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SUMMARY

- 8+ years of research and study in water engineering, and 4+ years of teaching water related courses, research team leaderships, and mentoring students.
- 15+ publications in peer-reviewed journals and proceedings, 40+ international conference presentations, and invited speaker and panelist in several meetings and conferences.
- Best national master thesis in engineering field in Iran (2012), outstanding paper in J. Paul Riley Student Paper Competition - AWRA (2014), Eva Nieminski Honorary Graduate Science and Engineering Scholarship - AWWA (2015), Best Speaker Award (Postdoctoral Symposium, UCD) (2016).

RESEARCH INTEREST

Integrated Water Resources Modeling and Management; Water Resources Systems Analysis; Systems Thinking and System Dynamics; Optimization and Simulation; Water-Energy-Food Nexus; Hydroinformatics; Climate Change Impact Assessment on Water Resources.

CURRENT POSITION

Jan 2016 – present: **Postdoctoral Scholar, University of California, Davis.**

University of California Water Security and Sustainability Research Initiative (UC Berkley, Davis, Merced, and Santa Cruz).

Mentors: *Drs. Samuel Sandoval-Solis and Graham Fogg.*

- Lead research projects on integrated modeling and surface-groundwater sustainable management of water resources in California.
 - Whole watershed management and conjunctive use of surface and groundwater to maximize total water storage basin.
 - Agro-Water-Economic analysis for groundwater banking on agricultural lands
 - Multi-objective optimization and re-operation of reservoirs
 - Forecast-Informed Reservoir Operations (FIRO)
- Develop integrated modeling capacity to support decision making, including complex interactions within climate, water, energy, and agriculture systems, e.g. FolSim model (Whole watershed management model for Folsom Reservoir and American River Basin, CA)

EDUCATION

2015 Ph.D. Water Resources Management, Civil and Environmental Engineering Department, University of Utah, Salt Lake City, Utah, US. (GPA: 4.00)

Advisor: *Dr. Steven J. Burian*

Dissertation: A Framework for Water Supply System Performance Assessment to Support Integrated Water Resource Management and Decision Making Process.

2012 M.Sc. Water Engineering, Civil and Environmental Engineering Department, University of Tehran, Tehran, Iran. (GPA: 4.00)

Advisor: *Dr. Mohammad Karamouz*

Thesis: Development of a Dynamic Framework to Assess the Water Supply Systems' Readiness

2009 B.Sc. Civil and Environmental Engineering, Civil and Environmental Engineering Department, Ferdowsi University, Mashhad, Iran.

RESEARCH EXPERIENCE

Research Associate, U.S.-Pakistan Center for Advanced Studies in Water (USPCAS-W)
(Funded by USAID at University of Utah) May 2015 – Dec 2015

- Developing data-modelling framework to address the Water-Energy-Food Nexus. (*ongoing collaboration*)
- Studying effects of climate change on glacial lakes, operation of Tarbela Reservoir and flooding management in upper Indus river basin. (*ongoing collaboration*)
- Analyzing new alternatives for water supply/demand in Karachi.
- Built a database management system for water management in Indus River basin.
- Leading research group including multiple students and visiting scholars from US and Pakistan. Collaboration with Colorado State University, U of Nevada-Las Vegas, City University of New York, and Mehran University of Pakistan.

Graduate Research Assistant, Cyber Infrastructure Water for Utah and Wyoming (CI-Water) (Funded by NSF at University of Utah) Aug 2012 – May 2015

- Developed an integrated water resource management (IWRM) model of Salt Lake City.
- Developed SLC-IWRM Decision Support Tool for Salt Lake City Department of Public Utilities.
- Developed a new platform for web app design in water engineering including Parleys Reservoir management web-tool, (<http://demo.tethysplatform.org/apps/>)
- Lead researcher in Access to Data and Computationally Intensive Modeling team with Utah State University, Brigham Young University, and University of Wyoming.

Graduate Research Assistant, Farmington Bay Water Balance Study (Funded by Jordan River Water Quality Council at University of Utah) May 2013 – May 2014

- Developed Jordan River Watershed – Farmington Bay Water Budget Model: A Tool for Integrated Water Resources Management
- Lead researcher of the team project of 3 PhD students and 2 Master students.

Graduate Research Assistant, Institute for the Water & Environment R&D (*University of Tehran*) Sep 2009 – Sep 2012

- Developed the preparedness assessment framework and action plans for urban water disaster management.
- Developed the system dynamics model of Tehran's water supply system and evaluated the impacts of climate change on future water availability.

