Curriculum vitae

Name: Prof. Dr. Eng. Ahmed Mohammed Adham

Date and Place of birth: 17/1/1979, Khanaqin-Iraq.

Nationality: Iraqi

Occupation: Professor / Consultant Engineer

1. **Contact Information**:

- Email: ahmed.adham@epu.edu.iq; ahamedadhm@gmail.com
- Website: www.site.google.com/site/drahmedmohammedadham
- Mobile: +9647500271523; +9647701919195
- Address: Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department
- Residential address: Iraq, Kurdistan, Erbil Province.

2. **Language Skills**:

No.	Language	Speaking	Writing
1	Kurdish	Excellent	Excellent
2	Arabic	Excellent	Excellent
3	English	Excellent	Excellent
4	Turkish	Excellent	Fair

3. **Academic Title**: Professor (25/4/2023)

4. **Academic Qualification:**

No.	Certificate	Specialization	Place	Year
1	B.Sc.	Nuclear Engineering	University of Baghdad	2000
2	M.Sc.	Nuclear Engineering	University of Baghdad	2004
3	Ph.D.	Mechanical Engineering	University Teknologi Malaysia	2013

- (B.Sc.: Graduation rank: 3rd)
- (M.Sc.: Graduated with average of 79 %)
- (Ph.D.: Best student award)

5. **Professional Membership**:

- Member, Iraqi Engineers Union (Membership No. 92763).
- Member, Kurdistan Engineers Association, (Membership No. 12618).
- Member, Kurdistan Teachers Union.
- Member, International Association of Engineers (IAENG), (Membership No. 117002).

6. **Experience (Academic)**:

- Lecturer (University of Baghdad, College of Engineering, Nuclear Engineering Department from 2001-2005).
- Lecturer (Sulaimani Polytechnic University, Technical Engineering College, Mechanical Engineering Department in 2005).
- Lecturer (Sulaimani Polytechnic University, Kalar Technical Institute, Computer Systems Department from 2005-2010).
- Head of Computer Laboratory (Sulaimani Polytechnic University, Kalar Technical Institute, Computer Systems Department).
- Lecturer (Erbil Polytechnic University, Erbil Technical Engineering College, Refrigeration and Air Conditioning Department from (2013-2018)

- Head of Scientific Affairs and Postgraduate Studies Department (Erbil Polytechnic University, Erbil Technical Engineering College from (2018-2020).
- Head of Mechanical and Energy Engineering Department (Erbil Polytechnic University, Erbil Technical Engineering College from (2020 up to date).

7. **Committees**:

- Member of examination committee (Sulaimani Polytechnic University, Kalar Technical Institute, Computer systems Department).
- Member of the scientific committee (Erbil Polytechnic University, Erbil Technical Engineering College, Refrigeration and Air Conditioning Department).
- Head of examination committee (Erbil Polytechnic University, Erbil Technical Engineering College, Refrigeration and Air Conditioning Department).
- Member of the supreme examination committee (Erbil Polytechnic University, Erbil Technical Engineering College).
- Head of the examination committee (Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- Head of the scientific committee Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- Head of the supreme examination committee (Erbil Polytechnic University, Erbil Technical Engineering College).
- Member of the board of researchers' committee (Erbil Polytechnic University).
- Member of the journal accreditation committee (Erbil Polytechnic University).

- Member of the scientific activities supervision committee (Erbil Polytechnic University).
- Head of the journal accreditation committee (Erbil Polytechnic University).
- Member of the university ranking committee (Erbil Polytechnic University).
- Member of the university technological sector committee (Erbil Polytechnic University).
- Many other committees on the department, college and university level.

8. **Research Interest**:

- Microelectronic mechanical systems (MEMS).
- Micro-size heat and mass transfer.
- Refrigeration and air conditioning.
- Optimization techniques and simulation algorithms.

