



# Assist. Prof. Dr. Afrah Turki Awad

PhD. Mechanical Engineering

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**Affiliation:** Northern Technical University, Iraq

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## Education:

1. PhD in Mechanical Engineering, Faculty of Engineering, University of Leeds, UK, 2018.
2. M.Sc. in Mechanical Engineering, Thermal Power, University of Technology, Iraq, 2013.  
(Average with 81.3%).
3. B.Sc. in Mechanical Engineering, University of Karbala, Iraq, 2010.

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## Certificates:

1. I have a scientific title as (Assist. Prof.).
2. Certificate in Health and Safety in the workplace, University of Leeds, UK, 2016.
3. IELTS Certificate, Melton College, UK, 2015.
4. Certificate in Academic English for Postgraduate Studies (two Pre-sessional terms) University of Leeds, UK, 2015.
5. Certificate in Teaching Methods, University of Technology, Iraq, 2013.
6. Certificate in TOEFL ITP, University of Karbala, Iraq, 2013.
7. Certificate in Internet and computing core (IC3), University of Karbala, Iraq, 2010.

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## Courses:

1. "How to start you scientific research" 14-16 Oct. 2022. By Phi Nanoscience Centre in Cooperation with the University of Anbar.
2. RIVO training course, University of Leeds, UK, 2017.
3. Writing Purposefully Workshop, University of Leeds, UK, 2017
4. Literature Searching for Your Research Degree, University of Leeds, UK, 2017
5. LabVIEW Intermediate Hands-on Workshop, University of Leeds, UK, 2016
6. Preparing for Your Transfer, University of Leeds, UK, 2016
7. Attending nanouptake event #1, Spain, 2016.
8. CFD Software course, University of Leeds, UK, 2015-2016.
9. LabVIEW Introductory Hands-on Workshop, University of Leeds, UK, 2015
10. Excel for Research Part 1, University of Leeds, UK, 2015
11. Word for Thesis Part 1, University of Leeds, UK, 2015.
12. Starting Your Research Degree, University of Leeds, UK, 2015.
13. Course in Teaching Methods, University of Technology, Iraq, 2013.

## Conference Attended:

1. XI. International scientific congress of pure, applied and technological sciences (Minar Congress 11). 2024, Istanbul, Turkey. Oral presentation.
2. The first International Scientific conference on applied sciences and advanced technology, 2024, Malaysia. Oral presentation.
3. ICSREE 2023 May 11-13, Niece, France. Member of technical committee. Attending.
4. VII. International Scientific Congress of Pure, Applied and Technological Sciences, 2022. Turkey. Oral presentation.
5. 2ICSRI 2023, USA. Attending.
6. Sustainable energy: The role of sustainable energy in Iraq's economic transition, Erbil, Iraq. Attending.
7. 16th INTERNATIONAL HEAT TRANSFER CONFERENCE. August 10-15, 2018 · Beijing, China.
8. Solar & storage live conference, Birmingham, UK, October, 2018, attending.
9. AEM2017 conference, Latent and Sensible Energy Storage Enhancement of Nano-Nitrate Molten Salt, University of Surrey, Guilford, UK, September, 2017, Oral presentation.
10. ICHEME conference, UK Particle Technology Forum 2017, Latent and sensible energy storage enhancement of nitrate salt with same size of two different types of nanoparticles, University of Birmingham, UK, March, 2017, Poster.
11. UK Energy Storage Conference (UKES2016), Thermal energy storage enhancement of dispersing nanoparticles in a phase change material, University of Birmingham, UK, November, 2016, Oral presentation.
12. Nanouptake, Universitat Jaume I, Spain, October, 2016, attending.
13. Nanotechnology conference, the University of Leeds, UK, July, 2015, attending.

