

CURRICULUM VITAE

Abas Ramiar

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FIELDS OF INTEREST

- ❖ Bio-fluid Dynamics (Cell separation, Drug delivery, Cell mechanics)
- ❖ Computational Fluid Dynamics (CFD) (Turbulence Modeling, Multiphase Flow, Nanofluid, Non-newtonian Fluids, Pulsating Flow)
- ❖ Microfluidics and nanofluidics (Microfabrication, Mixing, electrothermal, acoustophoresis, electroosmotic flow, Biphilic surfaces, Microchannel heat transfer and flow)
- ❖ Fuel Cells

EDUCATION

Degree	Field	GPA	University
PhD (2011)	Mechanical engineering- Energy conversion	19/20	University of Mazandaran
MSc (2003)	Mechanical engineering- Energy conversion	16.6/20	University of Mazandaran
BSc (2001)	Mechanical engineering- Heat and Fluids	14.6/20	Isfahan University of Technology

THESES

- ❖ **PhD: “Flow and heat transfer simulation of nanofluids in microchannel”**
A CFD code was developed by fortran, by which three dimensional flow of two phase nanofluid flow in a microchannel could be solved. Lagrangian particle tracing is also added to track the trajectory of individual particles.
- ❖ **MSc: “Calculation of configuration factor between two faces using graphic software”**
A computer program written in VBA was developed that used the hemisphere method to calculate the shape factor between two arbitrary 2-D (region) or 3-D (3dsolid) objects in AutoCAD environment. First and second objects are selected by the user from the AutoCAD screen. Then the program calculates the shape factor and writes the final shape factor in a text file.
- ❖ **BSc: “Design of oil preheater furnace in Isfahan refinery”**

HONORS AND AWARDS

- ❖ Distinguished young researcher of Mechanical department at Babol Noshirvani University of Technology (in 2017)
- ❖ Associate professor of mechanical engineering at Babol Noshirvani University of Technology (2017-present)
- ❖ Deputy of international collaboration at Babol Noshirvani University of technology (2016-2018)
- ❖ Member of “PEM Fuel Cell Research Technology” Group, at Mechanical Engineering Department of Babol Noshirvani University of Technology since 2011, which is a part of “renewable and sustainable energy” research center.
- ❖ First rank of Ph.D. accepted student in faculty of Mechanical Engineering-Energy conversion at University of Mazandaran (2006)
- ❖ First rank of MSc. graduate student in faculty of Mechanical Engineering-Energy conversion at University of Mazandaran (2001)

SOFTWARE SKILLS

- ❖ OpenFOAM
 - ❖ GAMBIT&FLUENT
 - ❖ TECPLOT
 - ❖ Engineering Equation Solver (EES)
 - ❖ Fortran
 - ❖ Microsoft office: Word, Excel, PowerPoint, One Note
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BOOKS

- ❖ Cavitation and supercavitation, **Abas Ramiar**, ISBN: 978-964-8452-57-0, 2008
- ❖ Computational Aerodynamics: FSI in Plasms Actuated Oscillating Airfoil, **Abas Ramiar**, Arash Mahboubidoust, Amirhosein Ghasemi, LAMBERT Academic Publishing, ISBN: 978-613-8-38965-1, 2018

TEACHING EXPERIENCE

2010-present **Babol Noshirvani University of Technology, Babol, Iran**

- Thermodynamics (I , II)- undergraduate level
- Fluid Mechanics (I) - undergraduate level
- Design of Refrigeration systems - undergraduate level
- CFD- undergraduate level

- Direct Energy Conversion- Graduate level
- Advanced CFD- Graduate level
- Boundary Layer- Graduate level
- Viscous flow- Graduate level
- Two Phase Flow - Graduate level

2009-2010 **Islamic Azad University of Ghaemshahr, Babol, Iran**

- Physics (I) - undergraduate level
- Thermodynamics (I , II)- undergraduate level

UNIVERSITY SERVICE

2016-2019 **Deputy of International Collaboration, Babol Noshirvani University of Technology, Babol, Iran**

2016-2019 **Deputy of international campus, Babol Noshirvani University of Technology, Babol, Iran**

2019-present **Head of Thermofluid group, Faculty of Mechanical Engineering, Babol Noshirvani University of Technology, Babol, Iran**

QUALIFICATION AND EXPERIENCE

- ❖ Founder of “Microfluidics and MEMs lab” at Babol Noshirvani University of Technology, 2017.

- ❖ Design and manufacture of a PEM Electrolyzer for hydrogen and oxygen production (2017).
- ❖ Conceptual design and construction of a dead-end H₂/O₂ PEM fuel cell (2 KW) for UUV (2015).
- ❖ Research on the construction of solar cells (2015).
- ❖ Feasibility and conceptual design of using renewable fuel cell system for aerospace applications (2014).
- ❖ The investigation of effective geometric parameters on the current distribution in direct methanol fuel cell (DMFC) using current modeling (2009).
- ❖ Design of engineering software for the investigation of PEM and Methanol fuel cells performance (2006).
- ❖ Research on the cavitation and supercavitation (2005).
- ❖ Hydrodynamic design of the model installation mechanism in a high speed water tunnel (2004).
- ❖ Design of nozzle, test section and diffuser in high speed water tunnel (2004).

WORK EXPERIENCE

- ❖ Faculty member of Babol University of Tecnology (2011-present)
 - ❖ Working in New Energy Group of North Science and Technology Institute (2008-2011)
 - ❖ Working in fuel cell group of Mazandaran University for 4 months.
 - ❖ Working in Tehran Naval Research Group for 20 months.
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SELECTED JOURNAL PUBLICATIONS

