

BIO-DATA

Prof Haroun A K Shahad

Dean of College of Engineering Technologies/ University of Hilla

Name :Prof. Haroun A K Shahad
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Religion :Muslim
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Corresponding Address:
Haroun A K Shahad, Hilla University College, Hilla , Babylon, IRAQ
Married with 3 children
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Scientific Status

Professor of Mechanical Engineering / Hilla University College
Professor of power engineering from 10th May 2006 till 1st July 2023
Associate Prof. 1999 –2002 (Higher Institute of Mech. And Elect. Eng., Hoon /Libya)
Assistant Prof. 1993-1999 (University of Basrah)
Lecturer 1984-1993 (University of Basrah)

Degrees obtained

Ph.D. University of Manchester (UMIST), England 1983
M.Sc. University of Manchester (UMIST), England 1980
B.Sc. in Mech. Eng. University of Basrah, Iraq 1976

Administrative Experience

Head of Air Conditioning and Refrigeration Engineering Technologies/
Hilla University College
Dean College of Eng. Univ. of Babylon (17-5-2003 till 31-12-2005)
Head of Dept. of Mech. Eng. Univ. of Babylon (1993-1999).
Head of Dept. of Mech. Eng. Univ. of Basrah (1990-1992). Assist.
Dean, College of Eng. Univ. of Basrah (1987-1988)

Computer Experience

I have a good computer experience in both software and programming. I supervised many graduation projects and M.Sc. dissertations where computer programs are developed to model many engineering problems.

Supervision

1-More than 50 B.Sc. projects in the field of thermodynamics and internal combustion engines.

2-Twenty Five M.Sc. dissertations in the fields of internal combustion engines, air pollution, solar energy, bio-fuel, hydrogen energy and thermodynamics.

3-Ten Ph.D. students in the fields of internal combustion engines and renewable energies.

Scientific Consultations

1- Al-Mussaib power plant, Iraq.

2- Southern Cement Company, Kufa, Iraq.

3- General company for cars manufacturing, Iraq.

University Activities

1-Head of energy committee in Basrah University in Iraq 1987-1990.

2-Head of energy committee in Babylon University in Iraq 199-1997.

3-Referee for the International Journal of Hydrogen Energy.

4-Member of the scientific committee of the Scientific Symposium on the Development of Engineering and Technical Education in the Beginning of the 21st Century, Hoon, Libya.

5- Member of the Editorial Board of Babylon University Journal.

6-Chairman of the scientific committee for the 1st annual scientific conference of the College of Engineering, University of Babylon 17-18/5/2009.

7- Chief Editor of the Iraqi Journal for mechanical and Materials Engineering.

8- Member of the scientific committee for the 2nd annual scientific conference of the College of Engineering, University of Babylon 24-25/3/2010.

9-Member of the scientific committee for the 3rd annual scientific conference of the College of Engineering, University of Babylon 23-24/3/2011.

10- Member of the Advisory Committee to the University President.

11-Member of Babylon University Committee for Renewable Energies

Teaching Experience

I thought the following courses for B.Sc., M.Sc. and Ph.D. degrees.

1- Internal combustion engines	4th. Year B.Sc. Mech. Eng.
2- Thermodynamics	2nd. Year B.Sc. Mech. Eng.
3- Mathematics	1st. Year B.Sc. Mech. Egg.
4- Pollution control	3rd. Year B.Sc. Chem. Eng.
5- Advanced engineering thermodynamics	M.Sc. degree
6- Thermodynamics of internal combustion engines	M.Sc. degree
7-Renewable Energies	Ph.D. degree
8-Theory of combustion	Ph.D. degree

Conferences Attended

1-Second Basrah Conference for Mechanical Engineering Researches, Basrah/Iraq, 20-21 April, 1993.

2-Fifth Scientific Conference of Babylon University. 25-27 April, 1999.

3-Scientific Symposium on the Development of Engineering and technical Education in the Beginning of the 21st Century, Hoon, Libya 2002.

