11/2024

CURRICULUM VITAE

Assistant Prof. Dr.-Ing. Omar Rafae Alomar

Vice-Chancellor of President University of Scientific affairs

Northern Technical University (NTU)

PERSONAL DATA

Name: Omar Rafae Mahmood Alomar

Date and Place of Birth: 07.09.1979 at Mosul, Iraq

Nationality: Iraqi

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University Email: Omar.alomar@ntu.edu.iq

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ACADEMIC DEGREES

PhD, Mechanical Engineering and Thermal Engineering **(10/2011 to 09/2016)**

Institute of Thermal Engineering, TU Bergakademie Freiberg, Germany

- **Thesis Topic:** *Modeling and simulation of complete liquid-vapor phase change process inside porous media*
- **Classification:** 90-95% (magna cum laude)
- **Area of Specialization:** Mechanical Engineering and Thermal Engineering
- **Adviser:** Prof. Dr.-Ing. Dimosthenis Trimis (TU Freiberg and KIT, Germany)
- **Co-Adviser:** Prof. Dr. Subhashis Ray (TU Freiberg, Germany)

M.Sc., Mechanical Engineering **(10/2001 to 1/2004)**

Mechanical Engineering department, University of Mosul, Iraq

- **Thesis Topic:** *Numerical Study of Inertia Effect on Natural Convection in a Horizontal Porous Cavity*
- **Classification:** Very good
- **Area of Specialization:** Thermal Engineering
- **Advisor:** Assistant Prof. Dr. Amir Sultan Dawood (University of Mosul, Iraq)

B.Sc., Mechanical Engineering **(10/1997 to 7/2001)**

Mechanical Engineering department, University of Mosul, Iraq

- **Classification:** Good
- **Area of Specialization: General Mechanical Engineering**

HONORS / AWARDS

- Merit of Bachelor UOM (ranked 2nd in Mech. Eng. Graduation courses), 2001
- Thanks and appreciation certificates from the Dean of Engineering Technical College of Mosul (ETCM), 2006 – 2011.
- Collaborative Research Center (SFB920) Scholarship, October 2015
- DAAD Scholarship, October 2011 – September 2015
- Elsevier Ltd Certificates for reviewing papers, 2014 – 2024

- Springer Certificates for reviewing papers, 2020 – 2024
- Wiley Certificates for reviewing papers, 2020 – 2024
- Editorial Board for six International Journals, from 2018 till now
- (45) Thanks and appreciation certificates from the President of Northern Technical University (NTU), from 2018 to 2024
- (12) Thanks and appreciation certificates from the Minster of Higher Education and Scientific Affairs, from 2021 to 2024.
- Top 2% best authors in the world, Stanford University Report, from 2022 to 2024.
- Top 3 authors at Northern Technical University, 2023 and 2024.
- Al Ain University Distinguished Researchers Award, 2023
- Thanks and appreciation certificates from Several President of University in Iraq

RESEARCH INTERESTS

- Modeling and simulation of energy conversion systems
- Reactive flows and phase change process in porous and heterogeneous media
- Renewable and sustainable energy sources
- System optimization and uncertainty analysis
- Multi-mode heat and mass transfer in porous and heterogeneous media
- Algorithms and computational fluid dynamics (CFD) for simulation of complex multi-physical systems
- Nanofluids inside porous media
- Internal combustion engine and refrigeration and air-conditioning systems

Positions and Committees

- A member of several scientific and administrative committees at the university
- Head of Refrigeration and Air Conditioning Technology Engineering Department, 2018
- Member of the Government Program Secretariat Committee, 2019
- Director of the government program at the Technical College of Engineering, Mosul, 2019
- Director of Quality Assurance Division Office, 2020
- A member of several scientific and preparatory committees in the conferences held by the Northern Technical University, from 2020 to 2022
- Member of the Government Program Secretariat Committee, 2020
- Member of the Teaching Qualification Examination Committee, 2020
- Director of the Department of Quality Assurance and University Performance, 2020
- Chairman of the Accreditation Committee for Scientific Journals, 2020
- Director of the government program at the Northern Technical University, Mosul, 2021
- Editor-in-chief of the NTU Journal of Technology and Engineering Sciences at the Northern Technical University, 2021
- Director of the Department of Studies and Planning, 2021
- **Vice-Chancellor of President University for Scientific affairs, 2021 up to Now**