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## Experience:

1. Experienced in teaching various modules within the mechanical engineering department
2. Lecturer for teaching Postgraduate study (M.Sc.) and Undergraduate study (B.Sc.) for the following fields:
  - Pump characterizations at the University of Leeds, UK, 2018.
  - Demonstrator for the Multi-Scale Modelling and Simulation using the computational fluid dynamic (CFD) software for the master's degree studies at the University of Leeds, UK, 2018.
  - Demonstrator in the laboratories at the University of Leeds, UK.
3. Support Invigilator during the exam period at the University of Leeds, UK, 2018, and at the University of Karbala, Iraq, 2014.
4. Assessed the laboratory reports of Undergraduate students at the University of Leeds, UK, 2018.
5. Expert in nanotechnology applications for solar energy storage.
6. Expert in solar energy storage using molten salt as the storage medium.
7. Worked as department coordinator in Al safwa collage for the department of computer engineering technology, Iraq, 2014.

8. Assessed the exam papers in Al safwa collage for the department of computer engineering technology, Iraq, 2014.
  9. Data entry in the independent higher commission of election in Iraq, 2013.
  10. High knowledge and Experience in health and safety and Risk Assessment required for laboratory works.
  11. Good knowledge and Experience in DSC, TGA, SEM, TEM, DLS and XRD devices.
  12. Skills in using the computer and MS office programs, Auto Cad program, Ansys-CFD software.
  13. Fluent in Arabic and English languages.
  14. High skill in teaching and training methods and laboratory work.
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## Publications:

1. Hameed, H.M., Hasan, I.A. and Awad, A.T., 2024, December. Synthesis of Ag-ZnO/MOF nanocomposite for degradation of dye from aqueous solution under UV light. In 11TH GLOBAL CONGRESS ON RENEWABLE ENERGY AND ENVIRONMENT.
2. Shireef, L. and Awad, A., 2024, December. Analysis of the characteristics of zinc oxide nanofilm applied to a glass substrate. In 11TH GLOBAL CONGRESS ON RENEWABLE ENERGY AND ENVIRONMENT.
3. Hamdoon, A.A. and Awad, A.T., 2024, November. Insight Review on solar still application. In 11TH GLOBAL CONGRESS ON RENEWABLE ENERGY AND ENVIRONMENT.
4. Afrah Turki Awad, Maha Hasan Gahfour, Adnan M. Hussein, Amal Salim Said Al Rahbi, Erik Benthani, 2024. CFD Analysis of Convective Heat Transfer for Nanoparticles and Porous Medium. International Review of Mechanical Engineering, 18(8), pp. 406-412.
5. Hussein, A.M., Hameed, M.A., Ali, H.H.M. and Awad, A.T., 2024. Exergy of flat plate solar collector with nanofluid flowing under climatic of Kirkuk city. Journal of Science and Engineering Applications, 1(6).
6. Hussein, A.M. and Awad, A.T., 2024. Solar Collectors with Nanofluid for Domestic Applications: A Review. NTU Journal of Renewable Energy, 7(1), pp.57-64.
7. Awad, A. and Hussein, A., 2024. Influence of Nanofluid Types on the Enhancements of Solar Collector Performance. International Innovations Journal of Applied Science, 1(2).
8. Awad, A.T., Yaseen, A.H. and Hussein, A.M., 2024. Evaluation of Heat Transfer and Fluid Dynamics across a Backward Facing Step for Mobile Cooling Applications Utilizing CNT Nanofluid in Laminar Conditions. CFD Letters, 16(10), pp.140-153.
9. Hussein, A.M., Awad, A.T. and Ali, H.H.M., 2024. Evaluation of the thermal efficiency of nanofluid flows in flat plate solar collector. Journal of Thermal Engineering, 10(2), pp.299-307.
10. Study on the Pipe Size and Surface Roughness Effects on Hydraulic System Performance, XI. International scientific congress of pure, applied and technological sciences (Minar Congress 11). 2024, Istanbul, Turkey. Oral presentation.
11. Al Daraje, A.H.Y., Awad, A., Gogazeh, M. and Khamees, H.A.M., 2024. IMPACT OF MEASUREMENTS TECHNIQUES ON HEAT TRANSFER CHARACTERISTICS IN AIR JET ARRAYS. Journal of Engineering and Sustainable Development, 28(1), pp.17-34.
12. Awad, A.T. and Muayad, M.W., 2023. Experimental heat transfer study of an enhanced storage medium. Journal of Energy Storage, 73, p.108953.
13. AWAD, A.T. and ALBAZZAZ, K.J.T., 2022. NUMERICAL INVESTIGATION OF A HIGH-TEMPERATURE ENERGY STORAGE. International Journal of Applied Sciences and Technology ISSN: 2717-8234