4-First Scientific Conference, College of Technology, Najaf, 16-17/3/2008

5-First Scientific Conference of the College of Engineering/ University of Babylon, 17-18/5/2009.
6-Nuclear and Renewable Energy Sources with International Participation, 28-29 Sept 2009, Ankara, Turkey.
7- Second Scientific Conference of the College of Engineering/ University of Babylon, 24-25/3/2010.
8- The 7th Jordanian International Mechanical Engineering Conference (JIMEC'7), 27-29 September 2010, Ammam- Jordan.
9- Third Scientific Conference of the College of Engineering/ University of Babylon, 23-24/3/2011.
10- International Conference on Automotive and Mechanical Engineering April 27-29, 2011, Venice, Italy.
11- International Journal of Arts and Sciences Conference
April 16-19, 2012, Paris, France
12- Third international Scientific Conference, Najaf Technical College, IRAQ
Feb. 20-21, 2013
13- Third Iraq Oil and Gas Conference 28-29 Oct. 2015, Maysan province, IRAQ.
14- Babylon First International Engineering Conference, 22-23 Dec. 2015, Hilla, IRAQ.

Published researches

1-An experimental investigation of soot particles size inside the combustion chamber of a diesel engine.
Energy Convers. Mgmt. Journal, Vol. 29, No 2, pp. 141-149, 1989.
2-An experimental study of fuel spray penetration using water rig modeling technique.
Arabian Journal for Science and Engineering (AJSE), 1990.
3-Radiative heat transfer calculations from soot clouds for a
quiescent combustion chamber diesel engine.
ASME winter annual meeting, Dec. 9-14, 1984.
4-A stochastic simulation model of oil spills fate and transport in the northern region of the Arabian Gulf.
Engineering and Technology Journal, Vol. 12, 1993.
5-Analysis of wind energy potential in Babylon region.
Second Basrah Conference for Mech. Engineering researches. Basrah,
20-21 April, 1993.
6-A computer modeling of oil spill from Khur Al-Aumaia terminal using circles approach.
Second Basrah Conference for Mech. Engineering Researches.
Basrah, 20-21 April, 1993.
7-A theoretical study of free spray penetration. Engineering
and Technology Journal, 1989.
8-A modeling study of soot release in diesel engines.
Engineering and Technology Journal, 1989.
9-A theoretical study of soot cloud emissivity inside the combustion chamber of a diesel engine.
Engineering and Technology Journal, 1988.
10-A new technique to separate hydrocarbon vapors and water vapor from the recirculated blow off gases in petrol engines.
Military Engineering College Journal, 1995.
11-A diagnostic study of diesel engine faults using noise measurement technique.
Engineering and Technology Journal, Vol. 12, No. 12, 1993.

12-Soot oxidation in diesel engine.
Engineering and Technology Journal, Vol. 12, No. 10, 1993.
13-Using date stone charcoal as a filtering medium for automobile exhaust gases.
Energy Convers. Mgmt. Vol. 39, No. 12, pp. 1215-1222, 1998.
14-A prediction study of the effect of hydrogen blending on the performance and pollutants emission of a four stroke spark ignition engine.
International Journal of Hydrogen Energy
Vol. 24, Issue 4, 1999, pp. 363-375.
15-Investigation of soot formation and temperature field in laminar diffusion flames of LPG-air mixture.
Energy Conversion and Management.
Vol. 41, Issue 17, 2000, 1897-1916.
16-An experimental study towards using ceramic materials to improve wear resistance of a diesel engine exhaust valve.
Fifth Scientific Conference of Babylon University, 25-27 April, 1999.
17-A thermodynamic analysis of non-equilibrium heat transfer in semi-infinite media subjected to step change in temperature.
Energy Conversion & Management, Vol.
44, Issue 8, 2003, pp. 1373-1386.
18-A prediction study of a spark-ignition supercharged hydrogen engine.
Energy Conversion & Management, Vol.
44, No. 20, pp. 3143-3150, 2003
19- "Optimization Study of Proton Exchange Membrane Fuel Cell Performance"
Turkish Journal of Engineering and Environmental Sciences.
An International Journal
2005; Vol. 29, No.4, pp.235-240.
ISSN: 1300-0160
20-Developing A model to Study the Effect of Operating Pressure and Temperature on Voltage and Efficiency of Hydrogen Fuel Cell.
The Iraqi Journal for Mech. And Materials Eng.
Vol. 6, No.1, 2006.
21-Effect of Operating Conditions on the Performance of Al-Muthanna Cement Plant Preheaters.
The Iraqi Journal for Mech. And Materials Eng.
Vol. 6, No.2, 2006.
22- "Mechanical Failure in PEM Fuel Cells due to Cracks and Pin-holes Formation – A CFD Study"
1st Symposium on CFD Tools for Complex Applications.
Libyan Petroleum Institute, National Oil Cooperation, Tripoli,
Libya, December, 8, 2006.
23- "Parametric and Optimization Study of a PEM Fuel Cell Performance Using Three - Dimensional Computational Fluid Dynamics Model"
Renewable Energy Journal. An International Journal.
The Official Journal of WREN. The Institute of Energy, UK Vol.
32, Number 7, 2007, pp.1077-1101
ISSN: 0960-1481
24-"Optimization Study of a PEM Fuel Cell Performance Using 3D Multi-Phase Computational Fluid Dynamics Model"
Journal of Zhejiang University SCIENCE A.
International Applied Physics & Engineering Journal