- 1- Derakhshan, Reza, **Abas Ramiar**, and Amirhosein Ghasemi. "Numerical investigation into continuous separation of particles and cells in a two-component fluid flow using dielectrophoresis." *Journal of Molecular Liquids* (2020): 113211.
- 2- Khakpour, Arezou, and **Abas Ramiar**. "Numerical Investigation of the Effect of Electrode Arrangement and Geometry on Electrothermal fluid flow Pumping and Mixing in Microchannel." *Chemical Engineering and Processing-Process Intensification* (2020): 107864.
- 3- Ramezanzadeh, Hesam, **Abas Ramiar**, Mahdi Yousefifard, and Mehran Ghasemian. "Numerical analysis of sinusoidal and step pulse velocity effects on an impinging jet quenching process." *Journal of Thermal Analysis and Calorimetry* (2019): 1-19.
- 4- Hosseini, Seyedeh Sahar, **Abas Ramiar**, and Ali Akbar Ranjbar. "The effect of fins shadow on natural convection solar air heater." *International Journal of Thermal Sciences* 142 (2019): 280-294.
- 5- Ghasemian, Mehran, Ali Akbar Ranjbar, and **Abas Ramiar**. "Heat transfer and uniformity enhancement in quenching process of multiple impinging jets with Newtonian and non-Newtonian quenchants." *International Journal of Thermal Sciences* 142 (2019): 220-232.
- 6- Shabani, B., Hafttananian, M., Khamani, S., **Ramiar, A.**, & Ranjbar, A. A. (2019). Poisoning of proton exchange membrane fuel cells by contaminants and impurities: Review of mechanisms, effects, and mitigation strategies. *Journal of Power Sources*, 427, 21-48.
- 7- Shojaei, A., **Ramiar, A.**, & Ghasemi, A. H. (2019). Numerical investigation of the effect of the electrodes bed on the electrothermally induced fluid flow velocity inside a microchannel. *International Journal of Mechanical Sciences*.
- 8- Hedayati, N., **A. Ramiar**, and M. M. Larimi. "Investigating the effect of external uniform magnetic field and temperature gradient on the uniformity of nanoparticles in drug delivery applications." *Journal of Molecular Liquids* 272 (2018): 301-312.
- 9- Larimi, M. M., and **A. Ramiar**. "Two-dimensional bubble rising through quiescent and non-quiescent fluid: Influence on heat transfer and flow behavior." *International Journal of Thermal Sciences* 131 (2018): 58-71.
- 10- Hatami, Mobina, **Abas Ramiar**, and Ali-Akbar Ranjbar. "Numerical assessment of different parameters affecting droplet production in an Electro-Hydrodynamic Flow Focusing Device." *Chemical Engineering and Processing-Process Intensification* 131 (2018): 190-202.
- 11- Yousefi-Lafouraki, Babak, **Abas Ramiar**, and Ali Akbar Ranjbar. "Modeling of two-phase particulate flows in a confined jet with a focus on two-way coupling." *Particuology* 39 (2018): 78-87.
- 12- **Ramiar, A.**, Manavi, S. A., Yousefi-Lafouraki, B., & Valinataj-Bahnemiri, P. (2018). Thermal performance optimization of a sinusoidal wavy channel with different phase shifts using artificial bee colony algorithm. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 40(6), 327.
- 13- Sangtabi, A. R., **Ramiar, A.**, Ranjbar, A. A., Abdollahzadeh, M., & Kianifar, A. (2018). Influence of repetitive laser pulse energy depositions on supersonic flow over a sphere, cone and oblate spheroid. *Aerospace Science and Technology*, 76, 72-81.

- 14- Movahedi, M., **A. Ramiar**, and A. A. Ranjbar. "3D numerical investigation of clamping pressure effect on the performance of proton exchange membrane fuel cell with interdigitated flow field." *Energy* 142 (2018): 617-632.
- 15- Hosseini, Seyedeh Sahar, **Abas Ramiar**, and Ali Akbar Ranjbar. "Numerical investigation of rectangular fin geometry effect on solar chimney." *Energy and Buildings* 155 (2017): 296-307.
- 16- Hosseini, Seyedeh Sahar, **Abas Ramiar**, and Ali Akbar Ranjbar. "Numerical investigation of natural convection solar air heater with different fins shape." *Renewable Energy* (2017).
- 17- Ghasemi, M., **A. Ramiar**, A. A. Ranjbar, and S. M. Rahgoshay. "A numerical study on thermal analysis and cooling flow fields effect on PEMFC performance." *International Journal of Hydrogen Energy* 42, no. 38 (2017): 24319-24337.
- 18- MahboubiDoust, Arash, **Abas Ramiar**, and Morteza Dardel. "Investigation of steady plasma actuation effect on aerodynamic coefficients of oscillating airfoil at low Reynolds number." *Theoretical and Applied Mechanics Letters* (2017).
- 19- Ramezanzadeh, H., **A. Ramiar**, and M. Yousefifard. "Numerical investigation into coolant liquid velocity effect on forced convection quenching process." *Applied Thermal Engineering* 122 (2017): 253-267.
- 20- Alipanah, M., and **A. Ramiar**. "High efficiency micromixing technique using periodic induced charge electroosmotic flow: A numerical study." *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 524 (2017): 53-65.
- 21- Hafttananian, M., **A. Ramiar**, B. Shabani, and A. A. Ranjbar. "Nonlinear algorithm of PEM fuel cell catalyst poisoning progress in the presence of carbon monoxide in anode fuel: A computational study using OpenFOAM." *Electrochimica Acta*(2017).
- 22- Rahgoshay, S. M., A. A. Ranjbar, **A. Ramiar**, and E. Alizadeh. "Thermal Investigation of a PEM Fuel Cell with Cooling Flow Field." *Energy* (2017).
- 23- MahboubiDoust, A., and **A. Ramiar**. "Investigation of DBD plasma actuator effect on the aerodynamic and thermodynamic performance of high solidity Wells turbine." *Renewable Energy* (2017).
- 24- Rahimi-Esbo, M., **A. Ramiar**, A. A. Ranjbar, and E. Alizadeh. "Design, manufacturing, assembling and testing of a transparent PEM fuel cell for investigation of water management and contact resistance at dead-end mode." *International Journal of Hydrogen Energy* 42, no. 16 (2017): 11673-11688.
- 25- Esboee, Mazaher Rahimi, Esmail Abokazempour, **Abas Ramiar**, Amir Arya, Ali Akbar Ranjbar, and Majid Rahgoshay. "Flow and Heat Transfer Investigation of Forced Convection of Nanofluid in a Wavy Channel at Different Wavelengths and Phase Difference." *Boletim da Sociedade Paranaense de Matemática* 36, no. 2 (2017): 137-150.
- 26- Masoomi, Mobin, Mahdi Yousefifard, and **Abas Ramiar**. "Numerical investigation of symmetry and asymmetry rigid wedge slamming using OpenFOAM code." *Modares Mechanical Engineering* 17, no. 7 (2017): 343-352.