RESEARCH EXPERIENCE

Scientific Researcher **(11/2005 to present)**

Engineering Technical College of Mosul, Northern Technical University (NTU), Iraq

- **Topics:** *Engineering and Numerical Analysis; Heat and Mass Transfer; Air-conditioning Systems; Engineering Control Systems*
- **Main research activities:**
  - Give scientific courses for Undergraduate student
  - Proposal writing for creation of new projects
  - Measurement the discharge coefficient of orifice meter
  - Measurement the diesel performance and emissions analysis
  - Simulation of phase change problems in porous media
  - Performance analysis of a hybrid (photovoltaic/thermal) solar collector system for residential applications in Iraq
  - supervision of Master students
  - Scientific committee member for International conferences

Scientific Researcher (SFB **920 Project)** **(07/2016 to 10/2016)**

Institute of Ceramic, Glass and Construction Materials, TU Bergakademie Freiberg, Germany

- **Topic:** *Numerical simulations in 2-phase and 3-phase systems using metal melt/ ceramic filter material*
- **Main research activities**: Detialed simulation of metal melt filtration in ceramic fomas
- **Adviser:** Prof. Dr.-Ing. habil. Aneziris Christos G. (TU Freiberg, Germany)

PhD Researcher (SFB **920 Scholarship)** **(10/2015 to 09/2016)**

Institute of Thermal Engineering, TU Bergakademie Freiberg, Germany

- **Topic**: *Modeling and simulation of two-phase flow and phase change process inside porous media*
- **Advisor:** Prof. Dr.-Ing. Dimosthenis Trimis (TU Freiberg and KIT, Germany)
- **Co-Advisor:** Prof. Dr. Subhashis Ray (TU Freiberg, Germany)
- **Note:** SFB 920 Scholarship is the international scholarship for PhD-Students in terms of the Integrated Research Training Group of the Collaborative Research Center SFB920 (CRC 920) at the Faculty of Mechanical, Process and Energy Engineering, TU Freiberg, Germany

PhD Researcher (DAAD Scholarship) **(10/2011 to 09/2015)**

Institute of Thermal Engineering, TU Bergakademie Freiberg, Germany

- **Topic**: *Phase change problems inside porous media*
- **Advisor:** Prof. Dr.-Ing. Dimosthenis Trimis (TU Freiberg and KIT, Germany)
- **Co-Advisor:** Prof. Dr. Subhashis Ray (TU Freiberg, Germany)
- **Note:** Exchange DAAD Scholarship is one of the best international scholarship for PhD-Students in the world

Graduate Researcher **(10/2001 to 1/2004)**

Mechanical Engineering department, University of Mosul, Iraq

- **Topic:** *Non-Darcian flow inside porous media*
- **Adviser:** Assistant Prof. Dr. Amir Sultan Dawood (Mosul University, Iraq)

Undergraduate Researcher **(10/2000 to 7/2001)**

Mechanical Engineering department, University of Mosul, Iraq

- **Topic:** *Types of nuclear reactors*
- **Adviser:** Assistant Prof. Ahmed Alsabha (Mosul University, Iraq)

TEACHING EXPERIENCE

Teaching Courses

Bachelor

- **Heat and mass Transfer**, Bachelor, NTU (coordinator) **(2017 to present)**
- **Engineering and Numerical Analysis**, Bachelor, NTU (coordinator) **(2005 to present)**
- **Engineering Control Systems**, Bachelor, NTU (coordinator) **(2008 to 2010)**
- **Refrigeration and Air Conditioning Systems**, Bachelor, NTU (coordinator) **(2006 to 2009)**
- **Transport Phenomena Using CFD**, Master, TU Freiberg (assistant) **(2015 to 2016)**
- **Process Modeling**, Bachelor, TU Freiberg (assistant) **(2015 to 2016)**

