ADELL MORADI SABZKOUHI

PERSONAL INFORMATION

Position: Faculty Member
Office: Dept. of Hydraulic Eng., Faculty of Agriculture Eng. and Rural Development., Agricultural Sciences and Natural Resources University of Khuzestan (ASNRUKH)., Mollasani, Khuzestan Prov., Iran. 6341773637;
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Google Scholar: https://scholar.google.com/citations?user=kaWuLIwAAAAJandhl=en
Researchgate: https://www.researchgate.net/profile/Adell_Moradi_Sabzkouhi

EMPLOYMENT RECORDS

- 2018 to Now: Assistant Prof., Department of Hydraulic Eng., Agricultural Sciences and Natural Resources University of Khuzestan, Mollasani, Khouzestan Prov., Iran.
- 2017 to Now: Technical Advisor, PARSABAZMA Consulting Engineering and Research Company, Ahvaz, Iran.
- 2016 to 2017: R&D Engineer, ASEMAN BORJ KAROON Consulting Engineers, Ahvaz, Iran
- 2007 to 2018: Lecturer, Department of Hydraulic Eng., Agricultural Sciences and Natural Resources University of Khuzestan, Mollasani, Khouzestan Prov., Iran.
- 2003 to 2007: Design Hydraulic Engineer, Urban Water System Projects, POURAB Consultant Engineers, Ahvaz, Iran.

EDUCATION BACKGROUNG

Ph.D., in ***Civil Eng.-Hydraulics***, Dept. of Civil Eng., Faculty of Eng., Shahid Chamran University (SCU), Ahvaz, Iran. 2013-2018
***Thesis Title*:** *Development of Mathematical Modeling for Fuzzy Analysis-Design of Pipe Networks under Uncertainty*, Supervisor**:** Prof. Ali Haghighi

M.Sc. in ***Irrigation Structures***, 2006, Faculty of Water Sciences Engineering, Shahid Chamran University (SCU), Ahvaz, Iran,
***Thesis Title*:** Investigation of the Effects of Drop Structure Geometry and Hydraulic Characteristics on Energy Dissipation Using Physical Modeling, Supervisor**:** Prof. Mahmood Kashefipour and Dr. Mahmood Bina

B.Sc. in ***Irrigation Engineering***, 2003, Department of Irrigation Engineering, Shahid Chamran University (SCU), Ahvaz, Iran

RESEARCH INTERESTS

Water Infrastructures Planning and Management, Energy and Water Quality Management Systems (EWQMS) in Water Distribution Networks, Decision Making and Optimization Models in Water Systems, Multi-objective Optimization, Uncertainty Analysis, Machine Learning-based Modeling

SELECTED PUBLICATION

Sabzkouhi, A. M., Lee, J., and Keck, J., (2022), *"Energy and Water Quality Management in Water Distribution Networks Considering Variable Speed Pump and Tank Flush Scheduling*", World Environmental & Water Resources Congress, EWRI, ASCE, Atlanta, GA, (Link)

Sabzkouhi, A. M., Lee, J., and Keck, J., (2021), *"Energy Cost and Water Age Management in Water Distribution Networks via Constant Speed Optimal Pump Scheduling"*, Proceedings of the 1st National Conference on Water Quality Management & 3rd National Conference on Water Consumption Management - Loss Reduction and Reuse, Tehran University - in Persian (Link)

Amirsardari, A.R., **Sabzkouhi, A.M.**, Zahiri, J. and Derakhshannia R., (2021), *"Improving the Performance of Water Supply Pump Stations in Terms of Energy Consumption: A Comparison Between the Constant and Variable-speed Optimal Pump Scheduling"*, Proceedings of the 2nd National Conference on Agricultural Research and Environment, ASNRUKH, Mollasani (in Persian)

Minaei, A., **Sabzkouhi, A.M.**, Haghighi, A. and Creaco, E., (2020) *"Developments in Multi-Objective Dynamic Optimization Algorithm for Design of Water Distribution Mains"* Journal of Water Resources Management, Springer, 34(9), 2699–2716. https://doi.org/10.1007/s11269-020-02559-8 (Link)

Zahiri, J. and **Sabzkouhi, A.M.**, (2020) *"Uncertainty and Accuracy Analysis of Longitudinal Dispersion Coefficient Estimation Methods in Rivers"* Journal of Water and Soil, 34(4): 813-825. (in Persian) DOI: 10.22067/JSW.V34I4.85364 (Link)

Shirjandi, Sh., Khademalrasoul, A., **Sabzkouhi, A.M.**, Amerikhah, H., (2020), "*Optimal Placement of Gabions Using AHP and NSGA-II Algorithm (Case Study: Emamzadeh Watershed)"* Agricultural Engineering., 43(3): 315-330 (in Persian), DOI:10.22055/AGEN.2020.31651.1522, (Link)

