

Hamed Ketabchi



PERSONAL INFORMATION

Sure name: Ketabchi

Given Name: Hamed

Date of Birth: January 1983

Office: Room A105, Water Resources Engineering Department,
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EDUCATION

Ph.D. Civil Engineering, Civil Engineering Department, Sharif University of Technology, Tehran (2008-2014)

Ph.D. Thesis title: An efficient simulation-optimization model for coastal groundwater management

Ph. D. Courses (21 credits) with GPA 17.76 (out of 20)

Ph. D. Thesis score: Excellent

M.Sc., Water Resources Engineering, Civil Engineering Department, Sharif University of Technology, Tehran (2006-2008)

M.Sc. Thesis title: Optimal management of coastal aquifers for control of saltwater intrusion using ant colony optimization

M. Sc. Courses (27 credits) with GPA 18.00 (out of 20)

B.Sc., Civil Engineering, Iran University of Science and Technology, Tehran (2001-2005)

M. Sc. Courses (144 credits) with GPA 17.29 (out of 20)

PUBLICATIONS

International Journals

Citations: 283 **h-index:** 10 (November 2017)

1. Rajabi, M.M., **Ketabchi, H.**, Uncertainty-based simulation-optimization using Gaussian process emulation: Application to coastal groundwater management, *Journal of Hydrology*, 555, 518-534, 2017 (IF: 3.483)
2. **Ketabchi, H.**, Mahmoodzadeh, D., Ataie-Ashtiani, B., Simmons, C.T., Sea-level rise impacts on seawater intrusion in coastal aquifers: Review and integration, *Journal of Hydrology*, 535, 235-255, 2016 (IF: 3.483)
3. **Ketabchi, H.**, Mahmoodzadeh, D., Ataie-Ashtiani, B., Groundwater travel time computation for two-layer islands, *Hydrogeology Journal*, 24, 4, 1045-1055, 2016 (IF: 2.109)
4. **Ketabchi, H.**, Ataie-Ashtiani, B., Assessment of a parallel evolutionary optimization approach for efficient management of coastal aquifers, *Environmental Modelling & Software*, 74, 21-38, 2015 (IF: 4.404)
5. **Ketabchi, H.**, Ataie-Ashtiani, B., Review: Coastal groundwater optimization - advances, challenges, and practical solutions, *Hydrogeology Journal*, 23, 1129-1154, 2015 (The Theme Issue "Optimization for Groundwater Characterization and Management") (IF: 2.109)
6. **Ketabchi, H.**, Ataie-Ashtiani, B., Evolutionary algorithms for the optimal management of coastal groundwater: A comparative study toward future challenges, *Journal of Hydrology*, 520, 193-213, 2015 (IF: 3.483)
7. **Ketabchi, H.**, Mahmoodzadeh, D., Ataie-Ashtiani, B., Werner, A.D., Simmons, C.T., Sea-level rise impact on fresh groundwater lens in two-layer small islands, *Hydrological Processes*, 28, 5938-5953, 2014 (IF: 3.014)
8. Mahmoodzadeh, D., **Ketabchi, H.**, Ataie-Ashtiani, B., Simmons, C.T., Conceptualization of a fresh groundwater lens influenced by climate change: A modeling study of an arid-region island in the Persian Gulf, Iran, *Journal of Hydrology*, 519, 399-413, 2014 (IF: 3.483)
9. Ataie-Ashtiani, B., **Ketabchi, H.**, Rajabi, M.M., Optimal management of freshwater lens in a small island using surrogate models and evolutionary algorithms, *Journal of Hydrologic Engineering*, ASCE, 19, 2, 339-354, 2014 (IF: 1.694)
10. Ataie-Ashtiani, B., Rajabi, M.M., **Ketabchi, H.**, Inverse modeling for freshwater lens in small islands: Kish Island, Persian Gulf, *Hydrological Processes*, 27, 2759-2773, 2013 (IF: 3.014)
11. Ataie-Ashtiani, B., **Ketabchi, H.**, Elitist continuous ant colony optimization algorithm for optimal management of coastal aquifers, *Water Resources Management*, 25, 165-190, 2011 (IF: 2.848)
12. Ghodousi, P., Afshar, M.H., **Ketabchi, H.**, Rasa, E., Study of early-age creep and shrinkage of pozzolanic concrete: A comparative study, *Scientia Iranica, Transaction A: Civil Engineering*, 16, 2, 126-137, 2009 (IF: 0.405)