9. **Teaching Experience**:

- ✓ Mathematics (Undergraduate, University of Baghdad, College of Engineering, Nuclear Engineering Department).
- ✓ Physics (Undergraduate, University of Baghdad, College of Engineering, Nuclear Engineering Department).
- ✓ Thermodynamics (Undergraduate, University of Baghdad, College of Engineering, Nuclear Engineering Department).
- ✓ Heat Transfer (Undergraduate, university of Baghdad, College of Engineering, Nuclear Engineering Department).
- ✓ Strength of materials (Undergraduate, university of Baghdad, College of Engineering, Nuclear Engineering Department).

- ✓ Statistics (Diploma, Sulaimani Polytechnic University, Kalar Technical Institute, Computer Systems Department).
- ✓ Computer architecture and maintenance (Diploma, Sulaimani Polytechnic University, Kalar Technical Institute, Computer Systems Department).
- ✓ Computer applications (Diploma, Sulaimani Polytechnic University, Kalar Technical Institute, Computer Systems Department).
- ✓ Technical English (Undergraduate, Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- ✓ Numerical and engineering analysis (Undergraduate, Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- ✓ Heat Transfer (Undergraduate, Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- ✓ Numerical and engineering analysis (Undergraduate, Erbil Polytechnic University, Erbil Technical Engineering College, Civil Engineering Department).
- ✓ Scientific debate (Undergraduate, Erbil Polytechnic University, Erbil Technical Engineering College, Civil Engineering Department).
- ✓ Advanced heat transfer (Postgraduate/M.Sc., Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- ✓ Selected Topics in Heat Transfer (Postgraduate/Ph.D., Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).
- ✓ Research Methodology (Postgraduate/M.Sc., Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).

- ✓ Research Methodology (Postgraduate/Ph.D., Erbil Polytechnic University, Erbil Technical Engineering College, Mechanical and Energy Engineering Department).

10. **Professional Experience**:

- Qualified consultant in general testing and quality requirements of the thermoplastics piping system from Dongguan Liyi Test Equipment Company. (Training from 1/2/2013 to 15/2/2013).
- Qualified consultant in plastic piping system design from Dongguan Liyi Test Equipment Company. (Training from 15/7/2012 to 15/8/2012).
- Qualified consultant in thermoplastic pipe test program from Dongguan Liyi Test Equipment Company. (Training from 1/7/2011 to 1/8/2011).
- Qualified consultant mechanical engineer (Design of Jet-fan ventilation systems, HVAC, Elevator installation and Firefighting systems).
- Consultant engineer for Cihan group from (1/3/2015 up to 15/8/2018) for many projects (Cihan city, Cihan main bank, Cihan university).
- Consultant engineer for CVS ventilation techniques Company-Turkey (from 2015 to 2017).
- Consultant engineer for Naffcom firefighting company, Erbil, Iraq.
- Consultant engineer for many local companies in Erbil city.
- List of the most recent projects is attached.

11. **Publications**:

Thesis (unpublished):

I. Design of Triple Tube Evaporator using the Ammonia as Refrigerant, M.Sc. Thesis, University of Baghdad, 2004.

Thesis (published):

II. Optimization of Ammonia-Cooled Rectangular Microchannel Heat Sink using Genetic Algorithm, Ph.D. Thesis, Universiti Teknologi Malaysia (UTM), 2013.

International Conferences:

I. A. M. Adham, N. M. Ghazali, and R. Ahmad. "Cooling of a Rectangular Microchannel Heat Sink using Ammonia gas". AIP conference proceedings, 1440, 57(2012), https://doi.org/10.1063/1.4704203.
II. A. M. Adham, N. M. Ghazali, and R. Ahmad. "Cooling of microchannel heat sinks with gaseous coolants". Procedia Engineering (Elsevier), 56(2012), pp.337-343, https://doi.org/10.1016/j.proeng.2013.03.128.
III. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2013) "Multi-objective Optimization Algorithms for Microchannel Heat Sink Design". In: Ali M., Bosse T., Hindriks K., Hoogendoorn M., Jonker C., Treur J. (eds) Contemporary Challenges and Solutions in Applied Artificial Intelligence. Studies in Computational Intelligence, vol 489. Springer, Heidelberg, pp., https://doi.org/10.1007/978-3-319-00651-2_23.