Vol. 8, Number 2, 2007, pp.285-300
ISSN: 1009-3095
25- "Influence of the Design Parameters in a Proton Exchange Membrane (PEM) Fuel Cell on the Mechanical Behavior of the Polymer Membrane"
Energy & Fuels.
An American Chemical Society Journal, USA
Vol. 21, Number 4, 2007, pp.2258-2267
ISSN: 0887-0624
26-"Modeling Optimizes PEM Fuel Cell Performance Using Three-Dimensional Multi - Phase Computational Fluid Dynamics Model".
Energy Conversion & Management. An
International Journal
Vol. 48, Issue 12, 2007, pp 3102-3119.
ISSN: 0196-8904
27- "Effect of Operating Parameters on the Hygro-Thermal Stresses in Proton Exchange Membranes of Fuel Cells".
International Journal of Hydrogen Energy.
Official J. of the Int. Association for Hydrogen Energy, USA Vol.
32, Issue 7, 2007, pp. 4510-4522
ISSN: 0360-3199
28- "Effect of Design Parameters on the Hygro-Thermal Stresses in Proton Exchange Membranes of the Fuel Cells"
Engineering Applications of Computational Fluid Mechanics. An
International Journal
Vol. 1 Number 2, 2007, pp. 71-87
ISSN: 1994-2060
29- "Prediction of Hygro-Thermal Stresses Distribution in Proton Exchange Membranes Using Three-Dimensional Multi-Phase Computational Fluid Dynamics Model"
Journal of Power and Energy.
Proc. of the Institution of Mechanical Engineers, UK
Vol. 221, Number 7, 2007.
ISSN: 0957-6509
30- "Optimum Operating Point of PEM Fuel Cells to Extract Peak Energy from Our Fuels"
Fuel Cell Magazine.
An International Magazine Vol.
8, 2007.
ISSN: 1539-1647
31- "Numerical Analysis of a Proton Exchange Membrane Fuel Cell: Part I. Model Development"
Journal of Power and Energy.
Proc. of the Institution of Mechanical Engineers, UK
Vol. 221, Number 7, 2007
ISSN: 0957-6509
32- "Numerical Analysis of a Proton Exchange Membrane Fuel Cell: Part II. Parametric Study". Journal of Power and Energy.
Proc. of the Institution of Mechanical Engineers, UK
Vol. 221, Number 7, 2007.
ISSN: 0957-6509
33-"Behavior of the Proton Exchange Membranes in Fuel Cells Due to Hygro-Thermal

Stresses"
Fuel Cell Magazine. International Magazine Vol. 1, 2007
ISSN: 1539-1647

34- "Three - Dimensional, Multi - Phase Flow, Computational Fluid Dynamics Model for Analysis of Transport Phenomena and Thermal Stresses in PEM Fuel Cells"
The Third International Conference on Thermal Engineering: Theory and Applications.
(Ryerson University, Canada & Hashemite University, Jordan), Amman, Jordan, May 21-23, 2007.

35- "Efficiency and Economics of Proton Exchange Membrane Fuel Cells – A CFD Study"
Environmental Impact of Energy and Water Saving.
First International Conference and Exhibition.
International Energy Foundation, Tripoli, Libya, May
30-31, 2007. PP. 179-191.

