CURRICULUM VITAE
Mohammad Hassan Kayhani
Professor
Faculty of Mechanical Engineering
Shahrood University of Technology
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EDUCATION:

Ph.D. Mechanical Engineering, Czech Technical University in Prague, Czech, 1999.
Concentration: Combustion, Heat transfer, CFD
Dissertation: Numerical Simulation of Pulverized Coal Combustion in 3-D Geometry.

M.S. Mechanical Engineering, Isfahan University of Technology, Iran, 1988
Concentration: Heat transfer, Two Phase Flow Heat Transfer, Natural Convection.
Thesis: Analytical and Experimental Study of Surface Condenser with Variable Temperature.

B.Sc. Mechanical Engineering, Tabriz University, Iran, 1985
Concentration: Heat transfer, Fluid Mechanics, Combustion.

PROFESSIONAL EXPERIENCE:

Prof.,Associate Prof. and Assistant Prof.. of Mechanical Engineering, Shahrood University of Technology, Iran
Iran, 1999 - present
Visiting Assistant Professor, Semnan University, Iran, 2001-2003
Head of Department of Heat and Fluids, Shahrood University of Technology, Shahrood,
Iran, 2000-2002 and 2006-2011
Teaching Graduate and Undergraduate Courses for 20 Years at Shahrood University and Semnan University.

RESEARCH INTERESTS:

Heat transfer, Heat transfer and fluid flow with phase change, Computational and experimental fluid dynamics, Transport phenomena through porous media, Combustion, Reacting flow.

Ph.D. STUDENTS:

Mahmood Norouzi(2009)
Ali Jalali (2011)
Rasul Mohebbi (2013)
Amin Amiri (2015)
Atena Ghaderi (2017)
Esmaeil Shakeri (2017)
Hosna Shokri(2017)
Kolahdooz (2020)
Zolfagharian(2020)
Masumeh Shariatmadar(2020)

CURRENT Ph.D. Students:

Sheikhian(October 2016-2020)
Mojtaba Ashori(October 2014-2018 Extended)
Ahmadi(Octtober 2017-2021)
Jafarian(October 2017-2021)
Taghipoor(Octtober 2017-2021)

Journal Publication (Last Five Years):

1. M Nazari, MH Kayhani, AA Delouei, G AhmadiApplied An, immersed boundary-lattice Boltzmann method combined with a robust lattice spring model for solving flow–structure interaction problems:B Afra Mathematical Modelling 55, 502-521-(2018)
2. H Shokri, MH Kayhani, M Norouzi Saffman–Taylor instability of viscoelastic fluids in anisotropic porous media,International Journal of Mechanical Sciences 135, 1-13-(2018)
3. A Ghaderi, MH Kayhani, M Nazari, K Fallah,Drop formation of ferrofluid at co-flowing microcahnnel under uniform magnetic field,European Journal of Mechanics-B/Fluids 67, 87-96-(2018)
4. E Shakerinejad, MH Kayhani, M Nazari, A Tamayol, Increasing the performance of gas diffusion layer by insertion of small hydrophilic layer in proton-exchange membrane fuel cells,International Journal of Hydrogen Energy-(2017)
5. AK Birjandi, M Norouzi, MH Kayhani,A numerical study on drop formation of viscoelastic liquids using a nonlinear constitutive equation,Meccanica 52 (15), 3593-3613-(2017)
6. H Shokri, MH Kayhani, M Norouzi,Nonlinear simulation and linear stability analysis of viscous fingering instability of viscoelastic liquids,Physics of Fluids 29 (3), 033101-(2017)
7. AA Delouei, M Nazari, MH Kayhani, G Ahmadi, Direct-forcing immersed boundary–non-Newtonian lattice Boltzmann method for transient non-isothermal sedimentation,Journal of Aerosol Science 104, 106-122-(2017)
8. H. Shokri* , M.H. Kayhani, M. Norouzi,A Numerical Study on Miscible Viscoelastic Fingering Instability , Universal Journal of Applied Science 5(2): 5-10, (2017)
9. **MS Nazari, MH Kayhani,A Comparative Solution of Natural Convection in an Open Cavity using Different Boundary Conditions via Lattice Boltzmann Method,Journal of Heat and Mass Transfer Research (JHMTR) 3 (2), 115-129-(2016)**
10. AA Delouei, M Nazari, **MH Kayhani**, SK Kang, S Succi, Non-Newtonian particulate flow simulation: A direct-forcing immersed boundary–lattice Boltzmann approach, Physica A: Statistical Mechanics and its Applications 447, 1-20 – (2016)
11. AA Delouei, M Nazari, **MH Kayhani**, G Ahmadi, A non-Newtonian direct numerical study for stationary and moving objects with various shapes: An immersed boundary–Lattice Boltzmann approach, Journal of Aerosol Science 93, 45-62- (2016)
12. **MH Kayhani**, A Amiri Delouei, Analytical Efficiency Comparison of Multi-Layer Composite Pin Fins under the Different Thermal Boundary Conditions, 13 (43), 0-0 - (2016)
13. AA Delouei, M Nazari, **MH Kayhani**, S Succi, Immersed boundary–thermal lattice Boltzmann methods for non-Newtonian flows over a heated cylinder: a comparative study, Communications in Computational Physics 18 (02), 489-515 - (2015)