Ahmadian, S., **Sabzkouhi, A. M.,** Haghighi, A., and Ranginkaman, M.H., (2019) *"Smart Pressure Management in Urban Water Distribution Networks for Firefighting"*, Journal of Hydraulic Structures, SCU Publication, 5(2):71-89. DOI: 10.22055/jhs.2019.30646.1119 (Link)

Sabzkouhi, A. M., and Haghighi, A., (2019) *"Analysis of Hydraulic Stress Effects on the Performance of Water Distribution Networks Using Interval Analysis and Optimization Approach"*, Iranian Journal of Water and Wastewater, 30(3): 1-16. (In Persian), DOI:10.22093/wwj.2018.97826.2487. (Link)

Sabzkouhi, A. M., and Haghighi, A., (2018) *"Uncertainty Analysis of Transient Flow in Water Distribution Networks"*, Journal of Water Resources Management, Springer, 32(9):1-18. DOI: 10.1007/s11269-018-2023-4

Sabzkouhi, A. M., and Haghighi, A. (2018). *"Closure to Uncertainty Analysis of Pipe-Network Hydraulics Using a Many-Objective Particle Swarm Optimization."*, Journal of Hydraulic Engineering, 144(4). 07018002. DOI: 10.1061/(ASCE)HY.1943-7900.0001148, (Link)

Sabzkouhi, A. M., Haghighi, A., and Minaie, A., (2017), *"Investigation of Uncertainty Effects on Hydraulic Performance of Water Distribution Networks Using the Fuzzy Sets Theory"*, Proceedings of the 37th IAHR World Congress, Kuala Lumpur, Malaysia, 5276-5283 (Link)

Sabzkouhi, A.M. and Haghighi, A., (2016), *"Uncertainty Analysis of Pipe-Network Hydraulics Using a Many-Objective Particle Swarm Optimization."* J. Hydraul. Eng., ASCE, 10.1061/(ASCE)HY.1943-7900.0001148 , 04016030. (Link)

Minaie, A., Haghighi, A., Ghafouri, H. and **Sabzkouhi, A.M.**, (2016), *"Optimal Design of Water Distribution System Based on Urban Areas Expansion Using a Self-adaptive Multi-objective NSGA-II"*, 3rd Iranian National Conference on Applied Research in Civil Engineering, Architecture and Urban Management - in Persian (Link)

Sabzkouhi, A.M., Kashefipour, M. and Salimi Ch., Atena, (2014), *"A Field Study on Peak Demand Factor of Rural Water Distribution Networks (North-Eastern Part of Khuzestan Province, Iran)"*, Iranian Journal of Water and Wastewater, Vol. 89, pp: 44-52 - in Persian (Link)

Sabzkouhi, A.M., Kashefipour, M., and Bina, M., (2011), *"Investigation of Effective Parameters on Stepped and Straight Drops Energy Dissipation Using Physical Modeling"*, International Journal of Food, Agriculture and Environment, WFL. Publisher, Vol.9 (3and4), pp: 748-753, (Link)

Sabzkouhi, A.M., Kashefipour, M., and Bina, M., (2011), *"Experimental Comparison of Energy Dissipation on Drop Structures"*, Iranian Journal of Science and Technology of Agriculture and Natural Resources, Water and Soil Science, Isfahan University of Technology, Iran, Vol. 15(56), pp: 209-221 -in Persian, (Link)

Yarahmadi, F., Landi, A., Asudar, M.A. and **Sabzkouhi, A.M.**, (2013), "*Effects of Tillage Methods and Irrigation on Greenhouse Gasses Emission under Wheat Cultivation in the North of Khuzestan*", Iranian Journal of Agricultural Engineering, Vol. 35(2), pp: 71-82 -in Persian (Link)

BOOK CHAPTERS

Adell Moradi Sabzkouhi, Juneseok Lee, Jonathan Keck, 2022. "Optimal pump operation", Embracing Analytics in the Drinking Water Industry, Juneseok Lee and Jonathan Keck (Editors), IWA Publishing, https://doi.org/10.2166/9781789062380_0187

Adell Moradi Sabzkouhi, Juneseok Lee, Jonathan Keck, 2022. " Calibration and uncertainty analysis of hydraulic models", Embracing Analytics in the Drinking Water Industry, Juneseok Lee and Jonathan Keck (Editors), IWA Publishing, https://doi.org/10.2166/9781789062380_0159