- 27- **Ramiar, Abas**, Morsal Momeni Larimi, and Ali Akbar Ranjbar. "Investigation of blood flow rheology using second-grade viscoelastic model (Phan-Thien–Tanner) within carotid artery." *Acta of Bioengineering and Biomechanics* 19, no. 3 (2017).
- 28- Rahgoshay, M., Ali Akbar Ranjbar, **Abas Ramiar**, M. Rahimi, and A. Arya. "Laminar pulsating confined jet flow of nanofluids in a duct with isoflux wall." *Heat Transfer Research* 48, no. 11 (2017).
- 29- Bahreini, M., **A. Ramiar**, and A. A. Ranjbar. "Numerical simulation of subcooled flow boiling under conjugate heat transfer and microgravity condition in a vertical mini channel." *Applied Thermal Engineering* 113 (2017): 170-18.
- 30- Mohsenian, S., **A. Ramiar**, and A. A. Ranjbar. "Numerical investigation of non-Newtonian nanofluid flow in a converging microchannel." *Journal of Mechanical Science and Technology* 31, no. 1 (2017): 385-391.
- 31- Larimi, M. M., **A. Ramiar**, and A. A. Ranjbar. "Numerical simulation of magnetic drug targeting with Eulerian-Lagrangian model and effect of viscosity modification due to diabetics." *Applied Mathematics and Mechanics* 37, no. 12 (2016): 1631-1646.
- 32- Larimi, M. M., A. Ghanaat, **A. Ramiar**, and A. A. Ranjbar. "Forced convection heat transfer in a channel under the influence of various non-uniform transverse magnetic field arrangements." *International Journal of Mechanical Sciences* 118 (2016): 101-112.
- 33- Hafittanian, M., **A. Ramiar**, and A. A. Ranjbar. "Poisoning phenomenon and oxygen bleeding in dead-ended polymer electrolyte membrane fuel cells: A computational study using OpenFOAM®." *International Journal of Hydrogen Energy* 41, no. 44 (2016): 20350-20364.
- 34- Doust, A. Mahboubi, **A. Ramiar**, and M. Dardel. "Simultaneous Investigation of Flexibility and Plasma Actuation Effects on the Aerodynamic Characteristics of an Oscillating Airfoil." *Journal of Applied Fluid Mechanics* 9, no. 5 (2016).
- 35- Barzegari, Mohammad M., Morteza Dardel, Ebrahim Alizadeh, and **Abas Ramiar**. "Reduced-order model of cascade-type PEM fuel cell stack with integrated humidifiers and water separators." *Energy* 113 (2016): 683-692.
- 36- Bahreini, Mohammad, **Abas Ramiar**, and Ali Akbar Ranjbar. "Development of a phase change model for volume-of-fluid method in OpenFOAM." *Journal of Heat and Mass Transfer Research (JHMTR)* 3, no. 2 (2016): 131-143.
- 37- Mohsenian, S., **A. Ramiar**, and A. A. Ranjbar. "Numerical study of laminar non-Newtonian nanofluid flow in a T-Junction: Investigation of viscous dissipation and temperature dependent properties." *Applied Thermal Engineering* 108 (2016): 221-232.
- 38- Momeni Larimi, Morsal, **Abas Ramiar**, and Ali A. Ranjbar. "Magnetic nanoparticles and blood flow behavior in non-Newtonian pulsating flow within the carotid artery in drug delivery application." *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine* 230, no. 9 (2016): 876-891.
- 39- Barzegari, Mohammad M., Morteza Dardel, Ebrahim Alizadeh, and **Abas Ramiar**. "Dynamic modeling and validation studies of dead-end cascade H₂/O₂ PEM fuel cell stack with integrated humidifier and separator." *Applied Energy* 177 (2016): 298-308.

- 40- Yousefi-Lafouraki, Babak, **Abas Ramiar**, and Ali Akbar Ranjbar. "Numerical Simulation of Two Phase Turbulent Flow of Nanofluids in Confined Slot Impinging Jet." *Flow, Turbulence and Combustion* 97, no. 2 (2016): 571-589.
- 41- Hafttananian, M., **A. Ramiar**, and A. A. Ranjbar. "Novel techniques of oxygen bleeding for polymer electrolyte fuel cells under impure anode feeding and poisoning condition: A computational study using OpenFOAM®." *Energy Conversion and Management* 122 (2016): 564-579.
- 42- Yousefi-Lafouraki, B., **A. Ramiar**, and S. Mohsenian. "Entropy generation analysis of a confined slot impinging jet in a converging channel for a shear thinning nanofluid." *Applied Thermal Engineering* 105 (2016): 675-685.
- 43- Hedayati, Nima, and **Abas Ramiar**. "Investigation of two phase unsteady nanofluid flow and heat transfer between moving parallel plates in the presence of the magnetic field using GM." *Transport Phenomena in Nano and Micro Scales* 4, no. 2 (2016): 47-53.
- 44- MahboubiDoust, A., **A. Ramiar**, and M. Dardel. "Numerical investigation of plasma actuated and non-actuated Gurney flaps on aerodynamic characteristics of a plunging airfoil." *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering* 230, no. 8 (2016): 1423-1437.
- 45- Mahmoudi, A. H., **A. Ramiar**, and Q. Esmaili. "Effect of inhomogeneous compression of gas diffusion layer on the performance of PEMFC with interdigitated flow field." *Energy Conversion and Management* 110 (2016): 78-89.
- 46- Barzegari, Mohammad M., Morteza Dardel, **Abas Ramiar**, and Ebrahim Alizadeh. "An investigation of temperature effect on performance of dead-end cascade H₂/O₂ PEMFC stack with integrated humidifier and separator." *International Journal of Hydrogen Energy* 41, no. 4 (2016): 3136-3146.
- 47- Rahimi-Esbo, M., A. A. Ranjbar, **A. Ramiar**, E. Alizadeh, and M. Aghaee. "Improving PEM fuel cell performance and effective water removal by using a novel gas flow field." *international journal of hydrogen energy* 41, no. 4 (2016): 3023-3037.
- 48- Taheri, A., E. Aboukazempour, **A. Ramiar**, A. A. Ranjbar, and M. Rahimi-Esbo. "Numerical study of turbulent forced convection nanofluid jet flow in a converging sinusoidal channel." *International Journal of Nano Dimension* 7, no. 1 (2016): 57.
- 49- **Ramiar**, A., A. H. Mahmoudi, Q. Esmaili, and M. Abdollahzadeh. "Influence of cathode flow pulsation on performance of proton exchange membrane fuel cell with interdigitated gas distributors." *Energy* 94 (2016): 206-217.
- 50- Valinataj-Bahnemiri, P., **A. Ramiar**, S. A. Manavi, and A. Mozaffari. "Heat transfer optimization of two phase modeling of nanofluid in a sinusoidal wavy channel using Artificial Bee Colony technique." *Engineering Science and Technology, an International Journal* 18, no. 4 (2015): 727-737.
- 51- Bahreini, Mohammad, **Abas Ramiar**, and Ali Akbar Ranjbar. "Numerical simulation of bubble behavior in subcooled flow boiling under velocity and temperature gradient." *Nuclear Engineering and Design* 293 (2015): 238-248.
- 52- Hafttananian, M., **A. Ramiar**, A. A. Ranjbar, and M. Hoseini. "Impact of CO impurity on the performance of polymer electrolyte membrane fuel cells." (2015).

