

Curriculum Vitae

Prof. Dr. Hayder Mohammad Jaffal

Mustansiriyah University– College of Engineering

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PERSONAL SUMMARY:

Dr. Hayder is currently teaching in the department of mechanical engineering. He is interested in research activities in the fields of energy and exergy analysis, cooling of electronic devices and solar energy. He also conducted supervision of postgraduate students in the aforementioned fields.

Google scholar I D.: <https://scholar.google.com/citations?user=8joso2wAAAAJ&hl=en>

ResearchGate ID. : <https://www.researchgate.net/profile/Hayder-Jaffal>

ORCID ID. : <https://orcid.org/0000-0002-3048-9623>

Scopus Author I D: <https://www.scopus.com/authid/detail.uri?authorId=57201401928>

EDUCATION:

- PhD/ Power / Mechanical Department/ College of Engineering/ Mustansiriyah University, 2016.
- M.SC/Fluid Dynamics/Mechanical Engineering Department/University of Technology 2001.
- B.SC, Mechanical Engineering Department/University of Technology 1998

ACADEMIC /TEACHING EXPERIENCE:

- Assistant lecturer, Environmental Engineering Department, College of Engineering - Mustansiriyah University 2008-2011.
- Lecturer, Environmental Engineering Department, College of Engineering - Mustansiriyah University 2011-2016.
- Assistant Professor, Mechanical Engineering Department, College of Engineering - Mustansiriyah University 2016-2021.
- Professor, Mechanical Engineering Department, College of Engineering - Mustansiriyah University 2016-until now.

ACADEMIC HONORS AND AWARDS:

- Awarded more than 30 thanks and appreciation.

الأستاذ المساعد الدكتور
هادي محمد الجفال
معاون السيد للشؤون العامة

COURSES TAUGHT:

Undergraduate	Graduate
Fluid Dynamics	Advanced Fluid Dynamics
Numerical Analysis	Two Phase Flow
Mathematics	Energy Management and Applications
Hydraulic/Lab	

PROFESSIONAL AFFILIATIONS:

- Member of Iraqi Engineers Association

PUBLICATIONS:

1. **“Numerical Modeling of Wire and Tube Condenser Used in Domestic Refrigerators”** Journal of Engineering and Development, Vol. 13, No. 2, June (2009).
2. **“Theoretical and Experimental Study of a Forward Swept Wing”** Anbar Journal for Engineering Sciences, Vol.3 No.2 (2010)
3. **“Modeling and Optimization of Salt- Gradient Solar Pond Located in Baghdad”** Al-Qadisiya Journal For Engineering Sciences, Vol.3 No.4 (2010)
4. **“Performance of Cooling Tower with Honeycomb Packing”** Eng. & Tech. Journal, Vol. 29, No.6, (2011).
5. **“Effect of Operation Conditions on Exit Water Temperature of Condenser (Atmospheric) by Using Neural Network”** Journal of Engineering and Development, Vol. 15, No. 3, September (2011).
6. **“Theoretical Analysis on Thermal Energy Storage using Phase Change Materials Capsules for Solar Organic Rankine Cycle Power Generation System”** Al- Nahrain University, College of Engineering Journal (NUCEJ) Vol.17 No.1, (2014)
7. **“Thermal Characteristics of Closed Wet Cooling Tower Using Different Heat Exchanger, Tubes Arrangement”** Baghdad University, Journal of Engineering Vol. 22, No. 5, January (2016)
8. **“Experimental Investigation for the Thermal performance of Modified Closed Wet Cooling Tower”** Al-Nahrain University, College of Engineering Journal (NUCEJ) Vol.91 No.2, (2016)
9. **Energy and Exergy Analysis on Modified Closed Wet Cooling Tower in Iraq”** Al-Khwarizmi Engineering Journal, Vol. 12, No. 2, (2016)
10. **“An Experimental Study on Heat and Mass Transfer for Closed Wet Cooling Tower Using Different Water Distribution Systems”** Journal of Engineering and Sustainable Development, Vol. 20, No. 03, May (2016)
11. **“The Effect of Fin Design on Thermal Performance of Heat Sink”** Baghdad University, Journal of Engineering, Vol. 23, No. 5 May (2017)