Higher Diploma

- **Advanced Numerical Analysis**, Higher Diploma, NTU (coordinator) **(2020 to present)**
- **Thermal System Design**, Higher Diploma, NTU (coordinator) **(2020 to present)**

Student Supervision

Bachelor

- Supervisor for more than 40 students within different topics in the field of Thermal engineering, Engineering Technical College of Mosul, NTU **(2005 to present)**

Higher Diploma

- Supervisor of 2 student in the field of Mechanical engineering, engineering Technical College Mosul, NTU **(2021 to present)**

Master

- Supervisor of 10 student in the field of Thermal engineering, Technical College Kurkuk, NTU **(2019 to present)**

Doctoral

- Supervisor of 4 student in the field of Thermal engineering, USM, Malaysia **(2022 to present)**

PROJECT EXPERIENCE

Collaborative Research Center 920 **(10/2015 to 10/2016)**

Title: Multi-Functional Filters for Metal Melt Filtration – A contribution towards Zero Defect Materials

Supported by: German Research Foundation (DFG)

Partners: 9 **Duration:** 36months **Budget:** 3.8 million euro

MANAGEMENT EXPERIENCE

Projects

- **Proposal writing:**
  - Prediction of complete liquid-vapour phase change process inside real porous media (DFG) **(2016)**
- **Courses/workshops:** (All the courses with certificates) **(2011 to 2015)**
  - Quality Management, TU Freiberg, Germany
  - Assessment Center, TU Freiberg, Germany
  - Leading and Working in Teams , TU Freiberg, Germany
  - Managing Academic Presentations, TU Freiberg, Germany
  - Time and Stress Management, TU Freiberg, Germany
  - Project Management Focusing on the own doctoral studies, TU Freiberg, Germany
  - Basics of Team Development, TU Freiberg, Germany

PUBLICATIONS

Complete list of journal and conference publications (provided at the end of this document)

Citation Report from Scopus and Google Scholar (on 1/09/2024)

Subject areas: Physics, Engineering, Energy, Chemical Engineering

Documents	80
Sum of Times cited	1211
Co-authors	38
h-index	22
RI Score	698.7

SCIENTIFIC COMMUNITY

Reviewer for international journals:

- International Journal of Thermal Sciences, Elsevier
- International Journal of Multiphase Flow, Elsevier
- Case Studies in Thermal Engineering, Elsevier
- Applied Thermal Engineering, Elsevier
- Solar Energy, Elsevier
- International Journal of Heat and Mass Transfer, Elsevier
- Flow Measurement and Instrumentation, Elsevier
- International Journal of Mechanical Sciences, Elsevier
- Aerospace Science and Technology, Elsevier
- Energy Research & Social Science, Elsevier
- Applied Energy, Elsevier
- Chemical Engineering and Processing: Process Intensification, Elsevier
- Sustainable Energy, Grids and Networks, Elsevier
- Transport in Porous Media, Springer
- Journal of Mechanical Science and Technology, Springer
- Iranian Journal of Science and Technology, Transactions of Mechanical Engineering, Springer

- Journal of Heat and Mass Transfer, Springer
- Enviroment, Development and sustainability, Springer
- Environmental Science and Pollution Research, Springer
- Heat Transfer Engineering, Taylor and Francis Ltd.
- Numerical Heat Transfer, Taylor and Francis Ltd.
- International Journal of Ambient Energy, Taylor and Francis Ltd
- International Journal of Energy Research, Wiley
- IEEE Conferences
- International Journal of Research and Scientific Innovation
- Journal of Environmental science and Management
- Journal of Solar Energy and Sustainable Development
- Journal of Advanced Research in Fluid Mechanics and Thermal Sciences
- International Journal of Mechanical Engineering and Robotics Research

