

# SAEED MOGHIMI

Ph.D. , Eng.

## PERSONAL INFORMATION

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**Name:** Saeed Moghimi

**Date of Birth:** September 23 , 1974

**Place of Birth:** Arak - Iran

**Address:** Physical Oceanography and Instrumentation Section,  
Leibniz Institute for Baltic Sea Research, Seestraße 15,  
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## EDUCATIONAL RECORDS

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**B.Sc.** Civil Eng, Isfahan University of Technology, Isfahan, Iran, 1996.

**M.Sc.** Civil Eng- Hydraulic Structures, Tarbiat Modarres University, Tehran, Iran, 1998.

**Ph.D.** Civil Eng- Coastal Hydraulics, Tarbiat Modarres University, Tehran, Iran, 2005.

## TEACHING EXPERIENCES

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1. Hydrodynamics, Graduate Course.
2. Wave theories, Graduate Course.
3. Computational Fluid Dynamics I, Graduate Course.
4. Coastal Engineering, Graduate Course.
5. River Engineering, Graduate Course.
6. Storm water management systems, Graduate Course.
7. Open channel hydraulics, Under Graduate Course.
8. Fluid Mechanics, Under Graduate Course.
9. Hydraulic Structures, Under Graduate Course.

## RESEARCH INTERESTS

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- Wave-current interactions
- Coupled models system
- Regional weather and wave prediction models
- Marine hydrodynamic and transport processes

## LIST OF PUBLICATIONS

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#### **A) Articles in journals**

- Moghimi, S., Gayer, G., Guenther, H., Shafieefar, M., 2005, Application of 3rd Generation Shallow Water Wave Models in a Tidal Environment, *Ocean Dynamics* (2005) 55: pp10–27.
- Application of 3D Coastal Ocean Models Including Different Wind Waves Coupling Approaches, Moghimi, S., Graewe, U., Klingbeil, K., Burchard, H., 2011, In final preparations.

#### **B) Published contributions to academic conferences**

- Moghimi, S., Aghakoochak, A.; 1998, Numerical Solution of the Diffraction of Regular Waves and Investigation of the Effects of Wave Irregularity ,3rd International Conference of Coasts , Ports and Marine Structure , Amir Kabir Univ. , Tehran, Iran, pp: 221-229. (Farsi)
- Moghimi, S., 2000, An investigation on National Regulation of Coastal Area Management and Planning, The First National conference on Integrated Coastal Zone Management of Iranian Coasts, Port & Shipping Organization, Tehran, Iran, pp: 42-53. (Farsi)
- Moghimi, S., Hamed, A., Mirmousavi, B., 2001, Sea level evaluation using joint probability method to combine Wave, surge and tide effects, The first conference of lake Urmia sustainable development, University of Urmia, Urmia, Iran, pp: 66 of book of abstract + full paper on CD. (Farsi)
- Moghimi, S., Montaseri, H., Shafieefar, H., 2003, Application of a 3rd generation wave model in Caspian Sea managed using GIS platform, the 4th Iranian Hydraulic Conference, Shiraz, Iran, pp: 703-711. (Farsi)
- Valizadeh, A., Shafieefar, M., Moghimi, S., 2003, Application of a moving land-water boundary method in fully implicit shallow water equation model in Urmia lake, the 4th Iranian Hydraulic Conference, Shiraz, Iran, pp: 547-554. (Farsi)
- Moghimi, S., Gayer, G., Guenther, H., Shafieefar, M., 2005, Effects of different wave conditions on SPM distribution patterns in highly variable tidal environments, *Coastal Dynamics 2005*, Barcelona, Spain, pp: 108-109 of book of abstract + full paper on CD.
- Moghimi, S., Shafieefar, M., Gayer, G., 2006, Linear wind input activation rule on wave generation process in semi enclosed bays, 7<sup>th</sup> International Conference on Coasts, Ports and Marine Structures, Tehran, Iran, pp 17 of book of abstract + full paper on CD.
- Moghimi, S., Shafieefar, M., Khosronejad, A., 2007, Evaluation of the effect of causeway construction on Urmia lake fresh water circulation, Thirty second conference of IAHR , Venice, Italy, pp 255 of book of abstract + full paper on CD.
- Khosronejad, A., Renny, C., Moghimi, S., 2007, Three-dimensional numerical modeling of flow field in. flushing process, Thirty second conference of IAHR, Venice, Italy, pp 432 of book of abstract + full paper on CD.
- Khosronejad, A., Renny, C., Moghimi, S., 2007, Application of Intelligent system of ANN to predict the scour process in coastal engineering, RCEM 2007, University of Twente, Neatherland.