14. M Nazari, M Ashouri, **MH Kayhani**, A Tamayol,Experimental study of convective heat transfer of a nanofluid through a pipe filled with metal foam, International Journal of Thermal Sciences 88, 33-39-(2015)
15. M Nazari, H Shokri, **MH Kayhani**,Control of convective heat transfer by changing the right-angle position and the base angle of triangular storages: lattice Boltzmann simulation, Journal of the Brazilian Society of Mechanical Sciences and Engineering-(2015)
16. AA Delouei, M Nazari**, MH Kayhani** ,Non-Newtonian unconfined flow and heat transfer over a heated cylinder using the direct-forcing immersed boundary–thermal lattice Boltzmann method,, S Succi Physical Review E 89 (5), 053312-(2014)
17. M Nazari, R Mohebbi, **MH Kayhani**,Power-law fluid flow and heat transfer in a channel with a built-in porous square cylinder: Lattice Boltzmann simulation, Journal of Non-Newtonian Fluid Mechanics 204, 38-49-(2014)
18. M Nazari, **MH Kayhani**, R Mohebbi,Heat transfer enhancement in a channel partially filled with a porous block: lattice Boltzmann method,International Journal of Modern Physics C 24 (09)-(2013)
19. A Molavi, **MH Kayhani**,Experimental study on the effects of wind break walls on top of the natural dry draft cooling towers,Mechanics 19 (3), 283-287-(2013)
20. A Jalali, MA Hulsen, M Norouzi, **MH Kayhani**,Numerical simulation of 3D viscoelastic developing flow and heat transfer in a rectangular duct with a nonlinear constitutive equation,Korea-Australia Rheology Journal 25 (2), 95-105-(2013)
21. M Nazari**, MH Kayhani**, AAH Bagheri,Comparison of heat transfer in a cavity between vertical and horizontal porous layers using LBMm,Modares MechEngJ13 (8), 93-107-(2013)
22. E Khaje, **MH Kayhani**, M Sadim,Effect of heat generation on natural convection from an impermeable inclined surface embedded in a porous medium,Journal of Porous Media 16 (5)-(2013)
23. M Norouzi, SMR Niya, **MH Kayhani**, M Shariati, MK Demneh, MS Naghavi,Exact solution of unsteady conductive heat transfer in cylindrical composite laminates,Journal of Heat Transfer 134 (10), 101301-(2012)
24. M Norouzi, **MH Kayhani**, AA Delouei, MM Shahmardan, An exact analytical solution for convective heat transfer in rectangular ducts Journal of Zhejiang University SCIENCE A 13 (10), 768-781-(2012)
25. AA Delouei, **MH Kayhani**, M Norouzi,Exact analytical solution of unsteady axi-symmetric conductive heat transfer in cylindrical orthotropic composite laminates,International Journal of Heat and Mass Transfer 55 (15), 4427-4436-(2012)
26. E Shakeri, M Nazari, **MH Kayhani**,Free Convection heat transfer over a vertical cylinder in a saturated porous medium using a local thermal non-equilibrium model,Transport in porous media 93 (3), 453-460-(2012)
27. **MH Kayhani**, H Soltanzadeh, MM Heyhat, M Nazari, F Kowsary,Experimental study of convective heat transfer and pressure drop of TiO 2/water nanofluid,International Communications in Heat and Mass Transfer 39 (3), 456-462-(2012)
28. **MH Kayhani**, M Nazari, H Soltanzadeh, MM Heyhat, F Kowsary ,Experimental analysis of turbulent convective heat transfer and pressure drop of Al2O3/water nanofluid in horizontal tube,Micro & Nano Letters 7 (3), 223-227-(2012)
29. **MH Kayhani**, M Norouzi, AA Delouei ,A general analytical solution for heat conduction in cylindrical multilayer composite laminates,International Journal of Thermal Sciences 52, 73-82-(2012)
30. M Norouzi, MRH Nobari, **MH Kayhani**, F Talebi,Instability investigation of creeping viscoelastic flow in a curved duct with rectangular cross-section,International Journal of Non-Linear Mechanics 47 (1), 14-25-(2012)

