

Dr Nader Karimi

BSc, MSc, PhD, FHEA

School of Engineering and Materials Science
Queen Mary University of London
Mile End Road
London E1 4NS

tel: +44 (0)20 7882 8732

email: n.karimi@qmul.ac.uk web: www.sems.qmul.ac.uk/n.karimi

2025**Impact of Catalyst Quantity on Premixed Ultralean Hydrogen/Air Combustion in a Packed Bed Reactor.**Mondal NA, Karimi N, Jackson SD and Paul MC. *Energy & Fuels.American Chemical Society (Acs)*.**Impact of vibration on Li-ion battery cooling: A system dynamics analysis and physical characterisation.**Saeed A, Karimi N and Paul MC. *International Journal of Thermal Sciences vol. 210,.Elsevier*.**Optimisation of the thermodynamic and environmental performances of a flat plate solar collector with multiple turbulators: An integrated experimental, numerical, and machine learning investigation.**Zaboli M, Karimi N, Ajarostaghi SSM and Saedodin S. *Renewable Energy vol. 242,.Elsevier*.**A platinum-coated staggered reactor to intensify lean hydrogen/air combustion: A large eddy simulation study.**Mondal NA, Karimi N, Jackson SD and Paul MC. *Fuel vol. 381,.Elsevier*.**Enhancing the performance of catalysts in turbulent premixed fuel-lean hydrogen/air combustion.**Mondal NA, Karimi N, Jackson SD and Paul MC. *Chemical Engineering Science vol. 301,.Elsevier*.**2024****Ruelle-Takens-Newhouse and degenerate period-doubling routes to chaos in a wavy-channel flow under mixed convection.**Doranehgard MH, Borazjani I, Karimi N and Li LKB. *Physical Review Fluids vol. 9, (12).American Physical Society (Aps)*.**Maximization of Hydrogen Production via Methane Steam Reforming in a Wavy Microreactor by Optimization of Catalyst Coating: A Combined Computational and Data Analytics Approach.**Esfandiary M, Karimi N and Saedodin S. *Industrial & Engineering Chemistry Research vol. 63, (43) 18599-18614. American Chemical Society (Acs)*.**Optically functional bio-based phase change material nanocapsules for highly efficient conversion of sunlight to heat and thermal storage.**Kazaz O, Karimi N and Paul MC. *Energy vol. 305,.Elsevier*.**Radiation and nanoparticle interaction for enhanced light absorption and heat conversion.**Kazaz O, Karimi N and Paul MC. *Journal of Molecular Liquids vol. 411,.Elsevier*.**Waste heat recovery from a green ammonia production plant by Kalina and vapour absorption refrigeration cycles: A comparative energy, exergy, environmental and economic analysis.**Anwar M, Mehdizadeh A and Karimi N. *Sustainable Energy Technologies and Assessments vol. 69, 103916-103916. Elsevier*.**Effects of compositional uncertainties in cracked NH₃/biosyngas fuel blends on the combustion characteristics and performance of a combined-cycle gas turbine: A numerical thermokinetic study.**Soyler I, Zhang K, Jiang X and Karimi N. *International Journal of Hydrogen Energy vol. 69, 504-517.Elsevier*.

Breaking the symmetry of a wavy channel alters the route to chaotic flow.

Doranehgard MH, Karimi N, Borazjani I and Li LKB. *Physical Review E* vol. 109, (4).American Physical Society (Aps).

Hybridized power-hydrogen generation using various configurations of Brayton-organic flash Rankine cycles fed by a sustainable fuel: Exergy and exergoeconomic analyses with ANN prediction.

Hajjaligol N, Fattahi A, Karimi N, Jamali M and Keighobadi S. *Energy* vol. 290,.Elsevier.

Thermally enhanced nanocomposite phase change material slurry for solar-thermal energy storage.

Kazaz O, Karimi N, Kumar S, Falcone G and Paul MC. *Journal of Energy Storage* vol. 78,.Elsevier.

Bubble generation mechanisms in microchannel under microgravity and heterogeneous wettability.

Mousavi SM, Lee J, Lee BJ, Jarrahbashi D, Karimi N and Faroughi SA. *Physics of Fluids* vol. 36, (2).Aip Publishing.

On the effects of surface waviness upon catalytic steam reforming of methane in micro-structured reactors - a computational study.

Esfandiary M, Saedodin S and Karimi N. *International Journal of Hydrogen Energy* vol. 52, 465-481.Elsevier.

The potential for anti-icing wing and aircraft applications of mixed-wettability surfaces - A comprehensive review.

Mousavi SM, Sotoudeh F, Chun B, Lee BJ, Karimi N and Faroughi SA. *Cold Regions Science and Technology* vol. 217,.Elsevier.

Introduction to Advances in Sustainable Hydrogen Energy.

Karimi N, Li LKB, Paul MC, Doranehgard MH and Sotoudeh F. *Rsc Advances* vol. 14, (13) 9351-9352.Royal Society of Chemistry (Rsc).

2023

Transient cooling of a lithium-ion battery module during high-performance driving cycles using distributed pipes - A numerical investigation.

Jahanpanah J, Soleymani P, Karimi N, Babaie M and Saedodin S. *Journal of Energy Storage* vol. 74,.Elsevier.

Energy, economic, and environmental analysis of converging air-based photovoltaic-thermal (air/PV-T) systems: A yearly benchmarking.

Dehghan M, Vajedi H, Rahgozar S and Karimi N. *Journal of Cleaner Production* vol. 434, 139871-139871.Elsevier.

Enhancing low-pressure stage steam turbine using the TDLD criterion and the TOPSIS analysis.

Dolatabadi R, Lakzian E, Masoumi S, Dykas S, Karimi N, Benkhaldoun F and Vlaskin MS. *Proceedings of The Institution of Mechanical Engineers Part C Journal of Mechanical Engineering Science* vol. 238, (10) 4822-4839.Sage Publications.

Sensible heat thermal energy storage performance of mono and blended nanofluids in a free convective-radiation inclined system.

Kazaz O, Ferraro R, Tassieri M, Kumar S, Falcone G, Karimi N and Paul MC. *Case Studies in Thermal Engineering* vol. 51,.Elsevier.

Recent progress on flat plate solar collectors equipped with nanofluid and turbulator: state of the art.

Zaboli M, Saedodin S, Ajarostaghi SSM and Karimi N. *Environmental Science and Pollution Research* vol. 30, (51) 109921-109954.Springer.

Corrigendum to Lithium-ion battery thermal management via advanced cooling parameters: State-of-the-art review on application of machine learning with exergy, economic and environmental analysis [Journal of the Taiwan Institute of Chemical Engineers Volume 148, July 2023, 104854].

Parsa SM, Norozpour F, Shoeibi S, Shahsavari A, Aberoumand S, Afrand M, Said Z and Karimi N. *Journal of The Taiwan Institute of Chemical Engineers*.Elsevier.

Cold water storage tank enhancement using response surface methodology leading cooling peak shaving along with load shifting.

Kalbasi R, Sharifpur M, Mortazavi M, Karimi N, Binh LNN and Afrand M. *Journal of Cleaner Production* vol. 421,.Elsevier.

Time-dependent analysis of heat transfer enhancement and entropy generation of hybrid nanofluids in a tube with a solid and ellipticalcut twisted tape insert with non-uniform heat flux.