36- "Modeling Optimizes PEM Fuel Cells to Extract Peak Energy from Our Fuels – A CFD Study"
International Conference on New Trends in Petroleum Refining.
Ministry of Education and Research, Ovidius University of Constanta, Constanta, Romania, December 6-8, 2007.

37-"CFD Model for Analysis and Design of PEM Fuel Cells"
The Sixth Jordanian International Mechanical Engineering Conference (JIMEC'6).
Philadelphia University & Jordan Engineers Association, Amman – Jordan, October 22 – 24, 2007.

38-A Three Dimensional Computational Fluid Dynamics Model for Analysis of Transport Phenomena and Electrochemical Reactions in PEM Fuel Cells.
The Iraqi Journal for Mechanical and Materials Engineering
Vol. 7, No.3 2007, pp. 159-176.

39- A Quasi- Dimensional Model to Study the Effect of Hydrogen Blending on the Pollutants Emission of a Medium Speed Diesel Engine.
1st Scientific Conf. Tech. College Najaf, PP 1-16, 16-17/3/2008.

40- Ethanol as a Lead/MTBE Replacement for Spark Ignition Engines in Libya.
Ovidius University Annals of Chemistry Journal, Vol.
18- No. 1- pp. 22-30, 2007.

41- Modeling Optimizes PEM Fuel Cells to Extract Peak Energy From Our Fuels- a CFD Study.
Ovidius University Annals of Chemistry Journal, Vol.
18, No.1, pp. 31-36, 2007.

42- Ethanol as an Octane Enhancer for the Commercial Gasoline Fuels.
The Iraqi Journal for Mechanical and Materials Engineering
Vol.8, No.2, pp.96-109, 2008.

43-Production and Testing of Bio-diesel from Waste Cooking Oil.
5th International Conference on "Combustion, Incineration/Pyrolysis and Emission Control (i-CIPEC 2008)"
16-19 December 2008, Chiang Mai, Thailand

44-One dimensional model for water management through the membrane of a hydrogen PEM fuel cell.
The Iraqi Journal for Mechanical and Materials Engineering
Vol.8, No.3, pp.237-248, 2008.

45- A numerical investigation of the effect of hydrogen blending on the temperature

field and pollutants emission of a four stroke spark ignition engine.
The Iraqi Journal for Mechanical and Materials Engineering.

Special issue for the 1st Scientific Conference of the College of Engineering/ University of Babylon, No. C, PP. 465-483, 2009.

46- Experimental investigation of using hydrogen blending to improve performance and to reduce pollutants emission of a spark ignition engine.
Nuclear and renewable energy resources conference with international participation.
28-29 Sept. 2009, ANKARA, TYRKEY.

47-Experimental and Numerical Study of Fin Heat Sinks Systems.
The Iraqi Journal for Mechanical and Materials Engineering, Vol.9,
No.3, 2009.

48-A Modeling Study of the Effect of Hydrogen Addition on the Performance of A Medium Speed Four Stroke Diesel Engine.
The Iraqi Journal for Mechanical and Materials Engineering, Vol.9,
No.3, 2009.

49-The Effect of Spark Plug Location On Cylinder Pressure, Temperature Field And Pollutants Concentration.
The Iraqi Journal for Mechanical and Materials Engineering, Vol.9,
No.3, 2009.

50- Effect of operating conditions on the performance and emissions of a diesel engine operated with hydrogen blended fuel.
The 2nd. Scientific Conference of the College of Engineering/ Babylon University, Babylon, 24-25/3/2010.

51- Experimental Investigation of the Effect of Hydrogen Blending on the Concentration of Pollutants Emitted from a Four Stroke Diesel Engine.
The 7th Jordanian International Mechanical Engineering Conference (JIMEC'7), 27-29 September 2010, Ammam- Jordan.

52-Experimental Investigation of the Effect of Hydrogen Blending on the Concentration of Pollutants Emitted From a Four Stroke Diesel Engine
Jordan Journal of Mechanical and Industrial Engineering,
Volume 5, Number1, February 2011

53-Experimental Investigation Of The Effect Of Hydrogen Manifold Injection On The Performance Of A Compression Ignition Engine
International Conference on Automotive and Mechanical Engineering,
Venice, Italy during April 27-29, 2011.

