

CURRICULUM VITAE

PERSONAL

First Name AHMAD-REZA
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Date of Birth 25 May 1955
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EDUCATION AND QUALIFICATIONS

1985 – 1988 PhD: Cranfield Institute of Technology, Bedford, England

Research Topic: *Application of Recess Vaned Casing Treatment to Axial Flow compressors*

1983 - 1985 MSc: The University of Birmingham, Birmingham, England

Research Topic : *Investigation into Rotating Stall*

1973- 1978 BSc: Sharif University of Technology, Tehran, Iran

PROFESSIONAL SOCIETIES

ASME (American Society of Mechanical Engineering)

ISME (Iranian Society of Mechanical Engineering)

EMPLOYMENT RECORD

Teaching at the Department of Mechanical Engineering, Isfahan University of Technology, Isfahan, Iran

(1979-till now)

Part time Teaching at the Department of Mechanical Engineering, Khomeiny shaher Azad University

(2001-till now)

Director of an underwater research center (1989-1991),

Working as consulting engineer for Ministry of water and power,(1991-1993)

Working as a Consultant Engineer at Isfahan Municipal (1993-1994).

Deputy of Education at Mechanical Engineering Department 1999-2001

Director of Post graduate studies at Mechanical Engineering Department, 2001-2002
Fluid Mechanics & Thermodynamic laboratory Manager
Working as a Consultant Engineer at Kimya Iran (2008-2011).

PUBLICATION

a-Journal Papers.

- 1- A.R. Azimian, A.B Mackenzie and R.L. Elder, "A Tip Treatment for Axial Flow Fans and Compressors", Trans. I. Mech. E. London U.K. April 1987.(ISI)
- 2- A.R. Azimian, R.L. Elder and A.B. Mackenzie, "Application of Recess Vaned Casing Treatment to Axial Flow Fans", Trans. of the ASME, Journal of Turbomachinery, Jan. 1990.(ISI)
- 3- A.R. Azimian, "Inviscid Compressible Flow in Meridional plane of an Axial flow Compressor", Esteglal, Journal of Engineering, Isfahan Univ. of Tech. Vol. 15, No.1, Sept. 1996.
- 4- A.R. Azimian, "Aerodynamic Design of a low pressure axial flow compressor", Trans. of the ISME, Iranian Journal of Mechanical Engineering, March 1997.
- 5- A.R. Azimian, "Mechanical design of a low pressure axial flow compressor", Trans. of the ISME, Iranian Journal of Mechanical Engineering, March 1997.
- 6- A.R. Azimian, "Turbulent Flow over Cars", International Journal of Engineering, Iran, Vol. 11, No. 3 Aug. 1998.
- 7- A.R. Azimian, "Off Design Performance Prediction in Jet Engines", Esteglal, Journal of Engineering, Isfahan Univ. of Tech. Vol. 17, No. 1, 1998.
- 8- A.R. Azimian, "Flow analysis, Heat & Mass transfer in a room", International Journal of Engineering, Iran, Vol. 12, No. 3 Aug. 1999.
- 9- A.R. Azimian and S. Mohamadivand, "3-D Flow analysis and Contamination distribution in a room", Journal of Science & Technology Vol. 11, No. 41 Aug. 1999.
- 10- A.R. Azimian and S. Mohamadivand, "Investigation of 3-D Flow in a Chamber", Esteglal, Journal of Engineering, Isfahan Univ. of Tech. Vol. 18, No.2, March 2000.
- 11- P.L.Olauson, A.R. Azimian, M. Assadi "Energy, Economy, Exergy, Thermoeconomy and Environmental Methods an Overview of the field of Application within Power Plant Design" International Journal of Science & Technology, Trabsaction B, Vol. 27, No.B3, Summer 2003.(ISI)
- 12- M.Goodarzy, A.R. Azimian, "Calculation of complicated flows, using first and second-order schemes", International Journal of Engineering, Iran, Vol. 16, No. 3 September 2003.
- 13- A.R. Azimian, J.Arriagada, M. Assadi, "Generation of Steam Tables Using Artificial Neural Networks" International Journal of Heat Transfer Engineering, Vol. 25, No.2, March 2004. (ISI)
- 14- M.Goodarzy, A.R. Azimian, "Numerical Simulation of Free Surface Flows and comparison of the symmetry and real boundary conditions at the free surface", Esteglal, Journal of Engineering, Isfahan Univ. of Tech. Vol. 22, No. 2, March 2004.
- 15- A.R. Azimian, M. Sefid, "Performance of Micro- Channel Heat Sinks with Newtonian and non-Newtonian Fluids", Heat Transfer Engineering, Vol. 25, No. 8, Oct. 2004.(ISI)
- 16- A.R. Azimian, "Laminar Flow analysis in duct bends", Esteglal, Journal of Engineering, Isfahan Univ. of Tech. Vol. 23, No. 2, March 2005.
- 17- M.Goodarzy, A.R. Azimian, "Numerical Modeling for Flow in Open Channel With Surface Tracking Method", Journal of Faculty of Engineering, University of Tabriz. Vol. 31, No. 2, Spring 2005.
- 18- A.R. Azimian, "Effect of Car bodies on Fuel Consumption and Environment" Iranian Journal of Mechanical Engineering, Transaction of the ISME, Vol. 7, No. 1, Aug. 2005.