Khfagi AM, Hunt G, Paul MC and Karimi N. *Energy Sources Part a: Recovery, Utilization, and Environmental Effects* vol. 45, (4) 11315-11340. Taylor and Francis Group.

Heat transfer characteristics of fluids containing paraffin core-metallic shell nanoencapsulated phase change materials for advanced thermal energy conversion and storage applications.

Kazaz O, Karimi N, Kumar S, Falcone G and Paul MC. *Journal of Molecular Liquids* vol. 385, Elsevier.

Building integrated photovoltaic/thermal technologies in Middle Eastern and North African countries: Current trends and future perspectives.

Sohani A, Cornaro C, Shahverdian MH, Pierro M, Moser D, Nižeti S, Karimi N, Li LKB and Doranehgard MH. *Renewable and Sustainable Energy Reviews* vol. 182, Elsevier.

A review of combustion properties, performance, and emission characteristics of diesel engine fueled with Al₂O₃ nanoparticle-containing biodiesel.

Sharifianjazi F, Esmailkhanian A, Karimi N, Horri BA, Bazli L, Eskandarinezhad S and Ahmadi E. *Clean Technologies and Environmental Policy* vol. 26, (11) 3715-3737. Springer Nature.

Progress in phase change nano-emulsions for energy applications-A concise review.

Rashidi S, Karimi N, Li G and Sunden B. *Journal of Molecular Liquids* vol. 387, 122547-122547. Elsevier.

Impact of hybrid surfaces on the droplet breakup dynamics in microgravity slug flow: A dynamic contact angle analysis.

Mousavi SM, Jarrahashi D, Lee BJ, Karimi N and Faroughi SA. *Physics of Fluids* vol. 35, (7). Aip Publishing.

Numerical and experimental evaluation of the configurational effects on the thermohydraulics of an Ag-MgO/water hybrid nanofluid flow in a circular heatsink with optimization energy efficiency.

Pordanjani AH, Aghakhani S, Afrand M, Karimi N and Daneh-Dezfuli A. *Journal of The Taiwan Institute of Chemical Engineers*. Elsevier.

Double-diffusive natural convection with Soret/Dufour effects and energy optimization of Nano-Encapsulated Phase Change Material in a novel form of a wavy-walled I-shaped domain.

Tayebi T, El-Sapa S, Karimi N, Dogonchi AS, Chamkha AJ and Galal AM. *Journal of The Taiwan Institute of Chemical Engineers* vol. 148, Elsevier.

A comprehensive review on the application of nanofluids and PCMs in solar thermal collectors: Energy, exergy, economic, and environmental analyses.

Shahsavari A, Afrand M, Kalbasi R, Aghakhani S, Bakhsheshi-Rad HR and Karimi N. *Journal of The Taiwan Institute of Chemical Engineers* vol. 148, Elsevier.

On the effects of adding syngas to an ammonia-MILD combustion regime A computational study of the reaction zone structure.

Mousavi SM, Lee BJ, Kim J, Sotoudeh F, Chun B, Jun D, Karimi N and Abolfazli Esfahani J. *International Journal of Hydrogen Energy*. Elsevier.

Lithium-ion battery thermal management via advanced cooling parameters: State-of-the-art review on application of machine learning with exergy, economic and environmental analysis.

Parsa SM, Norouzpour F, Shoeibi S, Shahsavari A, Aberoumand S, Afrand M, Said Z and Karimi N. *Journal of The Taiwan Institute of Chemical Engineers*. Elsevier.

A comprehensive study to find the optimal fraction of nanoparticle coated at the interface of solar desalination absorbers: 5E and GHGs analysis in different seasons.

Parsa SM, Norouzpour F, Shoeibi S, Shahsavari A, Aberoumand S, Said Z, Guo W, Ngo HH, Ni BJ, Afrand M and Karimi N. *Solar Energy Materials and Solar Cells* vol. 256, Elsevier.

Entropy generation and thermohydraulics of mixed convection of hybrid-nanofluid in a vertical tube fitted with ellipticalcut twisted tape inserts - a computational study.

Khfagi AM, Hunt G, Paul MC and Karimi N. *Energy Sources Part a: Recovery, Utilization, and Environmental Effects* vol. 45, (2) 3369-3391. Taylor and Francis Group.

A review on the applications of micro-/mini-channels for battery thermal management.

Sarvar-Ardeh S, Rashidi S, Rafee R and Karimi N. *Journal of Thermal Analysis and Calorimetry*. Springer Verlag.

Effects of combined radiation and forced convection on a directly capturing solar energy system.

Kazaz O, Karimi N, Kumar S, Falcone G and Paul MC. *Thermal Science and Engineering Progress* vol. 40,.Elsevier.

Numerical investigation of premixed hydrogen/air combustion at lean to ultra-lean conditions and catalytic approach to enhance stability.

Mondal MNA, Karimi N, Jackson SD and Paul MC. *International Journal of Hydrogen Energy*.Elsevier.

Natural and synthetic superhydrophobic surfaces: A review of the fundamentals, structures, and applications.

Sotoudeh F, Mousavi SM, Karimi N, Lee BJ, Abolfazli-Esfahani J and Manshadi MKD. *Alexandria Engineering Journal* vol. 68, 587-609.Elsevier.

Enhanced sensible heat storage capacity of nanofluids by improving the photothermal conversion performance with direct radiative absorption of solar energy.

Kazaz O, Karimi N, Kumar S, Falcone G and Paul MC. *Journal of Molecular Liquids* vol. 372,.Elsevier.

A combination of large eddy simulation and physics-informed machine learning to predict pore-scale flow behaviours in fibrous porous media: A case study of transient flow passing through a surgical mask.

Mesgarpour M, Habib R, Shadloo MS and Karimi N. *Engineering Analysis With Boundary Elements* vol. 149, 52-70. Elsevier.

Uncertainty quantification of the premixed combustion characteristics of NH₃/H₂/N₂ fuel blends.

Soyler I, Zhang K, Duwig C, Jiang X and Karimi N. *International Journal of Hydrogen Energy*.Elsevier Bv.

2022

Techno-economic evaluation of a hybrid photovoltaic system with hot/cold water storage for poly-generation in a residential building.

Sohani A, Cornaro C, Shahverdian MH, Moser D, Pierro M, Olabi AG, Karimi N, Nizeti S, Li LKB and Doranehgard MH. *Applied Energy* vol. 331,.Elsevier.

Experimental investigation of a hybridized flat-plate solar collector/gas burner for low-carbon production of hot water Analysis of energy, exergy, and GHG emissions.

Soleymani P, Saedodin S, Hadi Rostamian S and Karimi N. *Sustainable Energy Technologies and Assessments* vol. 55,.Elsevier.

Lattice-Boltzmann numerical simulation of double-diffusive natural convection and entropy generation in an n-shaped partially heated storage tank.

Fattahi A, Hajjaligol N, Delpisheh M and Karimi N. *Engineering Analysis With Boundary Elements* vol. 146, 105-118. Elsevier.

Computational assessment of the thermal response of a Li-ion battery module to transient loads.

Saeed A, Karimi N and Paul MC. *Journal of Power Sources* vol. 552,.Elsevier.

Hydrogen preheating in a PEMFC system employing a heat exchanger equipped with an innovative turbulator.

Mousavi Ajarostaghi SS, Zaboli M, Kiani B, Saedodin S, Karimi N and Javadi H. *International Journal of Hydrogen Energy* vol. 47, (85) 36264-36282.Elsevier.