الأستاذ المساعد الدكتور
عبدالحسين محمد عبدالحسين
معاون مدير الشؤون العامة


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12. **“Experimental Study with Using ANFIS to Evaluate the Performance of a Modified Closed Wet Cooling Tower”** Journal of University of Duhok (JUD), Vol. 20, No. 1, Special Issue of the 2nd International Conference of the Colleague of Engineering- University of Duhok, May (2017)
13. **“Numerical and Experimental Investigations on the Performance Characteristics for Different Shapes Pin Fin Heat Sink”** International Journal of Computation and Applied Sciences IJOCAAS, Vol. 4, Issue. 3, June (2018)
14. **“Experimental Study on Thermal Performance of Glazed Roof with Phase Change Materials as an Application of Energy Conservation in Residential Buildings, Journal of Engineering and Sustainable Development, Vol. 22, No. 02, May (2018)**
15. **“Numerical and Experimental Investigation of Heat Transfer in Liquid Cooling Serpentine Mini-Channel Heat Sink with Different New Configuration Models”** Thermal Science and Engineering Progress, Vol. 6, (2018)
16. **“Thermal Analysis of Integrating Roof with Phase Change Materials for Energy Saving in Residential Buildings”** Academic Journal of Nawroz University, Vol. 7, No. 4, (2018)
17. **“Effects of Channel Configuration on Hydrothermal Performance of the Cylindrical Mini-Channel Heat Sinks”** Applied Thermal Engineering, Vol. 148, (2019)
18. **“Performance Optimization of a Cylindrical Mini-channel Heat Sink using Hybrid Straight-Wavy Channel”** International Journal of Thermal Sciences, Vol. 146, (2019)
19. **“Experimental Study of Forced Heat Convection through a Vertical Porous Annuli”** Journal of Mechanical Engineering Research and Developments, Vol. 43, (2020)
20. **“Effect of Porous Media on The Performance Characteristics of a Concentric Vertical Annular Tube”** Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, , Vol. 75, (2020)
21. **“Enhancement of the Thermal Performance Characteristics of an Electrical Power Transformer”** Engineering Science & Technology, Vol. 2, (2021)
22. **“Performance Evaluation of Serpentine and Multi-channel Heat Sinks Based on Energy and Exergy Analyses”** Applied Thermal Engineering, Vol. 18, (2021)
23. **“Effect of the fluid flow fragmentation on the hydrothermal performance enhancement of a serpentine mini-channel heat sink”** Case Studies in Thermal Engineering, Vol. 24, (2021)
24. **“The effect of interruptions on thermal characteristics of corrugated tube”** Case Studies in Thermal Engineering, Vol. 25, (2021)
25. **“Influence of Various Types of Twisted Tape inserts on Hydrody-namic, Pressure Drop and Thermal Heat Performance in Heat Ex-changers: A Review Study”** Anbar Journal Of Engineering Science, Vol. 9, (2021)
26. **“Augmentation of Fluid Flow and Heat Transfer Characteristics in corrugated Channel: A Review Study”** Diyala Journal of Engineering Sciences, Vol. 14, No.1, (2021)
27. **“Thermal performance enhancement of a cooling tower heat sink radiator”** Case Studies in Thermal Engineering, Vol. 28, (2021)