TEACHING EXPERIENCES

Co-Instructor, CVEEN 7920, Hydroinformatics. Department of Civil and Environmental Engineering, University of Utah. Aug 2015 – Dec 2015

- Added skill of **used just-in-time teaching (JiTT)** to adjust needed lessons based on observed successes and areas of improvement noted in student assignments and classroom exercises.
- Created course materials, and lead instructor for 4 sessions, Help to design the whole course material and facilitate the class at the University of Utah side, Grade projects, homework and exams through the whole semester.
- Held simultaneously across the University of Utah, Brigham Young University, and Utah State University via interactive videoconferencing.

Co-Instructor, CVEEN 7920, Hydroinformatics. Department of Civil and Environmental Engineering, University of Utah. Aug 2014 – Dec 2014

- Designed and created course materials, setup the class, grade projects, homework and exams. Lead facilitator and instructor at the University of Utah side.
- Held simultaneously across the University of Utah, Brigham Young University, Utah State University, University of Virginia, and University of Wyoming.
- *Feedback from Students:* Average score (5.67) was much higher than department average (5.21). Feedbacks show excellent knowledge, communication, leadership of University of Utah instructor and his collaboration with other campuses.

Teaching Assistant, CVEEN 7920, Hydroinformatics. Department of Civil and Environmental Engineering, University of Utah. Aug 2013 – Dec 2013

- Designed, created course materials, and lead instructor for 5 sessions, setup the class, graded projects, homework and exams.

Laboratory Instructor, CVEEN 3410, Hydraulics. Department of Civil and Environmental Engineering, University of Utah. Aug 2012 – Dec 2012

- Taught lab sessions; prepared lab lectures; held review sessions and office hours; graded laboratory assignments, homework and exams.
- *Feedbacks from Students:* Labs were good in supplementing class materials and interesting to show the actual applications.

Teaching Assistant, CVEEN 3410, Hydraulics. Department of Civil and Environmental Engineering, University of Utah. Aug 2012 – Dec 2012

- Taught lab sessions; prepared lab lectures; held review sessions and office hours; graded laboratory assignments, homework and exams.

Teaching Assistant, Hydrology. Department of Civil and Environmental Engineering, University of Tehran. Jan 2011 – May 2011

- Held review sessions and office hours; graded homework and final papers, helped to prepare homework and exams.

GRANTS AND PROPOSALS

1. Utilizing Hydrological Forecasts to Inform Operation of California's Reservoirs – *Multi-campus Research Programs and Initiatives (MRPI), UC Water Challenge Grants*. (PI: Dennis P. Lettenmaier (UCLA), Co-PI: Erfan Goharian (UC Davis). (Under Review – \$60,000) Jul 2017
2. Incorporating Nutrients into the Farmington Bay Water Budget Model - *Jordan River-Farmington Bay Water Quality Council* (Co-PI, Lead writer, Awarded - \$28,036.00) Apr 2015
3. Farmington Bay Water Balance Study - *Jordan River-Farmington Bay Water Quality Council* (Contributing writer, Awarded - \$98,608.00) Oct 2013
4. Water Infrastructure Sustainability Evaluation (WISE) Center for Modeling Research, USEPA (Contributing writer, NA - \$3,999,250.00) Oct 2014
5. Community Resilience Center of Excellence - National Institute of Standards and Technology (NIST) Proposal (Contributing writer, NA - \$19,790,754.00) Sep 2014
6. Integrated Water Resources Management Model for the Great Salt Lake Basin, Utah Forest, Fire, State Lands (Contributing writer, NA – \$389,854.00) Nov 2014
7. Travel Grants, 11th International Conference on Hydroinformatics, New York City, CUAHSI. (Lead writer, Awarded, \$800) Aug 2014
8. Travel Grant, Associated Students of the University of Utah (ASUU), University of Utah. (Lead writer, Awarded, \$500) Apr 2015
9. Travel Grant, Global Change & Sustainability Center (GCSC), University of Utah. (Lead writer, Awarded, total of \$1,200) Feb 2014 & 2015
10. Travel Grants from Graduate school and Civil Engineering department, University of Utah. (Lead writer, Awarded, total of \$2,400) 2012-2015

HONORS AND AWARDS

- Jan 2015: **Eva Nieminski Honorary Graduate Science and Engineering Scholarship**, Intermountain section of the American Water Works Association (AWWA)
- Apr 2014: **Best American Water Resources Association (AWRA) Students' Paper Award**, (Awarded at the 9th Annual AWRA-Utah Student Conference, Logan, UT, J. Paul Riley AWRA Utah Section).
- Oct 2012: **Best National Master Thesis in Engineering** (Awarded at the 15th national festival of the best student thesis, Tehran, Iran)
- May 2016: **Top honors as the Best Speaker**, awarded at the UC Davis Postdoctoral Research Symposium.
- Aug 2015: **Fundamental of Engineering (FE) – Civil Engineering** (Board: Utah)

