

C.Vs of Dr. Abdulrahman Th. Mohammad

Mobile: (+964)7723482910 / Email:abd20091976@gmail.com

Web in Google Scholar: <https://scholar.google.com/citations?hl=en&user=SCLiuYgAAAAJ>



❖ **Education**

B.Sc., Mechanical Engineering, 1994, Technical University, Iraq.

M.Sc., Mechanical Engineering/Power, 2002, Technical University, Iraq.

Ph.D., Renewable Energy/Air conditioning-Solar Energy, 2014, National University of Malaysia, Malaysia.

❖ **Fields of Interest**

1. Solar Energy Conversion and Utilization.
2. Environmental Sciences and Co2 emissions.
3. Hybrid Liquid Desiccant Dehumidification and Cooling System.
4. Systems Technologies for Greenhouse.
5. Phase Change Materials (PCMs) Utilization.
6. Groundwater management.

❖ **Tasks and Experience in Education**

1. Decider of Mechanical Engineering Department from (2005-2007).
2. Head of surveying Department from (2007-2010).
3. Head of Computer Systems from (2014-2017).
4. Member of examination committee (2007-2010).
5. Member of examination committee (2014-2016).
6. Head of awareness committee in 2010.
7. Member of awareness committee in 2015 and 2017.

❖ **Practical Experience**

8. Director of production factory (Lathe, Milling and Grinder Machines) from 1996 to 2001.
9. Head of liquid gas generator system from 2001 to 2003.
10. Ability of working in Lathe Machines, CNC Lathe Machines, Milling machines, Grinder Machines.
11. Design, installing and working of pneumatic testing systems.
12. Design and installing of solar energy system with recommendation from Solar Energy Research Institute/National University of Malaysia.
 - a. Domestic solar hot water systems.
 - b. Photovoltaic solar systems.
 - c. Thermal solar collectors.
 - d. Sauna solar systems.
 - e. Air-conditioning- liquid desiccant dehumidification solar systems.

- f. Phase change materials (PCM) solar systems, especially encapsulation of PCMs in buildings constructions.

❖ **Summary**

Dr. Abdulrahman Th. Mohammad was director of Mechanical Engineering Department, Baqubah Technical Institute, Middle Technical University (MTU) from 2005 to 2007. He was director of Surveying Department in the same institute from 2007 to 2011. Now, he is a director of computer systems department and lecturer in Mechanical Engineering Department. In recent years, his research interest focuses on Solar Energy Conversion, Liquid Desiccant Dehumidification and Greenhouse Systems. He worked on the concept of the hybrid liquid desiccant air conditioning systems. Two traditional cooling units; traditional vapor compression and direct evaporative cooler used with the liquid desiccant materials and used it in solar cooling and dehumidification successfully.

❖ **Selected Publications**

➤ **Book and Book Chapter**

1. Book (**Phase change material (PCMs) technology in buildings constructions**) LAMBERT Publisher Germany, 2018.
2. Book (**Liquid desiccant to improve the evaporative cooler in hot and humid regions**), LAMBERT Publisher Germany, 2014.
3. Book (**Liquid desiccant dehumidification: Concept and Technology**), LAMBERT Publisher Germany, 2015.
4. Book chapter (**COMPUTER SIMULATION OF HEAT AND MASS TRANSFER IN A CROSS FLOW PARALLEL-PLATE LIQUID DESICCANT-AIR DEHUMIDIFIER**), Springer Publisher, Germany, 2014.
5. Book chapter (**HYBRID LIQUID DESICCANT AIR CONDITIONING SYSTEMS IN SURVEY**), STUDIUM PRESS LLC, USA, P.O. Box 722200, Houston, TX 77072, USA, 2014.
6. Book chapter (**Liquid Desiccant Dehumidification in Air-Conditioning Systems**), NOVA SCIENCE PUBLISHERS, INC. 400 Oser Avenue, Suite 1600, Hauppauge, NY 11788-3619, USA, 2014.
7. Book chapter (**Experimental Study on Regenerator Performance of a Solar Hybrid Liquid Desiccant Air-Conditioning System**): Book title- **Renewable Energy in the Service of Mankind** Vol II, pp 723-730.

