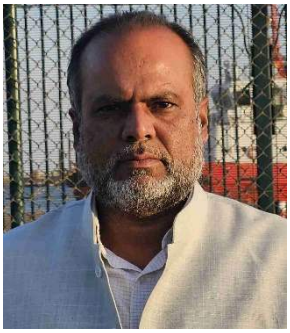

Curriculam-Vitae

Name : **Dr. Abdul Khaliq**
Presently : Professor of Mechanical Engineering, and
Head of the Department of Food Technology
(A DST-FIST & MOFPI Supported Department)
Jamia Hamdard (A Government-Aided Deemed to be University), New Delhi

Past Positions Held: **Professor (Since 12th Sept. 2018- Aug. 31, 2025)**
Department of Mechanical Engineering
Faculty of Engineering at Yanbu
Taibah University (Government of Saudi Arabia)
Ministry of Higher Education

Professor (Sept. 01, 2017- Sept. 11, 2018)
Department of Mechanical Engineering
Sri Ram College of Engineering
Banmore, AB Highway, Gwalior (M.P.), India

Professorial Rank (Aug. 27, 2013- Aug. 31, 2017)
Department of Mechanical Engineering,
King Fahd University of Petroleum and Minerals
(KFUPM)- Dhahran-31261, Saudi Arabia (Since many Years KFUPM has been rated under 100 best universities of the World by QS World University Ranking agency)

Professor (June 12, 2012 - Aug. 26, 2013) on regular basis
Department of Mechanical Engineering
Delhi Technological University (DTU), Delhi-110042, India
(Formerly Delhi College of Engineering) DCE
University of Delhi

Professor and Head (Aug. 17, 2011 - June 11, 2012)
Department of Mechanical and Civil Engineering
Galgotias University, Greater Noida, U.P, India

Associate Professor (**Aug. 03, 2005-Aug. 16, 2011**) JMI *on Regular Basis*
Assistant Professor (Aug. 03, 1998- Aug. 02, 2005) JMI *on Regular Basis*
Lecturer (Temporary in Full Scale) Nov. 01, 1996-Aug. 02, 1998 JMI
(JMI is Jamia Millia Islamia-A Central Government University in Delhi)

Date of Birth : 1st September 1973
Email : **khaliqsb@gmail.com**
WhatsApp Number: **+91 9810995890**
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Passport Number: **T1599932 (Issued New Delhi), Valid till November 2031**
Nationality: **Indian**

Academic Qualifications:

	Degrees	Division	Percentage	University/Inst.	Year
1.	B.Tech. (Mech. Engg.)	First	69.4%	A.M.U.	1994
2.	M.Tech. (Mech. Engg.)	First (I[st] Position)	76%	A.M.U.	1998
3.	Ph.D. (Thermal Engineering)			IIT Delhi	2003
4.	PDF (Energy Engineering)			UOIT/Canada	2007-2008

Topic of Ph.D. Thesis: **Heat Transfer and Thermodynamic Studies in Thermal Power Cycles and Thermo-fluid systems**

Undergraduate/Postgraduate Courses Taught: Thermodynamics I, Internal Combustion Engines, Thermodynamics II, Combustion and Emissions, Advanced Thermodynamics, Power Plant Engineering, Fluid Mechanics, Refrigeration & Air conditioning, Renewable Energy Systems, Heat Transfer.

Project / Research Supervision Experience: Alternative Fuel Combustion, Waste to Energy (Biomass Gasification), Gas Turbine Power Augmentation, Multi-effect Refrigeration, Waste Heat Recovery, Solar Thermal and PV Applications.

Awards/Honors: Nominated for the **post of Vice Chancellor** of Aligarh Muslim University Aligarh in the panel of candidates found eligible and voted in meeting of its Executive Council held on October 30, 2023 at AMU Aligarh,

Recommended by the Search-cum-Selection Committee for the **Appointment of a Vice Chancellor of TERI** (Deemed to be University) New Delhi in the **panel of 03 (Three)** finally recommended

candidates on Jan 05, 2024 at India Habitat Centre, Lodhi Road, New Delhi.

Nominee of the **Ministry of Higher Education** of the Government of Saudi Arabia at Scientific Council (**Executive Council**) of Umm Al-Qura University, Makkah for attending the Selection cum Promotion Committees as Subject Expert to Appoint Professors

Member of the **Board of Governors** of BGSB University, Rajouri (**Government of J & K**), India (2017-2020)

Recipient of **Distinguished Scientist Award** in Engineering Research for the Year 2015 by VIFRA-Venus International Foundation (Government of Tamil Nadu), Chennai, November 2015

Recipient of **Best Researcher Award** in Energy Research" by International Research Excellence and Citation Awards **2023**, Entry ID: 7831, citationawards.com

Recipient of "**Outstanding Scientist Award**" by International Research Award on New Science Inventions, **ScienceFather NESIN 2021**, Entry ID: 12891

Awarded Prestigious **BOYSCAST** Fellowship for the Year 2006-2007 by the **DST** (Ministry of Science and Technology), **Government of India**, New Delhi

Recipient of **Career Award** for Young Teachers by **AICTE (Government of India),** New Delhi for the year 2007-2008

Qualified **GATE** (Mechanical Engineering) for Scholarship by UGC during M.Tech. (Mechanical Engineering) Program 1994-1996 at AMU Aligarh

Delivered Invited Lectures at **IIT Kanpur, IIT Bombay**, **IIT Delhi**, RTU, RGPV, MITS, **Saudi Aramco oil company**, and at Various International Energy Submits at England, Germany, USA, Canada, UAE, Turkey, Saudi Arabia, and Asian Students Community, Japan, Korea, and Thailand

Served many **Selection Committees as Board Member** (Subject Expert) at various Universities for Faculty Appointments in India, KSA, Jordan, UAE

Member of various committees of College of Engineering at Yanbu, Taibah University, KSA (Since 2022- Till present)

Served as **Foreign and Internal Examiner** to evaluate **PhD Theses** submitted to IIT's and various universities of India, KSA, and in other countries.