- 19- A.R. Azimian, "Thermo-economy Analysis of the power cycles", Esteghlal, Journal of Engineering, Isfahan Univ. of Tech. Vol. 24, No. 1, Sep. 2005.
- 20- A.R. Azimian, A.R. Kazeme, "Simulation of a box Annealing Unit", Iron & Steel Society of Iran, Isfahan University of Technology Vol. 2, No. 1, Sep. 2005.
- 21- A.R. Zamani, A. Heemink, A.R. Azimian, D. Solomatine, "Learning from data for wind wave forecasting", Ocean Engineering, Vol. 2, No. 1, April 2008.(ISI)
- 22- A.R. Zamani, A. Heemink, A.R. Azimian, D. Solomatine, "Wave Hight Prediction at Caspian Sea Using Data Driven Model & Ensemble Based Data Assimilation Methods", JOURNAL OF HYDROINFORMATICS, Vol. 2, No. 1, Feb. 2009.(ISI)
- 23- M.A., Badre, A.R. Azimian, " 2D Simulation of Oil spill dispersion in northern Persian Gulf Waters " Trans. of the ISME, Iranian Journal of Mechanical Engineering, Nov. 2008.
- 24- D., Toghraie Semiromi, A.R. Azimian, " Molecular dynamics Simulation of liquid-vapor phase equilibrium by using the modified Lennard-Jones Potential function " Journal of Heat and Mass Transfer Vol. 47, Issue 3, pp. 287-294 December 19, 2009.(ISI)
- 25- M.A., Badre, A.R. Azimian, " An Oil spill model for northern Persian Gulf Waters " Indian Journal of Marine Sciences, June 2010 issue. (ISI)
- 26- A.R. Zamani, A.R. Azimian, A. Heemink, D. Solomatine, "Nonlinear Wave Data Assimilation with an ANN-type wind wave model and Ensemble Kalman filter (EnKF)", Applied Mathematical Modeling Vol. 34 pp. 1984-1999 Oct. 2009.(ISI)
- 27- D., Toghraie Semiromi, A.R. Azimian, " Molecular dynamics Simulation of nonodroplets with the modified Lennard-Jones Potential function " Journal of Heat and Mass Transfer Vol. 49, Issue 3, pp. 267-279 December 19, 2010. (ISI)
- 28- D., Toghraie Semiromi, A.R. Azimian, " Molecular dynamics Simulation of nonodroplets with the Lennard-Jones Potential function " Trans. of the ISME, Iranian Journal of Mechanical Engineering, Sep. 2010.
- 29- D., Toghraie Semiromi, A.R. Azimian, " Annular flow boiling with the modified Lennard-Jones Potential function " " Journal of Heat and Mass Transfer to be printed soon, 2011. (ISI)