- Jan 2012: **Outstanding Graduate Student**, Water Engineering, University of Tehran. (Eligible to enter PhD program without national entrance exam.)
- Jun 2014: **Top 5 Most Read Papers**, *Earth Interaction Journal*.
- Nov 2014: Award certification “*Becoming EPSCoR Champions*”, NSF communications Workshop.
- Mar 2014: Award certification “*Personal Activity Reporting (PAR)*”, University of Utah. (verifies effort for contracts & grants)
- May 2011: Award certification “*Conflict Resolution in Water Resources Management*”, Zanjan, Iran.
- 2013-2015: Graduate Research Assistantship, University of Utah.
- 2011-2012: Graduate Research Assistantship, University of Tehran.

PEER-REVIEWED PUBLICATIONS (*Corresponding Author)

1. **Goharian, E.**, Burian, S., Karamouz, M. (2017), “Using Reliability-Vulnerability Joint Probability Distribution to Evaluate the Performance of Water Supply System Performance.” *Journal of Water Resources Planning and Management*, 10.1061/(ASCE)WR.1943-5452.0000869.
2. Hansen, C., **Goharian, E.**, Burian, S. (2017), “Comparison of Traditional and Combined Change Factor Methodologies for Local Precipitation Scaling and Hydrologic Modeling Applications.” *Journal of Hydrologic Engineering*. Vol. 22 (9), 10.1061/(ASCE)HE.1943-5584.0001555.
3. Sandoval-Solis, S., Rodriguez-Arellano, J.L., **Goharian, E.***, Dahlke, H., Kocis, T. N., O’Geen, T.A., Fulton, A., Harter, T., Fogg, G.E., Puente, C.E., (Submitted Apr. 2017). “Conceptual Framework to Estimate Economic Feasibility of Groundwater Banking on Agricultural Land”. *Water Resources Research*. (Prep)
4. **Goharian, E.**, Azizpour, M., Sandoval-Solis, S., Fogg, G. (Submitted Jan. 2017). “An Adaptive Relaxed Cellular Automata Method to Optimize the Hydropower Generation of Folsom Reservoir”. *Journal of Water Resources Planning and Management*. (Prep)
5. Shin, S., Lee, S., Judi, D., Parvania, M., **Goharian, E.**, McPherson, T., Burian, S., (Submitted Feb. 2017). “Review of Resilience Measures of Water Infrastructure Systems” *Journal of Water Resources Planning and Management*. (Under review)
6. Marquez, M.F., Sandoval-Solis, S., DeVicentis, A.J., Ortiz Partida, J.P., **Goharian, E.**, Britos, B.R., Silva Jordan, P.T., McGourty, G.T., Lewis, D., Elkins, R., Harper, J. (Submitted Mar. 2017). “Sustainable Groundwater Management Act in California, Case Study: Ukiah Valley Groundwater Basin.” *Journal of Contemporary Water Research and Education (JCWRE)*. (Under review)
7. **Goharian, E.**, Zahmatkesh, Z., Sandoval-Solis, S. (Accepted April 2017), “Uncertainty Propagation of Hydrologic Modeling in Water Supply System Performance: Application of Monte Carlo Markov Chain Method.” *Journal of Hydrologic Engineering*.