- 53- Valinataj-Bahnemiri, P., **A. Ramiar**, S. A. Manavi, and A. Mozaffari. "Engineering Science and Technology, an International Journal." (2015).
- 54- Khazaei Pool, Amirmohammad, Rouzbeh Shafaghat, Qadir Esmaili, and **Abas Ramiar**. "Investigation of purge time in cathodic dead-end mode PEMFC." *Journal of Heat and Mass Transfer Research (JHMTR)* 2, no. 1 (2015): 13-19.
- 55- Larimi, M. M., **A. Ramiar**, and A. A. Ranjbar. "Numerical simulation of magnetic nanoparticles targeting in a bifurcation vessel." *Journal of Magnetism and Magnetic Materials* 362 (2014): 58-71.
- 56- Manavi, Seyed Alborz, **Abas Ramiar**, and Ali Akbar Ranjbar. "Turbulent forced convection of nanofluid in a wavy channel using two phase model." *Heat and Mass Transfer* 50, no. 5 (2014): 661-671.
- 57- Yousefi-Lafouraki, B., **A. Ramiar**, and A. A. Ranjbar. "Laminar forced convection of a confined slot impinging jet in a converging channel." *International Journal of Thermal Sciences* 77 (2014): 130-138.
- 58- **Ramiar, A.**, and A. A. Ranjbar. "Two-Dimensional Variable Property Conjugate Heat Transfer Simulation of Nanofluids in Microchannels." *Journal of Nanoscience* 2013 (2013).
- 59- Mozaffari, Ahmad, **Abas Ramiar**, and Alireza Fathi. "Optimal design of classic Atkinson engine with dynamic specific heat using adaptive neuro-fuzzy inference system and mutable smart bee algorithm." *Swarm and Evolutionary Computation* 12 (2013): 74-91.
- 60- Ghasemi, S. E., A. A. Ranjbar, and **A. Ramiar**. "NUMERICAL INVESTIGATION OF EFFECT OF AL-WATER NANO FLUID ON PERFORMANCE OF SOLAR PARABOLIC COLLECTOR." (2013): 100-107.
- 61- Ghasemi, Seyed Ebrahim, Ali Akbar Ranjbar, and **Abas Ramiar**. "Numerical study on thermal performance of solar parabolic trough collector." *J Math Comput Sci* 7 (2013): 1-12.
- 62- Ghasemi, Seyed Ebrahim, Ali Akbar Ranjbar, and **Abas Ramiar**. "Three-dimensional numerical analysis of heat transfer characteristics of solar parabolic collector with two segmental rings." *J Math Comput Sci* 7 (2013): 89-100.
- 63- Rahimi-Esbo, M., A. A. Ranjbar, **A. Ramiar**, and M. Rahgoshay. "Numerical simulation of forced convection of nanofluid in a confined jet." *Heat and Mass Transfer* 48, no. 12 (2012): 1995-2005
- 64- Rahimi-Esbo, M., A. A. Ranjbar, **A. Ramiar**, A. Arya, and M. Rahgoshay. "Numerical study of turbulent forced convection jet flow in a converging sinusoidal channel." *International Journal of Thermal Sciences* 59 (2012): 176-185.
- 65- Rahimi-Esbo, M., A. A. Ranjbar, **A. Ramiar**, M. Rahgoshay, and A. Arya. "Numerical study of the turbulent forced convection jet flow of nanofluid in a converging duct." *Numerical Heat Transfer, Part A: Applications* 62, no. 1 (2012): 60-79.
- 66- Rahgoshay, M., A. A. Ranjbar, and **A. Ramiar**. "Laminar pulsating flow of nanofluids in a circular tube with isothermal wall." *International Communications in Heat and Mass Transfer* 39, no. 3 (2012): 463-469

- 67- Ramiar, A., A. A. Ranjbar, and S. F. Hosseinizadeh.** "Effect of axial conduction and variable properties on two dimensional conjugate heat transfer of AL₂O₃-EG/water mixture nanofluid in microchannel." *Journal of Applied Fluid Mechanics* 5, no. 3 (2012): 79-87.
- 68- Ramiar, A., and A. A. Ranjbar.** "The effect of viscous dissipation and variable properties on nanofluids flow in two dimensional microchannels." *International Journal of Engineering-Transactions A: Basics* 24, no. 2 (2011): 131.
- 69- Ramiar, A., and A. A. Ranjbar.** "Viscous Dissipation and Variable Properties Effect on Two Dimensional Conjugate Heat Transfer of Nanofluids in Microchannels." In *ASME 2011 9th International Conference on Nanochannels, Microchannels, and Minichannels*, pp. 19-27. American Society of Mechanical Engineers, 2011.
- 70- Esmaili, Q., A. Ramiar, E. Alizadeh, and D. D. Ganji.** "An approximation of the analytical solution of the Jeffery–Hamel flow by decomposition method." *Physics Letters A* 372, no. 19 (2008): 3434-3439.
- 71- Ramiar, A., D. D. Ganji, and Q. Esmaili.** "Homotopy Perturbation Method and Variational Iteration Method for Orthogonal 2-D and Axisymmetric Impinging Jet Problem." *International Journal of Nonlinear Sciences and Numerical Simulation* 9, no. 2 (2008): 115-130.
- 72- Taherian, Hessam, and Abas Ramiar.** "A novel technique for radiation shape factor calculation using CAD software." *Numerical Heat Transfer, Part B: Fundamentals* 48, no. 4 (2005): 387-403.