United States Patent I: (Principal Inventor) Solar Powered Cooling System (**US 9528731B2**) Granted on Dec. 27, 2016

United States Patent II: (Co-Inventor) Flexible Biomass Gasification Based Multi-objective Energy System **(US 11,834,618 B1)** Granted on Dec. 05, 2023 **(In Process of Commercialization)**

Ph. D Thesis Examined: IIT Delhi, MNIT Jaipur, Annamalai university, KFUPM, NIT Jamshedpur, Tezpur University, DTU Delhi

Research Papers: Published in High Impact ISI/SCI-Indexed Journals = 81
Published in Conference Proceedings = 28

Scopus Citations	**:**	**2018**	**Till Oct. 2025**
H-index	**:**	**25**	
ORCID ID	**:**	**0000-0002-5224-642X**	
Research ID	**:**	**D-4847-2015**	
Scopus Author ID	**:**	**7005788845**	

Googlescholarlink:
https://scholar.google.com/citations?h1=en&user=kUJ3C24AAAAJ&viewop=list works&sortby=pubdate

Ph.D. Thesis Guided	=	10 (Awarded) + 01 (in progress)
M.Tech. Thesis Supervised	=	09
Books/Chapters Published	=	05
Countries Visited	=	Germany, USA, France, England, Canada, Turkey, Netherland, UAE, Saudi Arabia, Bahrain

Detail of Publications

Peer Reviewed and High Impact Journals of International Repute (ISI-indexed)

1- **Abdul Khaliq (2025) "**Proposal and exergetic-evaluation of a new tower solar collector-driven multi-carrier energy system" *International Journal of Hydrogen Energy,* ***Elsevier Publications****, England, Vol. 131, pp. 208-220* ***(Impact Factor: 8.16).***

2- **Abdul Khaliq,** R Kumar, T Al-Mughanam, Khaled Z **(2025) "**Proposal and evaluation of a novel solar thermal driven cooling-power cogeneration system**"** ***Transactions of ASME***: *Journal of Thermal Science and Engineering Applications***,** *Vol. 17, pp. 071007, USA* ***(Impact Factor: 1.6).***

3- T. Al Mughanam and **Abdul Khaliq (2025)** "Investigation of a solar-driven multigeneration system for electricity generation, heating, refrigeration, and hydrogen production in a novel configuration" ***Transactions of ASME***: *Journal of Solar Energy Engineering, Vol. 147, pp. 061005, USA* ***(Impact Factor: 2.1).***

4- Elatter H.F**, Abdul Khaliq,** Bassam S.A, Sharif M.A, Refaey H.A**, (2025) "**Thermodynamic and exergetic evaluation of a newly designed CSP driven cooling-desalination cogeneration system" *Processes, Vol. 13, pp. 1589, MDPI* ***Publications****, Switzerland* ***(Impact Factor: 2.81).***

5- T. Al Mughanam and **Abdul Khaliq (2025)** "Investigating the energetic and exergetic performance of a solar based cooling-heating-low temperature refrigeration system**"** *International Journal of Exergy, Vol. 46 (1), pp. 79-92,* ***Inderscience Publications****, Switzerland,* ***(Impact Factor: 1.3)****.*

6- **Abdul Khaliq,** Refaey H.A**,** Almohammadi B.A, Mathkar A **(2024) "**System development for production and onsite use of hydrogen in wet-ethanol fueled HCCI engine for cogeneration of power and cooling" *Case Studies in Thermal Engineering*, *Journal of* ***Elsevier Publications****, England, Vol. 55, pp. 104153* ***(Impact Factor: 6.41).***

7- Fouda A, **Abdul Khaliq**, Elattar H.F, et al. **(2024) "**Evaluation of a concentrated solar power-driven system designed for combined production of cooling and hydrogen" *Case Studies in Thermal Engineering*, *Journal of* ***Elsevier Publications****, England, Vol. 59, July 2024, pp. 104567* ***(Impact Factor: 6.41).***

8- T. Al Mughanam and **Abdul Khaliq (2024)** "Development and investigation of a hydrogen-enriched natural gas fueled HCCI engine for combined generation power, heating, and cooling**"** *International Journal of Exergy, Vol. 45, Nos. ½, pp. 144-157,* ***Inderscience Publications****, Switzerland,* ***(Impact Factor: 1.3)****.*

9- T. Al Mughanam and **Abdul Khaliq (2024)** "Development and assessment of the performance of a novel parabolic trough solar collector driven three-stage cooling cycle**"** ***Transactions of ASME***: *Journal of Thermal Science and Engineering Applications, Vol. 16, pp. 111011, USA,* ***(Impact Factor: 1.6).***

10- Karali M.A, Al B.A, Sharif M.A, Kaveri K, **Khaliq A**, Rafaey H.A **(2024)** "Comparison of using air, CO_2, and helium for the cooling of square-shaped electronic parts: CFD study with entropy generation analysis" Thermal Science, Vol. 28, No. 4A, pp. 2989-3000. Journal of Springer Publications, https://doi.org/10.2298/TSC1230908073K.

