HAMED POORSEPAHY-SAMIAN- CURRICULUM VITAE

PERSONAL INFORMATION

17 March 1987
Unit 5, No. 6, Adabi Alley, Roodaki Street,Tehran, Iran
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Iranian
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SUMMARY

My research interests include basin hydrology, water resources modelling and application of optimization techniques in optimal operation of water resources systems.

WORK EXPERIENCE

2023- ongoing **Project Manager–** Dezab Consultancy Co.
Project: Updating the water balance of Great Karoon Basin for the 1999-2019 period
Responsibilities:

- Estimating water balance components including Hydroclimatological water balance, groundwater balance, surfacewater balance and general water balance based on national water balance guidelines in 42 catchments in Great Karoon Basin
- Preparing the corresponding reports of basin water balance for 42 catchments in Great Karoon Basin
- Consulting the company about the project related issues

2023- ongoing **Senior Expert on Water Resources Studies-** Agriculture and Water National Strategic Research Center (AWNRC)- Tehran, Iran

2022- ongoing **Research Associate-** Water Institute, University of Tehran- Tehran, Iran
Project: A Novel Software for Water Balance Modelling
Project supervisor: Dr. Banafsheh Zahraie, Dr. Mohsen Nasseri.

2022 - ongoing **Research Consultant and MSc Students Co-Supervisor**- University of Tehran, Civil Engineering Department, College of Engineering, Tehran, Iran
Advisor and consultant on multiple MSc dissertations

2022- ongoing **Consultant and Project Supervisor –** Sefidrood Consultancy Co.
Project: Updating the water balance of Sefidrood Basin for the 1999-2019 period
Responsibilities:

- Supervision on project staff
- Educating team staff
- Consulting the company about the project-related issues
- Reviewing the water balance reports

2022 **Project Manager:** Agriculture and Water National Strategic Research Center (AWNRC)- Tehran, Iran
Project title: The Status of Water Resources in Eastern Iran
Project Details: Evaluation of water resources status in eastern provinces in Iran including the impacts of climate change on the trend of climatological parameters, change in water extractions, groundwater storage decline, surface/ground water quality and proposing appropriate adaptation measures based on the water status

2018-2021 **Research Associate-** Water Institute, University of Tehran- Tehran, Iran
Project: Technical Evaluation of National Water Balance Guidelines and Development of New Guideline

- Project supervisor: Dr. Banafsheh Zahraie, Dr Mohsen Nasseri.

2016-2018 **Research Assistant-** Water Institute, University of Tehran- Tehran, Iran
Project: Climate Change Impacts on Development Master Plans in Garmsiri, Sirvan, Karoon and Karkheh Basins
Project supervisor: Dr. Banafsheh Zahraie.

2015-2017 **Research Assistant-** Water Institute, University of Tehran- Tehran, Iran
Project: Impact Evaluation of 2015 Cloud Seeding Projects in Iran
Project supervisor: Dr. Banafsheh Zahraie.

2016-2018 **Course Instructor-** Water Institute, University of Tehran- Tehran, Iran

- Course Title:
  - An Introduction to Matlab

2012 **Course Instructor-** Department of Civil Engineering, Payam-Noor University of Iran- Ardabil, Iran

- Courses:
  - Statics
  - Road Construction
  - Rural Building Utilities

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EDUCATION

2012 - 2018 **Doctor of Philosophy "Water Engineering"-** University of Tehran, Civil Engineering Department, College Of Engineering, Tehran, Iran
Project: Optimal Stochastic Operation of Multi-Reservoir Multi-Purpose Hydropower Systems
Supervisor: Dr. Banafsheh Zahraie

2009 - 2012 **Master of Science "Water Engineering"-** University of *Tehran, Civil Engineering Department, College Of Engineering, Tehran*, *Iran*
Dissertation "Water Quantity and Quality Management in Shared Rivers: Application of Game Theory"
Supervisor: Dr. Reza Kerachian.

2005 - 2009 **Bachelor of Science "Civil Engineering"-** Department of Civil Engineering, Urmia University of Iran

HONORS

2012 Ranked 1st among MSc. students in water engineering, University of Tehran, Iran

2009 Ranked 2nd among bachelor students in civil engineering, Urmia University, Iran

ACADEMIC PUBLICATIONS

2022 **Hamed Poorsepahy-Samian**, Banafsheh Zahraie,, Mohsen Nasseri, Neda Dolatabadi, Maryam Khodadadi, Semi-Distributed Water Balance Modeling Using Budyko Hypothesis, Land Information, and Hydroclimatic Data with Various Time Scales, Hydrological Sciences Journal 67, no. 33 (2022): 2042: 2063. https://www.tandfonline.com/doi/abs/10.1080/02626667.2022.2124873.