b- Conference Papers

- 1- A.R. Azimian, R.L. Elder and A.B. Mackenzie, "Application of Recess Vaned Casing Treatment to Axial Flow Fans", ASME Turbo Expo – Land, Sea & Air, Toronto Ontario Canada, June 5-8, 1989.
- 2- A.R. Azimian, "2-D incompressible-Inviscid flow in Turbomachinery", Proceeding of the Fourth Fluid Dynamics Conference, Oct. 14-16 1996, Tehran Iran.
- 3- A.R. Azimian, "2-D Flow Analysis over car bodies", Proceeding of the Fourth Fluid Dynamics Conference, Oct. 14-16 1996, Tehran Iran.
- 4- A.R. Azimian and S. Mohamadivand, "Analysis of Contamination distribution in a room", Proceeding of the Fifth Fluid Dynamics Conference, August 25-27 1999 Mashhad Iran.
- 5- A.R. Azimian and S. Mohamadivand, "3-D Flow analysis and Heat Transfer in a room", Proceeding of the Fifth Fluid Dynamics Conference, August 25-27 1999 Mashhad Iran.
- 6- A.R. Azimian, "Flow analysis, Heat & Mass transfer in a room", The 8th Asian Congress of fluid mechanics, 1999, Schenzen, China.
- 7- M. Goodarzy, A.R. Azimian, "Mixing of two parallel flows", Proceeding of the Sixth Fluid Dynamics Conference, Oct. 14-16 1999, Tehran Iran.
- 8- A.R. Azimian, M. Goodarzy "Heat Transfer in a Piston Engine and Temperature field", The 10th Mechanical Engineering Conference and ISME Conference 2000, Khajeh Nasir University Tehran, Iran.
- 9- M. Goodarzy, A.R. Azimian, "Numerical Solution of two parallel flows with free surface" The 10th Mechanical Engineering Conference and ISME Conference 2000, Khajeh Nasir University Tehran, Iran.
- 10- M. Goodarzy, A.R. Azimian, "A Modified 2nd order Hybrid scheme" The 9th Asian Congress of fluid mechanics, 2002, Isfahan, Iran.

- 11- M.Goodarzy,A.R. Azimian, "Mixing of two parallel flows with free surface" The 9th Asian Congress of fluid mechanics,2002, Isfahan, Iran.
- 12- A.R. Azimian, P.L.Olauson,M. Assadi "Pre-design studies of cycles with exergy, Thermoeconomy and ELCA Analysis" ASME Turbo Expo-2002, Amsterdams, Netherlands.
- 13- A.R. Azimian, J.Arriagada, M. Assadi "Application oa ANN to generate physical properties of tables of substances" ECOS-2002 Berlin, Germany.
- 14- M.Goodarzy,A.R. Azimian, "Free Surface tracking in open channels using the pressure correction method" The 7th Intenational and 11th Annual Conference of Mechanical Engineering, 13-15 May 2003, Mashhad, Iran.
- 15- A.R. Azimian, M.Goodarzy "Numerical Solution of Laminar Flow in a 90 degree bend" The The 7th Intenational and 11th Annual Conference of Mechanical Engineering, 13-15 May 2003, Mashhad, Iran.
- 16- A.R. Kazemim, A.R. Azimian, " Flow simulation in Annealing Process" Proceeding of the 8th Fluid Dynamics Conference, 8-10 Sep. 2003, Tabriz Iran.
- 17- A. Alavi, A.R. Azimian," Effect of Car bodies on Fuel Consumption and Environment" Proceeding of the 8th Fluid Dynamic Conference, 8-10 Sep. 2003, Tabriz Iran.
- 18- M.Goodarzy, A.R. Azimian," Effect of Various Parameters on the Confluence Flow" Proceeding of the 8th Fluid Dynamics Conference, 8-10 Sep. 2003, Tabriz Iran.
- 19- M.Goodarzy, A.R. Azimian, "A Pressure Correction Based Solver for Free Surface Flows" 2th BSME-ASME Intenational Conference on Thermal Engineering, 2-4 Jan. 2004, Dhaka, Bangladesh.
- 20- A.R. Azimian, M.Goodarzy "Thermal behaviour of a small Engine", Proceeding of the 10th Asian Congress of fluid Mechanics, May, 17-21, 2004, Peradeniya, Sir Lanka.
- 21- A.R. Azimian, A.Noorbakhash "Numerical Solution of Turbulent Flow in pipe joints" The 8th Intenational and 12th Annual Conference of Mechanical Engineering, 18-20 May 2004, Tehran, Iran.
- 22- A.R. Zamani, A.R. Azimian," Wave height perdition in Caspian sea using ANN " The 9th Fluid Dynamics Conference, 7-9 March 2005, Shiraz Iran.
- 23- A.R. Azimian, R. Motamedi," Simulation of a centrifugal pump characteristic using CFD methods" The 9th Fluid Dynamics Conference, 7-9 March 2005, Shiraz Iran.
- 24- A.R. Azimian," Pipe flow calculations using ANN " 13th Annual (International) Conference of Mechanical Engineering, 17-19 May 2005, Isfahan, Iran.
- 25- A.R. Azimian, K. Shams, A. Khojasteh" Simulation of Wind effect on the performance of a dry cooling Tower " 13th Annual (International) Conference of Mechanical Engineering, 17-19 May 2005, Isfahan, Iran.
- 26- A.R. Azimian, A. Ghanbarian," Cooling Analysis of Micro- Channels with non-Newtonian power law Fluids" The 14th Annual (International) Mechanical Engineering Conference, 16-18 May 2006, Isfahan Iran.
- 27- A.R. Azimian, N. Moazemi " Simulation of Single and Two levele Micro-channels " 14th Annual (International) Conference of Mechanical Engineering, 16-18 May 2006, Isfahan, Iran.
- 28- A.R. Azimian,A., Sedaghat, E., Rohalamin, " Simulation of Vortex Flow in a Cyclon " 14th Annual (International) Conference of Mechanical Engineering, 16-18 May 2006, Isfahan, Iran.
- 29- S.A. Akbari, A., Sedaghat, A.R. Azimian, " Computational Flow Separation Control Using Electromagnetic Fields " 14th Annual (International) Conference of Mechanical Engineering, 16-18 May 2006, Isfahan, Iran.
- 30- A.R. Azimian, "Application of Artificial Neural Network in Pipe Flow Calculations", Proceeding of the 11th Asian Congress of fluid Mechanics, May, 22-25, 2006, Kuala Lumpur, Malaysia.