11- T. Al Mughanam and **Abdul Khaliq (2024)** "Energetic and exergetic assessments of a new solar energy based trigeneration system for cleaner production of hydrogen, refrigeration, and electricity**"** *International Journal of Exergy, Vol. 43, No. 2, pp.177-194,* ***Inderscience Publications****, Switzerland,* ***(Impact Factor: 1.3)***

12- T. Al Mughanam and **Abdul Khaliq (2024)** "Energy and exergy analyses of a hydrogen added wet-ethanol fueled HCCI engine-based cogeneration of power and refrigeration**"** *International Journal of Exergy, Vol. 44, No. 1, pp. 1-15,* ***Inderscience Publications****, Switzerland,* ***(Impact Factor: 1.3)***

13- A. Khaliq, Al-Zahrani A, Mohammadi B.A, Alsharif M.A, Refaey H.A **(2023) "**Proposal and analysis of a concentrating photovoltaic-driven system for combined production of electricity, hydrogen, and low-temperature refrigeration" *Case Studies in Thermal Engineering*, *Journal of* ***Elsevier Publications****, England, Vol. 51, pp. 103565* ***(Impact Factor: 6.41).***

14- Mathkar A, **Abdul Khaliq**, Saeed Alqaed, Almehmadi F **(2023)** "Investigation of new combined cooling, heating and power system based on solar thermal power cycle and single-double-effect refrigeration cycle" *Energy Reports' Vol. 9, Issue 4, pp. 289-309, Journal of* ***Elsevier Publications****, England****, (Impact Factor: 5.32)***

15- T. Al Mughanam and **Abdul Khaliq (2023)** "Exergy analysis in a HCCI engine powered with hydrogen enriched natural gas" *International Journal of Exergy, Vol. 41, No. 2, pp. 142-166,* ***Inderscience Publications****, Switzerland,* ***(Impact Factor: 1.3)***

16- E. Almatrafi**, A. Khaliq,** R. Kumar, A. Bamasag, M. Ehtisham **(2023) "**Proposal and investigation of a new tower solar collector based trigeneration energy system" *Sustainability, Vol. 15. pp. 7474,* ***MDPI Publications,*** *Switzerland, (****Impact Factor 2.58****)*

17- T. Al Mughanam and **Abdul Khaliq (2023) "**Investigation on novel natural gas fueled HCCI engine based combined power and cooling system" *Proc. Instn. Mech. Engrs, Part A: Journal of Power and Energy, Vol. 238, Issue 1,* https://doi.org/10.1177/09576509231188812, ***Sage Publications****, England (****Impact Factor: 1.7****)*

18- T. Al Mughanam and **Abdul Khaliq (2023)** "Thermodynamic investigation of a novel synergetic integration of a solar based Kalina cycle and ejector

refrigeration cycle" *International Journal of Exergy, Vol. 41, No. 4, pp. 403-430, **Inderscience Publications**, Switzerland,* **DOI:** 10.1504/IJEX.2023.10058064 ***(Impact Factor: 1.3)***

19- E. Almatrafi, **A. Khaliq**, R. Kumar, A. Bamasag, M. Ehtisham **(2023)** "Thermodynamic analysis of a solar refrigeration system based on combined supercritical CO_2 power and cascaded refrigeration cycle" *International Journal of Exergy, Vol. 41, No. 2, pp. 182-199, **Inderscience Publications**, Switzerland, **(Impact Factor: 1.3)***

20- E. Almatrafi, **A. Khaliq**, A. Abuhabaya (**2022**) "Thermodynamic and exergetic assessment of a biomass derived syngas fueled gas turbine powered trigeneration system" *Case Studies in Thermal Engineering*, *Journal of* ***Elsevier Publications**, England, Vol. 35, pp. 102099* ***(Impact Factor: 6.41).***

21- Eydhah Elmatrafi, **Abdul Khaliq**, Thamer Alquthami (**2022)** "Thermodynamic investigation of a novel cooling-power cogeneration system driven by solar energy" *International Journal of Refrigeration, **Elsevier Publications**, France**,** Vol. 138, pp. 244-258* ***(Impact Factor: 3.63)***

22- M. A. Siddiqui**, Abdul Khaliq,** Rajesh Kumar **(2022) "**Thermodynamic and comparative analysis of ERC and ARC integrated wet-ethanol fueled HCCI engine for cogeneration of power and cooling**"** ***Transactions of ASME***: *Journal of Thermal Science and Engineering Applications***,** *Vol. 14, pp. 041003-1, USA* ***(Impact Factor: 1.6)***

23- Ayman J. Alajazmeh, **Abdul Khaliq**, Shivlal **(2022)** "Energetic and exergetic investigation on a solar powered integrated system of ejector refrigeration cycle and Kalina cycle**"** *International Journal of Exergy, Vol. 39, No. 4, pp. 361-376, Inderscience Publications, Switzerland,* ***(Impact Factor: 1.3)***

