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* **PhD in Mechanical Engineering (Energy conversion)**– Tarbiat Modares University

**RESEARCH INTERESTS**

Combustion, Renewable energy, Entropy wave, Heat and mass transfer.

**PUBLICATIONS**

1. Hajialigol, N., Sheikhzadeh, G.A., Ebrahim Qomi, M. and Fattahi, A., 2011. Laminar mixed convection of Cu-water nano-fluid in two-sided lid-driven enclosures. *Journal of Nanostructures*, *1*(1), pp.44-53.
2. Sheikhzadeh, G.A., Ebrahim Qomi, M., Hajialigol, N. and Fattahi, A., 2012. Laminar mixed convection of Al2O3-water nanofluid in a three-dimensional microchannel. *Journal of Nanostructures*, *2*(1), pp.61-68.
3. S. A. Hashemi, N. Hajialigol, K. Mazaheri: STUDY OF A TURBULENT NON-PREMIXED METHANE-AIR REACTING FLAME IN A BURNER USING FLAME HOLDER*: J. of Appl. Math and Mech*. 8 (12): 70-81, 2012.
4. Hashemi, S.A., Fattahi, A., Sheikhzadeh, G.A., Hajialigol, N. and Nikfar, M., 2012. Numerical investigation of NO x reduction in a sudden-expansion combustor with inclined turbulent air jet. *Journal of mechanical science and technology*, *26*(11), pp.3723-3731.
5. Sheikhzadeh, G.A., Qomi, M.E., Hajialigol, N. and Fattahi, A., 2012. Numerical study of mixed convection flows in a lid-driven enclosure filled with nanofluid using variable properties. *Results in Physics*, *2*, pp.5-13.
6. Sheikhzadeh, G.A., Qomi, M.E., Hajialigol, N.A.J.M.E.H. and Fattahi, A., 2013. Effect of Al2O3-water nanofluid on heat transfer and pressure drop in a three-dimensional microchannel. *International Journal of Nano Dimension*, *3*(4), pp.281-288.
7. Hashemi, S.A., Hajialigol, N., Fattahi, A., Mazaheri, K. and Heydari, R., 2013. Investigation of a flame holder geometry effect on flame structure in non-premixed combustion. *Journal of Mechanical Science and Technology*, *27*(11), pp.3505-3512.
8. G.A. Sheikhzadeh, R. Heydari, N. Hajialigol, A. Fattahi and M.A. Mehrabian, 2013, Heat and mass transfer by natural convection around a hot body in a rectangular cavity, Scientia Iranica B, Vol. 20 (5), pp. 1474-1484.
9. S. A. Hashemi, N. Hajialigol, K. Mazaheri, A. Fattahi, 2013, Investigation of Air Turbulence Intensity Effect on the Flame Structure in Different Flame Holder Geometry, *International Journal of Engineering*, Vol. 26 (12) pp. 1423-1432.
10. Hajialigol, N., Fattahi, A., Ahmadi, M.H., Qomi, M.E. and Kakoli, E., 2015. MHD mixed convection and entropy generation in a 3-D microchannel using Al2O3–water nanofluid. *Journal of the Taiwan Institute of Chemical Engineers*, *46*, pp.30-42.
11. [. A. Abbasian Arani](http://link.springer.com/search?facet-creator=%22A.+A.+Abbasian+Arani%22), [E. Kakoli](http://link.springer.com/search?facet-creator=%22E.+Kakoli%22), [N. Hajialigo](http://link.springer.com/search?facet-creator=%22N.+Hajialigol%22)l: Double-diffusive natural convection of Al2O3-water nanofluid in an enclosure with partially active side walls using variable properties *Journal of Mechanical Science and Technology*, November 2014, Volume 28, [Issue 11](http://link.springer.com/journal/12206/28/11/page/1), pp 4681-4691.
12. H. Khorasanizadeh, N. Hajialigol, M. Ebrahim Qomi, Effects of an Enclosure Inclination Angle and its Walls Movement Direction on Variable Properties Nanofluid Mixed Convection: *Amirkabir Journal* 2014.
13. N. Hajialigol, K. Mazaheri, [Thermal response of a turbulent premixed flame to the imposed inlet oscillating velocity](http://www.sciencedirect.com/science/article/pii/S0360544216318333): *Energy* 118 (2017) 209-220.
14. N. Hajialigol, K. Mazaheri, Turbulent lean premixed flame response to the imposed inlet oscillating velocity and effect of the equivalence ratio and inlet temperature on it: *Combustion and Fuel journal*, 2017.
15. N. Hajialigol, K. Mazaheri, *The entropy wave dissipation and dispersion in a lean*
*premixed combustor, Applied Thermal Engineering* 165 (2020).
16. Fattahi, A., Karimi, N. and Hajialigol, N., 2020. Dynamics of entropy wave generation in a simplified model of gas turbine combustor: A theoretical investigation. *Physics of Fluids*, *32*(10), p.106107.
17. Rahmani, E., Fattahi, A., Moradi, T., Hajialigol, N., Karimi, N. and Doranehgard, M.H., 2022. Enhancement of heat transfer in solar collectors by vortex generation. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, *44*(1), pp.1731-1750.
18. Hajialigol, N., Mazaheri, K. and Fattahi, A., 2023. Thermo-hydrodynamic effects of the Ethylene reactive flow on convecting hot spots using LES. *Chemical Engineering Communications*.
19. A Fattahi, N Hajialigol, M Delpisheh, N Karimi., [Lattice-Boltzmann numerical simulation of double-diffusive natural convection and entropy generation in an n-shaped partially heated storage tank](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=MuflYgsAAAAJ&sortby=pubdate&citation_for_view=MuflYgsAAAAJ:hqOjcs7Dif8C), *Engineering Analysis with Boundary Elements* 146, 105-118 (2023).

***Some Conference Presentations***

1. G. A. Sheikhzadeh, M. Ebrahim Qomi, N. Hajialigol, and A. Fattahi, Numerical study of mixed convection in a three-dimensional microchannel filled with a nanofluid under a magnetic field, 8th International Conference on Diffusion in Solids and Liquids, DSL, Istanbul-Turkey, 25-29 June, 2012.
2. S.A. Hashemi, N. Hajialigol, A. Fattahi, Investigation of the effect of flame holder geometry on flame structure in non-premixed combustion, 8th International Conference on Diffusion in Solids and Liquids, DSL, Istanbul-Turkey, 25-29 June, 2012.

**SOFTWARE SKILLS**

* ANSYS Fluent/Mesh/Geometry
* OpenFOAM
* MATLAB
* FORTRAN
* Tecplot
* EES
* Thermoflow
* Gaseq
* Maple