Entropy generation and exergy analysis of AgMgO/water hybrid nanofluid within a circular heatsink with different number of outputs.

Aghakhani S, Hajatzadeh Pordanjani A, Afrand M, Farsani AK, Karimi N and Sharifpur M. *International Journal of Thermal Sciences* vol. 184,.Elsevier.

Applications of machine learning techniques in performance evaluation of solar desalination systems A concise review.

Rashidi S, Karimi N and Yan WM. *Engineering Analysis With Boundary Elements* vol. 144, 399-408.Elsevier.

Numerical investigation on turbulent flow, heat transfer, and entropy generation of water-based magnetic nanofluid flow in a tube with hemisphere porous under a uniform magnetic field.

Soleymani P, Ma Y, Saffarifar E, Mohebbi R, Babaie M, Karimi N and Saedodin S. *International Communications in Heat and Mass Transfer* vol. 137,.Elsevier.

Effect of hybrid wall contact angles on slug flow behavior in a T-junction microchannel: A numerical study.
Mousavi SM, Sotoudeh F, Lee BJ, Paydari MR and Karimi N. *Colloids and Surfaces a: Physicochemical and Engineering Aspects* vol. 650,.Elsevier.

On the effects of NH₃ addition to a reacting mixture of H₂/CH₄ under MILD combustion regime: Numerical modeling with a modified EDC combustion model.
Mousavi SM, Sotoudeh F, Jun D, Lee BJ, Esfahani JA and Karimi N. *Fuel* vol. 326,.Elsevier.

Computational analysis of heat transfer augmentation and thermodynamic irreversibility of hybrid nanofluids in a tube fitted with classical and ellipticalcut twisted tape inserts.
Khfagi AM, Hunt G, Paul MC and Karimi N. *Journal of Thermal Analysis and Calorimetry* vol. 147, (21) 12093-12110.Springer Verlag.

Using machine learning in photovoltaics to create smarter and cleaner energy generation systems: A comprehensive review.
Sohani A, Sayyaadi H, Cornaro C, Shahverdian MH, Pierro M, Moser D, Karimi N, Doranehgard MH and Li LKB. *Journal of Cleaner Production* vol. 364,.Elsevier.

Phase change materials: Agents towards energy performance improvement in inclined, vertical, and horizontal walls of residential buildings.
Aghakhani S, Ghaffarkhah A, Arjmand M, Karimi N and Afrand M. *Journal of Building Engineering* 104656-104656. Elsevier.

Price inflation effects on a solar-geothermal system for combined production of hydrogen, power, freshwater and heat.
Sohani A, Delfani F, Hosseini M, Sayyaadi H, Karimi N, Li LKB and Doranehgard MH. *International Journal of Hydrogen Energy*.Elsevier.

Thermal management and natural convection flow of nano encapsulated phase change material (NEPCM)-water suspension in a reverse T-shaped porous cavity enshrining two hot corrugated baffles: A boost to renewable energy storage.
Zidan AM, Nayak MK, Karimi N, Sattar Dogonchi A, Chamkha AJ, Ben Hamida MB and Galal AM. *Journal of Building Engineering* vol. 53,.Elsevier.

Dynamic multi-objective optimization applied to a solar-geothermal multi-generation system for hydrogen production, desalination, and energy storage.
Sohani A, Delfani F, Hosseini M, Sayyaadi H, Karimi N, Li LKB and Doranehgard MH. *International Journal of Hydrogen Energy*.Elsevier.

Examination of the effects of porosity upon intensification of thermal storage of PCMs in a shell-and-tube type system.
Abbasi M, Mousavi SM, Lee BJ, Esfahani JA, Karimi N and Mamaghani MY. *Case Studies in Thermal Engineering* vol. 33,.Elsevier.

Efficacy of diverse structures of wavy baffles on heat transfer amplification of double-diffusive natural convection inside a C-shaped enclosure filled with hybrid nanofluid.
Nayak MK, Karimi N, Chamkha AJ, Sattar Dogonchi A, El-Sapa S and Galal AM. *Sustainable Energy Technologies and Assessments* vol. 52,.Elsevier.

Enhancement of heat transfer in solar collectors by vortex generation.
Rahmani E, Fattahi A, Moradi T, Hajialigol N, Karimi N and Doranehgard MH. *Energy Sources Part a: Recovery, Utilization, and Environmental Effects* vol. 44, (1) 1731-1750.Taylor and Francis Group.

Selecting efficient side of thermoelectric in pyramid-shape solar desalination units incorporated phase change material (PCM), nanoparticle, turbulator with battery storage powered by photovoltaic.
Parsa SM, Yazdani A, Javadi D, Afrand M, Karimi N and Ali HM. *Journal of Energy Storage* vol. 51,.Elsevier.

The effect of sinusoidal fins amplitude on the thermo-hydraulic performance of a solar air heater.
Saboochi Z, Ommi F, Rahmani E, Moradi T, Fattahi A, Delpisheh M and Karimi N. *Chemical Engineering Communications*.Taylor and Francis.

A critical analysis on the energy and exergy performance of photovoltaic/thermal (PV/T) system: The role of nanofluids stability and synthesizing method.

Masoud Parsa S, Yazdani A, Aberoumand H, Farhadi Y, Ansari A, Aberoumand S, Karimi N, Afrand M, Cheraghian G and Muhammad Ali H. *Sustainable Energy Technologies and Assessments* vol. 51,.Elsevier.

A comparative analysis of the evolution of compositional and entropy waves in turbulent channel flows.

Rahmani E, Fattahi A, Karimi N and Hosseinalipour SM. *Physics of Fluids* vol. 34, (1).Aip Publishing.

Energy Harvesting Materials: Overview.

Rashidi S, Karimi N and Hormozi F. *Encyclopedia of Smart Materials* 230-241. Elsevier.

Progress and challenges on the thermal management of electrochemical energy conversion and storage technologies: Fuel cells, electrolyzers, and supercapacitors.

Rashidi S, Karimi N, Sunden B, Kim KC, Olabi AG and Mahian O. *Progress in Energy and Combustion Science* vol. 88,.Elsevier.

2021

Numerical simulation of the effects of superhydrophobic coating in an oval cross-sectional solar collector with a wavy absorber filled with water-based Al₂O₃-ZnO-Fe₃O₄ ternary hybrid nanofluid.

Fattahi A and Karimi N. *Sustainable Energy Technologies and Assessments* vol. 50,.Elsevier.

Geometrical inlet effects on the behavior of a non-premixed fully turbulent syngas combustion; a numerical study.

Sotoudeh F, Abolfazli-Esfahani J, Goshtasbi Rad E, Karimi N, Lee BJ, Jeung IS, Manshadi MKD and Kim KC. *Acta Astronautica* vol. 189, 1-9.

Machine-Learning Enhanced Analysis of Mixed Biothermal Convection of Single Particle and Hybrid Nanofluids within a Complex Configuration.

Alizadeh R, Abad JMN, Fattahi A, Mesgarpour M, Doranehgard MH, Xiong Q and Karimi N. *Industrial & Engineering Chemistry Research* vol. 61, (24) 8478-8494.American Chemical Society (Acs).

Combined heat and mass transfer and thermodynamic irreversibilities in the stagnation-point flow of Casson rheological fluid over a cylinder with catalytic reactions and inside a porous medium under local thermal nonequilibrium.