13. Rasa, E., **Ketabchi, H.**, Afshar, M.H., Predicting density and compressive strength of concrete cement paste containing silica fume using artificial neural networks, *Scientia Iranica, Transaction A: Civil Engineering*, 16, 1, 33-42, 2009 (IF: 0.405)
14. Afshar, M.H., **Ketabchi, H.**, Rasa, E., Elitist continuous ant colony optimization algorithm: Application to reservoir operation problems, *International Journal of Civil Engineering*, 4, 4, 274-285, 2006 (IF: 0.624)

ISC Journals in Persian

1. **Ketabchi, H.**, Nik-Khah, R., Morid, S., *Numerical simulation of Namdan aquifer in the Fars province of Iran: Assessment of green water management impacts on the aquifer restoration*, *Iran-Water Resources Research*, 1-17, 2017 (Accepted)
2. Farhoudi-Hafadaran, R., **Ketabchi, H.**, *Numerical simulation of Urmia Lake and Ajabshir coastal aquifer interaction*, *Iran-Water Resources Research*, 1-18, 2017 (Accepted)
3. Mahmoodzadeh, D., **Ketabchi, H.**, *Feasibility of groundwater resources cooperative management considering the environmental damages using ant colony optimization*, *Modares Civil Engineering Journal*, 1-16, 2017 (Accepted)
4. **Ketabchi, H.**, Mahmoodzadeh, D., Farhoudi-Hafadaran, R., *Estimation of wetland-aquifer exchanges (Case study of Kaniborazan wetland)*, *Iranian Journal of Eco-hydrology*, 4, 3, 699-709, 2017
5. Mahmoodzadeh, D., **Ketabchi, H.**, Ataie-Ashtiani, B., *Effects of sea level rise and recharge rate variations on seawater intrusion in confined aquifer*, *Journal of Hydraulics*, 10, 4, 2016
6. Mahmoodzadeh, D., **Ketabchi, H.**, Ataie-Ashtiani, B., *Optimized management of groundwater resources in Kish Island: A sensitivity analysis of optimal strategies in response to environmental changes*, *Journal of Water & Wastewater (Ab va Fazilab)*, 27, 2, 61-70, 2016
7. **Ketabchi, H.**, Ataie-Ashtiani, B., *Development of combined ant colony optimization algorithm and numerical simulation for optimal management of coastal aquifers*, *Iran-Water Resources Research*, 7, 1, 1-12, 2011
8. Rajabi, M.M., **Ketabchi, H.**, Ataie-Ashtiani, B., *Numerical modeling of the freshwater lens in small islands (case study of Kish Island)*, *Journal of Hydraulics*, 6, 2, 45-56, 2011

Selected International Conferences

1. Rajabi. M.M., **Ketabchi, H.**, Ataie-Ashtiani, B., *An uncertainty-based decision model for managing coastal groundwater resources*, 12th International Conference on Coasts, Ports and Marine Structures, Tehran, Iran, 2016 (Accepted for Oral Presentation)
2. **Ketabchi, H.**, Ataie-Ashtiani, B., Rajabi. M.M., *Conceptual Approach for Seawater Intrusion Modeling in Small Islands*, 6th International Perspective on Water Resources & the Environment conference (IPWE 2013), Izmir, Turkey, 2013 (Accepted for Oral Presentation)
3. Rajabi. M.M., **Ketabchi, H.**, Ataie-Ashtiani, B., *Recharge and Aquifer Response in Small Islands: A Numerical Approach*, 6th International Perspective on Water Resources & the Environment conference (IPWE 2013), Izmir, Turkey, 2013 (Accepted for Oral Presentation)