- 31- A.R. Azimian, A. Sedaghat, S.A., Roholamin, " Effect of Geometry on Cyclon Performance " The 10th Fluid Dynamics Conference, 31 Oct.-2 Nov. 2006, Yazd, Iran.
- 32- A.R. Azimian, A. Sedaghat, A.H., Sadre Faridpour, " Centrifugal Fan Characteristic Simulation " The 10th Fluid Dynamics Conference, 31 Oct.-2 Nov. 2006, Yazd, Iran.
- 33- A.R. Azimian, M.A., Badre, M., Molavin Jazi, " Preliminary Simulation of Oil spill diffusion under various parameters " 15th Annual (International) Conference of Mechanical Engineering, 15-17 May 2007, Amir Kabir University Tehran, Iran.
- 34- A.R. Azimian, M., Bayare "Hydrodynamic analysis of unsteady flow past a cylinder " Unsteady Aerodynamics and its application in Aerospace Industries Conference, 19-21 Feb. 2008, Sharif University Tehran, Iran.
- 35- M.A., Badre, A.R. Azimian, " An Oil spill model for northern Persian gulf Waters " 12th Asian (International) Congress of Fluid Mechanics , 18-21 August 2008, Daejeon Korea.
- 36- D., Toghraie, A.R. Azimian, " Numerical study of 2-D non-Newtonian Flow " 12th Asian (International) Congress of Fluid Mechanics , 18-21 August 2008, Daejeon Korea.
- 37- M.A., Badre, A.R. Azimian, " Oil spill modeling on the water surface " The 11th Fluid Dynamics Conference, 7-9 June 2008, Tehran, Iran.
- 38- M.A., Badre, A.R. Azimian, " Creation of a data base for oil spill modeling at the Northern Persian Gulf Waters, " The 11th Fluid Dynamics Conference, 7-9 June 2008, Tehran, Iran.
- 39- A.R. Zamani, A.R. Azimian, " Data assimilation in wave modeling in Caspian sea" The 8th International coast lines, ports and offshore structures Conference, 4th Jan. 2008, Tehran Iran.
- 40- A.R. Zamani, A.R. Azimian, " Application of I.T. in wind and wave modeling in Caspian sea" The 8th International coast lines, ports and offshore structures Conference, 4th Jan. 2008, Tehran Iran.
- 41- A.R., Zamani, A.R. Azimian, " Machine Learning for local wind-wave modeling at Caspian Sea, " The 11th Fluid Dynamics Conference, 7-9 June 2008, Tehran, Iran.
- 42- S.A., Feghhe, A.R. Azimian, " Cooling Tower , " The 1st National Mechanical Engineering Conference, 20-21 Nov. 2008, Esfahan, Iran.
- 43- R., Jalilvand, A.R. Azimian, "Effect of Control Surfaces on the Propeller Performance "The 1st National Mechanical Engineering Conference, 20-21 Nov. 2008, Esfahan, Iran.
- 44- A.R. Azimian, A. Sedaghat, R. Hasan Zahraie " Effect of parameters affecting heat transfer in plane heat exchangers, " The 1st National Mechanical Engineering Conference, 20-21 Nov. 2008, Esfahan, Iran.
- 45- S. Khanmohamadi, A.R. Azimian, " Effect of Parameter on Thermodynamic and thermoeconomic Performance of steam power plant " 1st power plant Conference, 10-11 March 2009, Ghazvein Iran.
- 46- E. Sadati , M.S. Saidie, A.R. Azimian, A.. Asiaban, " Cooling Tower , " The 12th Fluid Dynamics Conference, 28-30 April 2009, Baboul, Iran.
- 47- R., Jalilvand, A.R. Azimian, H. ghaseme, "Effect of Control Surfaces on the Propeller Performance "12th Fluid Dynamics Conference, 28-30 April 2009, Baboul, Iran.
- 48- D., Toghraie, A.R. Azimian, " Effect of parameters affecting heat transfer in plane heat exchangers, " 12th Fluid Dynamics Conference, 28-30 April 2009, Baboul, Iran.
- 49- D., Toghraie, A.R. Azimian, " Turbulent non-Newtonian Flow between two parallel plates" 17th Annual (International) Congress on Mechanical Engineering , 19-21 May 2009, Tehran Iran.
- 50- S. Khanmohamadi, A.R. Azimian, " Effect of Parameter on Thermodynamic and thermoeconomic Performance of steam power plant " 17th Annual (International) Congress on Mechanical Engineering , 19-21 May 2009, Tehran Iran.
- 51- M. Masoudi., A.R. Azimian, " developing Slip flow in Rectangular microchannels and constant temperature boundary condition, " 17th Annual (International) Congress on Mechanical Engineering , 19-21 May 2009, Tehran Iran.
- 52- A., Asiaban, M.S. Saidie, A.R. Azimian, E. Sadati " Machine Learning for local wind-wave modeling at Caspian Sea, " 17th Annual (International) Congress on Mechanical Engineering , 19-21 May 2009, Tehran Iran.