14. Awad, A., Ahmed, W. and Waleed, M., 2021. Nanotechnology for energy storage. In *Emerging Nanotechnologies for Renewable Energy* (pp. 495-516). Elsevier.
15. Al-Yasiri, M., Awad, A., Pervaiz, S. and Wen, D., 2019. Influence of silica nanoparticles on the functionality of water-based drilling fluids. *Journal of Petroleum Science and Engineering*, 179, pp.504-512.
16. Awad, A.T., 2018. Development of Nanosalt and Heat Transfer Optimization for Solar Energy Storage (Doctoral dissertation, University of Leeds).
17. Awad, A., Navarro, H., Ding, Y. and Wen, D., 2018. Thermal-physical properties of nanoparticle-seeded nitrate molten salts. *Renewable energy*, 120, pp.275-288.
18. Awad, A., Burns, A., Waleed, M., M. and Wen, D., 2018. Latent and sensible energy storage enhancement of nano-nitrate molten salt. *Solar Energy*, 172, pp.191-197.
19. Luo, Y., Du, X., Awad, A. and Wen, D., 2017. Thermal energy storage enhancement of a binary molten salt via in-situ produced nanoparticles. *International Journal of Heat and Mass Transfer*, 104, pp.658-664.
20. Awad, A.T. and Al-Khishali, K.J., 2017. Numerical and Experimental Investigations of Heat Transfer Enhancement in a Duct Heater with Different Areas of Vortex Generators. *Al-Nahrain Journal for Engineering Sciences*, 20(1), pp.88-104.
21. Awad, A.T. and Al-Khishali, K.J., 2017. Numerical and Experimental Investigations of Heat Transfer Enhancement in a Duct Heater with Different shapes of Vortex Generators. University of Technology, Iraq, 2013.

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## Reviewer:

I have reviewed too many scientific papers for different Publisher and journals as well as reviewing papers for conference proceedings such as:

1. 3 papers for Conference: (ICSREE 2024)
  2. 2 papers for Conference: (5th international scientific conference of Alkafeel university (ISCKU 2024))
  3. 1 paper for Tikrit Journal of engineering sciences.
  4. 3 papers for Conference: (IRCEAS 2023)
  5. 1 paper for Sustainable energy technologies and assessments journal.
  6. 2 papers for Conference: (AEST)
  7. 1 paper for Advances in science, technology, and engineering system journal.
  8. 1 paper for Computer communications – Elsevier.
  9. 2 papers for the journal of Multimedia Tools and applications – SPRINGER NATURE.
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## Scientific Committee:

I have been choosing as a **Scientific Committee Members/Organizing Committee Members /Executive Committee Members** for many conferences such as:

1. The 2nd Annual International Congress on Renewable Energy July 3-4, 2025, Oxford, United Kingdom.
2. Annual International Congress on Nanoscience & Nanotechnology April 24-25, 2025, Oxford, United Kingdom.
3. 1st International Conference on Renewable and Sustainable Energy (France)
4. International Conference on Sustainable and Renewable Energy Engineering [ICSREE 2024 (France)]
5. The Second International Scientific Conference: Artificial Intelligence and Its Potential Applications in Education and Scientific Research 2024 (Malaysia)
6. International Conference of Environmental and Energy Development [ICEED 2024 (Iraq)]
7. International Conference on Sustainable and Renewable Energy Engineering [ICSREE 2023 (France)]