➤ **Journals**

1. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Survey of hybrid liquid desiccant air conditioning systems. *Renewable and Sustainable Energy Reviews* 20:186–200.
2. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Implementation and validation of an artificial neural network for predicting the performance of a liquid desiccant dehumidifier. *Energy Conversion and Management* 67: 240–250.
3. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Review: Survey of liquid desiccant dehumidification system based on integrated vapor compression technology for building applications. *Energy and Buildings* 62:1-14.
4. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Theoretical study of the effect of liquid desiccant mass flow rate on the performance of a cross flow parallel–plate liquid desiccant–air dehumidifier. *Heat and Mass Transfer-Springer* 49:1587-1593.
5. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Artificial neural network analysis of liquid desiccant dehumidifier performance in a solar hybrid air-conditioning system. *Applied Thermal Engineering* 1-2: 389-397.
6. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Historical review of liquid desiccant evaporation cooling technology. *Energy and Buildings* 67: 22-33.
7. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. A statistical analysis of a liquid desiccant dehumidifier/regenerator in an air conditioning system. *Int. J. of Thermal & Environmental Engineering* 5:41-50.
8. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Artificial neural network analysis of liquid desiccant regenerator performance in a solar hybrid air-conditioning system. *Sustainable Energy Technologies and Assessment* 4: 11-19.

9. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Experimental Performance of a Direct Evaporative Cooler Operating in Kuala Lumpur. *Int. J. of Thermal & Environmental Engineering* 1:15-20.
10. Abdulrahman Th. Mohammad, Sohif Bin Mat, Abduljalil A. Al-abidi. 2014. Optimization of Cooling Load for Different Greenhouse Models in Malaysia. *INTERNATIONAL JOURNAL of RENEWABLE ENERGY RESEARCH* 1.
11. Abdulrahman Th. Mohammad, Performance Investigation of Direct Evaporative Cooling in Major Cities of Iraq, *Int. J. of Thermal & Environmental Engineering* Volume 10, No. 2 (2015) 177-183.
12. Abdulrahman Th. Mohammad, Design and Analysis of Solar Space Heating System in Iraq, *Int. J. of Thermal & Environmental Engineering* Volume 15, No. 1 (2017) 51-56.
13. Abdulrahman Th. Mohammad, Zuhair S. Al-Sagar, PV SOLAR PANEL PERFORMANCE IN IRAQ USING MATLAB, *Diyala Journal of Engineering Sciences*, Vol. 10, No. 2, pp. 86-93, June 2017
14. Abduljalil A. Al-Abidi, Sohif Bin Mat, K.Sopian, M.Y.Sulaiman, C.H. Lim, Abdulrahman Th. Mohammad. 2012. Review of thermal energy storage for air conditioning systems. *Renewable and Sustainable Energy Reviews*.16:5802–5819.
15. Abduljalil A. Al-Abidi, Sohif Bin Mat, K.Sopian, M.Y.Sulaiman, Abdulrahman Th. Mohammad. 2013. CFD applications for latent heat thermal energy storage: a review. *Renewable and Sustainable Energy Reviews*. 20:353–363.
