Northern Technical University
Engineering Technical College, Mosul
Department of Power Mechanics Techniques Engineering
Published Research for the Academic Years 2020-2025

S	Research title Researcher's name	Research title	Name of the Journal
1	Dr. Ammar Hassan Soheel	EXTENDING TWO STEPS ANAEROBIC DIGESTION MODELS TO INCORPORATE SURFACE AREA EFFECT	International Journal on"Technical and Physical Problems of Engineering"(IJTPE)
		EXPERIMENTAL COMPARISON OF THERMAL PERFORMANCE BETWEEN V-CORRUGATED AND FLAT PLATE SOLAR COLLECTORS	International Journal on"Technical and Physical Problems of Engineering"(IJTPE)
		CFD ANALYSIS FOR ANAEROBIC DIGESTION INSIDE A BATCH DIGESTER AUGMENTED WITH EXTENDED SURFACES	Frontiers in Heat and Mass Transfer
		Solar air heater energy and exergy enhancement using a v-corrugated wire mesh absorber: An experimental comparison	Energy
		Experimental Investigation on the Effect of Sawdust Particles Size on Its Thermal Conductivity	International Journal of Heat and Technology
		Performance Augmentation of Household Batch Digester using a Circular Horizontal Extended Surface	Tikrit Journal of Engineering Sciences
		CFD Analysis of Improving Air Conditioning System Performance by Adding SiO2 Nanoparticles to the Compressor Oil	CFD Letters
		SIMULATION AND INVESTIGATION OF NANO-REFRIGERANT FLUID CHARACTERISTICS WITH THE TWO-PHASE FLOW IN MICROCHANNEL	Frontiers in Heat and Mass Transfer
2	Assist. Prof. Ahmed Mustafa Saleem	Effect of suction or blowing on velocity and temperature distribution of flow over a flat plate	Materials today: Proceedings
		Numerical Analysis of Standard - Unstandard Gears for an External Gear Pumps	International Journal of Fluid Machinery and Systems
		NUMERICAL INVESTIGATION OF NUSSELT NUMBER FOR NANOFLUIDS FLOW IN AN INCLINED CYLINDER	Frontiers in Heat and Mass Transfer

		Performance of Thermal Insulation of Different Composite Walls and Roofs Materials Used for Energy Efficient Building Construction in Iraq	Frontiers in Heat and Mass Transfer
		Performance of compound parabolic concentrator solar air flat plate collector using phase change material	Applied Thermal Engineering
		SIMULATION AND INVESTIGATION OF NANO-REFRIGERANT FLUID CHARACTERISTICS WITH THE TWO-PHASE FLOW IN MICROCHANNEL	Frontiers in Heat and Mass Transfer
3	Dr. Ayad Sleman Abdullah	THERMAL PERFORMANCE ENHANCEMENT OF HEAT PIPE HEAT EXCHANGER IN THE AIR-CONDITIONING SYSTEM BY USING NANOFLUID	Frontiers in Heat and Mass Transfer
		Numerical and experimental investigation on mixed convection heat transfer inside cavity heated from below with reciprocating moving upper surface	International Communications in Heat and Mass Transfer
		Impact of CuO+H2O nanofluid on the cooling towers performance with varying packing densities	Results in Engineering
		Enhancement the Performance of the Heat Sink by Using Metal Foam Partially Immersed in Phase Change Materials for Different Porosities	Energy Technology
		Obstacle arrangements effect on the mixed convection in an enclosure with movable top surface	Journal of Applied Research and Technology (JART)
		Experimental investigation for utilization of U-shaped heat pipe heat exchanger in the air-conditioning system	International Communications in Heat and Mass Transfer
		A numerical investigation on the effect of nano metal oxide coating fins on the thermal performance of heat pipe heat exchanger	AIP Conference Proceedings
		Mixed convective of hybrid nanofluids flow in a backward-facing step	Case Studies in Thermal Engineering
4	Dr. Qais Abd Yosuif	FREE CONVECTIVE HEAT TRANSFER CREATED FROM HEATED CYLINDER IMMERSED INSIDE DUCT COOLED FROM SIDE	Frontiers in Heat and Mass Transfer
		A thermal nonequilibrium model to natural convection inside non-Darcy porous layer surrounded by horizontal heated plates with periodic boundary temperatures	Heat Transfer
5	Assist. Prof. Firas	THE IMPACT OF ALUMINA NANOPARTICLES	Frontiers in Heat and Mass Transfer