8. **Goharian, E.**, Burian, S.J. (2017), “Developing an Integrated Framework to Build a Decision Support Tool for Urban Water Management”. *Journal of Hydroinformatics*. (in press)
9. **Goharian, E.**, Burian, S., Lillywhite, J., Hile, R. (2016), “Vulnerability Assessment to Support Integrated Water Resources Management of Metropolitan Water Supply Systems.” *J. Water Resour. Plann. Manage.* 10.1061/(ASCE)WR.1943-5452.0000738.
10. Tavakol-Davani, H., **Goharian, E.**, Hansen, C., Tavakol-Davani, H., Apul, D., Burian, S. (2016), “How does climate change affect combine sewer overflow in a system benefiting from rainwater harvesting systems?” *Sustainable Cities and Society Journal*. doi:10.1016/j.scs.2016.07.003.
11. Swain, N. R., Christensen, S., Snow, A., Dolder, H., Espinoza-Dávalos, G. E., **Goharian, E.**, Anderson, J., Jones, N.L., Nelson, E.J., Ames, D.P., Williams, G., Burian, S.J. (2016), “A new Open Source Platform for Lowering the Barrier for Environmental Web App Development: Introducing Tethys Platform.” *Environmental Modelling & Software Journal*.
12. **Goharian, E.**, Burian, S., Bardsley, T., and Strong, C. (2015). "Incorporating Potential Severity into Vulnerability Assessment of Water Supply Systems under Climate Change Conditions." *J. Water Resour. Plann. Manage.* 10.1061/(ASCE)WR.1943-5452.0000579, 04015051.
13. York, C., **Goharian, E.**, Burian, S. (2015), “Impacts of Large-Scale Stormwater Green Infrastructure Implementation and Climate Variability on Receiving Water Response in the Salt Lake City Area.” *American Journal of Environmental Science*, 2015, 11 (4): 278-292. DOI: 10.3844/ajessp.2015.278.292.
14. **Goharian, E.**, Burian, S.J. (2014), “Integrated Urban Water Resources Modeling in a Semi-Arid Mountainous Region using a Cyber-Infrastructure Framework.” Proceedings 11th International Conference on Hydroinformatics, *CUNY Academic Works*, http://academicworks.cuny.edu/cc_conf_hic/230.
15. Karamouz, M., Zahmatkesh, Z., **Goharian, E.**, Nazif, S. (2014), “Combined impact of inland and coastal floods: mapping knowledge base for development of planning strategies.” *Journal of Water Resources Planning and Management* 10.1061/(ASCE)WR.1943-5452.0000497 , 04014098.
16. Zahmatkesh, Z., Karamouz, M., **Goharian, E.**, Burian, S. (2014), “Analysis of the Effects of Climate Change on Urban Storm Water Runoff Using Statistically Downscaled Precipitation Data and a Change Factor Approach.” *Journal of Hydrologic Engineering*, 10.1061/(ASCE)HE.1943-5584.0001064 , 05014022.
17. Zahmatkesh, Z., Burian, S., Karamouz, M., Tavakol, H., **Goharian, E.** (2014), “Low-Impact Development Practices to Mitigate Climate Change Effects on Urban Stormwater Runoff: Case Study of New York City.” *Journal of Irrigation and Drainage Engineering*, 141(1), 04014043.
18. Karamouz, M., **Goharian, E.***, Nazif, S. (2013), “Reliability Assessment of the Water Supply Systems under Uncertain Future Extreme Climate Conditions.” *Earth Interact.*, Vol. 17, Iss. 20, pp. 1-27. DOI: 10.1175/2012EI000503.1. (*Top 5 Most Read EI Articles - 2013 & 2014*)

CONFERENCE PROCEEDINGS AND PRESENTATIONS (*Presenter is underlined*)

1. **Goharian, E.**, Sandoval-Solis, S., Fogg, G. (2017) “Estimation of Available Surface Water for Managed Aquifer Recharge in California’s Central Valley: A Case Study on the American-Cosumnes River Basin.” *2017 UCOWR/NIWR Annual Conference*, Fort Collins, CO, June 13-15, 2017.
2. **Goharian, E.**, R. Gailey, J. Medellin-Azuara, S. Maples, L.E. Adams, S. Sandoval-Solis, G.E. Fogg, H.E. Dahlke, T. Harter, and J.R. Lund (2017) “Developing Integrated Modeling Capacities to Support Whole Watershed Management in California.” *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
3. **Goharian, E.**, Azizipour, M., and Sandoval-Solis, S., (2017) “Re-Operating Folsom Reservoir to Increase the Available Water for Recharge and Maximize Storage in Whole Watershed” *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
4. **Hansen, C.H.**, **Goharian, E.**, Ahmed, W., and Burian, S.J. (2017). “Sensitivity of Water System Vulnerability to Changing Snowpack from Dust Deposition and Climate Change.” *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
5. Ahmed, W., Hansen, C.H., **Goharian, E.**, Shepherd, M., Ahmad, S., and **Burian, S.J.** (2017). “Data management and modeling for addressing the water-energy-food nexus in Pakistan.” *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.
6. **Goharian, E.**, **Azizipour, M.**, Sandoval-Solis, S., Burian, S.J. (2017) “Assessment of Water Resources Systems Performance under Climate Change Condition” *1st International Conference on Climate Change*, Feb. 2017, Tehran, Iran.
7. **Goharian, E.**, R. Gailey, J. Medellin-Azuara, S. Maples, L.E. Adams, S. Sandoval-Solis, G.E. Fogg, H.E. Dahlke, T. Harter, and J.R. Lund (2016) “Whole Watershed Management to Maximize Total Water Storage: Case Study of the American-Cosumnes River Basin.” *2016 AGU Fall Meeting, American Geophysical Union*, San Francisco, CA.
8. **Goharian, E.**, Fogg, G.E. (2016) “Role of Managing Headwaters, Forestry Practices, and Reservoirs for Groundwater Management.” *25th Groundwater Resources Association Annual Meeting*, Concord, CA.
9. **Goharian, E.**, Burian, S, J. (2016), “Decentralized vs. Centralized Alternatives Comparison for Water Supply Systems by Use of Water System Performance Index (WSPI).” *2016 World Environmental and Water Resources Congress*, 22-26 May, West Palm Beach, Florida.
10. **Nishu, N.J.**, **Goharian, E.**, Burian, S, J. (2016), “Analysis of Supply Solution Options to Mitigate the Water Supply Crisis in Developing Countries.” *2016 World Environmental and Water Resources Congress*, 22-26 May, West Palm Beach, Florida. (Poster)
11. **Goharian, E.**, Dawadi, S., Ahmad, S., Burian, S.J., (2015), “A Tale of Two Cities: Comparison of Water Resource Management System Response under Varying Climate and Population Growth in Salt Lake City, UT, and Las Vegas, NV.” *2015 UCOWR/NIWR/CUAHSI Conference*, 16-18 June, Las Vegas, Nevada.