- Moghimi, S., Guenther, H., Khosronejad, A., 2008, Effects of Presence of Waves on Shallow Estuaries Hydrodynamics, 8th International Conference on Hydro-Science and Engineering, ICHE2008, NAGOYA, JAPAN, pp 579-580 of book of abstract + full paper on CD.
- Khosronejad, A., Moghimi, S., 2008, Qualitative Analysis of Sediment Entering into Power Tunnels Using a Sophisticated 3D Numerical Model; Case Study: Dez Dam, 8th International Conference on Hydro-Science and Engineering, ICHE2008, NAGOYA, JAPAN, pp 95-96 of book of abstract + full paper on CD.
- Moghimi, S., Doustar, M.F., Behrens, A., 2008, Evaluation of Different OpenMP-Oriented Implementations for the Wave Model WAM Cycle 4.5, The Sixth International Conference on Engineering Computational Technology, Athens, Greece, On CD: ISBN: 978-1-905088-25-6.
- Moghimi, S., Najafi, A., 2008, Needs for Establishment of Caspian Sea International Data Center, International Conference of Marine Data and Information Systems- IMDIS2008, Athens, Greece.
- Moghimi, S., Qaeni, H., Alemi, O., 2009, Developing wave forecasting system for Caspian Sea using Parallel processing technology, International workshop on integrated coastal zone management, Izmir, Turkey.
- Moghimi, S., Shafieefar, M., Guenther, H., 2010, Dynamical Coupling of a Spectral Wave Model and a 3D Hydrodynamic Model in Highly Variable Tidal Environment, Jonsmod2010, Deltares, Delft, The Netherlands.
- Moghimi, S., Alemi, O., Dalvandi, B., 2010, Met-ocean forecasting system, CLIMA2010, Humboldt University, Berlin, Germany.
- Moghimi, S., Graewe, U., Burchard, H., 2010, An investigation of three dimensional hydrodynamics of semi-enclosed tidal basin including wind waves effects, 15<sup>th</sup> Physics of Estuaries and Coastal Seas (PECS) conference, Colombo, Sri Lanka.

## COMPLETED RESEARCH PROJECTS

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1. Operational Wind and Wave Prediction System Using Parallel Processing Methods, National Project Funded Jointly by Ministry of Science, Research and technology and Iran Meteorology organization, Tehran, Iran, 2008-2009 (~= 42000 EU).
2. Environment Impact assessment of Arak City wastewater treatment plant outfall on Water body of Meighan Wetland, Research office of Department of Environment of Markazi Province, Arak, Iran, 2008-2009 (~= 13300 EU).
3. Regional NWP model for Arak region, 2008-2009, Research Deputy of Arak University, Arak, Iran(~= 8500 EU).
4. Application of Different OpenMP strategies in 3rd generation wave modeling, Research Department of Iran Meteorology organization, Tehran, Iran, 2007-2008(~= 9700 EU).
5. Spectral 3<sup>rd</sup> generation wave model Development, 2006, Office of Research and standards,

Ministry of Energy.

6. Coastal hydrodynamics modeling through GIS, 2005, Office of Research and standards, Ministry of Energy.
7. Numerical modeling of storm surge phenomenon, 2004, Office of Research and standards, Ministry of Energy.

## AWARDS AND HONORS

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- **Alexander von Humboldt Foundation research fellowship award**, 2009-2011, Institute for Baltic Sea Research, Rostock, Germany.
- **Visiting Researcher Scholarship**, Department of Coupled Models, Institute for Coastal Research, GKSS Research Center, Geestacht, Germany, 2003-2004.
- **Scholarship for Graduate Studies** (Ph.D.) from Ministry of Science, Research and Technology of Iran, 2001-2004
- **Ranked The First Student in Ph.D entrance exam.**
- **Ranked the first student in Ph.D.**
- **Ranked Student in M.Sc.**
- **Ranked Student in B.Sc.**

## GRADUATE WORK EXPERIENCES

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*Numerical Solution of The Diffraction of Regular Waves in ports and Investigation of the Effect of Waves Irregularity*, 1998, M.Sc. Thesis ,Civil Eng. Department of Tarbiat Modares University, Tehran, Iran.

*Dynamical Coupling of a Spectral wave model and a Storm Surge model in Shallow water zone*, 2005, Ph.D. Thesis, Civil Eng. Department of Tarbiat Modares, Tehran, Iran.

## PROFESSIONAL EXPERIENCES

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**Alexander von Humboldt post-doctoral fellowship** at Physical Oceanography and Instrumentation Section, Leibniz Institute for Baltic Sea Research, Rostock, Germany (2009-Date).