Alizadeh R, Gomari SR, Alizadeh A, Karimi N and Li LKB. *Computers and Mathematics With Applications* vol. 81, 786-810.Elsevier.

Large eddy simulation of pseudo shock structure in a convergentlong divergent duct.

Mousavi SM, Kamali R, Sotoudeh F, Karimi N and Khojasteh D. *Computers and Mathematics With Applications* vol. 81, 823-837.Elsevier.

Predicting the effects of environmental parameters on the spatio-temporal distribution of the droplets carrying coronavirus in public transport A machine learning approach.

Mesgarpour M, Abad JMN, Alizadeh R, Wongwises S, Doranehgard MH, Jowkar S and Karimi N. *Chemical Engineering Journal* vol. 430,.Elsevier.

Intensification of ultra-lean catalytic combustion of methane in microreactors by boundary layer interruptions A computational study.

Hunt G, Karimi N and Mehdizadeh A. *Chemical Engineering Science* vol. 242,.Elsevier.

Phase change dynamics in a cylinder containing hybrid nanofluid and phase change material subjected to a rotating inner disk.

Selimefendigil F, Öztöpe HF, Doranehgard MH and Karimi N. *Journal of Energy Storage* vol. 42,.Elsevier.

Dissection of entropy production for the free convection of NEPCMs-filled porous wavy enclosure subject to volumetric heat source/sink.

Afshar SR, Mishra SR, Dogonchi AS, Karimi N, Chamkha AJ and Abulkhair H. *Journal of The Taiwan Institute of Chemical Engineers*.Elsevier.

Analysis of the unsteady thermal response of a Li-ion battery pack to dynamic loads.

Saeed A, Karimi N and Paul MC. *Energy* vol. 231,.Elsevier.

The use of nanofluids in thermosyphon heat pipe: A comprehensive review.

Ghorabae H, Emami MRS, Moosakazemi F, Karimi N, Cheraghian G and Afrand M. *Powder Technology*.

Nanofluids: Physical phenomena, applications in thermal systems and the environment effects- a critical review.

Pordanjani AH, Aghakhani S, Afrand M, Sharifpur M, Meyer JP, Xu H, Ali HM, Karimi N and Cheraghian G. *Journal of Cleaner Production* 128573-128573.

Optimizing thermal performance and exergy efficiency in hydrogen-fueled meso-combustors by applying a bluff-body.

Cai T, Zhao D and Karimi N. *Journal of Cleaner Production* vol. 311,.Elsevier.

Towards identification of a reliable framework to predict the thermal field in turbulent wall-bounded shear flows.

Ziefuss M, Karimi N and Mehdizadeh A. *International Journal of Heat and Mass Transfer* vol. 180,.Elsevier.

A machine learning approach to the prediction of transport and thermodynamic processes in multiphysics systems - heat transfer in a hybrid nanofluid flow in porous media.

Alizadeh R, Abad JMN, Ameri A, Mohebbi MR, Mehdizadeh A, Zhao D and Karimi N. *Journal of The Taiwan Institute of Chemical Engineers* vol. 124, 290-306.Elsevier.

Intensification of MILD combustion of methane and hydrogen blend by the application of a magnetic field- a numerical study.

Zharfa M and Karimi N. *Acta Astronautica* vol. 184, 259-268.Elsevier.

Thermal-natural convection and entropy production behavior of hybrid nanoliquid flow under the effects of magnetic field through a porous wavy cavity embodies three circular cylinders.

Dogonchi AS, Tayebi T, Karimi N, Chamkha AJ and Alhumade H. *Journal of The Taiwan Institute of Chemical Engineers* vol. 124, 162-173.Elsevier.

Free convection and second law scrutiny of NEPCM suspension inside a wavy-baffle-equipped cylinder under altered Fourier theory.

Nayak MK, Dogonchi AS, Elmasry Y, Karimi N, Chamkha AJ and Alhumade H. *Journal of The Taiwan Institute of Chemical Engineers*.Elsevier.

Numerical simulation of a solar air heater equipped with wavy and raccoon-shaped fins: The effect of fins height.

Rahmani E, Moradi T, Fattahi A, Delpisheh M, Karimi N, Ommi F and Saboohi Z. *Sustainable Energy Technologies and Assessments* vol. 45,.Elsevier.

Thermo-economic and entropy generation analyses of magnetic natural convective flow in a nanofluid-filled annular enclosure fitted with fins.

Tayebi T, Sattar Dogonchi A, Karimi N, Ge-JiLe H, Chamkha AJ and Elmasry Y. *Sustainable Energy Technologies and Assessments* vol. 46,.Elsevier.

A Review on Potentials of Magnetic Shape Memory Alloys for Energy Harvesting.

Rashidi S, Ehsani MH, Shakouri M and Karimi N. *Journal of Magnetism and Magnetic Materials* 168112-168112. Elsevier.

On the Response of Ultralean Combustion of CH₄/H₂ Blends in a Porous Burner to Fluctuations in Fuel Flowan Experimental Investigation.

Habib R, Yadollahi B, Saeed A, Doranehgard MH and Karimi N. *Energy & Fuels* vol. 35, (10) 8909-8921.American Chemical Society (Acs).

A numerical investigation of CO₂ gasification of biomass particles- analysis of energy, exergy and entropy generation.

Wang L, Izaharuddin AN, Karimi N and Paul MC. *Energy* vol. 228,.Elsevier.

Natural convection of CuO-water nanofluid in a conventional oil/water separator cavity: Application to combined-cycle power plants.

Sadeghi MS, Dogonchi AS, Ghodrati M, Chamkha AJ, Alhumade H and Karimi N. *Journal of The Taiwan Institute of Chemical Engineers*.Elsevier.

Interaction of fusion temperature on the magnetic free convection of nano-encapsulated phase change materials within two rectangular fins-equipped porous enclosure.

Dogonchi AS, Mishra SR, Karimi N, Chamkha AJ and Alhumade H. *Journal of The Taiwan Institute of Chemical Engineers.Elsevier.*

Selecting the best nanofluid type for A photovoltaic thermal (PV/T) system based on reliability, efficiency, energy, economic, and environmental criteria.

Sohani A, Shahverdian MH, Sayyaadi H, Samiezadeh S, Doranehgard MH, Nizetic S and Karimi N. *Journal of The Taiwan Institute of Chemical Engineers.Elsevier.*

A dynamic multi-objective optimization procedure for water cooling of a photovoltaic module.

Shahverdian MH, Sohani A, Sayyaadi H, Samiezadeh S, Doranehgard MH, Karimi N and Li LKB. *Sustainable Energy Technologies and Assessments vol. 45,.Elsevier.*

Experimental study of a hemispherical three-dimensional solar collector operating with silver-water nanofluid.

Moravej M, Doranehgard MH, Razeghizadeh A, Namdarnia F, Karimi N, Li LKB, Mozafari H and Ebrahimi Z. *Sustainable Energy Technologies and Assessments vol. 44,.Elsevier.*

Prediction of the spread of Corona-virus carrying droplets in a bus - A computational based artificial intelligence approach.

Mesgarpour M, Abad JMN, Alizadeh R, Wongwises S, Doranehgard MH, Ghaderi S and Karimi N. *Journal of Hazardous Materials vol. 413,.Elsevier.*

Understanding droplet collision with superhydrophobic-hydrophobic-hydrophilic hybrid surfaces.

