ARYA CHAVOSHI

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Education

2016-2021 **Bachelor of Civil Engineering, Sharif University of Technology, *Tehran, Iran***

- GPA of the last two years: **17.36/20 (3.76/4.0)**
- Total GPA: 15.66/20 (3.1/4.0)
- Selected courses:

Reliability, Risk and Resilience of Infrastructures 20/20
Water and Wastewater Engineering 18/20
Principle of Sustainability in Infrastructures 17.2/20
Engineering Mathematics 18.2/20
Engineering Economics 17.5/20
Project and Construction Management 17.4/20
Hydrology 15.4/20
Environmental Engineering 15.5/20

2012-2016 **High School Diploma in Physics and Mathematics, Emam Sadegh Private high school**, ***Isfahan, Iran***

- Cumulative GPA: 19.45/20 (4.0/4.0)

Research Articles and Presentations

1. Chavoshi, Arya, and Mohammad Danesh-Yazdi. 2022. "Quantifying the Uncertainty of Lake-Groundwater Interaction Using the Forward Uncertainty Propagation Framework: The Case of Lake Urmia." *Journal of Hydrology* 610 (July): 127878. https://doi.org/10.1016/j.jhydrol.2022.127878.
2. Chavoshi, Arya. and Danesh-Yazdi, Mohammad Danesh-Yazdi., "A Probabilistic Framework to Estimate Lake-Groundwater Interaction", AGU Fall 2021 meeting, p. 848, 2021.

Research Experiences

Feb2020-Jan 2021 **Research Assistant, Sharif University of Technology, Tehran**

BSc thesis Title: Quantifying the Uncertainty of Lake-Groundwater Interaction Using the Forward Uncertainty Propagation Framework: The Case of Lake Urmia (published in **The Journal of Hydrology**)-(presented in **AGU Fall 2021 meeting**)

Supervised by: Dr. M.Danesh-Yazdi

Outcomes:

I. Developing a **general Python program** to model the bathymetry of lakes and the relationship between lakes stored volume, surface area and water elevation.

II. Conducting **bias analysis** to select the best evaporation model among four estimation methods

III. Coupling **stochastic time series generator** (Stochastic weather generator) with **Latin-Hypercube sampling** to quantify water budget components' uncertainty

IV. Preparing the **original draft**, **visualizing** the results, Conducting **calculations**, and **software analysis,** and **Data compilation**

Feb 2020 – Nov2020 **Research Assistant, Sharif University of Technology**

Title of project: Calibration of Iranian Seismic Code for Optimizing Detailed Risk based on FEMA-P58 Framework

Supervised by: Dr. M. Mahsuli

Outcomes:

I. Preparing and presenting research results in weekly group meetings and plan improvements based on critical feedback, in addition to active listening and offering crucial suggestions for other members as well

II. Optimizing Iranian seismic code based on **detailed risk analysis** via FEMA-P58 framework

III. Designing an archetype with six different base shear coefficients via ETABS software

IV. Performing various computer programs such as MATLAB, OpenSees and PACT to assess the performance of buildings based on regional seismic evaluation and IDA analysis results

Tests

TOEFL (November 28, 2021) : **Overall 111;** Reading 29, Listening 29, Speaking 26, Writing 27

Research Interests

- Water resilience
- Hydrometeorology
- Probabilistic modelling of complex and interconnected environmental systems
- Risk analysis based on Reliabilty methods
- Water quality modelling using numerical simulations

Skills

- Strong knowledge in Probabilistic Modeling and Risk Evaluation of Complex Systems
- Strong mathematical knowledge in complex calculus, partial differential equations' analytical solutions and Statistics
- Programming Languages: Python (Jupyter Notebook, Anaconda Data Science Package), MATLAB
- Water distribution network softwares: WaterGems, EPANET