12. **Goharian, E.,** Burian, S.J., T. Bardsley, C. Strong, J. Niermeyer, L. Briefer, T. Kirkham (2015), “Evaluating Sustainability Tradeoffs of Integrated Urban Water Resources Management Alternatives.” 2015 UCOWR/NIWR/CUAHSI Conference, 16-18 June, Las Vegas, Nevada.
13. **Goharian, E.,** Burian, S.J., (2015), “Using Joint Probability Distribution to Develop a Water Supply System Performance Index.” 2015 World Environmental and Water Resources Congress, 17-21 May, Austin, Texas.
14. **Goharian, E.,** Burian, S.J., et al. (2015), “Sustainability Evaluation of Decentralized Urban Water Infrastructure Using Systems Modeling.” 2015 World Environmental and Water Resources Congress, 17-21 May, Austin, Texas. (Poster)
15. **Goharian, E.,** Burian, S.J. (2015), “A New Metric Integrating Flooding and Water Shortage to Evaluate Vulnerability of Water Systems Subject to Climate Change.” AWRA's 2015 Spring Specialty Conference, March 30 – April 1, 2015, Los Angeles, California.
16. **Goharian, E.,** Lillywhite, J., Burian, S.J. (2015), “Reliability Assessment of Salt Lake City Water Supply System by using a Dynamic- Probabilistic Systems Approach.” AWRA's 2015 Spring Specialty Conference, March 30 – April 1, 2015, Los Angeles, California.
17. **Goharian, E., Burian, S.J.,** T. Bardsley, C. Strong, J. Niermeyer, L. Briefer, T. Kirkham (2015), “Climate Change and Scenario Planning utilizing Integrated Water Resource Management Modeling: Case Study of Salt Lake City.” AWRA's 2015 Spring Specialty Conference, March 30 – April 1, 2015, Los Angeles, California.
18. **Tavakoldavani, H., Goharian, E.,** C. Hansen, H. Tavakol-Davani, S. Burian (2015), “Climate Change Impacts on Green Infrastructure Performance in Toledo.” AWRA's 2015 Spring Specialty Conference, March 30 – April 1, 2015, Los Angeles, California. (Poster)
19. **Goharian, E.,** Buchert, M., Hinners, S., Stoker, P. (2014), “Water Flows through the City: Planning Perspectives.” 8th Annual Salt Lake County Watershed Symposium November 19-21, 2014, Salt Lake City, Utah.
20. **Goharian, E.,** Burian, S.J., Strong. C., Panthail, J.K., York, C., Christensen, L.N., Ryder, A. (2014), “Integrated Water Modeling to Determine Climate and Water Management Impacts on Surface Water Resources.” AWRA Spring Specialty Conference on GIS and Water Resources VIII, May 12 – 14, 2014, Salt Lake City, Utah.
21. **Goharian, E.,** Burian, S., Swain, N. R., Christensen, S. (2014), “Web-Based Reservoirs system Management Tool based on Dynamic Simulation for Water Utilities in Salt Lake City, Utah.” 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon.
22. **Goharian, E.,** Burian, S., Lillywhite, J. (2014), “Using Dynamic Simulation to Support Integrated Water Resources Management in Cities.” 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon.
23. **Burian, S., Goharian, E.,** York, C., Tavakol, H., Feng, Y., Zahmatkesh, Z., Panthail, J. K. (2014), “Climate and Urban Water Management Influences on Water Levels in Farmington Bay near Salt Lake City, Utah.” 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon. (Poster)