	Aziz Ali	SUSPENDED IN ETHYLENE GLYCOL ON THE PERFORMANCE EFFICIENCY OF A DOUBLE PIPE HEAT EXCHANGER	
		Experimental study of compound parabolic concentrator with flat plate receiver	Applied Thermal Engineering
		EXPERIMENTAL COMPARISON OF THERMAL PERFORMANCE BETWEEN V-CORRUGATED AND FLAT PLATE SOLAR COLLECTORS	International Journal on“Technical and Physical Problems of Engineering”(IJTPE)
		Friction Factor and Heat Transfer Enhancement of Hybrid Nanofluids in a Heated Circular Tube	International Journal of Heat and Technology
		Performance analysis of Pelton turbine under different operating conditions: An experimental study	Ain Shams Engineering Journal
		Comparative Analysis of Fuzzy Logic, PID, and FOPID Controllers in DC Microgrid Voltage Regulation for Power Plants: Integrating Renewable Energy Sources	Journal of Advanced Research in Applied Mechanics
6	Dr. Yasir Hassan Ali	Effect of sugar palm fibers on the properties of blended wheat starch/polyvinyl alcohol (PVA) -based biocomposite films	Journal of Materials Research and Technology
		Novel spiking neural network model for gear fault diagnosis	IEEE Xplore
		Effect of the Cross-Sectional Shape on the Dynamic Response of a Cantilever Steel Beam Using Three Modal Analysis Methods	International Journal of Heat and Technology
		Mechanical properties and suitability of PLA for 3D-printed dental implants: Experimental and simulation analysis	Results in Materials
		Diagnosis model for bearing faults in rotating machinery by using vibration signals and binary logistic regression	AIP Conference Proceedings •
		Fault Detection of Bearing using Support Vector Machine-SVM	IEEE Xplore
		A review in particle image velocimetry techniques (developments and applications)	Journal of advanced research in fluid mechanics and thermal sciences
7	Dr. Omar Abd alhadi	Analysis of the generated output energy by different types of wind turbines	journal of human earth and future
		Experimental Investigation on the Effect of Sawdust Particles Size on Its Thermal Conductivity	International Journal of Heat and Technology
		Practical study on heat pump enhancement by the solar energy	E3S Web of Conferences
8	Assist. Prof. Muthana Mehdi	An Experimental Study on Performance Analysis of Solar Water Distiller System Using Extended Fins under Iraq Climatic	AIP conference proceedings

		Conditions	
		Performance analysis of single-pass solar air heater thermal collector with adding porous media and finned plate	Energy Storage
		Efficiency enhancement of solar air heater collector by modifying jet impingement with v-corrugated absorber plate	Journal of Energy Storage
		Performance analysis of Pelton turbine under different operating conditions: An experimental study	Ain Shams Engineering Journal
		Improving the performance of solar air heater using a new model of V-corrugated absorber plate having perforations jets	International Journal of Energy Research
		Impacts of adding porous media on performance of double-pass solar air heater under natural and forced air circulation processes	*International Journal of Mechanical Sciences*
		Performance analysis of triple-pass solar air heater system: Effects of adding a net of tubes below absorber surface	Solar Energy
9	Dr. Hareth Maher Abd	Experimental study of compound parabolic concentrator with flat plate receiver	Applied Thermal Engineering
		Performance analysis of single-pass solar air heater thermal collector with adding porous media and finned plate	Energy Storage
		Efficiency enhancement of solar air heater collector by modifying jet impingement with v-corrugated absorber plate	Journal of Energy Storage
		Impacts of geometric configurations on performance of discharge coefficient and wall pressure of Venturi meter under high Reynolds number	International Journal of Ventilation
		Performance analysis of Pelton turbine under different operating conditions: An experimental study	Ain Shams Engineering Journal
		Improving the performance of solar air heater using a new model of V-corrugated absorber plate having perforations jets	International Journal of Energy Research
		A thermal nonequilibrium model to natural convection inside non-Darcy porous layer surrounded by horizontal heated plates with periodic boundary temperature	Heat Transfer
10	Assist. Lect. Omar Sadoon Khaleel	Enhancement of Double-Pipe Heat Exchanger Effectiveness by Using Porous Media and TiO2 Water	CFD Letters
		Enhancement of double-pipe heat exchanger effectiveness by using water-CuO	NTU Journal of Engineering and Technology
		ENERGY CONVERSION OF V-CORRUGATED ABSORBER PLATE SOLAR AIR HEATER WITH PHASE CHANGE	International Journal on“Technical and Physical Problems of

