

Personal Information

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Contact information

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Educational Background

B.S.: University of Tehran, Mechanical Engineering, 2006

Thesis title: Numerical Study on Laser Cutting Methods

M.S.: University of Tehran, Mechanical Engineering, Energy Conversion, 2009

Thesis title: Experimental Measurement of Local Natural Convection Coefficient on Axisymmetric Objects Using Laser Interferometry

Ph.D.: University of Tehran, Mechanical Engineering, Energy Conversion, 2015

Thesis title: Experimental and Numerical Investigation of Convective Heat transfer of Magnetite Nanofluid flow in a channel under the influence of external magnetic field

Research

Areas of Research

- Experimental and numerical heat transfer
- Magnetic nanofluids flow and heat transfer
- Heat transfer in Porous media
- Microchannels
- Two-phase flow and heat transfer
- Electrohydrodynamics
- Experimental measurement techniques
- Magnetic drug targeting

Courses

- Fundamentals of Heat transfer
- Fundamentals of Fluid Mechanics
- Two-phase flow
- Advanced Heat transfer
- Advanced Engineering Mathematics

Publications

Journal Papers

[Electrohydrodynamic \(EHD\) effects on condensation heat transfer of R-11 on circular and elliptical cylinders: An experimental study](#)

M Goharkhah

International Journal of Thermal Sciences 185, 108100

[Point to Point Control of a Liquid Carrying Quadroter](#)

A Soltani, AHV Bajestani, M Goharkhah

Amirkabir Journal of Mechanical Engineering 54 (4), 2022
727-746

[Heat transfer enhancement in mini channel heat sinks utilizing corona wind: a numerical study](#)

A Saadatmand, M Goharkhah, AM Nejad

International Journal of Heat and Mass Transfer 182, 121970

[A comparative analysis on the single-phase and two-phase mixture models for calculation of ferrofluid convective heat transfer in the presence of a magnetic field: a numerical ...](#)

H Jafari, M Goharkhah, AM Nejad

International Journal of Numerical Methods for Heat & Fluid Flow 32 (7 ...

[Energy and exergy analysis of ferrofluid flow in a triple tube heat exchanger under the influence of an external magnetic field](#)

SE Hosseinzadeh, S Majidi, M Goharkhah, A Jahangiri

Thermal Science and Engineering Progress 25, 101019

[A three dimensional numerical investigation on trajectories and capture of magnetic drug carrier nanoparticles in a Y-shaped vessel](#)

M Mahmoodpour, M Goharkhah, M Ashjaee, M Najafi

Journal of Drug Delivery Science and Technology 61, 102207

[Effects of interphase momentum exchange models on simulation of subcooled flow boiling](#)

SM Naghibzadeh, M Goharkhah, M Sharifpur, JP Meyer

International Communications in Heat and Mass Transfer 118, 104863

[Application of electromagnets for forced convective heat transfer enhancement of magnetic fluids](#)

H Jafari, M Goharkhah

International Journal of Thermal Sciences 157, 106495

[A magnetic vortex generator for simultaneous heat transfer enhancement and pressure drop reduction in a mini channel](#)

M Bezaatpour, M Goharkhah

Heat transfer-Asian research 49 (3), 1192-1213

[Thermal conductivity calculation of magnetite using molecular dynamics simulation](#)

M Jedari Ghourichaei, M Goharkhah, N Razmara

Energy Equipment and Systems 8 (1), 45-54

[Investigation on trajectories and capture of magnetic drug carrier nanoparticles after injection into a direct vessel](#)

M Mahmoodpour, M Goharkhah, M Ashjaee

Journal of Magnetism and Magnetic Materials 497, 166065

[Convective heat transfer enhancement in a double pipe mini heat exchanger by](#)

[magnetic field induced swirling flow](#)

M Bezaatpour, M Goharkhah
Applied Thermal Engineering 167, 114801

[A comparative investigation on the accuracy of magnetic force models in ferrohydrodynamics](#)

M Goharkhah, M Bezaatpour, D Javar
Powder Technology 360, 1143-1156

[A novel heat sink design for simultaneous heat transfer enhancement and pressure drop reduction utilizing porous fins and magnetite ferrofluid](#)

M Bezaatpour, M Goharkhah
International Journal of Numerical Methods for Heat & Fluid Flow 29 (9 ...

