mike 11
- ✓ WaterGEMS, Hammer
- ✓ Arc GIS, Global Mapper
- ✓ AutoCAD, Civil3D
- ✓ Microsoft Office
- ✓ Microsoft Windows, Linux (Ubuntu, Fedora)
- ✓ Paraview
- ✓ Photoshop

Relevant Experience

2021: Teacher Assistant of Professor Nader Panahshahi, Southern Illinois University Edwardsville
- ✓ Solid of Mechanics

2021: Research Assistant of Professor Rohan Benjankar Southern Illinois University Edwardsville

2018: Niksa Design and Development Company as a Consultant:
- ✓ Determining the best location for Aquaculture cages in the part of Persian Gulf with Mike21 Software based on hydrodynamics of marine waves and currents

2015-2018: Absar Fars Consulting Engineers Company as an Engineer and Consultant:
- ✓ Designing of rural drinking water transfer pipelines and distribution systems
- ✓ Designing the Parvizi levee on the Khoshk River, Shiraz
- ✓ Designing the stormwater conductivity of Molavi Blvd., Shiraz.
- ✓ Investigate and provide statistics of the sediment distribution in the seasonal Khoshk River.

2014: Research Assistant of Dr. Omidvar, Yasouj University
- ✓ Improve the hydrodynamic boundary in Fluid Structure Interaction (FSI) in SPH method (CFD Software)
- ✓ Investigation of green water overtopping an obstacle using SPH model
- ✓ Produce nonlinear progressive viscous waves with SPH method to analysis model in interacting with a submerged obstacle

2012-2013: Research Project:
- ✓ Bore propagation in river, experimental model and simulation with the SPH method (Giving a presentation, Tarbiat Modares University)
- ✓ Design and analysis a concrete dam in Tangsorkh canyon with ABAQUS Software
- ✓ Dynamic analysis of gravity dam in applying hydrodynamic effects with ABAQUS Software,

Ongoing Paper

- ✓ **Nikeghbali, P.**, Benjankar, R., Ebrahimi, M (2022), "SPH-DEM and SPH-Bingham fluid Simulation of Bed Load Material Beneath the Violent Flows", *Geo-Congress 2022: State of the Art and Practice in Geotechnical Engineering*, Charlotte, North Carolina

Journal Papers

- ✓ **Nikeghbali, P.**, Omidvar, P. (2018), "Application of the SPH method to breaking and undular tidal bores on movable bed", *J. Waterway, Port, Coastal, and Ocean Engrg*, Volume 144, Issue No. 2, DOI: 10.1061/(ASCE)WW.1943-5460.0000424: ASCE.
- ✓ Omidvar P., Farghadani O. and **Nikeghbali, P.** (2017), "SPH for Impact force and ricochet behavior of water-entry bodies", *International Journal of Modern Physics c*, Volume 28, Issue No. 10, DOI: 10.1142/S0129183117501194: World Scientific.
- ✓ Omidvar, P., **Nikeghbali, P.** (2016), "Simulation of Violent Water Flows over a Movable Bed Using Smoothed Particle Hydrodynamics", *Journal of Marine Science and Technology*, Volume 22, Issue No. 2, pp. 270-287: Springer.

Conference Papers

- ✓ **Nikeghbali, P.**, Omidvar, P., Rasooli, P., Mohammadizadeh, S.M. (2017), "Smoothed Particle Hydrodynamics for morphology changes and a non-Newtonian fluid", *4th International Conference on Long-Term Behaviour and Environmentally Friendly Rehabilitation Technologies of Dams (LTBD 2017)*, Tehran, Iran.
- ✓ Omidvar, P., **Nikeghbali, P.** (2015), "The study of breaking tidal bore on movable bed using the SPH method", *Proc. of the 36th IAHR world congress*, The Hague, The Netherlands.
- ✓ **Nikeghbali, P.**, Omidvar, P., Akbari, G.H. and Mohammadizadeh, S.M. (2014), "The study on sediment motion and the model of dam break on the movable bed by SPH method", *11th International Conference on Coasts, Ports and Marine Structures (ICOPMAS 2014)*, Tehran, Iran.
- ✓ Mohammadizadeh, S.M., Azhdary Moghadam, M., Dahmardeh, A. and **Nikeghbali P.** (2013), "A numerical study of the flow through coarse and homogeneous porous media using coupled network model", *1st International Conference on Civil Engineering, Architecture and Stable Urban Sustainable Development*, Tabriz, Iran. (In Persian)
- ✓ Mohammadizadeh, S.M., Azhdary Moghadam, M., Dahmardeh, A. and **Nikeghbali P.** (2013), "Transition of flow through coarse porous media with network models" *The 1st National Conference of Iran Geotechnic Engineering*, Ardebil, Iran. (In Persian)