

In the name of GOD

Mohammad Reza Ansari

Professor in Mechanical Engineering



Education:

Ph.D. Mechanical Engineering, 1988, Tsukuba University, Ibaraki-Ken, Japan

M.Sc. Mechanical Engineering, 1978, Victoria University of Manchester, Manchester, England

B.Sc. Physics, 1974, Tabriz University, Tabriz, Iran

Academic Position:

- 2017- present Professor
- 2016 - present Deputy of administrative and financial assistant of faculty of Mechanical Engineering
- 2015- present Member and representative of HSE committee of university
- 2003 - 2017 Associate Professor
- 2003- present Responsible for Multiphase flow Laboratory
- 1992-2003 Head of Energy Conversion Group of Mechanical Engineering Department
- 1990- 2003 Assistant Professor

Research and Employment Experience:

- 1989-1990 Research in Japan Atomic Energy Research Institute (JAERI) in Multiphase Flow, Ibaraki-ken, Japan
- 1989-1989 Research in Tsukuba University on Multiphase Flow Modeling,

Tsukuba, Japan

- 1983-1986 Ministry of Energy, Design section and responsible for commissioning of units No. 1 and 2 of Neka Power Plant, Mazandarn, Iran
- 1980-1983 Ministry of Energy, Head of operation Department and responsible for training engineers, Neka Power Plant, Mazandarn, Iran
- 1979-1980 Research at Central Electricity Generating Board (CEGB), England

- **Published Books:**

- M.R. Ansari, gas Turbine cycle and its application in power generation, Published by Tarbiat Modares University, 2001

- M.R. Ansari, A. Hadidi, A. Davari, Fundamentals of Power Plant, Published by Tarbiat Modares University, 2016

- M.R. Ansari, A. Daramizadeh, P. Adibi, Slug, Published by Tarbiat Modares University, 2018 (Under publication)

- **Translated Book:**

- M.R. Ansari, Gas dynamics aspects of two-phase flow, published by Tarbiat Modares University, 2012 (translated from English version)

- **Published journal articles:**

- N. samkhaniani, M.R. Ansari, 2017, Numerical simulation of superheated vapor bubble rising in stagnant liquid, Heat and Mass Transfer, 53, 2885-2899
- N. Samkhaniani, M. R. Ansari, 2017, The evaluating of the diffuse interface method for phase change simulations using OpenFOAM, Heat Transfer-Asian Research, 46:1173-1203

- A. Mirahky, F. Pavir, M.R. Ansari, 2017, Numerical simulation of the two-phase sloshing with different densities in a 2D rectangular tank under lateral excitement, *Indian Journal of Science and Technology*, vol. 10(1)
- F. Pavir, A. Mirahky, M.R. Ansari, 2016, Numerical investigation baffle position in rectangular tank to reduce sloshing interface between liquid and gas phase, *Indian Journal of Science and Technology*, vol. 9(s1)
- M.R. Ansari, R. Azadi, 2016, Effect of diameter and axial location on upward gas-liquid two-phase flow patterns in intermediate –scale vertical tubes, *Annals of Nuclear Energy*, 94, 530-540
- N. Samkhaniani, M.R. Ansari, 2016, Numerical simulation of bubble condensation using CF-VOF, *Progress in Nuclear Energy*, 89, 120-131
- M.R. Ansari, R. Azadi, E. Salimi, 2016, Capturing of interface topological changes in two-phase gas-liquid flows using a coupled volume-of-fluid and level-set method (VOSET), *Computers and Fluids*, 125, 82-100
- A. Daramizadeh, M.R. Ansari, 2015, Numerical simulation of underwater explosion near air-water free surface using a five-equation reduced model, *Ocean Engineering*, 110, 25-35
- M. Azadi, R. Gheisari, M.R. Ansari, 2014, An experimental investigation on the effect of middle length and inclination angle of S-shaped channel on two-phase flow patterns, *Experimental Thermal and Fluid Science*, 58,36- 47
- M. R. Ansari, R. Gheisari, M. Azadi, 2013, Flow pattern change in horizontal rectangular laterally ribbed ducts through alteration of the ribs thickness and pitch, *International Journal of Multiphase Flow*, 54, 11-21
- M.R. Ansari, A. Daramizadeh, 2013, Numerical simulation of compressible two-phase flow using a diffuse interface method, *International Journal of Heat and Fluid Flow*, 42, 209-223
- M.R. Ansari, A. Daramizadeh, 2012, Slug type hydrodynamic instability analysis using a five equations hyperbolic two-pressure, two-fluid model, *Ocean Engineering*, 52, 1-12
- M.R. Ansari, B. Arzandi, 2012, Two-phase gas-liquid flow regimes for smooth and ribbed rectangular ducts, *International journal of Multiphase Flow*, 38, 118-125