International Journals:

1. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2012), "Optimization of an ammonia-cooled rectangular microchannel heat sink using multi-objective non-dominated sorting genetic algorithm (NSGA2)". Heat and Mass Transfer (Springer), 48(10), pp.1723-1733, https://doi.org/10.1007/s00231-012-1016-8.

2. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2012), "Thermal Performance of Ammonia-Cooled Microchannel Heat Sink". International Review of Mechanical Engineering (Praise Worthy Prize, Italy), 6(4), pp.828-836.

3. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2013), "Thermal and hydrodynamic analysis of microchannel heat sinks: A review". Renewable and Sustainable Energy Reviews (Elsevier), 21, pp.612-622, https://doi.org/10.1016/j.rser.2013.01.022.

4. A. M. Adham, N. M. Ghazali, M. M. Saleh, and R. Ahmad. (2013), "Triple Tube Ammonia Evaporator Design for Domestic Absorption Refrigerators". *Heat Transfer Research* (Begel House), 44(7), pp.665-686, https://doi.org/ 10.1615/HeatTransRes.2013006189.

5. A. M. Adham. (2013), "Optimization of a Refrigerant Base Nanofluid-Cooled Microchannel Heat Sink with Pumping Power Consideration". *Extracted by" 4th ICOME 2013-Virtual Forum* (Praise Worthy Prize, Italy), pp.1069.

6. S. Halelfadl, A. M. Adham, N. M. Ghazali, T. Mare, P. Estelle and R. Ahmad. (2014), "Optimization of thermal performances and pressure drop of rectangular microchannel heat sink using aqueous carbon nanotubes based nanofluid". *Applied Thermal Engineering* (Elsevier), 62(2),pp.492-49, https://doi.org/10.1016/j.applthermaleng.2013.08.005.

7. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2014), "Optimization of a rectangular microchannel heat sink using entropy generation minimization (EGM) and genetic algorithm (GA)". *Arabian Journal for Science and Engineering* (Springer), 39(10), pp.7211-7222, https://doi.org/10.1007/s13369-014-1253-x.

8. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2015), "Performance optimization of a microchannel heat sink using the Improved Strength Pareto Evolutionary Algorithm (SPEA2)". *Journal of Engineering Thermophysics* (Springer), 24(1), pp.86-100, https://doi.org/10.1134/S1810232815010087.

9. A. M. Adham, N. M. Ghazali, and R. Ahmad. (2016), "Optimization of nanofluid-cooled microchannel heat sink". *Thermal Science*, 20(1), pp.109-118, https://doi.org/10.2298/TSCI130517163A.

10. A. M. Adham, and M. A. Sulaiman. (2017), "Design of a Domestic Diffusion Absorption Refrigeration System Using Evolutionary Algorithm". *International Review of Mechanical Engineering* (Praise Worthy Prize, Italy), 6(4), pp.828-836. https://doi.org/10.15866/ireme.v11i11.13177.

11. A. M. Adham. (2019), "Ammonia Base Nanofluid as A Coolant For Electronic Chips". *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)* (Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC)), 9(3), pp.569-580. https://doi.org/10.24247/ijmperdjun201960.

12. A. M. Adham, M. A. Sulaiman, and S. F. Omer. (2020), "Thermal and Hydrodynamic Characteristics of Graphite-H2O and CuO-H2O Nanofluids in Microchannel Heat Sinks". *Universal Journal of Mechanical Engineering* (Horizon Research Publishing (HRPUB), USA, 8(2), pp.84-91. https://doi.org/ 10.13189/ujme.2020.080202.