54- Design, Construction and Testing of a Solar Air Heater in Iraq
International Journal of Arts and Sciences Conference
April 16-19, 2012, Paris, France

55- Design, Construction and Testing of a Solar Air Heater in Iraq
Academic Journal of Science,
CD-ROM. ISSN: 2165-6282: 1(3):323–332 (2012)
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56-Quazi Three Dimensional Analysis of Temperature Field inside the Flow Duct of Air Solar Heater.
Third International Scientific Conference, Najaf Technical College, 20-21/2/2013

57-Analysis of Recorded Metrological Data in Babylon Province of IRAQ during 2011.
The Iraqi Journal for Mechanical and Materials Engineering, Vol. 14, No. 2, 2014

58-A Numerical Investigation of the Effect of Hydrogen Blended on the Temperature Field and Performance of a Spark Ignition Engine

International Journal of Mining, Metallurgy & Mechanical Engineering (IJMMME) Volume 2, Issue 1 (2014) ISSN 2320–4060 (Online)

59-A Review on Hydrogen Supplementation in Compression Ignition Engines. International Journal of Current Engineering and Technology, Vol. 5, No.2, (April 2015).

60- Experimental Study to Improve Bio-ethanol Yield from Iraqi Dates Crop. The Fourth Scientific conference For Engineering and Technology, 7-8 April 2015, University Islamic College, Najaf, Iraq.

61- Effect of Operating Conditions on Pollutants Concentration Emitted From a Spark Ignition Engine Fuelled With Gasoline Bio-Ethanol Blends. The Fourth Scientific conference For Engineering and Technology, 7-8 April 2015, University Islamic College, Najaf, Iraq.

62- Performance Analysis of a Shallow Duct Flat Plate Solar Air Heater with and without porous Media. University of Babylon Journal, Vol. 23, Issue 1, 2015.

63- Effect of Operating Conditions on Pollutants Concentration Emitted from a Spark Ignition Engine Fuelled with Gasoline Bio-ethanol Blends. Journal of Renewable Energy, Vol. 2015.

64-A Review of Solar Powered Absorption Refrigeration Systems. International Journal of Current Engineering and Technology, Vol. 5, No.2, (April 2015).

65-Investigation on an intermittent absorption refrigeration prototype powered by solar irradiation. Al-Qadisiyia Engineering Sciences Journal, Issue 4, Vol. 8, 2015.

66-Experimental Study of Performance of a Spark ignition Engine Fuelled with Gasoline Bio-Ethanol Blends Produced from Iraqi Dates. Babylon First International Engineering Conference, 22-23 Dec. 2015, Hilla, IRAQ.

67- Production of Bio-Ethanol from Iraq Date Crop. Third Iraq Oil and Gas Conference 28-29 Oct. 2015, Maysan province, IRAQ.

68-An Experimental Study of the Effect of Hydrogen Blending on Laminar Flame Speed for Iraqi LPG. Accepted for publication in the IJMME.

69- An Experimental Study for Investigating the Laminar Flame Speed and Burning Velocity for LPG. International Journal of Thermal Technologies, Vol. 6, No.1 (March 2016)

70- Using Ammonia–Activated Carbon as Working Pair for Solar Adsorption Refrigeration System International Journal of Thermal Technologies. Vol.6, No.1 (March 2016)

71- Improving Naphtha Octane Number by using UV Rays under Atmospheric Pressure International Journal of Current Engineering and Technology. Vol. 6, No.6 (Dec 2016)

72-An Experimental Investigation on performance and Emission of a Single Cylinder DI Diesel Engine with Manifold Hydrogen Induction. Journal of Babylon University, Vol. 25, No 2, 2017.