- R. Gheisari, A. Jafarian, M.R. Ansari, 2012, Analytical investigation of compressible oscillation flow in a porous media: A second-order successive approximation technique, *International journal of refrigeration*, 35, 1789-1799
- M.R. Ansari, A. Hadidi, M.E. Nimvari, 2012, Effect of a uniform magnetic field on dielectric two-phase bubbly flows using the level set method, *Journal of Magnetism and Magnetic Materials*, 324, 4094-4101
- M.R. Ansari, N. Ghiasi, 2014, Hydro dynamical instability initiation prediction by hyperbolic model for two-phase stratified flow using spectral method, *International journal for computational methods in engineering science and mechanics*, 13:1, 1-9
- M.R. Ansari, S. Mhammedi, M. Khalaiji Oskouei, 2012, Two-phase gas/liquid flow modeling in 90 bends and its effect on erosion, *Global journal of research in engineering mechanical and mechanics engineering*, 12, 35-44
- M.R. Ansari, M.E. Nimvari, 2011, Bubble viscosity effect on internal circulation within the bubble rising due to buoyancy using the level set method, *Annals of Nuclear Energy*, 38, 2770-2778
- M.R. Ansari, R.D. Firouz-Abadi, M. Ghasemi, 2011, Two-phase modal analysis of nonlinear sloshing in a rectangular container, *Ocean Engineering*, 38, 1277-1282
- M.R. Ansari, R. Marzooghi, 2011, Spatial reactor dynamics and thermo hydraulic behavior simulation of a large AGR nuclear power reactor in response to a reactivity change disturbance, *Energy and Power Engineering*, 3, 366-375
- M.R. Ansari, N. Ghiasi, 2011, Hydro dynamical instability initiation in two-phase stratified flow using spectral method, *Communication nonlinear science numerical simulation*, 16, 741-751
- M.R. Ansari, V. Shokri, 2011, Numerical modeling of slug flow initiation in a horizontal channels using a two-fluid model, *International journal of Heat and Fluid Flow*, 32, 145-155
- M.R. Ansari, V. Shokri, 2007, New Algorithm for numerical simulation of two-phase stratified gas-liquid flow and its application for analyzing the Kelvin-Helmholtz instability criterion with respect to wave length effect, *Nuclear Engineering and Design*, 237, 2302-2310
- M.R. Ansari, V. Mortazavi, 2007, Transient response of a co-current heat exchanger to an inlet temperature variation with time using an analytical and numerical solution, *Numerical Heat Transfer*, 52, 1, 71-85

- M.R. Ansari, A. Eskandari Sani, 2007, Surface tension effect on stability of two-phase stratified flow, Fluid Dynamic Research, 39, 279-291
- M.R. Ansari, V. Mortazavi, 2006, Simulation of dynamical response of a countercurrent heat exchanger to inlet temperature or mass flow rate change, Journal of Applied Thermal Engineering, 26, 17-18, 2401-2408
- M.R. Ansari, 2004, Effect of pressure on two-phase stratified flow modeling, Journal of Nuclear Science and technology, 41, 7, 709-714
- M.R. Ansari, 2000, Wave length effect on Kelvin-Helmholtz instability criterion in two-phase stratified flow, Journal of Science and Technology, 24, 3
- M.R. Ansari, 1998, Numerical analysis for slugging of steam-water stratified two-phase flow in horizontal duct, Journal of Fluid Dynamics Research, 22(6), 329-344
- M.R. Ansari, H. Nariai, 1989, Experimental investigation and slugging of air-water stratified flow in horizontal duct, Journal of Nuclear Science and Technology, 26, 7

- Journal articles in Persian (more than 50) and conference articles in English and Persian (more than 100) not listed here.

- **Teaching Interests:**

- Power station design
- Gas turbine and combined cycles
- Nuclear power stations
- Advanced thermodynamics
- Energy and exergy
- Renewable energies
- Multiphase Flow
- Two-phase flow modeling

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- **Research project supervisor:**

- 5 kw wind turbine generator (Iran)
- Gas turbine cycle efficiency improvement (Iran)
- Hydraulic instability for Kurang No. 3 channel (Iran)
- Temperature drop estimation in helix boiler for Heysham nuclear power station (England)
- Design of multi holes orifices for flow distribution in nuclear power station (England)
- Two-phase flow modeling of ill-posed equations (Japan)
- Well-posed modeling investigation (Japan)

- **Award:**

- First rank award for four years during B.Sc. from Tabriz university

- **Contact:**

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