4. Rajabi, M.M., Ataie-Ashtiani, B., **Ketabchi, H.**, *Recharge and Aquifer Response in Small islands: a numerical approach*, 34th IAHR World Congress, Brisbane, Australia, 2011 (Accepted for Oral Presentation)
5. Rajabi, M.M., Ataie-Ashtiani, B., **Ketabchi, H.**, *Inverse Modeling for Seawater Intrusion In a freshwater lens: Parameter Evaluation, model Calibration and Sensitivity Analysis, Case Study of Kish Island*, World Environmental & Water Resources Congress, (ASCE EWRI 2010), Rhode Island, USA, 2010 (Accepted for Oral Presentation)
6. Rajabi, M.M., Ataie-Ashtiani, B., **Ketabchi, H.**, *Recharge and Aquifer Response in Small islands: a numerical approach (Case Study of Kish Island)*, 7th International Symposium on Managed Aquifer Recharge, (ISMAR – 2010), AbuDabi, United Arab Emirates (UAE), 2010 (Accepted for Oral Presentation)
7. **Ketabchi, H.**, Ataie-Ashtiani, B., *Combined Use of Ant Colony Optimization and Numerical Simulation Algorithms in the Improvement of the Coastal Groundwater Exploitation Schemes*, The 7th International Conference on Calibration and Reliability in Groundwater Modeling, Wuhan, China, 2009 (Accepted for Oral Presentation)
8. Afshar, M.H., **Ketabchi, H.**, Rasa, E., *Elitist Continuous Ant Colony Algorithm to Multim minima Function Optimization*, The IASTED International Conference on Computational Intelligence, San Francisco, USA, 2006 (Accepted for Oral Presentation)
9. Afshar, M.H., Rasa, E., **Ketabchi, H.**, *An Automatically Mutated Elitist Compact Genetic Algorithm*, The IASTED International Conference on Computational Intelligence, San Francisco, USA, 2006 (Accepted for Oral Presentation)

Books

Ataie-Ashtiani, B., **Ketabchi, H.**, *Groundwater hydraulics and contamination*, Sharif University Publication, PP.1030, 2014 (In Persian)

INTERESTS

- Hydrogeology (Groundwater modeling - Groundwater contamination - Density dependent flows - Seawater intrusion)
- Hydro-informatics and Soft Computation (Evolutionary optimization - Surrogate modeling - Parallel computing - Uncertainty analyses)
- Groundwater resources management
- Climate change impacts
- Water quality modeling and management
- Environmental engineering issues

AWARDS

First Rank student in High School Entrance exam (National), 1997

First Rank student in High School students, 1997-1998 with GPA 19.53 (out of 20)

Distinguished student in Mathematics and Computer Sciences Olympiad, 1998, 1999

First Rank student in pre-university students, 1999 with GPA 19.54 (out of 20)

First Rank student in B.Sc. among the students of Civil Engineering Department, Iran University of Science and Technology, Tehran, Iran, with GPA 17.29 (out of 20)

First Rank student in M.Sc. among the students of Civil Engineering Department, Sharif University of Technology, Tehran, Iran, with GPA 18.00 (out of 20)

Award of the distinguished student of Civil Engineering College in education, in academic years 2001-02 (1st Rank), 2002-03(1st Rank), and 2003-04(1st Rank)

Award of the Distinguished Student of Civil Engineering College in research, in academic years 2003-04 and 2004-05 among undergraduate students

Award of the active member of Students Scientific Association of Iran University of Science and Technology

Award of 1st place in Concrete Competitions of Concrete Day, in the field of Concrete Water Absorption, October 2003, Tehran, Iran

3rd Rank in Concrete Cube Competitions of Concrete Day, in the field of Concrete Cube Competition, October 2003, Tehran, Iran

Placing 4th and 7th in 2004 Concrete Projects (Paper) Competition of American Concrete Institute (ACI), held in San Francisco, CA