24- M. A. Siddiqui**, Abdul Khaliq,** Rajesh Kumar **(2021) "**Proposal and analysis of a novel cooling-power cogeneration system driven by the exhaust gas heat of HCCI engine fueled by wet-ethanol" *Energy, Vol. 232, pp. 120954*, ***Elsevier Publications**, England* ***(Impact Factor: 7.14)***

25- Abdul Khaliq, H.A. Rafaey, Mathkar A. Alharthi (**2021**) "Development and analysis of a novel CSP source driven cogeneration cycle for the production of electric power and low temperature refrigeration" *International Journal of Refrigeration, **Elsevier Publications**, France**,** Vol. 130, pp. 330-346* ***(Impact Factor: 3.63)***

26- Abdul Khaliq, M.A. Alharthi, S. Alqaed (**2021**) "Energetic and exergetic analyses of a solar powered combined compression-absorption refrigeration system" *International Journal of Exergy, Vol. 34 (4), pp. 448-474, Inderscience Publications, Switzerland,* ***(Impact Factor: 1.3)***

27- Eydhah Almatrafi and **Abdul Khaliq (2021)** "Investigation of a novel solar powered trigeneration system for simultaneous production of electricity, heating, and refrigeration below freezing" ***Transactions of ASME****: Journal of Solar Energy Engineering, Vol. 143 Issue No. 6: pp. 061009, USA* ***(Impact Factor: 2.1)***

28- Abdul Khaliq, B. A. Al-Moh, M. A. Alharthi, M.A. Siddiqui, R. Kumar **(2021)** "Investigation of a combined refrigeration and air conditioning system based on two-phase ejector driven by exhaust gases of natural gas fueled homogeneous charge compression ignition engine" ***Transactions of ASME*****:** *Journal of Energy Resour. Technology, Vol. 143, Issue 12, pp. 120911-1, USA* ***(Impact Factor: 3.0).***

29- Abdul Khaliq, M.A. Alharthi, S. Alqaed, EMA. Mokheimer, R. Kumar **(2020)** "Analysis and assessment of tower solar collector driven trigeneration system" ***Transactions of ASME***: *Journal of Solar Energy Engineering, Vol. 142, pp. o51003-1, doi: https//doi.org/10.1115/1.4046389, USA* ***(Impact Factor: 2.1)****.*

30- M.A. Alharthi, **Abdul Khaliq,** M. Luqman **(2020)** "Thermodynamic analysis of gasifier-based coal to fuel cogeneration system" *International Journal of Exergy, Vol. 31, pp. 186-215, Inderscience Publications (Switzerland).* ***(Impact Factor: 1.3****)*

31- Abdul Khaliq, E.M.A. Mokheimer, M. Yaqub **(2019) "**Thermodynamic investigations on a novel solar powered trigeneration energy system**"** *Energy Conversion and Management, Vol. 188, pp. 398-413****, Elsevier Publications****, England* **(Impact Factor: 10.3)**

32- Abdul Khaliq, M.A. Habib, K. Choudhary **(2019) "**A thermo-environmental evaluation of a modified combustion gas turbine plant", ***Transactions of ASME****: Journal of Energy Resources Technology, Vol. 141, pp. 042004-1to 042004-13, USA* ***(Impact Factor: 3.0)***

33- Abdul Khaliq, Shahid Islam, Ibrahim Dincer (**2019**) "Energy and exergy analyses of a HCCI engine-based system running on hydrogen enriched wet-ethanol fuel" *International Journal of Exergy Vol. 28, No. 1, pp. 72-95, Inderscience Publications, Switzerland (****Impact Factor: 1.3****)*

34- A. J. Alazazmeh, E.M.A. Mokheimer, **Abdul Khaliq**, B. A. Qureishi **(2019)** "Performance analysis of a multi-effect refrigeration system" ***Transactions of ASME:*** *Journal of Energy Resources Technology, JERT-18-1790, DOI: 10.1115/1.4042240, USA* ***(Impact Factor: 3.0)***

35- Abdul Khaliq, Rajesh Kumar, E.M.A. Mokheimer (**2018**) "Investigation on a solar thermal power and ejector-absorption refrigeration system based on first and second law analyses" *Energy, Vol. 164, pp. 1030-1043,* ***Elsevier Publications****-The Netherlands* ***(Impact Factor: 7.14)***

36- Abdul Khaliq, Suleman Haroon, M.A. Habib **(2018) "**A theoretical investigation on exergy analysis of a gas turbine cycle subjected to inlet air cooling and evaporative cooling" *International Journal of Exergy***,** *Vol. 27, No. 3, pp. 364-392, Inderscience Publications*, *Switzerland (**Impact Factor: 1.3**)*

37- Abdul Khaliq, E.M.A. Mokheimer, Rajesh Kumar (**2018**) "Energy and exergy analyses of a solar powered multi-effect cooling cycle" *International Journal of Exergy, Vol. 27, No. 4, pp. 500-526, Inderscience Publications, Switzerland (**Impact Factor: 1.3**)*

38- M.A. Habib, S.S. Rashwan, Suleman Haroon, **Abdul Khaliq (2018) "**Thermodynamics and emission analysis of a modified Brayton cycle subjected to air cooling and evaporative after cooling" *Energy Conversion and Management, Vol. 174, pp. 322-335, **Elsevier Publications**, England (**Impact Factor: 10.3**)*