16. Abduljalil A. Al-Abidi ,Sohif Bin Mat, K.Sopian, M.Y.Sulaiman, Abdulrahman Th. Mohammad. 2013. Internal and External Fin Heat Transfer Enhancement Technique for Latent Heat Thermal Energy Storage in Triplex Tube Heat Exchangers. *Applied Thermal Engineering*. 53:147-56.
17. Abduljalil A. Al-Abidi, Sohif Bin Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman Th. Mohammad. 2013. Experimental study of PCM melting in triplex tube thermal energy storage for liquid desiccant air conditioning system. *Energy and Buildings* 60: 270-279.
18. Abduljalil A. Al-Abidi, Sohif Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman Th. Mohammad. 2013. Numerical study of PCM solidification in a triplex tube heat exchanger with internal and external fins. *International Journal of Heat and Mass Transfer* 61:684-695.
19. Abduljalil A. Al-Abidi, Sohif Bin Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman Th. Mohammad. 2013. Enhance heat transfer for PCM melting in triplex tube with internal-external fins. *Energy Conservation and Management* 74: 223-236.
20. ABDULRAHMAN TH.MOHAMMAD, SOHIF BIN MAT, K.SOPIAN, ABDULJALILA.AL-ABIDI, REVIEW: SURVEY OF THE CONTROL STRATEGY OF LIQUID DESICCANT SYSTEMS, *RENEWABLE AND SUSTAINABLE ENERGY REVIEWS*58(2016)250-258.
21. HUSSEIN J. AKEIBER, MAZLAN A. WAHID, HASANEN M. HUSSEN, Abdulrahman Th. Mohammad, BASHAR Mudhaffar Abdullah, Arkan.Altai, A. Aftab, Raid. A. Alwan& M.M.Sies, Prediction of Convective Heat Transfer Coefficient and Temperature Distribution of Air-Conditioned Spaces Using Numerical Simulation, *Modern Applied Science*; Vol. 10, No. 8; 2016
22. Abdulrahman Th. Mohammad, Effect of tolerances production of swirl injector on the mass flow rate, *Diayla Journal of Engineering Science*, 2: 2008.
23. Abdulrahman Th. Mohammad, Simulation of the variation of liquid shape properties with axial distance of the exit of swirl injector, *Foundation of Technical Education conferences*-11, 2009.
24. Hussein J. Akeiber, Mazlan A. Wahid, Hasanen M. Hussen,2 and Abdulrahman Th. Mohammad, Review of Development Survey of Phase Change Material Models in Building Applications, *The Scientific World Journal* Volume 2014, Article ID 391690, 11 pages, <http://dx.doi.org/10.1155/2014/391690>.
25. HUSSEIN J. AKEIBER , SEYED EHSAN HOSSEINI, MAZLAN A. WAHID, HASANEN M. HUSSEN AND ABDULRAHMAN TH. MOHAMMAD, PHASE CHANGE MATERIALS-ASSISTED HEAT FLUX REDUCTION: EXPERIMENT AND NUMERICAL ANALYSIS, *ENERGIES* 2016, 9 (1), 30; DOI: 10.3390/EN9010030 (REGISTERING DOI).
26. Hussein J.Akeiber, Seyed EhsanHosseini , Hasanen M.Hussen, Mazlan A.Wahid , Abdulrahman Th.Mohammad , Thermal performance and economic evaluation of a newly developed phase change material for effective building encapsulation, *Energy Conversion and Management*, Volume 150, 15 October 2017, Pages 48-61.
27. Mazlan Abdul Wahid , Seyed Ehsan Hosseini , Hasanen M. Hussen , Hussein J. Akeiber , Safaa N. Saud, Abdulrahman Th. Mohammad, An overview of phase change materials for construction architecture thermal management in hot and dry climate region, *Applied Thermal Engineering* 112 (2017) 1240–1259
28. Hussein J. Akeiber , Mazlan A. Wahid, Hasanen M. Hussen, Abdulrahman Th. Mohammad, A newly composed paraffin encapsulated prototype roof structure for efficient thermal management in hot climate, *Energy* 104 (2016) 99-106.

