**Zahra Jamshidzadeh, Ph.D.**

**Assistant Professor, University of Kashan**

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**Summary:**

Zahra Jamshidzadeh received her B.S. degree in civil engineering from Isfahan University of Technoloogy in Iran, in 1999, and M.S. in civil engineering-water from the University of Tehran in Iran, in 2007. She received her Ph.D. in civil engineering-water from K.N. Toosi University of Technology in Iran, in 2013. The spectrum of her research includes: groundwater modelling, water and wastewater quality indices, wastewater treatment, saltwater intrusion modeling, and thermohaline phenomenon around salt domes. She has more than 4 years of educational and research experiences with University of Kashan in Iran.

**Educational Background**

**Ph.D. Civil- Water Engineering**
K.N. Toosi University of Technology, Tehran, Iran (2013).

**Dissertation Title:**
Numerical modeling of saltwater intrusion into the groundwater based on density-driven flow
Supervisor: Dr. Seyed Ahamd Mirbagheri
Advisor: Dr. Hassan Ghasemzadeh

**M.Sc. Civil- Water Engineering**
University of Tehran, Tehran, Iran (2007).

**Thesis Title:**
Detection of leak location and discharge in pipelines using frequency analysis.
Advisor: Dr. Masoud Tabesh

**B.Sc. Civil Engineering**
Isfahan University of Technology, Isfahan, Iran (1999).

**Research interests**
- Theories of flow and transport in porous media – heterogeneous porous media and associated numerical developments –single-phase, two-phase and multiphase flow in porous media
- Numerical Modeling of Groundwater & Surface Water, heat transfer physics in porous media, contaminant transport in variable saturation porous media.
- Laboratory experiences about seawater intrusion and related studies.
- Water and Wastewater treatment technologies
- ArcGIS application for mapping of groundwater quality.

- Modeling of Thermohaline phenomenon in water bodies.
- Water and Wastewater Quality Index

**Academic Experience**

[2014-Present] Assistant professor, University of Kashan.

[2008-2010] Islamic Azad University, Kashan Unit, Civil Engineer Dept., Lecturer

[2000-2003] Technical and professional University of Kashan, Lecturer.

**Professional Experience**

[2003 up to now] Professional Membership in Iranian Construction Engineering Organization (Structural calculation of more than 50000 $m^2$ of steel and concrete buildings).

[2001-2003] Work at Urban Development and Revitalization Organization, Kashan Municipality.

[2000-2003] Work at Deputy of Technical & Development Affairs – Islamic Azad University, Kashan Branch.

**Courses taught**
Fluid mechanic

Hydrology

Environmental engineering

Principles of water and wastewater treatment

Groundwater engineering

Advanced Engineering Mathematics

Civil Engineering Software (SAP, ETABS, SAFE)

GIS Application in civil engineering

**Publications:**
**Book:**

Groundwater Hydraulic, in Persian (in press)

**Journal paper:**

J1) **Jamshidzadeh Z.,** Tavangari Barzi M., Groundwater Quality Assessment Using the Potability Water Quality Index (PWQI): A Case in the Kashan Plain, Central Iran, Environmental Earth Sciences (2018) 77:59.

J2) Riaed S.J., **Jamshidzadeh Z.,** Yassin A.J., The steady state numerical modeling of Teeb Dam in Maysan by SEEP/W, Misan Journal of Academic Studies, Misan University, Iraq (in press).

J3) **Jamshidzadeh Z.,** Ghasemzadeh H., The effects of cut-off wall on repulsing salt water based on modeling of density driven groundwater flow and salt transport, Journal of Numerical Methods in Civil Engineering 2017, 4:45-53.

J4) **Jamshidzadeh Z.,** Tsai F.T. C., Ghasemzadeh H., Mirbagheri S.A., Tavangari Barzi M., Hanor J.S., Dispersive thermohaline convection near salt domes: a case at Napoleonville Dome, southeast Louisiana, USA, Hydrogeology Journal 2015, DOI 10.1007/s10040-015-1251-4.

J5) **Jamshidzadeh Z.,** Tsai F.T.C., Mirbagheri S.A., Ghasemzadeh H., Fluid dispersion effects on density-driven thermohaline flow and transport in porous media, Advances in Water Resources 2013; 61:12-28, doi:10.1016/ j.advwatres.2013.08.006.

J6) **Jamshidzadeh Z**., Mirbagheri S.A., Evaluation of groundwater quantity and quality in the Kashan basin; Central Iran, Desalination, Volume 270, Issues 1-3, 1 April 2011, Pages 23-30.