31. **MH Kayhani**, M Nazari, E Shakeri,natural convection heat transfer in a porous cavity in the presence of a biochemical heat source which is dependent on solute concentration generation rate,journal of Porous Media 15 (4)-(2012)
32. **MH Kayhani**, M Norouzi, A Amiri-Delouei,Analytical Investigation of Heat Conduction in Graphite-Epoxy Cylindrical Composite Laminates,Mech. & Aerospace Eng. J 8 (2), 31-44-(2012)
33. HZ Mahmood-Abadi**, M Kayhani**, M Rabi, M Reza,A Survey of Knowledge and Attitude of Non-Psychiatrists (Medical Specialists) Treating Major Depression,Thritajournal. com, 30-(2012)
34. N Samkhaniani, A Ajami, **MH Kayhani**, AS Dari,Direct numerical simulation of single bubble rising in viscous stagnant liquid,International Conference on Merchanical, Automobile and Robotics Engineering ,(2012)
35. **MH Kayhani**, M Nazari, E Shakeri,The Effects of Fluid-to-Solid Conductivity Ratio, Rayleigh Number and Interstitial Heat Transfer Coefficient on the TNE Free Convection in a Porous Enclosure,Transport in porous media 87 (2), 625-633-(2011)
36. M Norouzi, **MH Kayhani**, MRH Nobari, F Talebi,Analytical investigation of viscoelastic creeping flow and heat transfer inside a curved rectangular duct,Theoretical Foundations of Chemical Engineering 45 (1), 53-67-(2011)
37. **MH Kayhani**, E Khaje, M Sadi,Natural convection boundary layer along impermeable inclined surfaces embedded in porous medium,Mechanics 17 (1), 64-70-(2011)
38. **MH Kayhani,** AO Abbasi, M Sadi,Study of local thermal nonequilibrium in porous media due to temperature sudden change and heat generation,Mechanics 17 (1), 57-63-(2011)
39. M Norouzi, **MH Kayhani**, MRH Nobari, F Talebi ,A numerical investigation of convective heat transfer of viscoelastic fluid in a curved square duct, Journal of Computational Methods in Engineering, Vol. 29, No. 2, pp. 85–101, (2011).
40. M Norouzi**, MH Kayhani**, MRH Nobari, AA Joneidi,Convective heat transfer for viscoelastic fluid in a curved pipe,Heat and mass transfer 46 (8-9), 975-987-(2010)
41. M Norouzi**, MH Kayhani**, MRH Nobari, AA Joneidi ,Analytical investigation of viscoelastic fluid's time constants on flow in curved pipes, Mechanical and Aerospace Engineering Journal, Vol. 6, No. 1, pp. 41–55, (2010).
42. M Norouzi, **MH Kahyani,**ch Shu, MRH Nobari "An analytical investigation of second order fluidflow inside a curveed circular pipe",International Journal of nonlinear dynamics in engineering and science,Sep.16 th,(2010)
43. M Norouzi, **MH Kayhani**, C Shu, MRH Nobari,Flow of second-order fluid in a curved duct with square cross-section,Journal of Non-Newtonian Fluid Mechanics 165 (7), 323-339-(2010)
44. **MH Kayhani**, M Shariati, M Nourozi, MK Demneh ,Exact solution of conductive heat transfer in cylindrical composite laminate,Heat and mass transfer 46 (1), 83-94-(2009)
45. M Norouzi**, MH Kayhani**, MRH Nobari,Mixed and forced convection of viscoelastic materials in straight duct with rectangular cross section,World Applied Sciences Journal 7 (3), 285-296-(2009)
46. M Norouzi, **MH Kahyani**, MRH Nobari, MK Demneh,Convective heat transfer of viscoelastic flow in a curved duct,World Acad Sci Eng Technol 56, 327-333-(2009)

EXTERNALLY FUNDED PROJECTS:

COMPANY	TITLE	AUTHORS	DURATION
Bargh-E-Mantaghehei (Local Electricity Company)	Combustion Chamber Modeling For Re-powering Power Plant Cycle	Ameri,A., Kayhani,M.H.	2002-2004
Turbo -Generator	I.P. Index Improvement of Electro Motors Using Closed Cooling System	Kayhani,M.H.	2004-2005
Semnan Gas Company	Gas Leakage Modeling and Test of Gas Transfer Lines	Kayhani,M.H., Sedaghat, H.	2005-2006
Saba	Decreasing wind effect On cooling tower Performance	Kayhani,M.H.	2013-2015
Niroo Research Institute	Localization of Modern Techniques for Gas Turbine Blade Cooling		2017