39- Abdul Khaliq (2017) "Energetic and exergetic performance investigation of a solar based integrated system for cogeneration of power and cooling**"** *Applied Thermal Engineering, Vol. 112, pp. 1305-1316, **Elsevier Publications***, *The Netherland (**Impact Factor: 5.29**)*

40- F.Ahmad**, Abdul Khaliq**, M.Idrees **(2017) "**Energetic and exergetic analyses of a biomass derived syngas for triple cycle power generation" *Journal of Distributed Generation & Alternative Energy, Vol. 32, Issue 4, pp. 26-53, DOI:10.1080/21563306.2017.11909734, Taylor & Francis Publication, USA.*

41- Faizan Ahmad and **Abdul Khaliq (2017) "**Energy and exergy assessment of a novel solar based integrated system for simultaneous production of cooling and heating" *Materials Today, Vol. 4, pp. 10268-10272*, ***Elsevier Publication**, U.K*.

42- Abdul Khaliq (2016) "Energetic and exergetic performance evaluation of a gas turbine powered cogeneration system using reverse Brayton refrigeration cycle for inlet air cooling" ***Transactions of the American Society of Civil Engineers*** *(ASCE)-Journal of Energy Engineering Vol. 142 (3): 1-1, DOI: 10.1061/ (ASCE)EY.1943-7897.0000290, USA (**Impact Factor: 1.13**)*

43- Abdul Khaliq and Fahad Al-Suleman **(2016)** "Energetic and exergetic evaluation of a novel solar based cogeneration cycle for combined production of power and cooling" *International Journal of Exergy; Vol. 21 No. 1: 21-38, Inderscience Publications, Switzerland (**Impact Factor: 1.3**)*

44- Ahmet Z Sahin, A. Al-Sharafi, B. S Yilbas, **Abdul Khaliq (2016) "**Overall performance assessment of a combined cycle power plant: An exergo-economic analysis**"** *Energy Conversion and Management; Vol. 116, pp. 91-100**, Elsevier Publications**, England (**Impact Factor: 10.3**)*

45- Abdul Khaliq (2015) "Performance analysis of a waste heat powered thermodynamic cycle for multi-effect refrigeration**"** *International Journal of Energy Research*; *Vol*. 39, *pp*. 529–542, *John Wiley & Sons Publications, U.K. (**Impact Factor: 3.74**)*

46- Abdul Khaliq (2015) "A theoretical study on a novel solar based integrated system for simultaneous production of cooling and heating**"** *International Journal of Refrigeration*; *Vol*. *52 : 66-82**, Elsevier Publications**, France (**Impact Factor: 3.63**)*

47- Abdul Khaliq (2015) "Energy and exergy analyses of a hydrogen fuelled HCCI combustion engine combined with organic Rankine cycle**"** *International Journal of Exergy, Vol.17 No.2 pp. 240-265, Inderscience Publications**, Switzerland (**Impact Factor: 1.3**)*

48- SK Agrawal, R.Kumar, **Abdul Khaliq**, P.Jayaswal **(2015**) "Energy and exergy analyses of a new solar assisted cogeneration cycle for simultaneous heating and triple-effect cooling applications" *International Journal of Exergy; Vol.18 No.3 pp. 275-297, Inderscience Publication, Switzerland (**Impact Factor: 1.3**)*

49- Abdul Khaliq, Rajesh Kumar, I. Dincer, F. Khalid **(2014) "**Energy and exergy analysis of a new triple staged refrigeration thermodynamic cycle using solar heat source" ***Transactions of ASME:** Journal of Solar Energy Engineering,Vol.136 pp.1-11, USA (**Impact Factor: 2.38**)*

50- Abdul Khaliq, P.B.Sharma, M. Parvez **(2014) "**First and second law investigation of a syngas fuelled triple thermodynamic cycle for sustainable power generation**"** *International Journal of Sustainable Energy, DOI: 10.1080/14786451.2013.824879, August Issue, Taylor& Francis Publication, USA (**Impact Factor: 2.02**)*

51- M. Parvez and **Abdul Khaliq (2014) "**Exergy analysis of syngas fuelled cogeneration cycle for combined production of power and refrigeration**"** *International Journal of Exergy Vol.14 No.1 pp.1-21, Inderscience Publications, Switzerland (**Impact Factor: 1.3**)*

52- S. K. Agrawal, Rajesh Kumar, **Abdul Khaliq (2014)** "First and second law investigation of a new solar assisted thermodynamic cycle for triple effect refrigeration" *International Journal of Energy Research, Vol.38 Issue2, pp.162-173 DOI: 10.1002/er.3015, John Wiley & Sons Publication, U.K. (**Impact Factor: 3.74**)*

53- Abdul Khaliq, F. Khalid, P.B.Sharma, I.Dincer **(2014)**, "Exergy analysis of pure hydrogen combustion in HCCI engine for efficient and zero emission operation" *International Journal of Sustainable Energy*, *Vol.33,* pp.367-385. DOI: 10.1080/14786451.2012.744020, November Issue, *Taylor& Francis Publication, USA (**Impact Factor: 2.02**)*

54- Rajesh Kumar, **Abdul Khaliq,** P.B. Sharma **(2013)** "Energy and exergy analyses of new waste heat driven cogeneration cycle for simultaneous cooling and heating applications" ***ASHRAE Transactions***, Vol.119, Part 2, DE-13-026,*USA.*