SELECTED CONFERENCE PAPERS

- 1- "Investigating the effects of surface acoustic waves on heat transfer in microcavities", Arash Mahboubidoust, **Abas Ramiar**, Nima Seyfi, 2nd Iranian Conference on Microfluidics and its applications in medicine and engineering, Sharif University of Technology, Tehran, Iran, 2018.
- 2- "Investigating the effect of magnetic field on the forced convection of cross-corrugated triangular channels", Arash Mahboubidoust, Amirhosein Ghasemi, **Abas Ramiar**, Pouyan Vatani, 3rd Iranian Conference on Heat and Mass Transfer, Babol Noshirvani University of Technology, Babol, Iran, 2017.
- 3- "2D simulation of two phase in electrolyzer porous transport layer", Seyede Zeynab Hoseini larimi, **Abas Ramiar**, Roozbeh Shafaghat, Qadir Esmaili, 3rd Iranian Conference on Heat and Mass Transfer, Babol Noshirvani University of Technology, Babol, Iran, 2017.
- 4- "Numerical simulation of breast cancer cell deformation in a microfluidic constriction", Arman Mirzaaghaian, Majid Ebrahimi Warkiani, **Abas Ramiar**, Ali Akbar Ranjbar, 25th Annual International Conference on Mechanical Engineering, ISME 2017, Tarbiat Modares University, Tehran, Iran, 2nd – 4th May 2017
- 5- "The effect of rectangular ribs dimension in solar chimney", Seyyedeh sahar hosseini, **Abas Ramiar**, Ali Akbar Ranjbar, the 3th International Conference and Exhibition on Solar Energy, Tehran, Tehran University, September 2017.

- 6- “Numerical study of the effect of geometry of electrodes bed on electrothermal pumping, Ahmadreza Shojaei, **Abas Ramiar**, Amirhossein Ghasemi, second national conference of microfluidic and its application in medical and engineering, 2017.
- 7- “Numerical investigation of heat transfer in water jet impingement during a quenching process with OpenFOAM”, Mehran Ghasemian, **Abas Ramiar**, Ali Akbar Ranjbar, 17th fluid dynamics conference, Shahroud University, 2017.
- 8- “3D PEM fuel cell modeling with cooling flow field”, Milad Ghasemi, Seyed Majid Rahgoshay, **Abas Ramiar**, Ali Akbar Ranjbar, 1st international conference on new research achievements in mechanics, mechatronics & biomechanics, Amirkabir University, 2016.
- 9- “Numerical study of the effect of nozzle geometry on droplet formation process in millimeter dimension”, Mobina Hatami Miri, **Abas Ramiar**, Ali Akbar Ranjbar, 1st international conference on new research achievements in mechanics, mechatronics & biomechanics, Amirkabir University, 2016.
- 10- “Numerical simulation of mixed electroosmotic-pressure driven flow with the aim of mixing enhancement in different geometries of micromixers with the presence of conducting obstacles”, Mohammad Alipanah Rostami, **Abas Ramiar**, 1st international conference on new research achievements in mechanics, mechatronics & biomechanics, Amirkabir University, 2016.
- 11- “Numerical simulation of boiling and condensation in quenching submerging process using the VOF method and by using of openFOAM software”, Hesam Ramazanzadeh, **Abas Ramiar**, Mahdi Yousefifard, 1st international conference on new research achievements in mechanics, mechatronics & biomechanics, Amirkabir University, 2016.
- 12- “Simulation of condensation film in a plate heat exchanger by VOF method”, Farzaneh Zaghi, **Abas Ramiar**, Mohammad Bahreini, 16th fluid dynamics conference, Kermanshah, Razi university, 2015.
- 13- “Numerical simulation of bubble dynamic behavior in viscose fluid under vertical electric field”, Farzaneh Zaghi, **Abas Ramiar**, 16th fluid dynamics conference, Kermanshah, Razi university, 2015.
- 14- M. Hafttananian, **Abas Ramiar**, A.A. Ranjbar, M.Hosseini, “Impact of CO impurity on the performance of polymer electrolyte membrane fuel cells”, 3th Hydrogen & Fuel Cell Conference (HFCC3), May 2015, Tehran.
- 15- Arash Mahboobidoust, **Abas Ramiar**, Morteza dardel, “Investigation of flexibility effect and flow induced vibrations on aerodynamic characteristics of an oscillating airfoil”, International conference on engineering, arts, management and environment, December 2014, Szczecin, Poland.
- 16- Zahra Taheri, **Abas Ramiar**, “Numerical simulation of solar air heater with sinusoidal absorber”, International conference on engineering, arts, management and environment, December 2014, Szczecin, Poland.
- 17- “Investigation of Steady Plasma Actuation Effect on Aerodynamic Coefficients of Oscillating Airfoil at Low Reynolds Numbers”, A. Mahboubidoust, **A. Ramiar**, M. Dardel, the first international and third national conference of Iranian aerospace propulsion association, Malek Ashtar university, 2014.
- 18- “Investigation of the characteristics of forced heat transfer in a flexible wavy channel with complete coupling method”, Danial Khazaei pool, **Abas Ramiar**, Ali Akbar Ranjbar, Second Iranian conference on heat & mass transfer, Semnan university, 2014.