Editorial board for international journals:

- SCIREA Journal of Mechanical Engineering
- SCIREA Journal of Energy
- International Journal of Mechanical Engineering and Applications
- International Journal of Research and Engineering
- International Journal of Research in Advanced Engineering and Technology
- International Journal of Latest Technology in Engineering, Management & Applied Science

Manger Editor:

- NTU Journal of Engineering and Technology

KEY SKILLS

Research

- Extensive knowledge of **applied mathematics** (integral-differential equations, numerical methods, uncertainty quantification analysis, linear stability analysis, optimization)
- Extensive knowledge of **system modeling and simulation** (CFD, parallel computation, dynamic modeling and control)
- Extensive knowledge of **energy conservation systems** (phase change process in porous media, multi-mode heat transfer, biodiesel and solar energy)
- Knowledge of **combustion experiments** (characteristics of engine performance and emissions analysis)

Social and Scientific Activities

- Member of the Iraqi Engineers Union
- Member of the Iraqi Association of University Lecturers
- Member of the online CFD group
- Membership in International Association for Mathematical Geosciences (IAMG) – Houston, USA from 2013 up till now
- Membership in Science and Engineering Institute (SCIEI), 2018.

- International Solar Energy Society, 2019
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Academic Courses

I have attended many academic courses at TU Freiberg from 2011 to 2016 (All the courses with certificates).

- Introduction to Computer Programming with MATLAB
- Scientific Working and Writing for International Doctoral Student
- Compiling Academic Papers
- Improved Reading

Scientific Courses

I have attended three intensive scientific courses at TU Freiberg (All the courses with certificates).

- Transport Phenomena using CFD
- Phase Change Heat Transfer
- Process Modeling
- Design of Thermal Engineering System

Information and Technology

- Operating systems: WINDOWS, LINUX
- Software: Microsoft office packages, LaTex, TECPLOT, GUN packages, CAD, Statistic analysis and CFD softwares
- Programming: FORTRAN, MATLAB

Languages

- Arabic (Mother tongue)
- English (Very good)
- German (Good; finished level B1)

Problem Solving

- Working across distinct areas of phase change problems in porous media, demonstrated independent thought in analyzing problems, adopting suitable strategies and developing new techniques to deal with high discontinuity in the diffusion coefficient
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LIST OF PUBLICATIONS

Journal Publications

- **O. R. Alomar**, I. A. Mohamed, Numerical investigation of boundary surface effects on natural convection in a horizontal porous cavity by using non-Darcian flow, *Al-TAQANI Journal*, 26 (5) (2013) 9-30.