55- Abdul Khaliq and S. K. Trivedi **(2012)** "Second law assessment of a wet – ethanol fuelled HCCI engine combined with organic Rankine cycle" ***Transactions of ASME:****Journal of Energy Resources Technology, Vol. 134, June issue, pp.1-12,* ***USA (Impact Factor: 3.0)***

56- Abdul Khaliq, Basant K Agarwal, Rajesh Kumar **(2012)** "First and second law investigation of waste heat based combined power and ejector-absorption refrigeration cycle", *International Journal of Refrigeration* Vol.35, pp.88-97 ***Elsevier Publications***, *France (**Impact Factor: 3.63**)*

57- A. Khaliq, S. K. Trivedi, I. Dincer **(2011) "**Investigation of a wet ethanol operated HCCI engine based on first and second law analysis" *Applied Thermal Engineering Vol. 31, pp.1621-1629,* ***Elsevier Publication****, The Netherlands (**Impact Factor: 5.29**)*

58- Abdul Khaliq and Ibrahim Dincer **(2011)** "Energetic and Exergetic performance analyses of a combined heat and power plant with absorption inlet cooling and evaporative after cooling" *Energy, Vol.36, pp.2662-2670* ***Elsevier Publication****, The Netherlands (**Impact Factor: 7.14**)*

59- Rajesh Kumar and **Abdul Khaliq** (**2011**) 'Exergy analysis of Industrial waste heat based ejector compression refrigeration system' *Journal of the Energy Institute,* Vol. 84 issue 4, pp 192-199, ***Elsevier Publication****, England (**Impact Factor: 6.18**)*

60- A. Khaliq, K. Choudhary and I. Dincer **(2010)** "Exergy analysis of a gas turbine trigeneration system using the Brayton refrigeration cycle with inlet air cooling", *Proc. IMechE. Journal of Power and Energy*, Vol. 224 Part A: pp. 1-13, ***Sage Publication*****,** *England (**Impact Factor: 1.88**)*

61- A. Khaliq, I. Dincer and P.B.Sharma **(2010)** "Development and analysis of industrial waste heat based trigeneration for combined production of power heat and cold", *Journal of the Energy Institute*, Vol.83 No.2, pp.79-85, ***Elsevier Publications,*** *England (**Impact Factor: 6.18**)*

62- Abdul Khaliq (2009) "Exergy analysis of gas turbine trigeneration system for combined production of power heat and refrigeration", *International Journal of Refrigeration* Vol. 32(3), pp 534-545, ***Elsevier Publications***, *France (**Impact Factor: 3.63**)*

63- A. Khaliq, R. Kumar and I. Dincer **(2009)** "Exergy analysis of an industrial waste heat recovery-based cogeneration cycle for combined production of power

and refrigeration" ***Transactions of ASME:*** *Journal of Energy Resources Technology, Vol. 131, June issue, pp 1-7****,*** *USA (****Impact Factor: 3.0****)*

64- A. Khaliq, R. Kumar and I. Dincer **(2009)** "Performance analysis of an industrial waste heat recovery based trigeneration system" *International Journal of Energy Research, Vol.33, pp 737-744. John Wiley & Sons Publication, U.K. (****Impact Factor: 3.74****)*

65- A. Khaliq, K. Choudhary and I. Dincer **(2009)** "Energy and exergy analysis of inlet air-cooled gas turbines using Brayton refrigeration cycle" *Proc. Instn. Mech. Engrs, Part A: Journal of Power and Energy*, *Vol. 223, pp 1-9,* ***Sage Publication,*** *U.K. (****Impact Factor: 1.88****)*

66- Abdul Khaliq and K. Choudhary **(2009) "**Thermodynamic evaluation of gas turbines for cogeneration applications" *International Journal of Exergy*, Vol. 6, No. 1, pp. 15-33, *Inderscience Publication, Switzerland (****Impact Factor: 1.3****)*

67- Abdul Khaliq and K. Choudhary **(2009) "**Exergy analysis of regenerative gas turbine cycle using absorption inlet cooling and evaporative aftercooling" *Journal of the Energy Institute*, *Vol. 82, pp 176-184*, ***Elsevier Publications****, U.K****. (Impact Factor: 6.18****)*

68- Abdul Khaliq and Rajesh Kumar **(2008)** "Thermodynamic performance assessment of gas turbine trigeneration system for combined heat cold and power production**"** ***Transactions of ASME:*** *Journal of Engineering for Gas Turbines and Power*, *Vol. 130, March issue, pp.1-4*, *USA (****Impact Factor: 1.21****)*

69- Abdul Khaliq and Rajesh Kumar **(2008) "**Exergy analysis of double effect vapor absorption refrigeration system" *International Journal of Energy Research, Vol. 32,pp.161-174, John Wiley & Sons Publication, U.K. (****Impact Factor: 3.74****)*

70- Abdul Khaliq and K. Choudhary **(2007)** "Combined first and second law analysis of gas turbine cogeneration system with inlet air cooling and evaporative after cooling of the compressor discharge" ***Transactions of ASME:*** *Journal of Engineering for Gas Turbines and Power*, *Vol. 129, October issue, pp.1-8, USA (****Impact Factor: 1.21****)*

71- Abdul Khaliq and T. A. Khan **(2007)** "Energetic and exergetic efficiency analysis of an indirect fired air-turbine combined heat and power system" *International Journal of Exergy*, *Vol. 4, No.1, pp.38-53, Inderscience Publication, Switzerland (****Impact Factor: 1.3****)*