- 19- "Numerical simulation of coagulation of two bubbles and investigation of factor affecting the interaction of bubbles", **Abas Ramiar**, Mohammad Bahreini, Arsalan Daryaei, Second Iranian conference on heat & mass transfer, Semnan University, 2014.
- 20- "Simulation of PEM fuel cell cathode by using openFOAM software", Seyed Mahdi Hosseini, **Abas Ramiar**, Ali Akbar Ranjbar, Second Iranian conference on heat & mass transfer, Semnan University, 2014.
- 21- "Investigation of deformation and separation mechanism in falling droplet under gravity", **Abas Ramiar**, Mohammad bahreini, Mohammad Alipanah, Second Iranian conference on heat & mass transfer, Semnan University, 2014.
- 22- "Numerical modeling and study of solar heater with preheater", Zahra Taheri, **Abas Ramiar**, the first national conference on renewable energy and sustainable development, Kerman university of industrial graduate studies and advanced technology, 2014.
- 23- "Investigation of thermodynamic parameters and 2D anode dead-end PEM fuel cell performance", Taghi Yousefi, **Abas Ramiar**, Mazeher Rahimi Esboei, Fourth Annual Clean Energy Conference, Kerman University, 2014.
- 24- "Investigating the effects of inlet air relative humidity and changing the Channel geometry on the efficiency and water management of fuel cell with membrane", Navid Meschi Amoli, **Abas Ramiar**, Ghadir Esmaili, Roozbeh Shafaghat, Fourth Annual Clean Energy Conference, Kerman university of industrial graduate studies and advanced technology, 2014.
- 25- "Dynamic simulation of PEM fuel cell", Seyed Saeed Hosseini, **Abas Ramiar**, Roozbeh Shafaghat, Morteza Dardel, Fourth Annual Clean Energy Conference, Kerman university of industrial graduate studies and advanced technology, 2014.
- 26- "The effect of cathode pulsed flow on the PEMFC performance with the interconnected gas distributor", Amir Hossein Mahmoudi, **Abas Ramiar**, Ghadir Esmaili, Fifth National Conference on CFD Applications in Chemical and Petrochemical Industries, Tehran, Iran University of Science & Technology, 2014.
- 27- "Numerical simulation of condensation of bubble steam in sub cooled boiling flow by using openFOAM software", Mohammad Bahreini, **Abas Ramiar**, Ali Akbar Ranjbar, Fifth National Conference on CFD Application in Chemical and Petrochemical Industries, Tehran, Iran University of Science & Technology, 2014.
- 28- "Three-dimensional investigation of Chevron micro heat exchanger", Mohammad Bahreini, **Abas Ramiar**, Ali Akbar Ranjbar, Reza Shabanpour, Mofid Gorgy, 15th Fluid Dynamics Conference, Bandar Abas, Hormozgan University, 2013.
- 29- "Numerical simulation of the non-Newtonian blood steady state flow in a vessel with void in the Presence of the magnetic field", Arash Ghanaat, **Abas Ramiar**, Ali Akbar Ranjbar, Davoud Domayri Ganji, Morsal Momeni, Fifth Fluid Dynamics Conference, Bandar Abas, Hormozgan University, 2013.
- 30- "Simulation of magnetic nanoparticle flow under the influence of a magnetic field in a dilated vessel in a targeted drug delivery method", Morsal Momeni, **Abas Ramiar**, Ali Akbar Ranjbar, Arash Ghanaat, Shiva Maleki, Fifth Fluid Dynamics Conference, Bandar Abas, Hormozgan University, 2013.

- 31- "Numerical simulation of two-phase nanofluid turbulent flow in enclosed impinging jet", Babak Yousefi, **Abas Ramiar**, Ali Akbar Ranjbar, Saeed Mohsenian, The First National Conference and Nano Science and Technology Specialty Workshops, Tarbiat Modares University, 2013.
- 32- "Numerical simulation of the two-phase nanofluid laminar flow of a impinging jet to the internal wall of a converged channel", **Abas Ramiar**, Babak Yousefi, Ali Akbar Ranjbar, The First National Conference and Nano Science and Technology Specialty Workshops, Tarbiat Modares University, 2013.
- 33- "Numerical simulation of mixing of non-Newtonian nanofluids passing through the channel", Saeed Mohsenian, Ali Akbar Ranjbar, **Abas Ramiar**, Arash Ghanaat, The first Iranian Conference of Heat & Mass Transfer, Sistan and Baluchestan University, 2012.
- 34- "Numerical simulation of impinging jet laminar flow using a mixed two-phase model", Babak Yousefi, Ali Akbar Ranjbar, **Abas Ramiar**, Morsal Momeni, First Iranian Conference of Heat & Mass Transfer, Sistan and Baluchestan University, 2012.
- 35- "Numerical Study of the convection Heat Transfer of the nanofluid turbulent Jet flow in head box", Mazaher Rahimi, Ali Akbar Ranjbar, **Abas Ramiar**, Babak Yousefi, 14st Fluid Dynamics Conference, Birjand University, 2012.
- 36- "The fluctuating laminar flow of nanofluid in a tube with a constant wall temperature", Sayed Majid Rahgoshay, Ali Akbar Ranjbar, **Abas Ramiar**, Saeed Mohsenian, 14st Fluid Dynamics Conference, Birjand University, 2012.
- 37- "Numerical study of unsteady convection heat transfer of turbulent jet flow in a convergent sinusoidal channel", Mazaher Rahimi, Ali Akbar Ranjbar, **Abas Ramiar**, Seyyed Alborz Manavi, 14st Fluid Dynamics Conference, Birjand University, 2012.
- 38- "Numerical study of nanofluid turbulent flow in a wavy channel with different amplitudes and wavelengths", Amir Aria, Ali Akbar Ranjbar, **Abas Ramiar**, Seyyed Alborz Manavi, 14st Fluid Dynamics Conference, Birjand University, 2012.
- 39- "Forced convection simulation of nanofluid in enclosed jet", Mazaher Rahimi, Ali Akbar Ranjbar, **Abas Ramiar**, Seyyed Majid Rahgoshay, 19th Annual Conference of Mechanical Engineering, Birjand University, 2011.
- 40- "Viscous dissipation and variable properties effect on two dimensional conjugate transfer of nanofluids in microchannels", **A. Ramiar** and A. A. Ranjbar, International Conference on Nanochannels, Microchannels, and Minichannel, 2011, America.

