

Masoud Montazeri Namin

Date of Birth: 25 Feb. 1958

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Specialty

Water and Hydro-Environmental Analyst.

EDUCATION

PhD Degree of Civil Eng. (Environmental Hydrodynamics)
Cardiff School of Engineering, Cardiff University, UK, 1999 - 2003

MSc Degree of Hydraulic Engineering, International
Institute for Hydraulic & Environmental Engineering (IHE) ,
Delft, The Netherland, 1986 – 1988

BS Degree of Civil Engineering Iran University of Science
and Technology, Tehran, Iran, 1976-1984

LANGUAGE

Farsi : Excellent

English: Excellent

Azari : Excellent (only oral)

EMPLOYMENT AND WORK EXPERIENCE

Academic Staff Member, At University of Tehran 2005-Date
Responsibilities:

- Design proper materials for lectures and provide them for graduate and undergraduate students.
- Supervision of MSc and PhD research Projects.
- Conducting University based research and study for industry.

Head, University of Tehran Water Institute . 2019-Date
Responsibilities:

- Managing the Institute
- coordinating the different University schools for their involvement in water related multi-task research and special engineering projects.

Director General, NAMROOD knowledge based Company. 2004-date

Responsibilities:

- Managing the Company
- Providing hydraulic & environmental special and technical services for global engineering studies.
- Simulating groundwater, river and coastal hydrodynamics.
- Developing required numerical models for the services.

1990-1998

Director General, "Water Research Centre", Ministry of Energy

Responsibilities:

- Conducting all water related Ministry's research; activities, including:
- Simulation of hydraulic behavior of large hydraulic structures by scale models;
- General studies in River & Coastal Engineering;
- Water resources management;
- Field Investigation & Measurements;
- Numerical Model Developments.

1991-1996

Member of Board of Directors of "Water Resources Research Company" (TAMAB); Ministry of Energy

Responsibilities:

- Conducting water related basic research;
- Providing guidelines to improve the quality and quantity of water resources using advance technique;
- knowledge exchange between national and international organizations for water resource planning.

1994-1995

Manager, Bureau of Standards for water Industry, Ministry of Energy

Responsibilities:

- Preparation of recommendations, guidelines and standards for many water related studies and manufactured instruments.

1995-1997

General Secretary of the Iranian Committee Of Large Dams (IRCOLD)

Responsibilities:

- Organizing workshops, conferences and IRCOLD technical committees' meetings;
- Arranging technical tours, visiting dam sites and hydropower facilities;
- Providing research and professional excellence;
- Establishing a technical database and information services to the professionals.

1984-1990

In charge of division of Computational Hydraulics, Water Research Centre, Ministry of Jihad for Construction.

Responsibilities:

- River, Coastal and Ground Water related model studies and model developments.

2014-2019

Head of Board of Directors of "Iranian Hydraulic

Association" (IHA). (A Non-Governmental Organization)

Responsibilities:

- Involvement in special Hydraulic & environmental related professional problems;
- Arrangement for lectures, workshops & conferences;
- Publication of Journals, newsletters and other scientific materials;
- Providing hydraulic & environmental special and technical services for global engineering studies;
- Establishing a technical database and information services to the professionals;
- Cooperation with other related associations.

2018-Date

Head of Board of Directors of Water Sciences

Associations Union. (A Non-Governmental Organization)

Responsibilities:

- Coordination of activities of more than 12 water related scientific associations;
- Providing the base to response to the multiple task industry professional requirement.

MAIN PROJECTS

Project Title: Development of Persian Model for Ocean Dynamics- Design and Establishment of the Vessel Arrival/Departure DSS Module (PMO-SHADES) at Iranian ports.

Period:2018-date

Client: Port & Maritime Organization (Iran)

Country/Region: Iran / Main Iranian Ports

Position: Supervisor and coordinator of different code developing sections.

Summary of assignment: To have an automated operation system for port managers in the Iranian ports, the client asked to design and develop a WEB based software which is able to forecast the wind conditions, the wave conditions, water levels and currents (due to tide and wind setup) for up to 72 hours along the approach channel and based on these predicted parameters and after simulating the ship movement in the same condition, the minimum distance of any specific ship between itself and the seabed while moving along the channel has to be determined and reported online. The main engine is PMODYnamics (to be explained in the next row). More information at (<https://pmoshades.com/>)

Project Title: Development of a Hydrodynamic and Environmental software to simulate different coastal

problems. (PMODynamics)

Period:2005-2015

Client: Port & Maritime Organization (Iran)

Country/Region: Iran

Position: Modeler & Head of code developer team.

Summary of assignment: The client decided to prepare a software to be as an alternative to the well-known international coastal hydro-environmental software that the legal access of which has always been difficult. PMODynamics developed to simulate the wave created by any wind condition and water levels and currents due to tide and wind setup. The main environmental parameters such as sediment transport have also been included. Many different mesh layout (i.e. regular, unstructured and curvilinear) have been implemented to ease any geometry in horizontal 2 - dimensional conditions.