The Best Paper Award for the best paper presented in Hydraulic conference, Tarbiat Modares University, 2010

The Best Paper Award for the best paper presented in Hydraulic conference, Tehran University, 2013

The Best Ph.D. Research, Tavakoli award, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran., 2014

Distinguished Reviewer of Iran-Water Resources Research Journal, 2016

Members

- Member of reviewers for (2011-present)
 - Hydrological Processes
 - Hydrogeology Journal
 - Journal of Hydrologic Engineering (ASCE)
 - Journal of Hydrology
 - International Journal of Operational Research
 - Water Management
 - Scientia Iranica
 - Environmental Modelling & Software
 - Computers and Geosciences
 - Advances in Water Resources
 - Journal of Environmental Management
 - Iranian Journal of Water and Soil Research
 - Iran-Water Resources Research Journal
 - Journal of Hydraulics
 - Journal of Water & Wastewater (Ab va Fazilab)

- Modares Civil Engineering Journal
 - Journal of Water and Irrigation Management
 - Water Engineering Journal
 - Civil Engineering Sharif Journal
 - Water and Sustainable Development Journal
- Member of Society of Iranian Value Engineering (2017-present)
 - Member of Iran Hydraulic Association (2013-present)
 - Member of reviewers for Best Book of Islamic Republic of Iran, Engineering part (2014-2015)

SKILLS

Computer Programming: FORTRAN, MATLAB, PASCAL.

Software: AUTOCAD, SAP, ETABS, SEWERCAD, WATERCAD, CE-QUAL-W2, SWAT, GIS Software, GMS, MINITAB, SPSS, SUTRA, MODFLOW, CHEMGLO, TECPLOT, WINSURF, GID, GMSH.

Language: able to read, write, and communicate in Farsi, Turkish, and English.

EXPERIENCE

- Faculty member (Assistant Professor), Tarbiat Modares University, Water Resources Engineering Department (2015-present)
- Supervisor of M.Sc. students (2013-present)
 - Maedeh Gharadaghi (2017-present), M.Sc. Thesis: "Comparative assessment of the vulnerability methods of coastal aquifers to seawater intrusion and their improvement using fuzzy optimization approach", Hydraulic structures Department, Tarbiat Modares University, Supervisors: Jamal Mohammad-Vali-Samani and Hamed Ketabchi
 - Esmael Karami-Moghaddam (2017-present), M.Sc. Thesis: "Global sensitivity analysis of coastal groundwater simulation models (case study of a coastal aquifer located in the Guilan Province, Iran)", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi
 - Mohammad Mostafaie-Ondari (2017-present), M.Sc. Thesis: "Development of uncertainty-based decision model for optimal coastal groundwater management (case study of Ajabshir coastal aquifer, Iran)", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi
 - Hadiseh Kazemi (2016-present), M.Sc. Thesis: "Investigation and simulation of saltwater intrusion in coastal aquifers of Caspian Sea subjected to different management scenarios of saline wastewater, rainfall and pumping rates", Hydraulic structures Department, Tarbiat Modares University, Supervisors: Jamal Mohammad-Vali-Samani and Hamed Ketabchi
 - Sahand Ghadimi (2016-present), M.Sc. Thesis: "An evolutionary hydroeconomic – optimization model for cooperative management of groundwater resources (Case study of Namdan plain, Fars Province, Iran)", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi

- Mahdi Saghi-Jadid (2016-present), M.Sc. Thesis: "Result-based management of groundwater resources using simulation – optimization model (Case study of Namdan plain, Fars Province, Iran)", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi
- Roohangiz Nik-Khah (2015-2017), M.Sc. Thesis: "Assessment of joint green and blue water management using SWAT and MODFLOW models", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi, Advisor: Saeid Morid
- Eskandar Shaban (2015-2017), M.Sc. Thesis: "Simulation of Sulfur cycle in deep water systems", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi
- Reza Farhoudi-Hafadaran (2015-2017), M.Sc. Thesis: "Investigation of Urmia Lake saltwater and an adjacent coastal aquifer interaction", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi
- Maryam Bardeji (2014-2016), M.Sc. Thesis: "Assessment and conceptualization of the environmental effects on coastal groundwater systems behavior", Water Resources Engineering Department, Tarbiat Modares University, Supervisor: Hamed Ketabchi
- Davood Mahmoodzadeh (2011-2013), M.Sc. Thesis: "Sea-level-rise effects on seawater intrusion in coastal aquifers", Civil Engineering Department, Sharif University of Technology, Supervisors: Behzad Ataie-Ashtiani and Hamed Ketabchi
- Teacher (Advanced Engineering Hydrology, Engineering Hydrology), Sharif University of Technology, (for M.Sc. and B.Sc Students) (2015)
- Teacher (Advanced Groundwater Engineering), Amir Kabir University of Technology, (for M.Sc. and Ph.D. Students) (2015-2016)
- Teacher, (Environmental Engineering, Water Conveyance Structures, System Engineering, Groundwater Engineering), University of Science and Culture, Tehran, (for B.Sc. Students) (2013- present)
- Teacher, (Groundwater Engineering, Fluid Mechanics, Open Channel Hydraulics, Engineering Hydrology, System Engineering, Engineering Ethics, Numeical Analysis, Differential Equations, Mathematics), Alaodoleh Semnani Institute of Higher Education, (for B.Sc. Students) (2006-2013)
- Academic and research vice-president, Alaodoleh Semnani Institute of Higher Education, (2009-2013)
- Project manager, Numerical modeling of groundwater system (quantity and quality) for development project of Imam Hossain (PBUH) Holy Shrine, Water Engineering Research Institute (WERI), Tarbiat Modares University (2017-present)
- Project manager, Study for accurate groundwater resources balance of Rafsanjan Plain, (Client: Iranian Water Policy Research Institute), Water Engineering Research Institute (WERI), Tarbiat Modares University (2017-present)

- Project manager, National plan and strategies for climate change adaption (groundwater modeling section), (Client: Ministry of Energy), Water Engineering Research Institute (WERI), Tarbiat Modares University (2016-present)
- Project manager, Water quality monitoring guideline (Client: Mahab Ghodss Consulting Engineering Company), Water Engineering Research Institute (WERI), Tarbiat Modares University (2016-2017)
- Project manager of Groundwater Engineering Section, Determination of environmental water demand for wetlands and rivers of Urmia Lake watershed (Estimation of wetland-aquifer exchanges - Urmia Lake watershed wetlands), Water Engineering Research Institute (WERI), Tarbiat Modares University (2015-2017)
- Project manager, Environmental studies for Salalah flood protection dam scheme, Oman (Client: Mahab Ghodss Consulting Engineering Company), Water Engineering Research Institute (WERI), Tarbiat Modares University (2015-2016)
- Technical consultant, Mahab Ghodss Consulting Engineering Company, The section of Water, Soil, and Environmental studies (2014-present)
 - Some projects:
 - Salalah flood protection dam scheme, Oman
 - Uma Oya multi-purpose development project, Sri Lanka
 - National water quality management plan development, Iran
 - Monitoring and evaluation for ICZM program, Iran
 - Environmental and societal regulatory study for phase 11 of South Pars gas field (Total S.A., France, and Pöyry Consulting Engineering Co., Switzerland), Iran
 - Garmsiri Project, water and soil quality studies, Iran
- Technical consultant, Aspire Zone, Qatar hydrogeological study and groundwater resource development: Dewatering pumping well field and groundwater transmission pipeline, Aali Saz and Hyder Consulting Engineering Companies (2013-2014)
- Project expert, Study of optimum usage of groundwater resources in Kish Island), Kish Free Zone Organization, Sharif University of Technology (Project Director: Behzad Ataie-Ashtiani) (2007-2012)
- Technical Reviewer of research proposals and projects, in Iran Water Resources Management Company, Practical Research Section (2014-present)

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