Adviser and Supervisor of theses (MSc, PhD)

Number	Thesis title	grade		Defense date	Student	Student University	Advisers	Supervisors
		MSc	PhD					
1	Unsteady forced convection of nanofluid flow with nonhomogeneous distribution of particles in a confined jet	√		2012	Mazaher Rahimi	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
2	Laminar pulsating flow of nanofluids in a circular tube with isothermal wall	√		2012	Seyyed Majid Rahgoshay	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
3	Modeling of turbulence flow of nanofluids in wavy channels	√		2012	Amir Arya	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
4	Numerical simulation of two phase turbulent flow of nanofluids in confined impinging jet	√		2013	Babak Yousefi Lafouraki	Babol Noshirvani University of Technology	-	Aliakbar Ranjbar, Abas Ramiar
5	Numerical simulation of non-Newtonian nanofluid flow in microchannel	√		2013	Saeed Mohsenian Koochaksarai	Babol Noshirvani University of Technology	-	Aliakbar Ranjbar, Abas Ramiar
6	Numeric simulation of two phase turbulent flow of nanofluid in sinusoidal wavy channel	√		2013	Seyed Alborz Manavi	Babol Noshirvani University of Technology	-	Aliakbar Ranjbar, Abas Ramiar
7	Investigation of effects of adding air tunnel to cougar in order to decrease drag	√		2013	Abdorrezza Yousefi	Babol Noshirvani University of Technology	Abas Ramiar	Rouzbeh Shafaghat
8	A numerical study of chevron type micro heat exchangers	√		2013	Reza Shabanpour	Babol Noshirvani University of Technology	Qadir Esmaili	Mofid Gorji, Abas Ramiar
9	Investigation of gas turbulence on the cold plasma jet	√		2013	Ali Khatibi	University of Mazandaran	Khadijeh Alavi	Farshad Sohbatzade , Abas Ramiar

10	Numerical simulation of a polymer electrolyte fuel cell with a dead-end onode	√		2014	Taghi Yousefi Rami	Babol Noshirvani University of Technology	Mazaher Rahimi	Abas Ramiar
11	Numerical simulation of magnetic drag targeting of nanofluids flow in brain basilar artery and carotid artery	√		2014	Morsal Momeni Larimi	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
12	Numerical simulation of pulsatile flow of non-Newtonian 3D geometry of blood vessels with bypass in the presence of magnetic field	√		2014	Arash Ghanaat	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar, Davod Domiri Ganji
13	Developing a new compressible solver for all Mach number in openFOAM	√		2014	Ahmad Rezari Sangtabi	Babol Noshirvani University of Technology	Mohammad Mahdi Abdollahzadeh	Aliakbar Ranjbar, Abas Ramiar
14	Numerical simulation of pulsating flow in PEMFCs	√		2014	Navid Meschi Amoli	Babol Noshirvani University of Technology	Qadir Esmaili	Abas Ramiar , Rouzbeh Shafaghat
15	Dynamic simulation of dead end PEMFC	√		2014	Seyyed Saeed Hosseini Imani	Babol Noshirvani University of Technology	Morteza Dardel	Abas Ramiar , Rouzbeh Shafaghat
16	Numerical study of the channel dimensions effect on the performance of PEM fuel cells with pin type flow field	√		2014	Armin Kakoie	Islamic Azad University Ayatollah Amoli Branch	Qadir Esmaili	Abas Ramiar
17	Numerical simulation of pulsating flow in PEMFC with interdigitated flow field	√		2015	Amir Hossein Mahmoudi	Babol Noshirvani University of Technology	Qadir Esmaili	Abas Ramiar
18	Numerical simulation heat pipe embedded in heat sinks	√		2015	Mohammad bahreini	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
19	Simulation of plasma actuation and oscillation effects on aerodynamic control of airfoil	√		2015	Arash Mahboubi Doust	Babol Noshirvani University of Technology	Morteza Dardel	Abas Ramiar
20	Simulation of effect of impure hydrogen on dead ended PEM fuel cell	√		2015	Mahammad Hosein Hafttananian	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar

21	Fluid-structure interaction numerical simulation of blood flow through human carotid and coronary arteries	√		2015	Danial Khazaei Pool	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
22	Modeling of PEM fuel cell with passive water management	√		2015	Seyed Mahdi Hosseini Iraj	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar
23	Investigating the effect of geometry on solar air heaters performance	√		2015	Adel Karimbakhshi Rostami	Babol Noshirvani University of Technology	Aliakbar Ranjbar	Abas Ramiar
24	Numerical investigation of chevron micro heat exchangers with considering temperature depending fluid characteristics	√		2015	Siamack Saeedi Haghi	University of Science and Technology	Abas Ramiar	Aliakbar Ranjbar
25	Investigation into the effect of magnetic field on preventing deposition of nanoparticles in microchannels	√		2016	Nima Hedayati	Babol Noshirvani University of Technology	-	Abas Ramiar
26	Identification and control of dead-end cascade-type H ₂ /O ₂ PEM fuel cell with integrated humidifiers and water separators for tracking desired load trajectory		√	2016	Mohammad Mahdi Barzegari	Babol Noshirvani University of Technology	Ebrahim Alizadeh, Abas Ramiar	Morteza Dardel
27	The study of solar air heater with sinusoidal absorber	√		2016	Zahra Taheri	Babol Noshirvani University of Technology	-	Abas Ramiar , Rouzbeh Shafaghat
28	Investigating the effect of clamping pressure on the performance of PEMFC with interdigitated flow field	√		2016	Mehrdad Movahedi	Babol Noshirvani University of Technology	-	Aliakbar Ranjbar, Abas Ramiar
29	Numerical simulation of effect of serpentine channel dimensions on water removal of PEM fuel cell	√		2016	Mahdi Aghaei	Babol Noshirvani University of Technology	Abas Ramiar	Aliakbar Ranjbar, Kourosh Sedighi
30	Numerical simulation of heat transfer and fluid flow in quenching process using OpenFOAM	√		2017	Hesam Ramezanzadeh	Babol Noshirvani University of Technology	Mahdi Yousefifard	Abas Ramiar
31	Numerical simulation of the cooling flow field effect on the PEMFC performance	√		2017	Milad Ghasemi	Babol Noshirvani University of Technology	Seyyed Majid Rahgoshay	Abas Ramiar , Aliakbar Ranjbar