Project Title: Study and review of scenarios for resolving salinity problem of Gotvand dam reservoir and proposing the best solution.

Period:2014-2015

Client: Planning and Budget Organization (PBO)

Country/Region: Iran/ Khoozestan Province

Position: Member of Committee of Strategy and Head of Modelling team

Summary of assignment: There was many engineering remedy proposed by different organization or persons for Gotvand Salinity problem. PBO has asked Water Institute to review all ideas and propose the best solution before they allocate any budget to the problem. Water Institute organized many different expert groups in the fields of Environment, Agriculture, Water Resources, Structures, Soil Mechanics, Geology, Hydraulics ,..., and cooperating with all probable stack holders came out with two the best scenarios. To reach to this point many different scenarios have to be simulated hydraulically and environmentally while the behavior of the source of salt had to be formulated and modelled.

Project Title: Simulation and prediction of salt distribution in Gotvand dam reservoir for different salt outlet scenarios

Period: 2018-date

Client: Water & Power Resources Development Company/ Ministry of Energy / Iran

Country/Region: Iran/ Khoozestan Province

Position: Project Manager, Modeler

Summary of assignment: Following the previously mentioned study, Ministry of Energy was ordered to conduct the detailed study to for the two best selected scenarios, hydrodynamic and salt distribution of which was the main body of the mentioned study. The client on behalf of Ministry of Energy asked Water Institute to provide some more detailed information and predictions on how the discharge of salt may change in time from its source and what are the parameters influencing on that source changes. The reaction of the reservoir also was the aim on the simulations on various operation plans.

Project Title: Development of Hydraulic-based Rainfall-runoff model

Period: 2005 - 2009

Client/Finance: PhD Thesis (University of Tehran, School of Civil Engineering)

Country/Region: Iran

Position: Supervisor

Summary of assignment: Having the proper experiences in developing model in the river networks system, some part of the rainfall on the ground of small watersheds penetrates underground (one part of the research) and the rest flows on that area to reach to the nearest branch of the river branch system with lowest order. This part was simulated by a proper 2-D horizontal flow model while in the river branch system. The one-D flow in the complicated branches was applied to get the flood hydrograph at any desired section. (second part of the research). An applicable algorithm was also proposed the get the branches and their orders by a DEM from the topography of the concerned area. The outcome was a hydrograph in a specific section by providing the rainfall time series and its distribution in space of the overall watershed. All soil properties, land uses and area topography had also to be introduced.

Project Title: Development of NAMROOD-Dam Break software.

Period: 2003-2005

Client/Finance: Self Supported by NAMROOD

Country/Region: Iran

Position: Modeler and coordinator

Summary of assignment: In most of river modelling cases, it was noticed that once the flow in the river runs out of the main section, flow does not behave as a one-D

flow any more. Applying a 2-D model for this type of the case was too far from an efficient simulation method. A combined 1-D and 2-D model was the best choice to benefit the advantages of both in their proper field of application. NAMROOD put lots of effort to make the mentioned combined model using high-accurate numerical methods and unstructured mesh to be employed in any non-regular geometry condition.

Project Title: Simulation of Dam Break hydrodynamic for all major dam in Khoozestan province and design of related Emergency Action Plan (EAI)

Period: 2004-2006

Client/Finance: Water & Power Resources Development Company/ Ministry of Energy / Iran

Country/Region: Iran / Khoozestan

Position: In charge of the modelling team

Summary of assignment: For all the major dams in Khoozestan, the behavior of their reservoir and the flood created by any scenarios of dam failure its distribution in downstream were simulated. The previously mentioned 1-D 2-D NAMROOD-Dam Break was the major tool for these simulations. This model had been used several times by the client (by the same team) to urgent simulation of the natural floods or the ones which created by release of water from the emergency outlets or spillways.

MEMBERSHIP

- Member of Water Commission, Iranian National Research Council (1992-1998).
- Head of the student association of IAHR in Cardiff University, 2001 – 2003
- Member of the IAHR, 2003 – 2007
- Iran Water and Wastewater Association (IWWA) 2018-date

PUBLICATIONS

- RS Ghazanfari-Hashemi, MM Namin, M Ghaeini-Hessaroezeh, A Numerical Study on Three-Dimensionality and Turbulence in Supercritical Bend Flow, (2020), International Journal of Civil Engineering 18 (3), 381-391
- A Nasrollahi, AAS Neyshabouri, G Ahmadi, MM Namin, Numerical simulation of incipient particle motion, (2020), International Journal of Sediment Research 35 (1), 1-14
- L Farrokhpour, MM Namin, M Eskandari-Ghadi, A 2D vertical model for simulating surface and subsurface flows using finite element–finite volume methods, (2019), Journal of Hydroinformatics 21 (5), 761-780
- M Masoud, R Pawlowicz, MM Namin, Low frequency variations in currents on the southern continental shelf of the Caspian Sea, (2019), Dynamics of Atmospheres and Oceans 87, 101095