24. Zahmatkesh, Z., **Goharian, E.**, Burian, S., Tavakol, H., Karamouz, M., (2014), "A Study of Climate Change Impacts on Urban Runoff in a New York City watershed." 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon.
25. **Panthail, J. K.**, Burian, S., **Goharian, E.**, Houdeshel, D. (2014), "Simulation of the Impact of Urban Air Pollution on Snowmelt Runoff Quantity and Quality in the Parley's Creek Watershed in Salt Lake City, Utah." 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon.
26. Zahmatkesh, Z., **Karamouz, M.**, Nazif, S., **Goharian, E.** (2014), "Coastal Floodplain Mapping and Evaluation Using GIS and HEC-GeoRAS Models" 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon.
27. Zahmatkesh, Z., Tavakol, H., **Burian, S.**, **Goharian, E.**, Karamouz, M. (2014), "Low Impact Development (LID) Implementation to Mitigate Climate Change Impacts on Urban Runoff." 2014 World Environmental and Water Resources Congress, 1-5 Jun, Portland, Oregon.
28. Zahmatkesh, Z., **Karamouz, M.**, **Goharian, E.** (2014), "Climate Change impact on sea level in New York City." 7th International Perspective on Water Resources & the Environment Conference (IPWE 2014), 8-10 January, 2014, Quito, Ecuador.
29. **Goharian, E.**, Burian, S., Bardsley, T., Kirkham, T. (2013), "Evaluating the reliability of a water supply system based on system dynamics modeling: A Case Study of Salt Lake City, Utah." 2013 World Environmental and Water Resources Congress, 19-23 May, Cincinnati, Ohio.
30. **Bardsley, T.**, Burian, S., Strong, C., **Goharian, E.**, Livneh, B., Wood, A., Kirkham, T., Briefer, L., Miller, P. (2013), "Assessing climate change risks to a municipal water supply: A pilot project incorporating downscaled climate projections, operational hydrologic modeling, and a systems planning model." 2013 CPASW Climate Prediction Applications Sciences Workshop, 23-25 April, Logan, Utah.
31. **Bardsley, T.**, Burian, S., Strong, C., **Goharian, E.**, Kirkham, T., Briefer, L., Livneh, B., Wood, A., Miller, P. (2013), "Assessing climate change risks to a municipal water supply: A pilot project incorporating downscaled climate projections, operational hydrologic modeling, and a systems planning model." 2013 Spring Runoff Conference, 9-10 April, Utah State University, Logan, Utah.
32. **Karamouz, M.**, **Goharian, E.**, Nazif, S. (2012), "Development of a Reliability based Dynamic Model of Urban Water Supply System: A Case Study." ASCE-EWRI's 2012 World Environmental & Water Resources Congress, 20-24 May, 2102, Albuquerque, New Mexico.
33. **Karamouz, M.**, Nazif, S., **Goharian, E.**, Barrow, L. (2012), " Projection of Future Bioclimatic Conditions and Water Demand under Climate Change Impacts." ASCE-EWRI's 2012 World Environmental & Water Resources Congress, 20-24 May, 2102, Albuquerque, New Mexico.
34. **Goharian E.**, Tavakoldavani, H., Goharian, D. (2012), "Comparative Study of Artificial Neural Networks in Water Reservoirs Storage Analysis – Case Study." 9th International Congress on Civil Engineering (9ICCE), 8-10 May, 2012, Isfahan, Iran. (Poster)

35. **Goharian E.**, Tavakoldavani, H., Goharian, D. (2012), "Reservoir storage simulation using artificial neural network models – Lar dam." The first international conference on dams and hydropower, 8-9 February, 2012, Tehran, Iran.
36. **Nazif. S.**, Karamouz, M., **Goharian, E.** (2012), " Analysis of Future Hydro-climatic Condition in a Semi-Arid Region: A Case Study." 5th International Perspective on Water Resources & the Environment Conference (IPWE 2012), 5-7 January, 2012, Marrakech, Morocco.
37. Tavakol-davani, H., **Goharian, E.**, **Sahaleh, A. S.** (2011), "Integrated water resources management through scenarios based on using alternative water resources, Case study: Gavkhooni basin." International Conference on Integrated Water Resources Management (IWRM), 12-13 October, 2011, Dresden, Germany.
38. **Tavakol-davani H.**, **Sahaleh, A. S.**, **Goharian, E.** (2011), "Alleviating the Impacts of Climate Change on Water Supply in Arid Areas via Strategies Based on Sustainable Development." ASEAN Australian Engineering Congress, 25-27 July, 2011, Kuching, Malaysia.
39. **Goharian E.**, Tavakol-davani, H., Goharian, D. (2011), "The Most Efficient Artificial Neural Networks for Modeling and Forecasting Water Reservoirs' Storage: Case Study." Second National Conference on Applied Water Resources Research, 18-19 June, 2011, Zanzan Iran. (in Farsi)
40. **Goharian, E.** (2010), "Sustainable Management of Coastal Aquifers." First National Conference of Coastal Water Management, 8-9 December, 2010, Sari, Iran. (in Farsi)
41. **Goharian, E.**, Moghadam, H.R., Raad, M. K. (2008), "Assessment of rough coefficient in flood path." Fourteenth Iranian Student Conference of Civil Engineering, 26-28 August, 2008 Semnan, Iran. (in Farsi)