72- Abdul Khaliq and Rajesh Kumar (**2007**) "Exergetic analysis of solar powered absorption refrigeration system using LiBr-H_2O and NH_3-H_2O as working fluids", *International Journal of Exergy*, *Vol. 4, No. 1, pp. 1-18, Inderscience Publication, Switzerland (****Impact Factor: 1.3****)*

73- Abdul Khaliq (2006) "Finite-thermal reservoirs effects on ecologically optimized closed regenerative Joule-Brayton power cycles", *Proc. Instn. Mech. Engrs, Part A: Journal of Power and Energy*, *Vol. 220 (4); 425-434* ***Sage Publication,*** *U.K. (**Impact Factor: 1.88**)*

74- Abdul Khaliq and K. Choudhary **(2006) "**Thermodynamic performance assessment of an indirect intercooled reheat regenerative gas turbine cycle with inlet air cooling and evaporative after cooling of the compressor discharge"**,** *International Journal of Energy Research*, *Vol. 30, issue 15, pp. 1295-1312, John Wiley & Sons Publication, U.K. (**Impact Factor: 3.74**)*

75- Abdul Khaliq and Sirajuddin Ahmad **(2006)** "Reduction in CO_2 emission and fuel exergy savings through cogeneration for sustainable development", *International Journal of Sustainable Development and Planning*, Vol. 1, No. 4, pp. 1-13, WIT Press, U.K.

76- Abdul Khaliq and Rajesh Kumar **(2005)** "Finite-time heat-transfer analysis and ecological optimization of an endoreversible and regenerated gas turbine power cycle", *Applied Energy*, Vol. 81, pp. 73-84, ***Elsevier Publications****, The Netherlands* ***(Impact Factor: 11.73)***

77- S.C. Kaushik, H. Chandra and **A. Khaliq (2005)** "Thermal exergy optimization for an irreversible cogeneration power plant", *International Journal of Exergy*, Vol. 2, No. 3, pp. 260-273, *Inderscience Publication Switzerland (**Impact Factor: 1.3**)*

78- Abdul Khaliq (2004) "Thermodynamic optimization of laminar viscous flow under convective heat transfer through an isothermal walled duct", *Applied Energy,* Vol. 78, pp. 289-304, ***Elsevier Publication,*** *The Netherlands (**Impact Factor: 11.73**)*

79- Abdul Khaliq (2004) "Finite-time heat transfer analysis and generalized power optimization of an endo-reversible Rankine heat engine", *Applied Energy* Vol. 79, pp. 27-40, ***Elsevier Publication***, *The Netherlands (**Impact Factor: 11.73**)*

80- Abdul Khaliq and S.C. Kaushik **(2004)** "Thermodynamic performance evaluation of combustion gas turbine cogeneration system with reheat", *Applied Thermal Engineering*, Vol. 24, pp. 1785-1795, ***Elsevier Publication***, *The Netherlands (**Impact Factor: 5.29**)*

81- Abdul Khaliq and S.C. Kaushik **(2004)** 'Second-law based thermodynamic analysis of Brayton / Rankine combined power cycle with reheat', *Applied Energy,* Vol. 78, pp. 179-197, ***Elsevier Publication****, The Netherlands (**Impact Factor: 11.73**)*

Details of Ph.D. Theses Guided

(Supervised 11 Ph.D Theses in total and out of which 04 Ph.D Advised as Sole Supervisor)

1. **Tasmeem Ahmad Khan:** Investigations on irreversibilties due to heat transfer and fluid flow in thermal Power cycles (**Awarded)-2007 (Independently Supervised/Guided)**

2. **Rajesh Kumar:** Thermodynamic optimization of refrigeration systems using entropy generation minimization method (**Awarded)-2008 (Independently Supervised/Guided)**

3. **Keshavendra Choudhary:** Some aspects of exergy applications to the analysis and optimization of thermal power systems (**Awarded)-2009 (Independently Supervised/Guided)**

4. **Rohit Verma:** Finite time thermodynamic optimization of thermal power cycles **(Awarded)-2009 (Independently Supervised/Guided)**

5. **Shailesh Kumar Trivedi**: Exergy analysis of wet-ethanol operated HCCI engine based multiple output thermodynamic system (**Awarded)-2013**

6. **Parvez Mohammad**: Implementation of thermo-chemical model and second law analysis of syngas fuelled combined power and cooling cycles (**Awarded-2015**).

7. **Surendra Kumar Agrawal**: Thermodynamic analysis of solar powered multi-effect cooling systems (**Awarded-2017).**

8. **Suhail Ahmad Siddiqui:** Energy and exergy modeling of solar based cogeneration and trigeneration thermodynamic cycles (**Awarded-2018)**

9. **Mohd Asjad Siddiqui**: Energy and exergy studies on recovery from wet-ethanol fueled HCCI engine for performance enhancement and air conditioning (**Awarded-2022)**

10. **Nahid Akhtar:** Development and analysis of NH_3-$LiNO_3$ operated and solar thermal driven combined power and cooling cycle (**Submitted-2023)**

11. **Dushyant Mishra**: Enhancement of Performance and Emissions reduction through biomass derived syngas utilization in IC Engines (**In Progress)**