Sotoudeh F, Kamali R, Mousavi SM, Karimi N, Lee BJ and Khojasteh D. *Colloids and Surfaces a: Physicochemical and Engineering Aspects vol. 614, 126140-126140.Elsevier.*

A Machine Learning Approach to Predicting the Heat Convection and Thermodynamics of an External Flow of Hybrid Nanofluid.

Alizadeh R, Abad JMN, Fattahi A, Mohebbi MR, Doranehgard MH, Li LKB, Alhajri E and Karimi N. *Journal of Energy Resources Technology vol. 143, (7).American Society of Mechanical Engineers.*

Numerical Investigation of Thermal Dynamic Response in Porous MediaA Pore-Scale Study.

Habib R, Yadollahi B and Karimi N. *Advances in Heat Transfer and Thermal Engineering 385-389. Springer Nature.*

Chapter 14 Applications of nanofluids in thermal energy transport.

Rashidi S, Hormozi F, Karimi N and Ahmed W. *Emerging Nanotechnologies For Renewable Energy 345-368. Elsevier.*

2020

Numerical simulation of the heterogeneous combustion of dust clouds containing polydisperse porous iron particles.

Bozorg MV, Guan Y, Doranehgard MH, Hong K, Xiong Q, Karimi N and Li LKB. *Energy vol. 212,.Elsevier.*

Experimental investigation of the hydrodynamic effects upon convecting entropy waves in nozzle flows.

Hosseinalipour SM, Rahmani E, Fattahi A and Karimi N. *Aerospace Science and Technology vol. 107,.Elsevier.*

Lift characteristics of two tandem airfoils in the globally unstable wake of a heated cylinder.

Zhai X, Yin B, Karimi N, Gupta V, Li LKB, Guan Y and Ao W. *Journal of Thermal Analysis and Calorimetry. Springer.*

Numerical Investigation of the Plasma-Assisted MILD Combustion of a CH₄/H₂ Fuel Blend under Various Working Conditions.

Mousavi SM, Kamali R, Sotoudeh F, Karimi N and Lee BJ. *Journal of Energy Resources Technology, Transactions of The Asme vol. 143, (6).American Society of Mechanical Engineers.*

Dynamics of entropy wave generation in a simplified model of gas turbine combustor: A theoretical investigation.

Fattahi A, Karimi N and Hajjaligol N. *Physics of Fluids vol. 32, (10).Aip Publishing.*

Unsteady ultra-lean combustion of methane and biogas in a porous burner An experimental study.

Habib R, Yadollahi B, Saeed A, Doranehgard MH, Li LKB and Karimi N. *Applied Thermal Engineering* vol. 182, Elsevier.

Utilization of H₂O and CO₂ in Coal Particle Gasification with an Impact of Temperature and Particle Size.

Sutardi T, Wang L, Karimi N and Paul MC. *Energy and Fuels*. American Chemical Society.

Generation of entropy in micro thermofluidic and thermochemical energy systems-A critical review.

Torabi M, Karimi N, Torabi M, Peterson GP and Simonson CJ. *International Journal of Heat and Mass Transfer* vol. 163, Elsevier.

Transient thermo-solutal convection in a tilted porous enclosure heated from below and salted from above.

Guerrero FJ, Prol-Ledesma RM and Karimi N. *International Communications in Heat and Mass Transfer* vol. 118, Elsevier.

Investigation of thermochemical process of coal particle packed bed reactions for the development of UCG.

Sutardi T, Wang L, Karimi N and Paul MC. *International Journal of Coal Science and Technology*. Springeropen.

A Pore-Scale Investigation of the Transient Response of Forced Convection in Porous Media to Inlet Ramp Inputs.

Habib R, Yadollahi B and Karimi N. *Journal of Energy Resources Technology* vol. 142, (11). American Society of Mechanical Engineers.

Numerical simulations of ultra-low-Re flow around two tandem airfoils in ground effect: isothermal and heated conditions.

Yin B, Guan Y, Wen A, Karimi N and Doranehgard MH. *Journal of Thermal Analysis and Calorimetry*.

Application of Machine Learning to Investigation of Heat and Mass Transfer Over a Cylinder Surrounded by Porous Media The Radial Basic Function Network.

Alizadeh R, Mohebbi Najm Abad J, Fattahi A, Alhajri E and Karimi N. *Journal of Energy Resources Technology* vol. 142, (11). American Society of Mechanical Engineers.

Numerical Modelling of Subcooled Flow Boiling and Heat Transfer Enhancement: Validation and Applicability to Fusion Reactor Target Design.

Young G, Karimi N and Mackenzie R. *Journal of Energy Resources Technology* vol. 142, (11). American Society of Mechanical Engineers.

Numerical Investigation of the Effects of Swirling Hot Co-Flow on MILD Combustion of a HydrogenMethane Blend.

Mousavi SM, Kamali R, Sotoudeh F, Karimi N and Jeung I-S. *Journal of Energy Resources Technology* vol. 142, (11). American Society of Mechanical Engineers.

Analysis of transport processes in a reacting flow of hybrid nanofluid around a bluff-body embedded in porous media using artificial neural network and particle swarm optimization.

Mohebbi Najm Abad J, Alizadeh R, Fattahi A, Doranehgard MH, Alhajri E and Karimi N. *Journal of Molecular Liquids* vol. 313, Elsevier.

Modeling Validation of Tubing Compaction for Rigless Well Plug and Abandonment.

Tunget B, Lu P, Cammarano A, Karimi N and Paul M. *Spe Drilling and Completion* 1-17. Society of Petroleum Engineers.

On the unsteady forced convection in porous media subject to inlet flow disturbances-A pore-scale analysis.

Habib R, Yadollahi B, Karimi N and Doranehgard MH. *International Communications in Heat and Mass Transfer* vol. 116, Elsevier.

Large eddy simulation of the destruction of convecting hot fluid pockets through a cold channel flow.

Saboochi Z, Ommi F, Fattahi A and Karimi N. *International Journal of Thermal Sciences* vol. 156, Elsevier.

Analysis of unsteady mixed convection of Cuwater nanofluid in an oscillatory, lid-driven enclosure using lattice Boltzmann method.

Valizadeh Ardalan M, Alizadeh R, Fattahi A, Adelian Rasi N, Doranehgard MH and Karimi N. *Journal of Thermal Analysis and Calorimetry* vol. 145, (4) 2045-2061. Springer Nature.

Thermohydraulic analysis of a microchannel with varying superhydrophobic roughness.

Akhtari MR and Karimi N. *Applied Thermal Engineering* vol. 172,.Elsevier.

Heat and mass transfer and thermodynamic analysis of power-law fluid flow in a porous microchannel.

Javidi Sarafan M, Alizadeh R, Fattahi A, Valizadeh Ardalan M and Karimi N. *Journal of Thermal Analysis and Calorimetry*.Springer.

Techno-economic assessment and optimization of a hybrid renewable earth - air heat exchanger coupled with electric boiler, hydrogen, wind and PV configurations.

Akhtari MR, Shayegh I and Karimi N. *Renewable Energy* vol. 148, 839-851.Elsevier.

A pore-scale assessment of the dynamic response of forced convection in porous media to inlet flow modulations.

Habib R, Karimi N, Yadollahi B, Doranehgard MH and Li LKB. *International Journal of Heat and Mass Transfer* vol. 153,.Elsevier.