TECHNICAL REPORTS

1. Burian, S., **Goharian, E.**, et al. (2014), "Jordan River Watershed – Farmington Bay Water Budget Model: A Tool for Integrated Water Resources Management." Jordan River-Farmington Bay Water Quality Council
2. Pomeroy, Ch., **Goharian, E.**, et al. (2013), "Developing Stormwater Management Model of Red Butte Creek between Reservoir and Foothill." iUtah Project, Utah EPSCoR reporting.

BOOK CHAPTERS

- Chapter 6: Surface Water Hydrology. *Hydrology and Hydroclimatology: Principles and Applications* by M. Karamouz, S. Nazif, & M. Falahi, CRC Press, 2012.
- Chapter 8: Time Series Analysis. *Hydrology and Hydroclimatology: Principles and Applications* by M. Karamouz, S. Nazif, & M. Falahi, CRC Press, 2012.
- Chapter 9: Water Resources Management in Iran. *Water Resources Management Throughout the World*, by E. O. Vieira et al., Springer, *In prep.*

- Chapter 11: Water Management in the Colorado River Basin and Rocky Mountain West. *Water Resources Management Throughout the World*, by E. O. Vieira et al., Springer, *In prep.*

INVITED TALKS & PANEL DISCUSSIONS

- Panelist: “Role of Managing Headwater, Forestry Practices, and Reservoirs for Groundwater Management” 25th Groundwater Resources Association (GRA) Annual Meeting, Concord, CA, 28 Sep. 2016.
- Panelist: “Implementing California’s New Groundwater Law: Research & Policy Insights for the Central Valley.” 2nd International Groundwater Conference, San Francisco, CA, 27 Jun. 2016.
- Panelist: “What needs & components of water accounting in California should be addressed & how to integrate them.” Connecting to Water Decision Making Session, UC Water Annual Meeting, Santa Cruz, CA, 2 Jun. 2016.
- Presentation: “How I work with my data? Data Management Planning.” Connecting to Water Decision Making Annual Meeting, UC Santa Cruz, 1 Jun. 2016.
- Guest lecture: “Integrated Water Resource Management of Great Salt Lake.” Hydrotopia course, University of Utah, 30 Sep. 2015.
- Presentation: “Use of GoldSim to Model and Simulate the Integrated Urban Water Systems.” San Francisco Public Utilities, 23 Apr. 2015.
- Presentation: “Salt Lake City Integrated Water Resources Management (SLC-IWRM) Tool.” Salt Lake City Public Utilities, 27 Jun. 2015.
- Workshop: “Integrated Water Resource Modeling and Management.” iUTAH Coupled Modeling Workshop, 25 Feb. 2015.
- Panelist: “Water Flows through the City: Planning Perspectives.” Panel on water issues from a city planning perspective, Salt Lake County 8th annual Watershed Symposium, Salt Lake City, UT, 19 Nov. 2014.
- Outreach: “Integrated Water Modeling for Urban Water Management.” CI-WATER Summer Institute, 27 Jun. 2013.
- Presentation: “Integrated Climate-Water Modeling.” CI-Water All-Hands Meeting, Salt Lake City, UT, 20 Oct. 2013.
- Presentation: “Choosing STEM to Solve Real-World Problems.” CI-Water All-Hands Meeting, Salt Lake City, UT, 19 Oct. 2013

MEMBERSHIPS AND PROFESSIONAL SERVICE

- Journal Manuscript Reviewer: **Nature:** *Scientific Reports*, **ASCE:** *Water Resources Planning and Management*, *Journal of Hydrologic Engineering*. **Springer:** *Water Resources Management*, *Natural Hazards*. **Elsevier:** *Sustainable Cities and Society*.
- Control Group Member, EWRI International Participation Committee (ASCE/EWRI) (2014-present):