 الأستاذ المساعد الدكتور
 علي هادي الجراح
 معاون العميد للشؤون العلمية


 الأستاذ المساعد الدكتور

28. "Effect of fin shape on thermal performance enhancement of PCM-based low-grade heat harnessing exchanger" *Frontiers in Heat and Mass Transfer (FHMT)*, 18, 37 (2022)
29. "Performance Enhancement of a Novel Serpentine Channel Cooled Plate used for Cooling of Li-ion Battery Module" *International Journal of Thermal Sciences*, Vol. 184, (2023)
30. "Numerical investigation on heat transfer and fluid flow in a multi-minichannel heat sink: Effect of channel configurations" *Results in Engineering*, Vol. 17, (2023)
31. "Numerical and experimental thermohydraulic performance evaluation of multi-minichannel heat sinks considering channel structure modification" *International Communications in Heat and Mass Transfer*, Vol. 145, (2023)
32. "Performance evaluation of a printed circuit heat exchanger with a novel two-way corrugated channel" *Results in Engineering*, Vol. 19, (2023)
33. "Examining the effect of backward/forward-facing wavy channels on the thermohydraulic performance of a printed circuit heat exchanger under the laminar flow regime" *International Journal of Thermofluids*, Vol. 20, (2023)

PROFESSIONAL DEVELOPMENT

1. Certificate of participation, "Modeling and Optimization of Solar Organic Rankine Cycle for Low - Temperature Power Generation System" The 4th International Scientific Conference of Salahaddin University-Erbil, October 18-20, (2011)
2. Chairman of the Committee on the website of the Conference of the Engineering theses / Al-Mustansiriyyah University/ Faculty of Engineering (2012)
3. Certificate of participation, "Investigation of the Effect of Packing Location on Performance of Closed Wet Cooling Tower Based on Exergy Analysis" ModTech International Conference - Modern Technologies in Industrial Engineering IV, Iasi, Romania, Aug (2016)
4. Certificate of participation, " Parametric Study of Closed Wet Cooling Tower Thermal Performance" The 5th International Conference on Modern Manufacturing Technologies in Industrial Engineering, Sibiu, Romania, June (2017)
5. Certificate of participation, "Thermal Performance of Animal Fat as a Phase Change Material for Space Heating in Residential Buildings" The 6th International Scientific Conference on Nanotechnology, Advanced materials and its Applications, University of Technology-Iraq, April (2018)
6. Certificate of participation, "Experimental Study of the Impact of Added Packing on Performance Characteristics of Closed Wet Cooling Tower Based on Energy Analysis" The 2nd International Scientific Conference on Engineering and Innovative Technology - Salahaddin University-Erbil, April 14-16, (2019)
7. Certificate of participation, "The Behavior of Glauber's Salt as a Heat Storage Material for Residential Iraqi Buildings" The 2nd International Scientific Conference on Engineering and Innovative Technology - Salahaddin University-Erbil, April 14-16, (2019)


 الأستاذة هناد الجبار
 هناد الجبار
 مديرة قسم الهندسة الميكانيكية


 هناد الجبار

8. Certificate of participation, “**Experimental Study of the thermal Performance Behavior of Electric Power Transformers**” First Online Scientific Conference for Graduate Engineering Students - College of Engineering, Mustansiriyah University, Baghdad-Iraq, June (2020)
9. Certificate of participation, “**Thermal Contribution of Phase Change Materials Incorporated Within Glazed Roof for Space Heating**” 6th Applied Engineering and 3rd Sustainable Engineering Conference - College of Engineering, Mustansiriyah University, Baghdad-Iraq, June (2023)

الأستاذ المساعد الدكتور
يحيى محمد الجبوري
معاون نائب لشؤون العمادة

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السيرة الذاتية

الاستاذ الدكتور حيدر محمد جفال

الجامعة المستنصرية – كلية الهندسة

Mobile: +9647709252282

Email: jaffal.em@uomustansiriyah.edu.iq, hayder.jaffal@gmail.com

ملخص تعريفي:

د. حيدر تدريسي في قسم الهندسة الميكانيكية. مهتم في البحث في مجالات تحليل الطاقة والطاقة المتاحة وتبريد الوحدات الاليكترونية والطاقة الشمسية. يقوم بالإشراف طلبة الدراسات العليا في المجالات المذكورة.