- **O. R. Alomar**, M.A.A. Mendes, D. Trimis, S. Ray, Simulation of complete liquid-vapor phase change inside divergent porous evaporator, *Int. J. of Materials, Mechanics and Manufacturing*, 2 (3) (2014) 223-229.
- **O. R. Alomar**, M.A.A. Mendes, D. Trimis, S. Ray, Numerical simulation of complete liquid-vapour phase change process inside porous media using smoothing of diffusion coefficient, *Int. J. of Thermal Sciences*, 86 (2014) 408-420.
- **O. R. Alomar**, M.A.A. Mendes, D. Trimis, S. Ray, Simulation of complete liquid-vapour phase change process inside porous evaporator using local thermal non-equilibrium model, *Int. J. of Thermal Sciences*, 94 (2015) 228-241.
- **O. R. Alomar**, D. Trimis, S. Ray, Numerical simulation of complete liquid-vapour phase change process inside an annular porous evaporator, International University of Resources, Scientific Reports on Resource Issues, 1 (2015) 128 – 133.
- S. Ray, **O. R. Alomar**, Simulation of liquid-vapour phase change process inside porous media using modified enthalpy formulation, *Int. J. of Thermal Sciences,* 105 (2016) 123-136
- **O. R. Alomar**, M.A.A. Mendes, D. Trimis, S. Ray, Numerical simulation of complete liquid-vapour phase change process inside porous Media: A comparison between local thermal equilibrium and non-equilibrium models, *Int. J. of Thermal Sciences*, 112 (2017) 222 – 241.
- **O. R. Alomar**, M.A.A. Mendes, S. Ray, D. Trimis, Numerical investigation of complete evaporation process inside porous evaporator using staggered and non-staggered grid arrangements, *Int. J. of Thermal Sciences*, 129 (2018) 56 – 72.
- **O. R. Alomar**, R. R. Mohammed, M.A.A. Mendes, S. Ray, D. Trimis, Numerical Investigation of Two-Phase Flow in Anisotropic Porous Evaporator, *Int. J. of Thermal Sciences*, 135 (2019) 1 – 16.
- **O. R. Alomar**, R. R. Mohammed, K. H. Mohammed, Numerical Investigation of Boiling and Forced Convection Heat Transfer in Inclined Porous Enclosure using Modified Enthalpy Formulation, MATEC Web of Conferences, 240 (2018) 01001.
- K. H. Mohammed, **O. R. Alomar**, R. R. Mohammed, Effects of Different Biodiesel on Diesel-Engine Performance and Emissions, IEEE Xplore, (2018) 468 – 473.
- H. M. Abd, **O. R. Alomar**, I. A. Mohamed, Effects of Varying Orifice Diameter and Reynolds Number on Discharge Coefficient and Wall Pressure, Flow Measurements and Instrumentation, 65 (2019) 219-226.
- **O. R. Alomar**, Analysis of Variable Porosity, Thermal Dispersion, and Local Thermal Non-Equilibrium on Two-Phase Flow inside Porous Media, *Applied Thermal Engineering*, 154 (2019) 263 – 283.
- O. M. Hamdoon, **O. R. Alomar**, B. M. Salim, Performance Analysis of Hybrid Photovoltaic Thermal Solar System in Iraq Climate Condition, *Thermal Science and Engineering Progress*, 17 (2020), 100359.
- M. M. Salih**, O. R. Alomar**, F. A. Ali, H. M. Abd, An Experimental Investigation of a Double Pass Solar Air Heater Performance: A Comparison between Natural and Forced Air Circulation Processes, *Solar Energy*, 193 (2019) 184-194.