Passive techniques to enhance heat transfer in various thermal systems.

Rashidi S, Karimi N, Sundén B, Mahian O and Harmand S. *Journal of Thermal Analysis and Calorimetry* vol. 140, (3) 875-878.Springer Nature.

Experimental investigation of entropy waves evolution for understanding of indirect combustion noise in gas turbine combustors.

Hosseinalipour SM, Fattahi A, Khalili H, Tootoonchian F and Karimi N. *Energy* vol. 195,.Elsevier.

Numerical simulation of hydrothermal features of CuH₂O nanofluid natural convection within a porous annulus considering diverse configurations of heater.

Dogonchi AS, Nayak MK, Karimi N, Chamkha AJ and Ganji DD. *Journal of Thermal Analysis and Calorimetry* vol. 141, (5) 2109-2125.Springer Nature.

Modelling of waste heat recovery of a biomass combustion plant through ground source heat pumps-development of an efficient numerical framework.

B. BD, Wang L, Motta M and Karimi N. *Applied Thermal Engineering* vol. 166,.Elsevier.

Numerical study of nonlinear mixed convection inside stagnation-point flow over surface-reactive cylinder embedded in porous media.

Hong K, Alizadeh R, Ardalan MV, Nourbakhsh A, Karimi N, Yang Y and Xiong Q. *Journal of Thermal Analysis and Calorimetry* vol. 141, (5) 1889-1903.Springer Nature.

2019

Entropy Generation Assessment for Wall-Bounded Turbulent Shear Flows Based on Reynolds Analogy Assumptions.

Ziefuss M, Karimi N, Ries F, Sadiki A and Mehdizadeh A. *Entropy* vol. 21, (12).Mdpi.

State prediction of an entropy wave advecting through a turbulent channel flow.

Christodoulou L, Karimi N, Cammarano A, Paul M and Navarro-Martinez S. *Journal of Fluid Mechanics* vol. 882,. Cambridge University Press (Cup).

A simplified mathematical study of thermochemical preparation of particle oxide under counterflow configuration for use in biomedical applications.

Tabaei A, Sadeghi S, Hosseinzadeh S, Bidabadi M, Xiong Q and Karimi N. *Journal of Thermal Analysis and Calorimetry* vol. 139, (4) 2769-2779.Springer Nature.

A comprehensive investigation of acoustic power level in a moderate or intense low oxygen dilution in a jet-in-hot-coflow under various working conditions.

Mousavi SM, Kamali R, Sotoudeh F, Pourabadi R, Karimi N and Jeung I-S. *Aerospace Science and Technology* vol. 93,.Elsevier.

On the influences of surface heat release and thermal radiation upon transport in catalytic porous microreactorsA novel porous-solid interface model.

Saeed A, Karimi N, Hunt G and Torabi M. *Chemical Engineering and Processing - Process Intensification* vol. 143,. Elsevier.

Double-diffusive transport and thermodynamic analysis of a magnetic microreactor with non-Newtonian biofuel flow.

Saeed A, Karimi N, Hunt G, Torabi M and Mehdizadeh A. *Journal of Thermal Analysis and Calorimetry* vol. 140, (3) 917-941. *Springer Nature*.

On the response of a lean-premixed hydrogen combustor to acoustic and dissipative-dispersive entropy waves.

Fattahi A, Hosseinalipour SM, Karimi N, Saboohi Z and Ommi F. *Energy* vol. 180, 272-291. *Elsevier*.

Effects of radiation and magnetic field on mixed convection stagnation-point flow over a cylinder in a porous medium under local thermal non-equilibrium.

Alizadeh R, Karimi N and Nourbakhsh A. *Journal of Thermal Analysis and Calorimetry* vol. 140, (3) 1371-1391. *Springer Nature*.

Combined heat and mass transfer analyses in catalytic microreactors partially filled with porous material - The influences of nanofluid and different porous-fluid interface models.

Guthrie DGP, Torabi M and Karimi N. *International Journal of Thermal Sciences* vol. 140, 96-113. *Elsevier*.

Generation of entropy during forced convection of heat in nanofluid stagnation-point flows over a cylinder embedded in porous media.

Gomari SR, Alizadeh R, Alizadeh A and Karimi N. *Numerical Heat Transfer Part a Applications* vol. 75, (10) 647-673. *Taylor & Francis*.

Non-Equilibrium Thermodynamics of Micro Technologies.

Torabi M, Karimi N, Ghiaasiaan M and Wongwises S. *Entropy* vol. 21, (5). *Mdpi*.

Global, regional, and national burden of neurological disorders, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016.

Collaborators GN, Feigin VL, Nichols E, Alam T, Bannick MS, Beghi E, Blake N, Culpepper WJ, Dorsey ER, Elbaz A, Ellenbogen RG, Fisher JL, Fitzmaurice C, Giussani G, Glennie L, James SL, Johnson CO, Kassebaum NJ, Logroscino G, Marin B, Mountjoy-Venning WC, Nguyen M, Ofori-Asenso R, Patel AP, Piccininni M, Roth GA, Steiner TJ, Stovner LJ, Szeke CEI and Theadom A. *The Lancet Neurology* vol. 18, (5) 459-480. *Elsevier*.

Global, regional, and national burden of stroke, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016.

Collaborators GS, Johnson CO, Nguyen M, Roth GA, Nichols E, Alam T, Abate D, Abd-Allah F, Abdelalim A, Abraha HN, Abu-Rmeileh NM, Adebayo OM, Adeoye AM, Agarwal G, Agrawal S, Aichour AN, Aichour I, Aichour MTE, Alahdab F, Ali R, Alvis-Guzman N, Anber NH, Anjomshoa M, Arabloo J, Arauz A, Ärnlöv J, Arora A, Awasthi A, Banach M and Barboza MA. *The Lancet Neurology* vol. 18, (5) 439-458. *Elsevier*.

Analysis of transport from cylindrical surfaces subject to catalytic reactions and non-uniform impinging flows in porous media.

Alizadeh R, Karimi N, Mehdizadeh A and Nourbakhsh A. *Journal of Thermal Analysis and Calorimetry* vol. 138, (1) 659-678. *Springer Nature*.

The effects of exothermic catalytic reactions upon combined transport of heat and mass in porous microreactors.

Hunt G, Karimi N, Yadollahi B and Torabi M. *International Journal of Heat and Mass Transfer* vol. 134, 1227-1249. *Elsevier*.

Simulation of conjugate radiationforced convection heat transfer in a porous medium using the lattice Boltzmann method.

Kazemian Y, Rashidi S, Esfahani JA and Karimi N. *Meccanica* vol. 54, (3) 505-524. *Springer Nature*.

Investigation of coal particle gasification processes with application leading to underground coal gasification.

Sutardi T, Paul MC and Karimi N. *Fuel* vol. 237, 1186-1202. *Elsevier*.

Combustion Characteristics and Pollutant Emissions in Transient Oxy-Combustion of a Single Biomass Particle: A Numerical Study.

Wang L, Karimi N, Sutardi T and Paul MC. *Energy & Fuels* vol. 33, (2) 1556-1569. *American Chemical Society (Acs)*.

2018

Targeting a channel coating by using magnetic field and magnetic nanofluids.

Akar S, Rashidi S, Esfahani JA and Karimi N. *Journal of Thermal Analysis and Calorimetry* vol. 137, (2) 381-388. *Springer Nature*.