73-An Experimental Study of the Effect of Hydrogen Blending on Burning Velocity of LPG at Elevated Pressure. International Journal of Hydrogen Energy, Volume 41, Issue, 2016

74-Characteristics Review of Optical Concentrators International Journal of Current Engineering and Technology Vol. 7, No. 1, 2017

75-A Review of Laminar Burning Velocity and Flame Speed of Gases and Liquid Fuels

International Journal of Current Engineering and Technology
Vol. 7, No.1, 2017

76-State of the Art of Solar Absorption Cooling Technologies
International Journal for Research in Applied Science & Engineering Technology, Volume 5, Issue III, March 2017

77- Photo-degradation Effect on Naphtha Octane Number by Using UV Radiation International Journal of Thermal Technologies, March, 2017

78-Design and Fabrication of Two Dimension Compound Parabolic Concentrator for Iraqi Climate
International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 5 Issue V, May 2017

79-Effect of Duct Design Configuration on Solar Air Heater Performance in Iraq Weather Conditions.
Fourth Iraq Oil and Gas Conference 13-14 Dec.2017

80-Photo-degradation Effect on Naphtha Octane Number by Using UV Radiation Fourth Iraq Oil and Gas Conference 13-14 Dec.2017

81-Experimental Study of Effect of Nanoparticles Addition on Combustion Phasing in Diesel Engine
International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS Vol, 18 No, 01

82- Analysis of the experimental and theoretical performance of the non-imaging compound parabolic solar collector.
Indian Journal of Science and Technology Vol. 11, Issue 12, March 2018

83-Experimental Study of a Diesel Engine performance Fuelled with Different Types of Nano-Fuels.
Journal of University of Babylon Vol.26, No. 7, 2018

84-Experimental Investigation of Pollutants Emission for a Diesel Engine Fuelled with Nano-Fuels.
Journal of University of Babylon Vol.26, No. 6, 2018

85-Overview of Working Pair used in Absorption Refrigeration Technologies
International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
Volume 6 Issue VII, July 2018

86- The Effect of Compression Ratio on Pollutants Emission of a Diesel Engine Fuelled with Nano Fuel.
International Journal of Engineering and Technology
Vol. 7, No 4.19 (2018), **Special Issue 19,** ***Pages: 828--833,*** **DOI: 10.14419/ijet.v7i4.19.28005**

87- Experimental Performance Investigation of Photovoltaic Module and Water Cooled Photovoltaic/Thermal System under Middle of Iraqi Climatic Conditions.
International Journal of Engineering and Technology
Vol. 7, No 4.19 (2018), **Special Issue 19,** ***Pages: 688-698,***
DOI: 10.14419/ijet.v7i4.19.27984

88-Performance Experimental Study of Dual Fluid (Air-Water) Flat Plate Solar Heater.
Journal of University of Babylon, Vol. 27, Issue 4, 2019

89-Improving the electrical efficiency of photovoltaic/thermal panel by using SiC/Water nano-fluid as coolant.
Third International Conference on Engineering Sciences, 4 - 5 November, 2019 in

the Engineering College at University of Kerbala, Iraq.

90- Effect of Operating Conditions on Performance and Emissions of A Diesel Engine Operated with Diesel-Hydrogen Blend.
The Iraqi Journal for Mechanical and Materials Engineering, Vol. 19, Issue 4, 2019

91-: Experimental Investigation of Blending Fuel Type Effect on Laminar Flame Speed at Elevated Initial Pressure
ISCUB-2019 International Scientific conference of the university of Babylon December 1-2, 2019 University of Babylon, Babylon, Iraq
TEST Engineering & Management magazine, Vol. 83, March/April 2020

92-Acetone - Zinc Bromide as Working Fluids in Solar Absorption Cooling System Basrah Journal of Engineering Sciences, Vol. 20, No. 1, (2020), 23-29

93-Experimental and CFD Simulation for Two Different Configuration of Flat Plate Solar Collector
ISCUB-2019 International Scientific conference of the University of Babylon December 1-2, 2019 University of Babylon, Babylon, Iraq
TEST Engineering & Management magazine, Vol. 83, March/April 2020

94-Investigation of Flame Flashback Phenomena in LPG-H2/Air Premixed Combustion Using Boundary and Peclet Number
ISCUB-2019 International Scientific conference of the University of Babylon December 1-2, 2019 University of Babylon, Babylon, Iraq
TEST Engineering & Management magazine, Vol. 83, March/April 2020