2021 Mohsen Nasseri, Banafsheh Zahraie, **Hamed Poorsepahy Samian,** Maryam Khodadadi, Neda Dolatabadi. (2021). 'Evaluation of Empirical Methods to Estimate Streamflow in Ungauged Basins (Case Study: the Sefidroud Watershed)', Geography and Environmental Planning, 32(1), pp. 1-24. doi: 10.22108/gep.2021.125717.1369 (in Persian): https://gep.ui.ac.ir/article_25447.html?lang=en.

2021 Banafsheh Zahraie, **Hamed Poorsepahy Samian**, Mosen Nasseri, S. Mahmood Taheri, Statistical Evaluation of Cloud Seeding Operations in Central Plateau of Iran in the 2015 Water Year, Journal of the Earth and Space Physics, Volume 47, No. 1 (2021): 187-203. (In Persian): https://jesphys.ut.ac.ir/article_79585.html?lang=en.

2021 Mercede Taheri, Mohsen Gholizadeh, Mohsen Nasseri, Banafsheh Zahraie, **Hamed Poorsepahy-Samian**, Vahid Spanmanesh, Performance Evaluation of Various Evapotranspiration Modelling Scenarios based on METRIC Method and Climatic Indexes, Environmental Monitoring and Assessment 193, no. 3 (2021): 1-18: https://link.springer.com/article/10.1007/s10661-020-08840-y.
Farnaz sadeghi, Hamed Poorsepahy-Samian, Banafsheh Zahraie, Saeed Jamali, "Developing operation policies using stochastic dual dynamic programming with markov uncertainty modelling," Iran Water Resources Research, Vol. 14, No. 2, (2018): 198–211, (in Persian): https://sid.ir/paper/100337/en.

2016 **Hamed Poorsepahy-Samian**, Vahid Espanmanesh, and Banafsheh Zahraie. "Improved inflow modeling in stochastic dual dynamic programming." Journal of Water Resources Planning and Management 142, no. 12 (2016): 04016065.

2013 Mohammad Reza Nikoo, Akbar Karimi, Reza Kerachian, **Hamed Poorsepahy-Samian**, and Farhang Daneshmand. "Rules for optimal operation of reservoir-river-groundwater systems considering water quality targets: application of M5P model." Water resources management 27, no. 8 (2013): 2771-2784: https://ascelibrary.org/doi/abs/10.1061/%28ASCE%29WR.1943-5452.0000713.

2012 Mohammad Reza Nikoo, Reza Kerachian, and **Hamed Poorsepahy-Samian.** "An interval parameter model for cooperative inter-basin water resources allocation considering the water quality issues." Water resources management 26, no. 11 (2012): 3329-3343: https://link.springer.com/article/10.1007/s11269-012-0074-5.

2012 **Hamed Poorsepahy-Samian**, Reza Kerachian, and Mohammad Reza Nikoo. "Water and pollution discharge permit allocation to agricultural zones: application of game theory and min-max regret analysis." Water resources management 26, no. 14 (2012): 4241-4257: https://link.springer.com/article/10.1007/s11269-012-0142-x.

IN PREPARATION/SUBMITTED

2022 Sajad Sabouri, Banafsheh Zahraie, **Hamed Poorsepahy-Samian**, Enhancement of water balance modelling accuracy using a flexible Budyko function generator, Journal of Hydrology: Regional studies (Under review)

CONFERENCE CONTRIBUTIONS

2022 **Hamed Poorsepahy-Samian**, Banafsheh Zahraie, Mohsen Nasseri, Semi-Distributed Modelling of surface and groundwater balance based on demand-supply framework, National Conference on Applied Solutions for Technical Issues in Water Balance Estimation, 2022, Tehran, Iran

2022 Neda Dolatabadi, Mohsen Nasseri, Banafsheh Zahraie, **Hamed Poorsepahy-Samian**, Regional distribution of temperature based on remote sensing products and Google Earth Engine, National Conference on Applied Solutions for Technical Issues in Water Balance Estimation, 2022, Tehran, Iran

2017 Banafsheh Zahraie, **Hamed Poorsepahy-Samian**, Saeed Jamali, Bahareh Noroozi and Mohsen Nasseri. "Climate Change Adaptation in Multi-Reservoir Systems through Revising Operation Policies" 4th International Conference on LongTerm Behaviour and Evironmentally Friendly Rehabilitation Technologies of Dams, 17-19 October 2017, Tehran, Iran.

2017 Vahid Sharifian, **Hamed Poorsepahy-Samian**, Banafsheh Zahraie, Yousef Hasanzadeh, Optimization framework of multi-purpose hydropower reservoirs design and operation: Application of SDDP, Challenges and Engineering & Management Solutions of Urmia Lake, 2017, Tabriz, Iran.

2017 Vahid Sharifian, **Hamed Poorsepahy-Samian**, Banafsheh Zahraie, Yousef Hasanzadeh, Climate change impacts on hydropower systems in Karoon and Dez rivers, Challenges and Engineering & Management Solutions of Urmia Lake, 2017, Tabriz, Iran.