Energetic and entropic analyses of double-diffusive, forced convection heat and mass transfer in microreactors assisted with nanofluid.

Guthrie DGP, Torabi M and Karimi N. *Journal of Thermal Analysis and Calorimetry* vol. 137, (2) 637-658. *Springer Nature*.

Measuring progress from 1990 to 2017 and projecting attainment to 2030 of the health-related Sustainable Development Goals for 195 countries and territories: a systematic analysis for the Global Burden of Disease Study 2017.

Collaborators GS, Lozano R, Fullman N, Abate D, Abay SM, Abbafati C, Abbasi N, Abbastabar H, Abd-Allah F, Abdela J, Abdelalim A, Abdel-Rahman O, Abdi A, Abdollahpour I, Abdulkader RS, Abebe ND, Abebe Z, Abejie AN, Abera SF, Abil OZ, Aboyans V, Abraha HN, Abraham AR, Abu-Raddad LJ, Abu-Rmeileh NM, Abyu GY, Accrombessi MMK, Acharya D, Acharya P and Adamu AA. *The Lancet* vol. 392, (10159) 2091-2138. *Elsevier*.

Numerical modelling of unsteady transport and entropy generation in oxy-combustion of single coal particles with varying flow velocities and oxygen concentrations.

Wang L, Karimi N, Sutardi T and Paul MC. *Applied Thermal Engineering* vol. 144, 147-164. *Elsevier*.

Effects of Near Wall Modeling in the Improved-Delayed-Detached-Eddy-Simulation (IDDES) Methodology.

Saini R, Karimi N, Duan L, Sadiki A and Mehdizadeh A. *Entropy* vol. 20, (10). *Mdpi*.

Tsallis Entropy Index q and the Complexity Measure of Seismicity in Natural Time under Time Reversal before the M9 Tohoku Earthquake in 2011.

Varotsos PA, Sarlis NV and Skordas ES. *Entropy* vol. 20, (10). *Mdpi*.

Magnetohydrodynamics, Natural Convection, and Entropy Generation of CuO Water Nanofluid in an I-Shape Enclosure A Numerical Study.

Malekpour A, Karimi N and Mehdizadeh A. *Journal of Thermal Science and Engineering Applications* vol. 10, (6). *Asme International*.

Convection of heat and thermodynamic irreversibilities in two-phase, turbulent nanofluid flows in solar heaters by corrugated absorber plates.

Akbarzadeh M, Rashidi S, Karimi N and Ellahi R. *Advanced Powder Technology* vol. 29, (9) 2243-2254. *Elsevier*.

Porous materials in building energy technologies A review of the applications, modelling and experiments.

Rashidi S, Esfahani JA and Karimi N. *Renewable and Sustainable Energy Reviews* vol. 91, 229-247. *Elsevier*.

A concise review on the role of nanoparticles upon the productivity of solar desalination systems.

Rashidi S, Karimi N, Mahian O and Abolfazli Esfahani J. *Journal of Thermal Analysis and Calorimetry* vol. 135, (2) 1145-1159. *Springer Nature*.

Transient Analysis of the Interactions Between a Heat Transferring, Radial Stagnation Flow, and a Rotating Cylinder-Magnetohydrodynamic and Nonuniform Transpiration Effects.

Alizadeh R, Rahimi AB, Karimi N and Alizadeh A. *Journal of Thermal Science and Engineering Applications* vol. 10, (5). *Asme International*.

Assessment of predictive capability of hybrid URANS/LES methods in residence time calculation.

Mehdizadeh A, Doost S, Sadiki A, Janicka J and Karimi N. *Chemical Engineering Science* vol. 183, 47-59. *Elsevier*.

Gas-phase transport and entropy generation during transient combustion of single biomass particle in varying oxygen and nitrogen atmospheres.

Wang L, Karimi N and Paul MC. *International Journal of Hydrogen Energy* vol. 43, (17) 8506-8523. *Elsevier*.

Two-dimensional heat and mass transfer and thermodynamic analyses of porous microreactors with Soret and thermal radiation effects An analytical approach.

Hunt G, Torabi M, Govone L, Karimi N and Mehdizadeh A. *Chemical Engineering and Processing - Process Intensification* vol. 126, 190-205. *Elsevier*.

Two-dimensional analytical investigation of coupled heat and mass transfer and entropy generation in a porous, catalytic microreactor.

Hunt G, Karimi N and Torabi M. *International Journal of Heat and Mass Transfer* vol. 119, 372-391. *Elsevier*.

Numerical modeling of multiple steady-state convective modes in a tilted porous medium heated from below.
Guerrero-Martínez FJ, Karimi N and Ramos E. *International Communications in Heat and Mass Transfer* vol. 92, 64-72. Elsevier.

Mixed convection and thermodynamic irreversibilities in MHD nanofluid stagnation-point flows over a cylinder embedded in porous media.

Alizadeh R, Karimi N, Arjmandzadeh R and Mehdizadeh A. *Journal of Thermal Analysis and Calorimetry* vol. 135, (1) 489-506. Springer Nature.

Detailed analysis of the plasma extracellular vesicle proteome after separation from lipoproteins.

Karimi N, Cvjetkovic A, Jang SC, Crescitelli R, Hosseinpour Feizi MA, Nieuwland R, Ltvall J and Lässer C. *Cellular and Molecular Life Sciences* vol. 75, (15) 2873-2886. Springer Nature.

First and second laws of thermodynamics analysis of nanofluid flow inside a heat exchanger duct with wavy walls and a porous insert.

Akbarzadeh M, Rashidi S, Karimi N and Omar N. *Journal of Thermal Analysis and Calorimetry* vol. 135, (1) 177-194. Springer Nature.

Combined effects of nanofluid and transverse twisted-baffles on the flow structures, heat transfer and irreversibilities inside a square duct A numerical study.

Rashidi S, Akbarzadeh M, Karimi N and Masoodi R. *Applied Thermal Engineering* vol. 130, 135-148. Elsevier.

Effects of nanofluid and radiative heat transfer on the double-diffusive forced convection in microreactors.

Govone L, Torabi M, Wang L and Karimi N. *Journal of Thermal Analysis and Calorimetry* vol. 135, (1) 45-59. Springer Nature.

2017

Non-Equilibrium Thermodynamic Analysis of Double Diffusive, Nanofluid Forced Convection in Catalytic Microreactors with Radiation Effects.

Govone L, Torabi M, Hunt G and Karimi N. *Entropy* vol. 19, (12). Mdpi.

Challenges and progress on the modelling of entropy generation in porous media: A review.

Torabi M, Karimi N, Peterson GP and Yee S. *International Journal of Heat and Mass Transfer* vol. 114, 31-46. Elsevier.

On the Hydrodynamics and Heat Convection of an Impinging External Flow Upon a Cylinder with Transpiration and Embedded in a Porous Medium.

Alizadeh R, Rahimi AB, Karimi N and Alizadeh A. *Transport in Porous Media* vol. 120, (3) 579-604. Springer Nature.

On the dissipation and dispersion of entropy waves in heat transferring channel flows.

Fattahi A, Hosseinalipour SM and Karimi N. *Physics of Fluids* vol. 29, (8). Aip Publishing.

Thermodynamics Analyses of Porous Microchannels With Asymmetric Thick Walls and Exothermicity: An Entropic Model of Microreactors.