- H. M. Abd, **O. R. Alomar**, F. A. Ali, M. M. Salih, Experimental Study of Compound Parabolic Concentrator with Flat Plate Receiver, *Applied Thermal Engineering*, 166 (2020) 114678.
- **O. R. Alomar**, B. M. Salim, O. M. Hamdoon, Analysis of Two-Phase Flow in a Double-Pipe Heat Exchanger Filled with Porous Media, *Int. J. of Heat and Mass Transfer*, 156 (2020) 119799.
- **O. R. Alomar**, Numerical Investigation of Two-Phase Flow in a Horizontal Porous Evaporator with Localised Heating using Non-Darcian Flow and Two Equations Model, *J. of Heat and Mass Transfer*, 56 (4) (2020) 1203-1221.
- **O. R. Alomar**, N. M. Basheer, A. A. Yousif, 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, *Int. J. of Mechanical Sciences*, 181 (2020) 105704.
- H. N. S. Yassien, **O. R. Alomar**, H. M. Abd, Performance analysis of triple-pass solar air heater system: Effects of adding a net of tubes below absorber surface, *Solar Energy*, 207 (2020) 813-824.
- **O. R. Alomar**, N. M. Basheer, A. A. Yousif, 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, *Int. J. of Thermal Sciences*, 160 (2021) 106692.
- **O. R. Alomar**, Transient Behaviour of Heat transfer with Complete Evaporation Process in Porous Channel with Localised Heating using Non-Darcian Flow and LTNE model, *J. of Heat and Mass Transfer*, (2021).
- **O. R. Alomar**, I. A. Mohamed, Q. A. Yousif, H. M. Abd, A Thermal Non-Equilibrium Model to Natural Convection inside non-Darcy Porous Layer Surrounded by Horizontal Heated Plates with Periodic Boundary Temperatures, Journal of Heat Transfer, 50 (6) (2021) 6068-6098.
- Mohammed Hadi Ali, Haitham M. Wadallah, Mohsen Abaid Ibrahim, **O. R. Alomar**, Improving the Microstructure and Mechanical Properties of Aluminium Alloys Joints by adding SiC Particles during Friction Stir Welding Process, *Metallography, Microstructure, and Analysis*, 10(3) (2021) 302-313.
- M. M. Salih, **O. R. Alomar**, N. S. Yassien, 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, 210 (2021) 106738.
- O. M. Ali, **O. R. Alomar**, Mixed Convection Heat Transfer from Two Aligned Horizontal Heated Cylinders in a Vented Square Enclosure, Thermal Science and Engineering Progress 25 (2021) 101041.
- **O. R. Alomar**, O. M. Ali, Energy and exergy analysis of hybrid photovoltaic thermal solar system under climatic condition of North Iraq, Case Studies in Thermal Engineering, 28 (2021) 101429.
- O. M. Ali, **O. R. Alomar**, O. M. Ali, A. Naseer T., Y. Salam J., A. Nayyar, S. Askar, M. Abouhawwash, Operating of Gasoline Engine Using Naphtha and Octane Boosters from Waste as Fuel Additives, Sustainability, 13 (23) (2021) 13019.
- A. A. Yousif, **O. R. Alomar**, A. T. Hussien, Impact of using triple adiabatic obstacles on natural convection inside porous cavity under non-darcy flow and local thermal non-equilibrium model, *Int. Communications in Heat and Mass Transfer*, (2021).

- Sabhan H. Ali, **O. R. Alomar**, O. M. Ali, Energetic and exegetic performance analysis of flat plate solar collector under variables heat transfer coefficient and inlet water temperature, Case Studies in Thermal Engineering, 28 (2021) 101700.
- N. M. Basher, **O. R. Alomar**, I. A. Mohmed, 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, *Int. Communications in Heat and Mass Transfer*, 133 (2022) 105925.
- A. N. Mustafa, O. M. Ali, **O. R. Alomar**, Effect of Heavy Fuel Combustion in a Gas Power Plant on Turbine Performance: A Review, International Journal of Design & Nature and Ecodynami, 17 (1) (2022) 105-111.
- **O. R. Alomar**, H. M. Abd, M. M. Salih,, Firas A. Ali, Performance Analysis of Pelton Turbine under Different Operating Conditions: An Experimental Study, Ain Shams Engineering Journal, 13 (4) (2022) 101684.
- **O. R. Alomar**, Sami R. Aslan, Farah G. Zaki, Modelling and simulation of two-phase flow inside porous pipe evaporator using Cu-Water nano-fluid, *Int. J. of Thermal Sciences*, 175 (2022) 107462.
- H. M. Abd, **O. R. Alomar**, M. M. Salih, Improving the performance of solar air heater using a new model of V-corrugated absorber plate having perforations jets, International Journal of Energy Research, 46 (6) (2022) 8130-8144.
- A. A. Al-Attar, **O. R. Alomar**, M.K. Yousif, Importance of scientific research for Achieving Sustainable Development Goals during Covid19 Pandemic: Northern Technical University - A Case Study, Joural of Sustaiability Prespective, 2 (2022) 341 – 346.
- **O. R. Alomar**, M. M. Salih, H. M. Abd, Efficiency enhancement of solar air heater collector by modifying jet impingement with v-corrugated absorber plate, Journal of Energy Storage, 55 (2022) 105535.
- **A. A. Badr, O. K. Ahmed, O. R. Alomar**, A review of Atmospheric Vortex Engine Generated by Solar Air collector, NeuroQuantology. 20 (6) (2022) 5912 – 5935.
- O. M. Ali, **O. R. Alomar**, S. I. Mohamed, Technical, Economical and Environmental Feasibility Study of a Photovoltaic System under Climatic Condition of North Ira, International Journal of Ambient Energy, 44 (2023) 212-220.