Title: *Consistent coupling of wave and turbulence models for reproducing the wave-current bottom-boundary layer in shallow coastal ocean.*

**Director of University and Industries Collaboration office**, Arak University, (2008-2009).

**Head of Department of Civil Engineering**, Faculty of Engineering, Arak University (2006-2008).

**Assistant Professor of Department of Civil Engineering**, Faculty of Engineering, Arak University (2005- 2009).

**Graduate Research Assistant**, Water Engineering Research Center (WERC), Tarbiat Modares University (2004-2005).

**GKSS Research Center, Germany**

(Institute of coastal research, KSD, Coupled Models Group), (Dec.2003-Aug.2004).

**Graduate Research Assistant**, Water Engineering Research Center (WERC), Tarbiat Modares University (2002-2003).

**River & Coastal Engineering Office**, Ministry of Energy (1998-2003).  
Part time collaboration with shoreline protection division.

**Sazeh Pardazi Iran Consultant Engineers** (2000-2001).

**Visiting lecturer**, Imam Ali University, (1998-1999).  
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## **MEMBERSHIP OF SCIENTIFIC SOCIETIES**

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- Member of International Association of Hydraulic Engineering and Research (IAHR)
- Member of American Society of Civil Engineers (ASCE)
- Member of American Geophysical Union (AGU)
- Member of Iranian society of Civil Engineers (ICE)
- Member of Iranian Hydraulic Association (IHA)

## **COMPUTER SKILLS**

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**Operating Systems**

Linux, Windows, DOS

**Open source softwares**

*Regional Meteo Models:* HRM2.2

*Wave Models:* WAM, K-model, SWAN

*3D ocean models:* GETM, TRIM3D (Parallel version)

*Post-processing:* Python, GRADS, Matlab

*MPI tools:* Scalasca, TAU, Vampir, Totalview, Eclipse

**Commercial softwares**

*MIKE 21 & MIKE3 (HD, BW, AD and NSW)*

*ArcView GIS, TecPlot*

*Fluent & Gambit*

*TAPM (The Air Pollution Model)*

**Programming Languages**

*Fortran90/95, MPIF90,Python*  
*C & C++*  
*Linux shell scripts,*

## WORKSHOPS AND TRAINING

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- 7th VI-HPS Tuning Workshop, Optimization Tools for High Productivity Supercomputing, 28th-30th March 2011, HLRS Research Center, Stuttgart university, Germany.
- Message Passing Interface (MPI) for beginners, 10th-11th Oct., 2010, HLRS Research Center, Stuttgart university, Germany.
- Shared memory parallelization with OpenMP, 12th Oct., 2010, HLRS Research Center, Stuttgart university, Germany.
- Advanced topics in parallel programming, 13th-14th Oct., 2010, HLRS Research Center, Stuttgart university, Germany.
- Regional NWP Training Workshop for HRM (High Resolution Model) of the DWD (Deutscher Wetterdienst) in Langen, Germany, 6-17 Aug 2007.

## NAMES AND ADDRESSES OF REFEREES

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- Dr. H. Günther, Helmholtz-Zentrum Geesthacht, Geesthacht, Germany  
(Email: [Heinz.Guenther@hzg.de](mailto:Heinz.Guenther@hzg.de); Phone: +49 (0) 4152 87-1504; Address: Max-Plank-Strasse 1, 21502, Geesthacht, Germany).
- Prof. M. Shafieefar, Civil Engineering Department, Tarbiat Modares University, Tehran, Iran (Email: [shafiee@modares.ac.ir](mailto:shafiee@modares.ac.ir)) Phone: +98 (0)21 8288-3318; Address: Jalal-Al-Ahmad Ave. P.O. Box, 14115-143 Tehran, Iran).
- Dr. Ali Khosronejad, Mathematical modeling and its application in Hydraulic Eng., St. Anthony Falls Lab., University of Minnesota, USA (Email: [akhosron@umn.edu](mailto:akhosron@umn.edu); Phone: +1(0) 612 626-6373; Address: Civil Eng. Dept., University of Minnesota, Minneapolis, 55414 MN, USA ).
- Prof. H. Burchard, Physical Oceanography and Instrumentation Section, Leibniz Institute for Baltic Sea Research, Warnemünde, Germany (Email: [hans.burchard@io-warnemuende.de](mailto:hans.burchard@io-warnemuende.de); Phone: +49 (0) 381 5197-140; Address: Seestraße 15, D-18119 Warnemünde,Germany)