J7) **Jamshidzadeh Z.,** Tabesh M., The assessment of orifice formula for leak detection in water systems including unsteady friction term, Journal of civil and surveying engineering (2011), Vol. 45, N.2, pp 155-167 (Persian).

J8) **Jamshidzadeh Z.,** Tavangari Barzi M., The Wastewater Quality Index (WWQI) as an Assessment Tool of Treated Wastewater for Agricultural Irrigation: A Case of Isfahan North Wastewater Treatment Plant Effluent, (Under review)

<u>**Conference paper:**</u>

C1) **Jamshidzadeh z.,** Bench-Scale Experiment of Sawdust and Steel Furnace Slag in a Dual Media Recirculating Bio-Filter for Restaurant Grey-Water Treatment, 1st international conference on modern technologies in sciences, Amol University of Special Modern Technologies, 2017.

C2) Issa R.A., **Jamshidzadeh z.,** Al-Asadi A.K., Response of Silica Fume Based Low Strength Concrete to Acid Attack, 1st international conference on modern technologies in sciences, Amol University of Special Modern Technologies, 2017.

C3) **Jamshidzadeh Z.**, Bench-Scale Evaluation of Treated Wastewater Using Recirculating Sand Filter for Irrigation and Agriculture Usages Based on Quality Standards, 4th international conference of environmental planning and management, University of Tehran, Tehran, 2017 (Persian).

C4) **Jamshidzadeh Z.**, Tavangari Barzi M., The effect of pumping on groundwater flow and salt spread in nonhomogeneous coastal aquifers based on density driven flow, 4th international conference of environmental planning and management, University of Tehran, Tehran, 2017 (Persian).

C5) **Jamshidzadeh Z.**, Tavangari Barzi M., Technical and Constructional Considerations of Water Transmission Systems in Kashan Area. 16th Iran Hydraulic Conference. Ardabil, 2017 (Persian).

C6) **Jamshidzadeh Z.,** Ghafoori M.A., Treated wastewater reuse for non-potable water usage: challenges and environmental risks for irrigations, the 2nd Iranian national congress of irrigation and drainage, Isfahan University of Technology (2016) (Persian).

C7) **Jamshidzadeh Z.,** The effect of fault on salt water intrusion and groundwater quality around a hypothetical salt dome, the first national conference of drinking water demand and supply: challenges and solutions, Isfahan University of Technology (2016) (Persian).

C8) **Jamshidzadeh Z.,** Arbab A., The use of recirculating bio-filters for gray water treatment , the first national conference of drinking water demand and supply: challenges and solutions, Isfahan University of Technology (2016) (Persian).

C9) **Jamshidzadeh Z.,** Tsai F.T.C., Mirbagheri S.A., Ghasemzadeh H., Density-Driven Thermohaline Groundwater Flow and Brine Transport Near Salt Domes, AGU Fall Meeting 2012, San Francisco, CA, USA | 3-7 December 2012.

C10) **Jamshidzadeh Z.,** Tabesh M., Evaluation of leak phenomenon in water systems based on frequency response method, the 4th National Congress on Civil Engineering (2008), University of Tehran. (Persian).

C11) **Jamshidzadeh Z.,** Tabesh M., The assessment of orifice formula for leak detection in water systems based assuming transient flow, the 2nd Conference and Exhibition of Environmental Engineering (2008), University of Tehran. (Persian).

C12) **Jamshidzadeh Z.,** Alavi Moghaddam M., Evaluation of surface water quality index WQI (case study: Karaj River), the first Conference and Exhibition of Environmental Engineering (2007), University of Tehran. (Persian).

## Research project:

1) Evaluation of recirculation gravel/sand filter efficiency for grey-waters treatment.

2) Mix design of an acid resistance concrete using silica fume.

3) Strength and durability of red mud based geopolymer concrete against acid attacks in water and wastewater concrete tanks (under study).

4) Groundwater quality assessment in the Kashan Plain.

## Software:

MATLAB, ArcGIS, ETABS, SAP, SAFE, HECRAS, EPANET, OFFICE, AutoCAD.

## References:

S.A. Mirbagheri, Ph.D.

Professor, Department of Civil Engineering, K.N. Toosi University of Technology, Tehran, Iran, Email: mirbagheri@kntu.ac.ir

H. Ghasemzadeh, Ph.D.

Associate Professor, Department of Civil Engineering, K.N. Toosi University of Technology, Tehran, Iran, Email: ghasemzadeh@kntu.ac.ir

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