95-An Experimental Investigation on Thermal Performance and Exhaust Gas of CI Engine Fuelled by Diesel-Ethanol Blended with Waste Oil Biodiesel as Co-Solvent.
ISCUB-2019 International Scientific conference of the University of Babylon December 1-2, 2019 University of Babylon, Babylon, Iraq
TEST Engineering & Management magazine, Vol. 83, March/April 2020

96- Design, Fabrication and Performance Testing of PTC with Helical Coil Receiver, 4th Scientific International Conference Najaf (SICN), Al-Najef, Iraq, 2019, pp. 189-194. doi.org/10.1109/SICN47020.2019.9019342

97-Overview of Solar Assisted Cooling Technologies
International Journal of Applied Engineering Research ISSN 0973-4562 Volume 15, Number 8 (2020) pp. 843-863

98- Experimental Investigation of Iraqi Liquefied Petroleum Gas (ILPG)/**H2**/Air Premixed Flame Stability Zone
J. Eng. Technol. Sci., Vol. 52, No. 5, 2020

99-Using Solar Collector Unit in a Methanol Water Vapor Absorption Cooling System Under Iraqi Environmental Conditions.
Case Studies in Thermal Engineering
Volume 22, December 2020, 100749

100-Optimization of Performance and Emission Responses for a CIE Run by MeOH/Biodiesel/Diesel Blends Utilizing Response Surface Methodology
1st International Conference on Sustainable Engineering and Technology: INTCSET 2020.
Journal of Material Sciences and Engineering 2021
IOP Conf. Ser.: Mater. Sci. Eng. Vol. **1094**

101-Experimental Study on Diesel Engine Characteristic Utilized Low Carbon Alcohols Additives.
1st International Conference on Sustainable Engineering and Technology: INTCSET 2020.
Journal of Material Sciences and Engineering: IOP Conference Series

102-A Numerical And Experimental Analysis Of Laminar Flame Speed For Pre-Mixed Iraqi Lpg/Air Mixture In A Horizontal Cylindrical Combustion Chamber
Journal of Mechanical Engineering Research and Developments
Vol. 44, No. 1, pp. 176-189, Published 2021

103- Measurements and Data Analysis Review of Laminar Burning Velocity and Flame Speed for Biofuel/Air Mixtures
1st International Conference on Sustainable Engineering and Technology: INTCSET 2020.
Journal of Material Sciences and Engineering: IOP Conference Series, Vol. 1094, 2021

104-Effect of Combustion Chamber Size on Stretched and Un-stretched Laminar Flame Speed for Premixed Methane/Air Mixtures Using Schlieren Photography Technique.
1st International Conference on Sustainable Engineering and Technology: INTCSET 2020.
Journal of Material Sciences and Engineering: IOP Conference Series

105-Parametric Theoretical Study of Solar Assisted Cooling System Using Lithium Bromide- Water Pair
2nd International Scientific Conference of Al-Karkh University of Science (ISC2/KUS2020)
ICOREMT 2021
IOP Conf. Series: Earth and Environmental Science **877** (2021) 012020, IOP Publishing doi:10.1088/1755-1315/877/1/012020

106-Investigating the impact of using nano-fluid as a cooling medium on photovoltaic/thermal panel system performance
4th International Conference on Engineering Sciences (ICES 2020)
IOP Conf. Series: Materials Science and Engineering 1067 (2021) 012118
IOP Publishing
doi:10.1088/1757-899X/1067/1/012118

107-Experimental Investigation of Al_2O_3 nano Particles Effect on Soot Release and Morphology Emitted from A Diesel Engine
Design Engineering (Toronto) Issue 8 2021 PP 1904-1920

108-Effect of Nano-Particles on Soot release in Diesel Engine- Review
IOP Journal of Physics -2022

109-Experimental study on the un-stretched laminar flame speed and Markstein length of premixed methane/air flames at different initial temperatures and pressures.
Design Engineering (Toronto), Issue 8, 2021, 13357-13373.

110-Effect of Propane-Methanol Blending Ratio on the Stretched and Unstretched Flame Speeds at Elevated Initial Temperatures.
FME Transactions (2022) 50, 121-130 Faculty of Mechanical Engineering, Belgrade.