- O. M. Ali, **O. R. Alomar**, Technical and Economic Feasibility Analysis of a PV Grid-Connected System Installed on a University Campus in Iraq, Environmental Science and Pollution Research, 30 (2023) 15145 – 15157.
- **O. R. Alomar**, R. H. Saaeed, O. M. Ali, Impact of size and location of outflow opening vent on mixed convective heat transfer induced by two aligned heated cylinders immersed in a partially open channel, Heat Transfer, 52 (4) (2023) 3187-3226.

- **O. R. Alomar**, M. M. Salih, H. M. Abd, Performance Analysis of Single-Pass Solar Air Heater Thermal Collector with Adding Porous Media and Finned Plate, Energy Storage, 5 (2023) e447.

- A. T. Hussein, A. S. Abedalh, **O. R. Alomar**, Enhancement performance of vpor compression system using nano copper oxide lubricant inside compressor and a fluidized bed for condenser cooling, Case Studies in Thermal Engineering, 44 (2023) 102819.

- O. R. Alomar, K. H. Mohammed, O. M. Ali, O. M. Ali, Analysis of complete boiling process inside double pipe porous heat exchanger filled with NanoFluids, International Journal of Thermal Sciences, 193 (2023) 108461.
- O. R. Alomar, N. M. Abdulrazzaq, O. M. Hamdoon, N. T. Alwan, Local Thermal Equilibrium Analysis of Complete Phase Change Process inside Porous Diffuser Using NanoFluids, Applied Thermal Engineering, 231 (2023) 120911.
- A. A. Bader, O. A. Khlil, **O. R. Alomar**, Performance of Solar Vortex Engine integrated with the PV panel: Experimental assessment, Renewable Energy, 216 (2023) 119073.
- Q. A. Yousif, **O. R. Alomar**, O. M. Ali, O. M. Ali, Free Convective Heat Transfer Created from Heated Cylinder Immersed inside Duct Cooled from Side, Frontiers in Heat and Mass Transfer (FHMT), 20 (2023) 1-14.
- **O. R. Alomar**, N. M. Basher, A. A. Yousif , Q. A. Yousif, Conjugate local Thermal Non-Equilibrium and non-Darican flow inside porous enclosure:Analysis of localized heating and cooling Arrangements, Heat Transfer, 52 (8) (2023) 5184-5213
- N. T. Alwan, B.M. Ali, O. M. Ali, **O. R. Alomar**, Evaluation of the productivity of biogas from from cow manure, vegetables, fruits, and paper waste for operating SI engine, Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 45 (4) (2023) 11774-11787.
- **O. R. Alomar**, O. M. Ali, B. M. Ali, V. S. Qader, O. M. Ali, Energy, exergy, economical and environmental analysis of photovoltaic solar panel for fixed, single and dual axis tracking systems: An experimental and theoretical study, Case Studies in Thermal Engineering, 51 (2023) 103635.
- M. A. Mohammed, A. T. Derea, M. Y. Lafta, O. M. Ali, **O. R. Alomar**, Effect of Nanomaterials Addition to Phase Change Materials on Heat Transfer in Solar Panels under Iraqi Atmospheric Conditions, Frontiers in Heat and Mass Transfer (FHMT), 21 (2023).
- M. A. Mahmood**, O. R. Alomar**, M. M. M. Salih, K. H. Mohammed, An Experimental Study on Performance Analysis of Solar Water Distiller System Using Extended Fins under Iraq Climatic Conditions, AIP Conf. Proc., 2862 (2023) 020032.
- S. M. Najm, **O. R. Alomar**, O. M. Ali, Simulation of a Gasoline Engine Performance and Thermal Efficiency at Variables Compression Ratio, AIP Conf. Proc., 2862 (2023) 020018.
- A. N. Mustafa, O. M. Ali, **O. R. Alomar**, Economic evaluation of the different fuel types utilization in Qayyarah gas power plant, AIP Conf. Proc., 2862 (2023) 020035.
- A. A. Bader, O. K. Ahmed, **O. R. Alomar**, Experimental Assessment of Performance For Atmospheric Vortex Engine, AIP Conf. Proc., 2862 (2023) 020052.
- M. A. Mohammed, B. M. Ali, K. F. Yassin, O. M. Ali, **O. R. Alomar**, Comparative study of different phase change materials on the thermal performance of photovoltaic cells in Iraq's climate conditions, Energy Reports, 11 (2024) 18 – 27.
- M. N. Yousif, A. M. Saleem, **O. R. Alomar**, Development of Compound Parabolic Concentrator based on Flat Plate Receiver Solar Air Heater and Phase Change Material, NTU Journal of Renewable Energy, 6 (1) (2024) 1 – 9.