32	Numerical investigation of arrays fin in different radiation conditions in solar air heater	√		2017	Seyedeh Sahar Hosseini	Babol Noshirvani University of Technology	-	Abas Ramiar, Aliakbar Ranjbar
33	Numerical investigation on the effects of injection parameters on mixture formation in a CNG fueled direct injection engine	√		2017	Hossein Ranjbar Dargah	Babol Noshirvani University of Technology	Abas Ramiar	Omid Jahanian
34	Numerical analysis of fluid structure interaction at water entry phenomenon of high aspect ratio twin hull vessel encounter of regular waves	√		2017	Mobin Massmi	Babol Noshirvani University of Technology	-	Abas Ramiar, Mahdi Yousefifard
35	Numerical omparison of Newtonian and non-Newtonian fluids under electroosmotic flow in a trapezoidal microchannel	√		2017	Mohammad Alipanah Rostami	Babol Noshirvani University of Technology	-	Abas Ramiar
36	Experimental Analysis of water management of dead end H2-O2 PEM fuel cell stack		√	2017	Mazaher rahimi	Babol Noshirvani University of Technology	Ebrahim Alizadeh	Abas Ramiar, Aliakbar Ranjbar,
37	Numerical analysis of cell deformability by microfluidics	√		2018	Mir Arman Mirzaaghaian Amiry	Babol Noshirvani University of Technology	Majid Ebrahimi Warkiani	Abas Ramiar, Aliakbar Ranjbar
38	Comparing two-phase and non-Newtonian flows in quenching process	√		2018	Mehran Ghasemian Dastjerdi	Babol Noshirvani University of Technology	-	Aliakbar Ranjbar, Abas Ramiar
39	Numerical investigation of natural convection in solar air heater in a day	√		2018	Seyede Sahar Hosseini	Babol Noshirvani University of Technology		Abas Ramiar, Aliakbar Ranjbar,
40	Numerical investigation of vibration and the electric field effect on droplet formation in a nebulizer	√		2018	Mobina Hatami	Babol Noshirvani University of Technology		Abas Ramiar, Aliakbar Ranjbar,
41	Numerical investigation of ElectroOsmotic flow in grooved microchannel	√		2018	Mohammad Alipanahrostami	Babol Noshirvani University of Technology		Abas Ramiar
42	Investigation of Thermal Distribution of Dead End and Open End Polymer Fuel Cells		√	2018	Syed Majid Rahgoshay		Abas Ramiar, Ebrahim Alizadeh	Aliakbar Ranjbar,

43	Simulation of Gas Bubble Flow in the GDL and channel of Electrolyzer	√		2018	Seyede Zeynab Hosseini	Babol Noshirvani University of Technology	Ghadir Esmaili	Abas Ramiar, Rouzbeh Shafaghat
44	One-Dimensional Modeling of Electrolyzer	√		2018	Leyla Hendoi	Babol Noshirvani University of Technology	Morteza Dardel	Abas Ramiar, Rouzbeh Shafaghat
45	Numerical Study of Electrodes configuration Effect on Efficiency of AC Electrothermal pumping and mixing	√		2018	Arezoo Khakpour	Babol Noshirvani University of Technology		Abas Ramiar
46	numerical simulation of droplet separation Dynamics in PEM fuel cell	√		2018	Mohadese Khazaeipool	Babol Noshirvani University of Technology		Abas Ramiar, Ghadir Esmaili
47	Particle separation using electrothermal phenomenon in microchannel	√		2018	Ahmadreza Shojaei	Babol Noshirvani University of Technology	AmirHossein Ghasemi	Abas Ramiar
48	Numerical Simulation of Acoustic Flow and particle manipulation by acoustophoresis	√		2019	Donya Shahani	Babol Noshirvani University of Technology		Abas Ramiar
49	Experimental and numerical study of Two phase flow in the anode flow field of water PEM electrolyzer		√	-	Amir Hosein Ghasemi	Babol Noshirvani University of Technology		Abas Ramiar
50	Numerical study of pumping Newtonian and non-neutron fluids by electrothermal force	√		2020	Armin Abedi Parchikolai	Babol Noshirvani University of Technology		Abas Ramiar
51	Numerical Simulation of Cell Separation by Integrating Tilted Standing surface acoustic waves with Microfluidics	√		-	Asadollah Naseri	Babol Noshirvani University of Technology		Abas Ramiar
52	Numerical and empirical study of simultaneous separation of particles with different kinds and sizes using di-electrophoresis force.	√		-	Reza Derakhshan	Babol Noshirvani University of Technology		Abas Ramiar

Research and technology projects

Number	Title of activity	Company agreement with the activity (number and date)	Activity level			company	Date done		Names of partners
			special national	Achieve top rank in the festival	provincial or regional		start	end	
1	Investigating of methods to increasing lifetime and optimization of energy consumption at drinking water pumping stations in Mazandaran villages	Contract number 26/10852 (100% Ended)			√	Water and Sewage organization	2011	2012	Roozbeh Shafahat- Abas Ramiar - Morteza Dardel
2	Design and construction of laboratory system for electricity generation from sea waves based on searev design for using in mazandaran sea	Contract number 26/10852 (100% Ended)			√	Water and Sewage organization	2011	2014	Roozbeh Shafahat- Asghar Gholamian- Morteza Dardel - Abas Ramiar
	Conceptual design and construction of a dead-end H ₂ /O ₂ PEM fuel cell (2 KW) for UUV.		√			Renewable Energy & Energy Efficiency Organization - Ministry of Energy	2013	2016	Mohsen Shakeri - Morteza Dardel - Roozbeh Shafahat- Abas Ramiar
	Design and manufacture of a PEM Electrolyzer for hydrogen and oxygen production.		√			Renewable Energy & Energy Efficiency Organization - Ministry of Energy	2016	-	Mohsen Shakeri - Roozbeh Shafahat- Morteza Dardel - Abas Ramiar