111-Effect of Stoichiometric Ratio on Flame Characteristics for Propane-Methanol Blends at Elevated Initial temperature.
Journal of Thermal Engineering 16/10/21 acceptance
Yildiz Technical University, Turkey

112-Effect of Combustion Chamber Volume on the Un-stretched Flame Speed for Premixed Methane/Air Mixture Using Schlieren Photography Technique.
Engineering and Technology Journal, 30/11/21 acceptance
University of Technology, IRAQ

113-Simulation of Ventilation Parameters for an Office Room with Displacement Ventilation.

International Journal of mechanical Engineering, acceptance 12-1-202

114-A Review on Flame Height and Structure and Pollutants Formation
Neuro Quantology | Jul 2022 | Volume 20 | Issue 7 | Page 2946-2968 | doi: 10.14704/nq.2022.20.7.NQ33373

115-Effect of Operating Conditions on Modified Kalina Cycle Performance International Journal of Heat and Technology
Vol. 40, No. 5, October, 2022, pp. 1186-1195 Journal homepage: http://iieta.org/journals/ijht

116-State of the Art of Fuel Droplet Evaporation
International Journal of Heat and Technology Vol. 40, No. 5, October, 2022, pp. 1327-1339
Journal homepage: http://iieta.org/journals/ijht

117-An Investigation into Burner Configuration Effects on Premixed Flame Characteristics for LPG Diluted with CO_2
Applied Mechanics and Materials Vol. 914, May 2023

118-Experimental Study on the Effect of Hydrogen Addition on the Laminar Burning Velocity of Methane/Ammonia–Air Flames
May 2023 Applied Sciences 13(10):5853 DOI: 10.3390/app13105853

119- Kalina Cycle System (a State of the Art)
AIP Conference proceedings, 2977,030018 (2023)

120- Thermodynamics Analysis of Ammonia Mass Fraction Effect on Simple Kalina Cycle System Performance,
AIP Conference proceedings, 2977,020111 (2023)

121-Flame morphology and laminar flame assessments affected by flames interaction using multi-ignition sources of NH_3/H_2-air flames
April 2024 Applications in Energy and Combustion Science 18(1):100267
DOI: 10.1016/j.jaecs.2024.100267

122- Prediction of Flame propagation Parameters for Different Fuels using CHEMKIN and ANSYS Fluent Software
Science and technology for Energy Transition (STET), Vol. 79, 2024

123-Experimental Study Of Laminar Flame Speed Of Lean Hydrogen –Air Mixture With Nitrogen Dilution, Second International Conference for Engineering Sciences NUSTPAS_2024 Conference, The National University of Science and Technology, Dhi-Qar-IRAQ, **AIP Conference Proceedings** (ISSN: 0094-243X, 1551-7616).

124- Experimental Study of Laminar Flame Speed of Rich Hydrogen –Air Mixture with Nitrogen Dilution. 8th International Conference on Engineering Sciences (ICES 2024), AIP Conference Proceedings

125- Experimental Study of Droplet Evaporation of Different Hydrocarbon Fuels,
International Conference on Sustainability Systems Development ICSSD2024, JESTEC Journal

126-Energy and Exergy Performance Analysis of Different Kalina Cycle Configurations
International Journal of Heat and Technology
Vol. 40, No. 6, December, 2022, pp. 1454-1461

Published books

1-Introduction To Internal Combustion Engines (Translated From English)
2-Thermodynamics Theory And Applications (In Arabic)
3-Engineering Thermodynamics Through Solved Problems"

4-Hydrogen –Diesel Blending In Compression Ignition Engines (Printed By Lambert)
5-Absorption And Adsorption Cooling Systems (Printed By Scholars Press)
6-A Thermodynamic Study Of A Thermosiphon Loop Heat Pipe (Printed By Lambert
7-Experimental And Theoretical Study Of (Acs) With Solar Collector (Printed By Lambert)
8-Engineering Thermodynamics Concepts and Applications
9-A Course in Engineering drawing and Auto-Cad

Patents

1-Design and Manufacturing of Exhaust Gas Filter.
No. 2775 , 19/6/1999
F01 N3/10 B60 K13/06

2-A new Electronic System to Control The Injection and Mixing of Two Fuels Inside the Cylinder of Internal Combustion engine.
No. 4880 ,15/3/2017,
F02M61/16 -F02M43/04

Prof . Dr. Haroun A K Shahad