[Dynamic measurement of ferrofluid thermal conductivity under an external magnetic field](#)

M Goharkhah, S Gharekhani, S Fallah, M Ashjaee
Heat and Mass Transfer 55, 1583-1592

[Effect of magnetic field on the hydrodynamic and heat transfer of magnetite ferrofluid flow in a porous fin heat sink](#)

M Bezaatpour, M Goharkhah
Journal of Magnetism and Magnetic Materials 476, 506-515

[Three dimensional simulation of hydrodynamic and heat transfer behavior of magnetite nanofluid flow in circular and rectangular channel heat sinks filled with porous media](#)

M Bezaatpour, M Goharkhah
Powder Technology 344, 68-78

[Numerical Simulation and Optimization of Forced Convection Heat Transfer of Magnetic Nanofluid in a Channel in the Presence of a Non-Uniform Magnetic Field](#)

M Goharkhah, M Esmaeili, M Ashjaee
Journal of space science and technology

[Application of Ferrofluid for Convective Heat Transfer Enhancement in Micro Gravity Conditions](#)

M Goharkhah
16th International Conference of Iranian Aerospace Society, Tehran

[Experimental investigation on convective heat transfer and hydrodynamic characteristics of magnetite nanofluid under the influence of an alternating magnetic field](#)

M Goharkhah, M Ashjaee, M Shahabadi
International Journal of Thermal Sciences 99, 113-124

[Thermal Conductivity of and Magnetic Nanofluids Under the Influence of Magnetic Field](#)

A Karimi, M Goharkhah, M Ashjaee, MB Shafii
International Journal of Thermophysics 36, 2720-2739

[Experimental investigation on heat transfer and hydrodynamic behavior of magnetite nanofluid flow in a channel with recognition of the best models for transport properties](#)

M Goharkhah, M Ashjaee, J Jamali
Experimental Thermal and Fluid Science 68, 582-592

[Effect of magnetic field on the forced convection heat transfer and pressure drop of a magnetic nanofluid in a miniature heat sink](#)

M Ashjaee, M Goharkhah, LA Khadem, R Ahmadi

Heat and Mass Transfer 51, 953-964

[The comparative study of single and two-phase models for magnetite nanofluid forced convection in a tube](#)

P Hanafizadeh, M Ashjaee, M Goharkhah, K Montazeri, M Akram
International Communications in Heat and Mass Transfer 65, 58-70

[Heat transfer characteristics of Fe₃O₄ ferrofluid flowing in a mini channel under constant and alternating magnetic fields](#)

M Ghasemian, ZN Ashrafi, M Goharkhah, M Ashjaee
Journal of Magnetism and Magnetic Materials 381, 158-167

[Convective heat transfer characteristics of magnetite nanofluid under the influence of constant and alternating magnetic field](#)

M Goharkhah, A Salarian, M Ashjaee, M Shahabadi
Powder Technology 274, 258-267

[Effect of an alternating nonuniform magnetic field on ferrofluid flow and heat transfer in a channel](#)

M Goharkhah, M Ashjaee
Journal of magnetism and magnetic materials 362, 80-89

[Experimental and numerical study of mixed and natural convection in an enclosure with a discrete heat source and ventilation ports](#)

A Minaei, M Ashjaee, M Goharkhah
Heat transfer engineering 35 (1), 63-73

[Temperature measurement of a premixed radially symmetric methane flame jet using the Mach-Zehnder Interferometry](#)

M Ahmadi, MS Avval, T Yousefi, M Goharkhah, B Nasr, M Ashjaee
Optics and Lasers in Engineering 49 (7), 859-865

[Temperature Measurement of Premixed Methane OEC Radially Symmetric Flame Jet Using Mach-Zehnder Interferometry](#)

M Ahmadi, MS Avval, T Yousefi, B Nasr, M Goharkhah
Engineering Systems Design and Analysis 49156, 73-77

[Effect of spatial variation of thermal conductivity on non-fourier heat conduction in a finite slab](#)

M Goharkhah, S Amiri, H Shokouhmand
Journal of mechanical science and technology 23, 3393-3398

[Investigation of the accuracy of different methods of interferogram analysis for calculation of local free convection heat transfer coefficient on axisymmetric objects](#)

M Goharkhah, M Ashjaee, K Madanipour
Experimental thermal and fluid science 33 (8), 1188-1196

[Experimental study of natural convection heat transfer from an isothermal combined geometry \(downward cone-cylinder\)](#)

A Mokhtari, M Goharkhah, M Ashjaee

[Numerical Investigation for Determining Temperature Peaks in a Finite Slab With Volumetric Heat Generation Based on the Hyperbolic Model of Heat Conduction](#)

M Goharkhah, S Amiri, B Baghapour
International Conference on Nanochannels, Microchannels, and Minichannels ...