Google scholar I D.: <https://scholar.google.com/citations?user=8joso2wAAAAJ&hl=en>

ResearchGate ID. : <https://www.researchgate.net/profile/Hayder-Jaffal>

ORCID ID. : <https://orcid.org/0000-0002-3048-9623>

Scopus Author I D: <https://www.scopus.com/authid/detail.uri?authorId=57201401928>

الشهادات الدراسية:

- دكتوراه هندسة ميكانيكية/ قوى /2016 – كلية الهندسة – الجامعة المستنصرية
- ماجستير هندسة ميكانيكية/ ديناميك الموانع /2001 – قسم الهندسة الميكانيكية – الجامعة التكنولوجية
- بكالوريوس هندسة ميكانيكية/ 1998 قسم الهندسة الميكانيكية – الجامعة التكنولوجية

الخبرة الأكاديمية والتدريس:

- مدرس مساعد, قسم الهندسة البنينة, كلية الهندسة- الجامعة المستنصرية 2008-2011.
- مدرس, قسم الهندسة البنينة, كلية الهندسة- الجامعة المستنصرية 2011-2016.
- استاذ مساعد, قسم الهندسة الميكانيكية, كلية الهندسة- الجامعة المستنصرية 2016-2021.
- استاذ, قسم الهندسة الميكانيكية, كلية الهندسة- الجامعة المستنصرية 2021 ولحد الان.

التكريم والجوائز الأكاديمية:

- حاصل على أكثر من 30 شكر وتقدير

المقررات الدراسية التي تم تدريسها:

الدراسات الأولية	الدراسات العليا
ديناميك الموانع	ديناميك موانع متقدم
التحليلات العددية	جريان ثنائي الطور
الرياضيات	إدارة الطاقة وتطبيقاتها
الهندر و لنيك /مختبر	

الأستاذ المساعد الدكتور
حيدر محمد جفال
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Hayder Jaffal

1. "Numerical Modeling of Wire and Tube Condenser Used in Domestic Refrigerators" Journal of Engineering and Development, Vol. 13, No. 2, June (2009).
2. "Theoretical and Experimental Study of a Forward Swept Wing" Anbar Journal for Engineering Sciences, Vol.3 No.2 (2010).
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7. "Thermal Characteristics of Closed Wet Cooling Tower Using Different Heat Exchanger, Tubes Arrangement" Baghdad University, Journal of Engineering Vol. 22, No.1, January (2016)
8. "Experimental Investigation for the Thermal performance of Modified Closed Wet Cooling Tower" Al-Nahrain University, College of Engineering Journal (NUCEJ) Vol.91 No.2, (2016)
9. Energy and Exergy Analysis on Modified Closed Wet Cooling Tower in Iraq" Al-Khwarizmi Engineering Journal, Vol. 12, No. 2, (2016)
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13. "Numerical and Experimental Investigations on the Performance Characteristics for Different Shapes Pin Fin Heat Sink" International Journal of Computation and Applied Sciences IJOCAAS, Vol. 4, Issue. 3, June (2018)

الأستاذ المساعد الدكتور
عبدالله محمد جبار
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10152531