- M Zabihi, S Mazaheri, MM Namin, Experimental hydrodynamic investigation of a fixed offshore Oscillating Water Column device, (2019), *Applied Ocean Research* 85, 20-33
- M Zabihi, S Mazaheri, MM Namin, Numerical Validation of Experimental Tests Conducted on a Fixed Offshore Oscillating Water Column, (2019), *International Journal of Coastal and Offshore Engineering* 2 (4), 1-8
- F Behrangi, MA Banihashemi, MM Namin, A Bohluly, A new approach to solve mixture multi-phase flow model using time splitting projection method, (2019), *Progress in Computational Fluid Dynamics, an International Journal* 19
- N Shokri, MM Namin, J Farhoudi, A 3D unstructured triangular numerical algorithm for simultaneous effects of fluid density variation and water table gradient in saturated porous media, (2019), *Journal of hydrology* 568, 479-491
- M Zabihi, S Mazaheri, M Montazeri Namin, Experimental Study of Wave Spectrum Type Impact on Inner Chamber Fluctuation, Pressure and Reflection of OWC Device, (2018), *International Journal of Coastal and Offshore Engineering* 2 (3), 19-27
- A Mohseni-Bandpei, S Motesaddi, M Eslamizadeh, M Rafiee, M Nasser, Water quality assessment of the most important dam (Latyan dam) in Tehran, Iran, (2018), *Environmental Science and Pollution Research* 25 (29), 29227-29239
- N Shokri, MM Namin, J Farhoudi, A three-dimensional non-hydrostatic coupled model for free surface–Subsurface variable–Density flows, (2018), *Journal of contaminant hydrology* 216, 38-49
- N Shokri, M Montazeri Namin, J Farhoudi, An implicit 2D hydrodynamic numerical model for free surface–subsurface coupled flow problems, (2018), *International Journal for Numerical Methods in Fluids* 87 (7), 343-357
- F Behrangi, MA Banihashemi, MM Namin, A Bohluly, FGA-MMF method for the simulation of two-phase flows, (2018), *Engineering Computations*
- A Bohluly, FS Esfahani, MM Namin, F Chegini, Evaluation of wind induced currents modeling along the Southern Caspian Sea, (2018), *Continental Shelf Research* 153, 50-63
- Z Hashemi Aslani, MH Niksokhan, M Montazeri Namin, Assessment of the potential of harnessing tidal energy in the Khowr-e Musa estuary in the Persian Gulf, (2017), *Environmental Energy and Economic Research* 1 (1), 15-22
- MM Namin, A Bohluly, FS Esfahani, Tidal current modeling of the Caspian Sea using PMODynamics, (2016), 15th Iranian Hydraulic Conference
- H Ahmadi, MM Namin, F Kilanehei, Development a numerical model of flow and contaminant transport in layered soils, (2016), *Advances in environmental research* 5 (4), 263-282
- M Montazeri Namin, Numerical simulation of wave interaction with oscillating water column in one dimension, (2015), *Journal Of Marine Engineering* 10 (20), 61-68
- E Jafarzadeh, SA Ayyoubzadeh, M Montazeri Namin, A Bouhloly, Simulation of Sediment Transport behind Anzali Breakwater with the purpose of Comparison of Iranian PMO Dynamics Software and MIKE 21, (2015), *Journal Of Marine Engineering* 10 (20), 39-49
- SH Sahebalzamani, M Montazeri Namin, Numerical simulation of wave interaction with one oscillating water column in two dimensional vertical plane, (2014), *Journal Of Marine Engineering* 9 (18), 13-21
- N Irvani, M Montazeri Namin, Numerical Simulation of Wave Interaction with Porous Seawall in Two Dimensional Vertical Plane, (2013), *Journal Of Marine Engineering* 9 (17), 15-26
- H Akbari, MM Namin, Moving particle method for modeling wave interaction with porous structures, (2013), *Coastal engineering* 74, 59-73
- K Aghajanloo, MD Pirooz, MM Namin, Numerical simulation of oil spill behavior in the Persian Gulf, (2013), *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH (IJER)* 7 (1), 81-96
- F Chegini, MM Namin, A new approach to solving Poisson system for free surface nonhydrostatic flow simulations, (2012), *International journal for numerical methods in fluids* 70 (5), 562-577
- B Bayat, SJ Mousavi, MM Namin, Optimization–simulation for short-term reservoir operation under flooding conditions, (2011), *Journal of Water Supply: Research and Technology—AQUA* 60 (7), 434-447
- M Ghaeini-Hessaroeiyeh, A Tahershamsi, MM Namin, Numerical modelling of supercritical flow in rectangular chute bends, (2011), *Journal of hydraulic research* 49 (5), 685-688
- A Nasrollahi, SAA Salehi Neyshabouri, G Ahmadi, MM Namin, Numerical simulation of particle saltation process, (2008), *Particulate Science and Technology* 26 (6), 529-550