- Develop the Mission and Vision Statement of IPC
 - Coordinate international aspects of the EWRI conferences
- International Track Chair, EWRI World Environmental & Water Resource Congress (2017-present):
 - Selecting list of reviewers, reviewing abstracts and session proposals, and selecting full papers for the conference proceeding.
 - Moderating 3 sessions and a panel discussion at the EWRI World Environmental & Water Resource Congresses.
 - Member of the Scientific Committee, *1st International Conference on Climate Change*, Feb. 2017, Tehran, Iran.
 - Active Member, Technical Committee of Integrated Water Resources Management - American Water Resources Association (AWRA) (2014-present):
 - Extensive collaboration with researchers to share IWRM examples, ideas, methods, lessons learned, and direction for advancement of IWRM
 - Associate Member, American Society of Civil Engineers (ASCE)
 - Active Member, American Geophysical Union (AGU)
 - Active Member, Student Advisory Committee (SAC) – University of Utah (2014-2015):
 - Promoting department activities and student organizations
 - Coordinating course evaluations and community outreach activities
 - Organizing Committee Member, *1st International Conference on Climate Change*, Tehran, Iran (2017)
 - Award Committee member, Postdoctoral Research Symposium, University of California, Davis (2016-present)
 - Board Member, Student Scientific Association of Ferdowsi University of Mashhad (2009-2010)
 - Member, American Water Work Association (AWWA), Water Environment Federation (WEF), and International Association of Hydrologic Sciences (IAHS)

SOFTWARE

To obtain any of these toolboxes/software, please email egoharian@ucdavis.edu

- Joint Probability and Copula Package to estimate Water System Performance Index (WSPI)
- Salt Lake City - Integrated Water Resources Management Model
- Combined Change Factor Climate Downscaling Package

GRADUATE ADVISEE AND MENTEES

Graduate students' mentorship:

- **Ahmed Rafique**, Master, University of Utah, 2015-present
- **Leila Rahimi**, PhD, University of Tabriz, 2017-present
- **Mohammad Azizipour**, PhD, University of California, Davis, 2016-2017.
- **Carly Hansesn**, PhD, University of Utah, 2014-2016.
- **Hessam Tavakol-davani**, Master, University of Utah, 2015-2016.
- **Chris York**, Master, University of Utah, 2013-2015.
- **Nadia Jannath Nishu**, Master, University of Utah, 2015-2016.
- **Giovanni M.R. Santos**, Undergraduate, University of Utah, 2015.
- **Debadrita Das**, Undergraduate, University of Utah, 2014.

RESEARCH TEAM LEADERSHIP

- **Project Leader**, UC Water Integrated Modeling and Management of Water Resource Systems Team (University of California, Davis)
- **Research Director**, U.S.-Pakistan Centers for Advanced Studies in Water (USPCAS-W) Research Team
- **Project Leader**, Farmington Bay Water Balance Study Team (University of Utah)
- **Project Leader**, Access to Data and Computationally Intensive Modeling Team, CI-Water Project
- **Project Leader**, Participatory Research Team University of Utah and Salt Lake City Department of Public Utilities
- **Collaborator**, GoldSim Technology Group (*to test their new software plugin – Water flow module*)
- **Co-Director of Urban Water Group of University of Utah** (*in absence of directors*)
- **Team Leader**, Water-Energy-Food Nexus Research Group (University of Utah)
- **Team Leader**, Integrated Water Resource Management and System Analysis Research Group (University of Utah)

PROFESSIONAL SKILLS

- **System (Dynamics) Modeling Software:** GoldSim, Stella.
- **Water Modeling and Management Software:** WEAP, SWMM.
- **Hydrologic Modeling:** HBV, Hec-Hms, PRMS, SRM, HSPF.
- **Hydraulics and Network Modeling:** Hec-Ras, EPANET.
- **Climate Change:** Lars, SDSM.
- **Programming:** MATLAB, Python, R, Visual Basic, Shell Programing.

- **Databases:** MS Access, MySQL, Sqlight.
- **Other Engineering Software:** Lingo, Expert Choice, Auto Cad.

LANGUAGE COMPETENCIES

- Professional working proficiency in English / Native fluency in Persian (Farsi)

MEDIA AND NEWS ARTICLES

- Application of GoldSim in the areas of water resource management:
 - <https://en.wikipedia.org/wiki/GoldSim>
 - <http://blog.goldsim.com/2015/04/american-water-resources-association.html>
- UC Water post-doc earns top honors at UC Davis Research Symposium:
 - <http://ucwater.org/news/uc-water-post-doc-earns-top-honors-uc-davis-research-symposium>
- Choosing STEM to Solve Real-World Problems:
 - <https://www.youtube.com/watch?v=4FzKJF6rldU>
- Outreach, Contributors from the 2013 CI-Water Teacher Summer Institute
 - <http://learn.genetics.utah.edu/content/earth/credits/>
- iUTAH partners with the Salt Lake County Watershed Symposium
 - http://iutahepscor.org/news_article.php?aid=110
- Innovative Hydroinformatics course unites engineers at three campuses:
 - <https://ceen.et.byu.edu/content/innovative-hydroinformatics-course-unites-engineers-three-campuses>