c- Books

The Following books are translated from English to Persian.

- 1- Computational Fluid Dynamics, Vol.1, A.R. Azimian, 1996, Isfahan Univ. of Tech. Press.
- 2- Computational Fluid Dynamics, Vol.2, A.R. Azimian, 1998, Isfahan Univ. of Tech. Press.
- 3- Fundamentals of Thermodynamics, 5th ed., Vol.1, A.R. Azimian, 1998, Jahad Daneshgahi Press.
- 4- Fundamentals of Thermodynamics, 5th ed., Vol.2, A.R. Azimian, 1999, Jahad Daneshgahi Press.
- 5- Hydraulic Machines, Theory and Design, A.R. Azimian, Jahad Daneshgahi Press, 2002
- 6- Fundamentals of Thermodynamics, 6th ed., A.R. Azimian, 2005, Jahad Daneshgahi Press.
- 7- Fluid Mechanics, Fundamentals and applications, Vol. 1, A.R. Azimian And D Toghraie, 2009, Isfahan Univ. of Tech. Press.
- 7- Fluid Mechanic Lab's Instruction Manual, A.R. Azimian, 1996, Isfahan Univ. of Tech. Press.

Cources Taught

1. Graduate courses:

Advanced Fluid Mechanics,

Gas Dynamics,

Gas Turbines

2. Undergraduate courses:

Fluid Mechanics I &II,

Thermodynamics I &II,

Gas Dynamics,

Turbomachinery,

Gas Turbines,

CFD,

Heat Transfer,

Hydraulic Machines

Fuid Mech. Lab.