		MATERIAL	**Engineering"(IJTPE)**
11	**Lect. Bahjat Hassan Alyas**	**CFD-based numerical performance assessment of a solar air heater duct roughened by transverse-trapezoidal sectioned ribs**	**International Journal of Heat and Technology**
		Numerical Analysis of Standard -Unstandard Gears for an External Gear Pumps	**International Journal of Fluid Machinery and Systems**
		Optimizing of heat transfer and flow characteristics within a roughened solar air heater duct with compound turbulators	***Asia-Pacific Journal of Chemical Engineering***
		Performance of Thermal Insulation of Different Composite Walls and Roofs Materials Used for Energy Efficient Building Construction in Iraq	**Frontiers in Heat and Mass Transfer**
12	**Lect. Noor Muneer Basheer**	**Impact of using single heated obstacle on natural convection inside porous cavity under non-Darcy flow and thermal non-equilibrium model: A comparison between horizontal and vertical heated obstacle arrangements**	**International Communications in Heat and Mass Transfer**
		Effect of suction or blowing on velocity and temperature distribution of flow over a flat plate	**Materials today: Proceedings**
		Conjugate local thermal nonequilibrium and non-Darcy flow inside porous enclosure: Analysis of localized heating and cooling arrangements	**Heat Transfer**
		Impact of using single heated obstacle on natural convection inside porous cavity under non-Darcy flow and thermal non-equilibrium model: A comparison between horizontal and vertical heated obstacle arrangements	**International Communications in Heat and Mass Transfer**
		Natural convection heat transfer from a bank of orthogonal heated plates embedded in a porous medium using LTNE model: A comparison between in-line and staggered arrangements	**International Journal of Thermal Sciences**
		Analysis of effects of Thermal Non-Equilibrium and Non-Darcy Flow on Natural Convection in a Square Porous Enclosure Provided with a Heated L Shape Plate	**International Journal of Mechanical Sciences**
13	**Lect. Anwar Ahmed Yousif**	**Conjugate local thermal nonequilibrium and non-Darcy flow inside porous enclosure: Analysis of localized heating and cooling arrangements**	**Heat Transfer**
		Effect of suction or blowing on velocity and temperature distribution of flow over a flat plate	**Materials today: Proceedings**
		Natural convection heat transfer from a bank of orthogonal	**International Journal of Thermal**

		heated plates embedded in a porous medium using LTNE model: A comparison between in-line and staggered arrangements	Sciences
		Analysis of effects of Thermal Non-Equilibrium and Non-Darcy Flow on Natural Convection in a Square Porous Enclosure Provided with a Heated L Shape Plate	International Journal of Mechanical Sciences
		Impact of using triple adiabatic obstacles on natural convection inside porous cavity under non-darcy flow and local thermal non-equilibrium model	International Communications in Heat and Mass Transfer
14	Lect. Asma Taha Hussein	Impact of using triple adiabatic obstacles on natural convection inside porous cavity under non-darcy flow and local thermal non-equilibrium model	International Communications in Heat and Mass Transfer
		Impact of CuO+H2O nanofluid on the cooling towers performance with varying packing densities	Results in Engineering
		Enhancement performance of vapor compression system using nano copper oxide lubricant inside compressor and a fluidized bed for condenser cooling	Case Studies in Thermal Engineering
		Experimental investigation for vapor compression system performance enhancement through condenser cooling by using shallow fuidized bed	Journal of Thermal Analysis and Calorimetry
15	Assist. Prof. Hussam Naufal Saleh	Experimental Investigation on the Effect of Sawdust Particles Size on Its Thermal Conductivity	International Journal of Heat and Technology
		Impacts of adding porous media on performance of double-pass solar air heater under natural and forced air circulation processes	International Journal of Mechanical Sciences
		Impact of CuO+H2O nanofluid on the cooling towers performance with varying packing densities	Results in Engineering
		Impacts of geometric configurations on performance of discharge coefficient and wall pressure of Venturi meter under high Reynolds number	International Journal of Ventilation
		Mixed convective of hybrid nanofluids flow in a backward-facing step	Case Studies in Thermal Engineering
		Performance analysis of triple-pass solar air heater system: Effects of adding a net of tubes below absorber surface	Solar Energy
16	بنان نجم الدين عبد الله	Optimizing of heat transfer and flow characteristics within a roughened solar air heater duct with compound turbulators	*Asia-Pacific Journal of Chemical Engineering*

		CFD Analysis of Improving Air Conditioning System Performance by Adding SiO2 Nanoparticles to the Compressor Oil	**CFD Letters**