29. ABDULRAHMAN TH. MOHAMMAD, DESIGN AND ANALYSIS OF SOLAR SPACE HEATING SYSTEM IN IRAQ, *INT. J. OF THERMAL & ENVIRONMENTAL ENGINEERING VOLUME 15, No. 1 (2017) 51-56*
30. QASSEM H. JALUT, NADIA L. ABBAS, ABDULRAHMAN TH. MOHAMMAD, MANAGEMENT OF GROUNDWATER RESOURCES IN THE AL-MANSOURIEH ZONE IN THE DIYALA RIVER BASIN IN EASTERN IRAQ, *GROUNDWATER FOR SUSTAINABLE DEVELOPMENT 6 (2018) 79–86.*

➤ **Conferences**

1. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2012. Prediction of water condensation rate in the liquid desiccant dehumidifier using artificial neural network. 3rd International Conference on Engineering and ICT (ICEI2012) Melaka, Malaysia. 4–6 April 2012.
2. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2012. Computer simulation of heat and mass transfer in a cross flow parallel-plate liquid desiccant-air. 11th International Conference on Sustainable Energy technologies (SET-2012) September 2-5, 2012 Vancouver, Canada.
3. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2012. An evaporative and liquid desiccant cooling system for air-conditioning in humid climates. International Conference on Engineering and Built Environment, Kuala Lumpur, Malaysia, November6-7, 2012. (ICEBE) 2012.
4. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. Improvement the performance of a direct evaporative cooler using the liquid desiccant dehumidification concept. Kuala Lumpur, Malaysia, April 2-4, 2013.
5. Abdulrahman Th. Mohammad, Sohif Bin Mat, M. Y. Sulaiman, K. Sopian, Abduljalil A. Al-abidi. 2013. An experimental study of counter-flow liquid desiccant dehumidifier/regenerator operating with lithium chloride. International symposium on Innovative Materials for Process in Energy System.IMPRES2013.September 4-6, 2013. Fukuoka , Japan.
6. Abduljalil A. Al-Abidi, Sohif Bin Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman Th. Mohammed. 2012. Numerical study of melting in triplex tube heat exchanger equipped with internal and external fins .International Conference on Engineering and Built Environment (ICEBE), Kuala Lumpur, Malaysia, November6-7, 2012.
7. Abduljalil A. Al-Abidi, Sohif Bin Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman Th. Mohammad. 2012. Numerical study of solidification in triplex tube heat exchanger. 11th International Conference on Sustainable Energy technologies (SET-2012), Vancouver, Canada, September 2-5, 2012.
8. Abduljalil A. Al-Abidi, Sohif Bin Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman. Th. Mohammad. 2013. Experimental investigation of melting in triplex tube thermal energy storage .7th WSEAS International Conference on renewable energy sources (RES '13).Kuala Lumpur, Malaysia, April 2-4, 2013.
9. Abduljalil A. Al-Abidi, Sohif Bin Mat, K. Sopian, M.Y. Sulaiman and Abdulrahman.Th.Mohammad. 2013. Heat transfer enhancement for PCM thermal energy storage in a triplex tube heat exchanger. International symposium on Innovative Materials for Process in Energy System. IMPRES2013. September 4-6, 2013. Fukuoka, Japan.
10. Abdulrahman Th. Mohammad, Simulation of the variation of liquid shape properties with axial distance of the exit of swirl injector, 2009, The 11th scientific conference/ Foundation Of Technical Education.

❖ **Google Scholar Citation**

<https://scholar.google.com/citations?user=SCLiuYgAAAAJ>

❖ **Elsevier Reviews Profile BETA**

<https://www.reviewerrecognition.elsevier.com/recognition/index?key=A002F298890F30D80C4EC4B03D45BF6E82AA8346DC8328C4>

❖ **Projects Supervised for Postgraduate**

1. Master (Hydrochemical evaluation of shallow groundwater in alluvial aquifers) /civil engineering /University of Diyala.

❖ **Awards**

1. Member of the W^{SSET} World Society of Sustainable Energy Technologies. 25th May 2012.
2. ITEX Gold Medal for the invention “Thermal Energy Storage with Phase Change Materials for Solar Desiccant Cooling System, 23rd International invention, innovation and technology exhibition ITEX Kuala Lumpur, Malaysia, 17th-19th May 2012.
3. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-November-2014, Energy

- Conversion and Management Journal.
4. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-May-2014, Applied Energy Journal.
 5. Certificate of Outstanding Contribution in Reviewing Made for the Journal-January-2015, Energy Conversion and Management Journal.
 6. Certificate of Outstanding Contribution in Reviewing Made for the Journal-March-2015, Energy Conversion and Management Journal.
 7. Certificate of Outstanding Contribution in Reviewing Made for the Journal-Jun-2015, Energy Conversion and Management Journal.
 8. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-February-2016, Building and Environment Journal.
 9. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-March-2016, Cleaner Production Journal.
 10. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-January -2018, Energy and building.
 11. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-November-2017, Applied Energy Journal.
 12. Certificate of Outstanding Contribution in Reviewing Made for the Journal-Dec.-2017, Applied Thermal Engineering Journal.
 13. Certificate of Outstanding Contribution in Reviewing Made for the Journal-Nov.-2017, Applied Thermal Engineering Journal.
 14. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-May-2017, Applied Energy Journal.
 15. Certificate of Reviewing Awarded in Recognition of the Review Made for the Journal-Jan.-2018, International Journal of Heat and Mass Transfer.

❖ **Courses and Symposium**

1. A Rawabit Leadership of Learning (program in the UK), United Kingdom, 10th-29th March 2009.
2. NVQ Assessment Methods, Warwickshire College- Trident Centre, UK, March 2009.
3. The 1st Japan-Malaysia Joint Workshop On Solar Photovoltaic Technology, 22nd November 2010.

❖ **Skills**

- 1- Confident in use of various software packages: MATLAB, TRNSYS, Fluent under ANSYS.
- 2- Confident in use of various statistical software packages: SPSS, ANOVA Expert Design.