2016 Amir Kabiri, Banafsheh Zahraie, **Hamed Poorsepahy-Samian**, Modelling the time-series of clearance price in Iran power market: Application of ARMA-GARCH model, 6th National conference on water resources management, Sanandaj, Iran.

2015 Farnaz Sadeghi, Banafsheh Zahraie, **Hamed Poorsepahy-Samian,** Application of stochastic dual dynamic programming with Markov chain in optimization of mid-term operation of Karoon multi-reservoir hydropower system, 1st national conference on sustainable development in energy, water and environmental systems, 2015, Tehran, Iran.

2015 Vahid Espanmanesh, **Hamed Poorsepahy-Samian**, Banafsheh Zahraie, Mid-term Operation optimization of multi-reservoir hydropower systems under hydrologic uncertainty and nonconvex hydropower generation function: A Case study, 8th National congress on civil engineering, 2015, Babol Nooshirvani University of Technology, Iran.

2015 Vahid Espanmanesh, **Hamed Poorsepahy-Samian**, Banafsheh Zahraie, Marginal value of water in multi-reservoir multi-purpose hydropower-agricultural systems under hydrologic uncertainty: A Case study, 2nd National conference on water crisis, 2015, Shahr-e kord, Iran.

2015 Amir Kabiri, Banafsheh Zahraie, **Hamed Poorsepahy-Samian,** Stochastic optimization of hydropower producers' bidding in power markets: Case study of Karoon hydropower system, 10th National congress on civil engineering, 2015, Tabriz, Iran.

2015 Vahid Espanmanesh, **Hamed Poorsepahy-Samian,** Banafsheh Zahraie, Application of SDDP in optimization of mid-term operation of Karoon multi-reservoir hydropower system, 10th National congress on civil engineering, 2015, Tabriz, Iran.

2014 **Hamed Poorsepahy-Samian,** Vahid Espanmanesh, Banafsheh Zahraie, Mid-term operation optimization of multi-reservoir hydropower systems taking into account the hourly fluctuations of power price, 5th National conference on water resources management, 2015, Tehran, Iran.

2014 Vahid Espmanmanesh, **Hamed Poorsepahy-Samian**, Banafsheh Zahraie, Mid-term operation management of large water resources systems under stochastic hydrologic conditions: Application of SDDP, 6th conference of watershed, soil and water resources management, 2014, Kerman, Iran.

2014 Banafsheh Zahraie, **Hamed Poorsepahy-Samian**. "Optimal Operation of Multi-Reservoir Hydropower Systems under Climate Change Scenarios" World Water Week, 31 August-5 September 2014, Stockholm, Sweden

2011 **Hamed Poorsepahy-Samian,** Reza Kerachian, Water allocation in shared rivers: Application of game theory, 6th National congress on civil engineering, 2011, Semnan, Iran.

2011 **Hamed Poorsepahy-Samian,** Reza Kerachan, A Linear approximation of agricultural production in condition of irrigation deficiency for optimization of water allocation to agricultural users, 3rd Natioanl conference on irrigation and drainage networks management, 2011, Ahwaz, Iran.

2011 **Hamed Poorsepahy-Samian**, Reza Kerachian, Water allocation to agricultural users: application of irrigation deficiency and game theory, 3rd National conference on irrigation and drainage networks management, 2011. Ahwaz, Iran.

2011 Reza Kerachian, Siamak Malakpour-Estelaki, **Hamed Poorsepahy-Samian**. "An Evolutionary Game Theoretic Approach for River Water Quality Management." 4th International Perspective on Water Resources and the Environment, January 4-6, 2011, Singapore.

COURSES AND CERTIFICATES

2021 Google Earth Engine, IHE Delft Institute for Water Education

2020 QGIS for Hydrological Applications, IHE Delft Institute for Water Education

2020 Use of FAO Water Portal- Water Accounting, IHE Delft Institute for Water Education

INTERVIEWS

2016 IRIB Radio Eqtesad (National radio on economy & business)- http://radioeqtesad.ir/newsdetails/?m=094103&n=206145
Subject: Cloud seeding: A drought adaptation measure

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TECHNICAL SKILLS

- MATLAB: Advanced
- SPSS (Intermediate)
- R (Intermediate)
- Python (Intermediate)
- Fortran (Intermediate)
- GIS software: ArcMap, QGIS, GIS operations in MATLAB and Python (Advanced)
- Optimization techniques: Genetic Algorithm, Stochastic Dual Dynamic Programming, Linear Programming, Shuffled Complex Evolution (Advanced)
- Remote Sensing: SEBAL and Metric techniques, Google Earth Engine, FAO WaPOR (Intermediate)

LANGUAGES

▪ English	Intermediate
▪ Turkish	Mother tongue
▪ Farsi/Persian	Mother tongue