[Analytical solution of hyperbolic heat conduction equation in a thin film layer with space-dependent thermal conductivity](#)

H Shokouhmand, M Goharkhah, S Amiri
2008 Second International Conference on Thermal Issues in Emerging ...

CONFERENCE PAPERS

- M.Goharkhah, "Application of ferrofluid for convective heat transfer enhancement in micro gravity conditions", Conference of Iranian Aerospace Society, 2017, Tehran, Iran.
 - مطالعه عددی انتقال حرارت جابجایی اجباری فروسیال در هیت سینک "مجتبی بضاعت پور، محمد گوهرخواه، سومین کنفرانس انتقال حرارت و جرم ایران، دانشگاه صنعتی نوشیروانی بابل، بابل، "با فین های متخلخل ایران، ۱ لغایت ۲ آذر ۱۳۹۶
 - کانال تحت اثر مطالعه عددی انتقال حرارت جابجایی اجباری نانوسیال در مینی" داوود جاویر، محمد گوهرخواه، سومین کنفرانس انتقال حرارت و جرم ایران، دانشگاه "های مختلف نیروی مغناطیسی میدان مغناطیسی با مدل صنعتی نوشیروانی بابل، بابل، ایران، ۱ لغایت ۲ آذر ۱۳۹۶.
 - M.Goharkhah, M. Ashjaee, A.Mokhtari, " Effect of Vertex angle of Cone on Natural Convection Heat Transfer From a Combined geometry (Downward Cone- Cylinder)". International conference on energy engineering, Jan 2009, India
 - M. Goharkhah, S. Amiri, B. Baghapour, "Numerical Investigation for Determining Temperature Peaks In a Finite Slab with Volumetric Heat Generation based on the Hyperbolic Model of Heat Conduction". Seventh International ASME Conference on Nanochannels, Microchannels and Minichannels .ICNMM2009. June 2009, Pohang, South Korea
 - M. Ashjaee; M. Goharkhah; k. Madanipour, "Calculation of local heat transfer coefficient on axisymmetric geometries using different methods of fringe analysis", Thermal Issues in Emerging Technologies, ThETA 2, Cairo, Dec 2008, Egypt.
 - A.Mokhtari, M.Goharkhah, M.Ashjaee," Experimental Study of Natural Convection Heat Transfer from an Isothermal Combined Geometry (Downward Cone- Cylinder)", Fourth International Conference on Thermal Engineering: Theory and Applications Jan, 2009, Abu Dhabi, UAE
 - H. Shokouhman, M. Goharkhah, S. Amiri, " Analytical Solution of Hyperbolic Heat Conduction Equation in a Thin Film Layer with Space- Dependent Thermal Conductivity", Thermal Issues in Emerging Technologies, ThETA 2, Cairo, Dec 2008, Egypt.
 - M. Ashjaee, A.Minaei, M. Goharkhah. "Experimental Investigation of Mixed Convection Heat Transfer in an Enclosure with Ventilation Ports" submitted to the ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis ESDA2010 July 12-14, 2010, Istanbul, Turkey
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- M. Ashjaee, S.Amiri, K.Habibi, M. Goharkhah. "Slot Jet Impingement Heat Transfer From an Isothermal Circular Cylinder". Thermal Issues in Emerging Technologies, ThETA 2, Cairo, Dec 2008, Egypt.
 - M. Ahmadi, M. Saffar Avval, T. Yousefi, B. Nasr, and Mohammad Goharkhah "Temperature Measurement of premixed Methane OEC Radially Symmetric Flame jet Using Mach- Zehnder Interferometry" ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis ESDA2010 July 12-14, 2010, Istanbul, Turkey

- مهدی اشجعی، محمد گوهرخواه، ابوالقاسم مختاری، " بررسی تجربی انتقال حرارت جابجایی آزاد از یک هندسه مرکب همدمای متشکل از مخروط رو به بالا و استوانه عمودی واقع بر روی سطح صاف"، هفدهمین کنفرانس سالیانه مهندسی مکانیک ISME 2009، اردیبهشت ۸۸ تهران، ایران

INDUSTRIAL COLLABORATIONS

- Tabriz Oil Refinery Co.
 - Niroo Research Institute
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