13. Z. K. Shakir, A. M. Adham, M. A. Sulaiman, and N. M. Khalid. (2020), "Enhancement of the Overall Performance of Vapor Compression Refrigeration System (VCRs) using Environmentally Friendly Refrigerant and Jumping Capacitors – Experimental Study". *International Journal on Emerging Technologies* (Research Trend), 11(2), pp.849-853.

14. M. L. Zorab, and A. M. Adham. (2020) "Entropy Generation Minimization of Microchannel Heat Sink Using Nanofluids as a Coolant". *Journal of Mechanical Engineering Research and Developments* (The Scientific Press), 43(4), pp.150-164.

15. A. M. Adham, and H. A. Mohammed. (2021) "Numerical assessment of the overall heat transfer and pressure drop performances of an aqueous ammonia base-nanofluids in rectangular microchannel heat sinks". *Journal of Mechanical Engineering Research and Developments* (The Scientific Press), 44(4), pp.373-380.

16. B. E. Karim, A. M. Adham, and B. N. Yaqob. (2022) "Performance Enhancement of a Ventilation System in Hot and Dry Climate Using Air-PCM Heat Exchanger". *International Journal of Heat and Technology* (International Information and Technology Association), 40(3), pp.773-780. https://doi.org/ 10.18280/ijht.400316.

17. E. A. Khudadad, and A. M. Adham. (2022) "The Effect of Nanoparticle Size Presence in Thermophysical Properties Correlations on the Hydrothermal Performance of Hybrid Nanofluid Flowing Inside a Microchannel". *JP Journal of Heat and Mass Transfer* (Pushpa Publishing House), 30, pp.105-134. http://dx.doi.org/10.17654/0973576322059.

12. Editorial and Review Experiences:

No.	Journal title	Publisher	Role
1	Heat and Mass Transfer	Springer	Reviewer
2	Arabian Journal for Science and Engineering	Springer	Reviewer
3	International Journal of Heat and Mass Transfer	Elsevier	Reviewer
4	Microsystem Technologies	Elsevier	Reviewer
5	Heat Transfer Engineering	Taylor and Francis	Reviewer

Note: Many other local journals.

18. Researcher Digital Profiles and ID:

Google Scholar:
https://scholar.google.com/citations?user=dw8SfDUAAAAJ&hl=en

Scopus Profile:
https://www.scopus.com/authid/detail.uri?authorId=55222318900

Researchgate Profile:
https://www.researchgate.net/profile/Ahmed_Adham

ORCID Profile:
https://orcid.org/0000-0002-0857-4936

Publons Profile:
https://publons.com/researcher/2933137/assist-prof-dr-ahmed-mohammed-adham/publications/

Linkedin Profile:
https://www.linkedin.com/in/dr-ahmed-mohammed-adham-4a78aa139/

Mendeley Profile:
https://www.mendeley.com/profiles/ahmed-mohammed-adham/

Livedna Profile:
https://livedna.net/?dna=964.12688

Web of Science:
https://publons.com/researcher/O-7038-2019/

Web of Science Group

Academia Profile:
https://uobaghdad.academia.edu/DrAhmedAdham

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19. **Supervision**:

1. Supervision on many Diploma degree graduation projects in Computer Science.
2. Supervision on many Bachelor degree graduation projects in Mechanical Engineering.
3. Supervision on Two master thesis in Mechanical Engineering.
4. Participation in many examination committees for doctoral and master degrees.
5. Scientific Reviewer for many doctoral and master theses in mechanical Engineering.

20. **Scientific symposiums, workshops and Trainings**:

Participation in many scientific events organized by many national and international universities and agencies.

21. **Awards and Thanks and appreciation letters**:

I. Many thanks and appreciation letters on the department, college, university and ministry levels.

II. Selected among the best academic staff in quality assurance process.
III. Selected as the Top academic staff (out of 500 staff) in the quality assurance process in 2018/2019.
IV. Best Ph.D. student award from Universiti Teknologi Malaysia (UTM) in 2013.