RESEARCH PROJECTS

- *Multi-objective planning of combined constant-variable speed pumping operation with the approach of simultaneous energy costs and power consumption management*, Moradi Sabzkouhi, A. and Zahiri, J., Funded by ASNRUKH, (in progress)
- *Evaluation of evaporation from water resources without reduction in dissolved oxygen using composite plates*, Zahiri, J., Nobakht, V., Karimzadeh, M. and Moradi Sabzkouhi, A., Funded by Khuzestan Planning and Budget Organization (in progress)
- *Impact of river islands on sedimentation process in flood conditions using 2D hydraulic and sediment modeling*, Zahiri, J., Moradi Sabzkouhi, A. and Ashnavar, Mehran, Funded by ASNRUKH, (in progress)
- *Management of energy consumption in water supply variable-speed pumping stations using pressure control for critical hotspots*, 2020, Moradi Sabzkouhi, A., Zahiri, J. and Derakhshannia, R., Funded by ASNRUKH
- *Fuzzy Uncertainty Analysis of Longitudinal Dispersion Coefficient in Rivers*, 2020, Zahiri, J. and Moradi Sabzkouhi, A., ASNRUKH, Funded by ASNRUKH
- *Technical-Economic Feasibility Study on Resolving Zanjan's Water Shortage from Shahriar Dam vs. Moshampa Dam; Challenges and Solutions*, 2019, Haghighi, A., M.V. Samani, H., Moradi Sabzkouhi, A., Adibian, M. and Ayati, A., SCU, Funded by IRAN Water Resources Management Company; 95/ک/ع/168;
- *Interruption causes in water distribution networks and introducing control methods to improve operational efficiency*, 2014, Haghighi, A. and Moradi Sabzkouhi, A., SCU, Funded by Rural Water and Wastewater Company of Khuzestan; Contract No: 3342-ش/ق;
- *Effects of Temperature on Chlorine Kinetic Decay Factors in Rural Water Distribution Networks in Khuzestan Province*, 2013, Moradi Sabzkouhi, A. and Eskandari-Macvand, M.T., ASNRUKH, Funded by Rural Water and Wastewater Company of Khuzestan; National Code: 1390/142/م ت م/ن ی; Contract No: 3020/212D-900;1
- *Investigation of Demand Pattern and Determination Hourly and Daily Peak Factors of Rural Water Distribution Networks in Khuzestan Province*, 2011, Moradi Sabzkouhi, A., Kashefipour, M. and Salimi Chamkakaie, A., ASNRUKH, Funded by Rural Water and Wastewater Company of Khuzestan; National Code: 1387/142315م ت م/ن ی; Contract No: 2162/212R-87002

HONORS & AWARDS

- 2020 ASCE Outstanding Reviewer for the Journal of Water Resources Planning and Management.
- 2012: Fully funded scholarship awarded by the Iranian Ministry of Science, Research, and Technology for Ph.D. in Civil Eng., Hydraulics
- 2003: Rank 6th of 355 Candidates in the National Entrance Examination Leading to Admission in M.Sc. in Agricultural Engineering - Irrigation Structures, National Organization of Educational Testing, Ministry of Science, Research and Technology, Iran Government.
- 2003: Rank 1st among 29 Undergraduate Students of Agricultural Engineering-Irrigation at Shahid Chamran University, Ahvaz, Iran

COURSES TAUGHT

- Fluid Mechanics
- General Hydraulics
- Pump and Pumping Stations
- Statics
- Design of Water Supply Pipe Networks
- Water Resources Engineering

PROFESSIONAL AFFILIATION

- Affiliate Member of the American Society of Civil Engineers (ASCE)
- Member of Iran Water and Wastewater Association (IWWA)

PROFESSIONAL SERVICES

- Reviewer, The 2022 World Environmental & Water Resources Congress, EWRI, ASCE
- AWWA Water Science Journal
- Reviewer, ASCE Journal of Water Resources Planning and Management
- Reviewer, Journal of Water Resources Management, Springer
- Reviewer, Journal of Hydraulic Structures

REFEREES

- Juneseok Lee, Associate Professor, Department of Civil and Environmental Engineering, Manhattan College, NY, juneseok.lee@manhattan.edu
- Ali Haghighi, Professor, Department of Civil Engineering, Shahid Chamran University, Ahvaz, Iran, *a.haghighi@scu.ac.ir ; ali77h@gmail.com*
- Hossein Mohammad Vali Samani, Professor Emeritus, Dept. of Civil Engineering, Shahid Chamran University, Ahvaz, Iran, *hossein.samani@gmail.com*
- Mahmood Kashefipour, Professor, Faculty of Water Sciences Engineering, Shahid Chamran University, Ahvaz, Iran, *kashefipour@scu.ac.ir ; Kashefipour@Excite.Com*
- Mahmood Shafaie Bajestan, Professor, Faculty of Water Sciences Engineering, Shahid Chamran University, Ahvaz, Iran, *m-shafaeibejestan@scu.ac.ir, m_shafai@yahoo.com*