14. **“Experimental Study on Thermal Performance of Glazed Roof with Phase Change Materials as an Application of Energy Conservation in Residential Buildings,** Journal of Engineering and Sustainable Development, Vol. 22, No. 02, May (2018)
15. **“Numerical and Experimental Investigation of Heat Transfer in Liquid Cooling Serpentine Mini-Channel Heat Sink with Different New Configuration Models”** Thermal Science and Engineering Progress, Vol. 6, (2018)
16. **“Thermal Analysis of Integrating Roof with Phase Change Materials for Energy Saving in Residential Buildings”** Academic Journal of Nawroz University, Vol. 7, No. 4, (2018)
17. **“Effects of Channel Configuration on Hydrothermal Performance of the Cylindrical Mini-Channel Heat Sinks”** Applied Thermal Engineering, Vol. 148, (2019)
18. **“Performance Optimization of a Cylindrical Mini-channel Heat Sink using Hybrid Straight–Wavy Channel”** International Journal of Thermal Sciences, Vol. 146, (2019)
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20. **“Effect of Porous Media on The Performance Characteristics of a Concentric Vertical Annular Tube”** Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, , Vol. 75, (2020)
21. **“Enhancement of the Thermal Performance Characteristics of an Electrical Power Transformer”** Engineering Science & Technology, Vol. 2, (2021)
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26. **“Augmentation of Fluid Flow and Heat Transfer Characteristics in corrugated Channel: A Review Study”** Diyala Journal of Engineering Sciences, Vol. 14, No.1, (2021)
27. **“Thermal performance enhancement of a cooling tower heat sink radiator”** Case Studies in Thermal Engineering, Vol. 28, (2021)
28. **“Effect of fin shape on thermal performance enhancement of PCM-based low-grade heat harnessing exchanger”** Frontiers in Heat and Mass Transfer (FHMT), 18, 37 (2022)
29. **“Performance Enhancement of a Novel Serpentine Channel Cooled Plate used for Cooling of Li-ion Battery Module”** International Journal of Thermal Sciences, Vol. 184, (2023)
30. **“Numerical investigation on heat transfer and fluid flow in a multi-minichannel heat sink: Effect of channel configurations”** Results in Engineering, Vol. 17, (2023)


 الأستاذ الدكتور
 علي خياط
 مدير مركز الأبحاث في
 الميكانيكا والهندسة الحرارية


 11/11/2023

31. "Numerical and experimental thermohydraulic performance evaluation of multi-minichannel heat sinks considering channel structure modification" International Communications in Heat and Mass Transfer, Vol. 145, (2023)
32. Performance evaluation of a printed circuit heat exchanger with a novel two-way corrugated channel" Results in Engineering, Vol. 19, (2023)
33. "Examining the effect of backward/forward-facing wavy channels on the thermohydraulic performance of a printed circuit heat exchanger under the laminar flow regime" International Journal of Thermofluids, Vol. 20, (2023)

تطوير المهارات:

1. Certificate of participation, "**Modeling and Optimization of Solar Organic Rankine Cycle for Low - Temperature Power Generation System**" The 4th International Scientific Conference of Salahaddin University-Erbil, October 18-20, (2011)
2. Chairman of the Committee on the website of the Conference of the Engineering theses / Al-Mustansiriyah University/ Faculty of Engineering (2012)
3. Certificate of participation, "**Investigation of the Effect of Packing Location on Performance of Closed Wet Cooling Tower Based on Exergy Analysis**" ModTech International Conference - Modern Technologies in Industrial Engineering IV, Iasi, Romania, Aug (2016)
4. Certificate of participation, "**Parametric Study of Closed Wet Cooling Tower Thermal Performance**" The 5th International Conference on Modern Manufacturing Technologies in Industrial Engineering, Sibiu, Romania, June (2017)
5. Certificate of participation, "**Thermal Performance of Animal Fat as a Phase Change Material for Space Heating in Residential Buildings**" The 6th International Scientific Conference on Nanotechnology, Advanced materials and its Applications, University of Technology-Iraq, April (2018)
6. Certificate of participation, "**Experimental Study of the Impact of Added Packing on Performance Characteristics of Closed Wet Cooling Tower Based on Energy Analysis**" The 2nd International Scientific Conference on Engineering and Innovative Technology - Salahaddin University-Erbil, April 14-16, (2019)
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9. Certificate of participation, "**Thermal Contribution of Phase Change Materials Incorporated Within Glazed Roof for Space Heating**" 6th Applied Engineering and 3rd Sustainable Engineering Conference - College of Engineering, Mustansiriyah University, Baghdad-Iraq, June (2023)



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معاون العميد للشؤون العامة