Elliott A, Torabi M and Karimi N. *Journal of Thermal Science and Engineering Applications* vol. 9, (4). Asme International.

Erratum to On the effects of internal heat sources upon forced convection in porous channels with asymmetric thick walls [Int. Comm. Heat Mass Trans. 73 (2016) 100110].

Elliott A, Torabi M, Hunt G and Karimi N. *International Communications in Heat and Mass Transfer* vol. 85, 76-80. Elsevier.

Analytical investigation of heat transfer and classical entropy generation in microreactors The influences of exothermicity and asymmetry.

Hunt G, Karimi N and Torabi M. *Applied Thermal Engineering* vol. 119, 403-424. Elsevier.

Three-dimensional numerical simulations of free convection in a layered porous enclosure.

Guerrero-Martínez FJ, Younger PL, Karimi N and Kyriakis S. *International Journal of Heat and Mass Transfer* vol. 106, 1005-1013. Elsevier.

On the effects of convecting entropy waves on the combustor hydrodynamics.

Hosseinalipour SM, Fattahi A, Afshari H and Karimi N. *Applied Thermal Engineering* vol. 110, 901-909.Elsevier.

2016

Theoretical investigation of entropy generation and heat transfer by forced convection of copperwater nanofluid in a porous channel Local thermal non-equilibrium and partial filling effects.

Torabi M, Dickson C and Karimi N. *Powder Technology* vol. 301, 234-254.Elsevier.

Generation of entropy and forced convection of heat in a conduit partially filled with porous media Local thermal non-equilibrium and exothermicity effects.

Torabi M, Karimi N, Zhang K and Peterson GP. *Applied Thermal Engineering* vol. 106, 518-536.Elsevier.

A thermodynamic analysis of forced convection through porous media using pore scale modeling.

Torabi M, Peterson GP, Torabi M and Karimi N. *International Journal of Heat and Mass Transfer* vol. 99, 303-316. Elsevier.

First and second law analyses of nanofluid forced convection in a partially-filled porous channel The effects of local thermal non-equilibrium and internal heat sources.

Dickson C, Torabi M and Karimi N. *Applied Thermal Engineering* vol. 103, 459-480.Elsevier.

Entropy generation in thermal systems with solid structures A concise review.

Torabi M, Zhang K, Karimi N and Peterson GP. *International Journal of Heat and Mass Transfer* vol. 97, 917-931. Elsevier.

On the effects of internal heat sources upon forced convection in porous channels with asymmetric thick walls.

Elliott A, Torabi M, Karimi N and Cunningham S. *International Communications in Heat and Mass Transfer* vol. 73, 100-110.Elsevier.

Analytical investigation of non-adiabatic effects on the dynamics of sound reflection and transmission in a combustor.

Hosseinalipour SM, Fattahi A and Karimi N. *Applied Thermal Engineering* vol. 98, 553-567.Elsevier.

Three-dimensional numerical modeling of free convection in sloping porous enclosures.

Guerrero-Martínez FJ, Younger PL and Karimi N. *International Journal of Heat and Mass Transfer* vol. 98, 257-267. Elsevier.

Generation of Adverse Pressure Gradient in the Circumferential Flashback of a Premixed Flame.

Karimi N, McGrath S, Brown P, Weinkauff J and Dreizler A. *Flow, Turbulence and Combustion* vol. 97, (2) 663-687. Springer Nature.

Characterizing the signature of flame flashback precursor through recurrence analysis.

Christodoulou L, Kabiraj L, Saurabh A and Karimi N. *Chaos An Interdisciplinary Journal of Nonlinear Science* vol. 26, (1).Aip Publishing.

Mathematical Methods for Heat Transfer and Thermodynamic Analysis of Conductive, Convective, and Radiative Media.

Torabi M, Karimi N and Mahmud S. *Mathematical Problems in Engineering* vol. 2016, (1) 1-1.Hindawi.

Investigation of the transmitted noise of a combustor exit nozzle caused by burned hydrogen-hydrocarbon gases.

Hosseinalipour SM, Fattahi A and Karimi N. *International Journal of Hydrogen Energy* vol. 41, (3) 2075-2086. Elsevier.

2015

Heat transfer and second law analyses of forced convection in a channel partially filled by porous media and featuring internal heat sources.

Torabi M, Karimi N and Zhang K. *Energy* vol. 93, 106-127.Elsevier.

On the effects of exothermicity and endothermicity upon the temperature fields in a partially-filled porous channel.

Karimi N, Agbo D, Khan AT and Younger PL. *International Journal of Thermal Sciences* vol. 96, 128-148.Elsevier.

Chaos in an imperfectly premixed model combustor.

Kabiraj L, Saurabh A, Karimi N, Sailor A, Mastorakos E, Dowling AP and Paschereit CO. *Chaos An Interdisciplinary Journal of Nonlinear Science* vol. 25, (2).Aip Publishing.

2014

Experimental and Theoretical Investigation of the Flashback of a Swirling, Bluff-Body Stabilised, Premixed Flame.

Karimi N, Heeger C, Christodoulou L and Dreizler A. *Zeitschrift für Physikalische Chemie* vol. 229, (5) 663-689. *De Gruyter*.

Response of a conical, laminar premixed flame to low amplitude acoustic forcing A comparison between experiment and kinematic theories.

Karimi N. *Energy* vol. 78, 490-500. *Elsevier*.

Hydrodynamic Instabilities in Gaseous Detonations: Comparison of Euler, NavierStokes, and Large-Eddy Simulation.

Mahmoudi Y, Karimi N, Deiterding R and Emami S. *Journal of Propulsion and Power* vol. 30, (2) 384-396. *American Institute of Aeronautics and Astronautics (Aiaa)*.

Analytical investigation of heat transfer enhancement in a channel partially filled with a porous material under local thermal non-equilibrium condition: Effects of different thermal boundary conditions at the porous-fluid interface.

Mahmoudi Y, Karimi N and Mazaheri K. *International Journal of Heat and Mass Transfer* vol. 70, 875-891. *Elsevier*.

Temperature fields in a channel partially filled with a porous material under local thermal non-equilibrium condition An exact solution.

Karimi N, Mahmoudi Y and Mazaheri K. *Proceedings of The Institution of Mechanical Engineers Part C Journal of Mechanical Engineering Science* vol. 228, (15) 2778-2789. *Sage Publications*.

Numerical investigation of heat transfer enhancement in a pipe partially filled with a porous material under local thermal non-equilibrium condition.

Mahmoudi Y and Karimi N. *International Journal of Heat and Mass Transfer* vol. 68, 161-173. *Elsevier*.

2010

On the interaction of sound with steady heat communicating flows.

Karimi N, Brear MJ and Moase WH. *Journal of Sound and Vibration* vol. 329, (22) 4705-4718. *Elsevier*.

2009

Linear and non-linear forced response of a conical, ducted, laminar premixed flame.

Karimi N, Brear MJ, Jin S-H and Monty JP. *Combustion and Flame* vol. 156, (11) 2201-2212. *Elsevier*.

2008

Acoustic and disturbance energy analysis of a flow with heat communication.

KARIMI N, BREAR MJ and MOASE WH. *Journal of Fluid Mechanics* vol. 597, 67-89. *Cambridge University Press (Cup)*.

Acoustic and disturbance energy analysis of a flow with heat communication.

Karimi N, Brear MJ and Moase WH. *Journal of Fluid Mechanics* vol. 597, 67-89.