- M. N. Yousif, **O. R. Alomar**, A. M. Saleem, Performance of compound parabolic concentrator solar air flat plate collector using phase change material, Applied Thermal Engineering, 240 (2024) 12224.
- **O. R. Alomar**, H. M. Abd, H. N. S. Yassien, Impacts of Geometric Configurations on Performance of Discharge Coefficient and Wall Pressure of Venturi meter under High Reynolds number, International Journal of Ventilation, (2024) 1–16. https://doi.org/10.1080/14733315.2024.2344992.
- A. L. Tarish, N. T. Alwan, B. M. Ali, O. M. Ali, S. R. Aslan, **O. R. Alomar**, Design and performance analysis of a Joule-Thomson cryocooler systems, Energy Reports, 11 (2024) 4572-4586.
- **O. R. Alomar**, O. M. Ali, S. O. O. Al-Omar, Free convective heat transfer induced inside a vented duct having two aligned hot and cold cylinders: An experimental study, Heat Transfer, 53 (6) (2024) 3212-3234.
- K. H. Mohammed, A. E. Al-Mirani, B. M. Ali, **O. R. Alomar**, Impacts of Using Al2O3 Nano Particle to Compressor Oil on Performance of Automobile Air Conditioning System, Frontiers in Heat and Mass Transfer, 22 (3) (2024) 839-854.
- Mohammed A. Basim, **O. R. Alomar**, Effects of Utilizing Black Glass Balls, Phase Change Material, and Fins on the Performance of the Single-Slope and Single-Basin Solar Water Distiller under Climate Conditions of Mosul City: An Experimental Study, NTU Journal of Renewable Energy 7(1) (2024)
- . A. M. Saleem, A. A. Badr, B. H. Alyas, **O. R. Alomar**, 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, 22 (4) (2024).
- Baseem A Aljashaami, Bashar M Ali, Sajjad A Salih, Naseer T Alwan, Milia H Majeed, Obed M Ali, **O. R. Alomar**, Vladimir I Velkin, Sergey E Shcheklein, Recent improvements to heating, ventilation, and cooling technologies for buildings based on renewable energy to achieve zero-energy buildings: A systematic review, Results in Engineering, 23 (2024) 102769.
- Mohammed A. Basim, **O. R. Alomar**, Recent improvements on the performance of solar water distiller system: a systematic review, International Journal of Ambient Energy, 45 (1) (2024) 2389978.
- Mohammed A. Basim, **O. R. Alomar**, Impacts of Adding Porous Media and Phase Change Material on Performance of Solar Water Distiller System Under Iraq Climatic Condition: An Experimental Study, Energy Storage, 6 (6) (2024) e70038
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