List of Sponsored/Funded Research Projects: Completed

1- **Investigation of a solar-driven multigeneration system for electricity generation, heating, refrigeration, and hydrogen production in a novel configuration**- Funded by DSR **(**Grant No. KFU-251237) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 7 Lacs). **Completed in June 2025.**

2- **Proposal and evaluation of a novel solar thermal driven cooling-power cogeneration system**- Funded by DSR **(**Grant No. KFU-251111) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in March 2025.**

3- **Investigating the energetic and exergetic performance of a solar based cooling-heating-low temperature refrigeration system-** Funded by DSR **(**Grant No. KFU-242285) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 7 Lacs). **Completed in October 2024.**

4- **Development and assessment of the performance of a novel parabolic trough solar collector driven three-stage cooling cycle**- Funded by DSR **(**Grant No. KFU-241685) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 7 Lacs). **Completed in September 2024.**

5- **Development and investigation of a hydrogen-enriched natural gas fueled HCCI engine for combined generation of power, heating, and cooling-** Funded by DSR **(**Grant No. KFU-241392) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in July 2024.**

6- **Evaluation of a concentrated solar power-driven system designed for combined production of cooling and hydrogen**- Funded by DSR **(**Grant No. UJ-23-DR-255) of Jeddah University, Jeddah, KSA (Funded amount Rs. 8.5 Lacs). **Completed in June 2024.**

7- **Energy and exergy analyses of a hydrogen added wet-ethanol fueled HCCI engine-based cogeneration of power and refrigeration-**Funded by DSR **(**Grant No. 5931) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in March 2024.**

8- **Energetic and exergetic assessments of a new solar energy based trigeneration system for cleaner production of hydrogen, refrigeration, and electricity-** Funded by DSR **(**Grant No. 5182) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in Jan 2024.**

9- **Exergy analysis in a HCCI engine powered with hydrogen enriched natural gas –** Funded by DSR **(**Grant No. 872) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in June 2023.**

10- **Thermodynamic investigation of a novel synergetic integration of a solar based Kalina cycle and ejector refrigeration cycle-** Funded by DSR **(**Grant No. 873) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in April 2023.**

11- **Investigation on novel natural gas fueled HCCI engine based combined power and cooling system**- Funded by DSR **(**Grant No. 874) of King Faisal University, Al-Ahsa, KSA (Funded amount Rs. 5 Lacs). **Completed in January 2023.**

12- **Thermodynamic investigations on combined power cooling and desalination system-** Funded by DSR of King Abdulaziz University, Jeddah KSA (Funding Amount Rs. 19 Lacs). **Completed in June 2022**

13- **Thermodynamic investigation of a novel cooling-power cogeneration system driven by solar energy-** Funded by DSR of King Abdulaziz University, Jeddah KSA (Funding Amount Rs. 10 Lacs). **Completed in January 2022**

14- **Thermodynamic and exergy analysis of a biomass derived syngas fired gas turbine based trigeneration system-** Funded by DSR of King Abdulaziz University, Jeddah KSA (Funding Amount Rs. 15 Lacs). **Completed in March 2022**

15- **Thermodynamic evaluation of a novel trigeneration system**-Funded by Ministry of Science and Technology, Government of India. Acted as a Principal Investigator (PI) (Funding Amount Rs. 12 Lacs). **Completed in 2008**

16- **Performance analysis of combined/cogeneration cycles**-Funded by AICTE, Government of India. Acted as a PI (Funding Amount Rs. 10.5 Lacs). **Completed in 2010.**

17- **Theoretical Investigations on Solar operated combined power and cooling thermodynamic cycle**-Funded by DSR of KFUPM, Dhahran (SB 131001), Acted as a PI (Funding Amount Rs. 14 Lacs). **Completed in May 2015**

18- **Solar assisted organic Rankine cycle-ejector-absorption refrigeration system for the combined production of power and air conditioning**-Funded by DSR of KFUPM, Dhahran, Saudi Arabia (RG1330-1 and RG 1330-2), Acted as a PI (Funding Amount Rs. 55 Lacs). **Completed in June 2017**

19- **Development of a free emissions gas turbine combustor for oxy-combustion of syngas fuel**-Funded by NSTIP of KACST, Project No. : 14-ENE67-04. Acting as a Co-Investigator in this Project (Funding Amount Rs. 1.2 Crores), **Completed in March 2018**

20- Performance analysis of a novel solar powered Rankine engine for multi-effect refrigeration, Funded by DSR of KFUPM, Project No. IN141017, Starting date March 01 2015, Acting as a Principal Investigator (PI) in this Project (Funding Amount Rs. 40 Lacs), **Completed in March 2018**

21- Utilization of wet-ethanol in a HCCI engine combined with an organic Rankine cycle and an ejector- A path way to clean and efficient cogeneration of power and cooling, Funded by General Electric (**GE)** Company of USA, DTV03-01. Acted as a PI in this Project (Funding Amount Rs. 18 Lacs), **Completed in August 2017**

22- Development and assessment of a solar based ORC-Ejector-Absorption Integrated system for cogeneration of power and cooling, Funded by DSR of KFUPM, Dhahran, Saudi Arabia, Project No. IN151031, Started in April 2016 and will be finished in October 2018, Acting as a PI in this Project (Funding Amount Rs. 43 Lacs), **Completed in October 2018**

23- Impact of the use of inlet air cooling and evaporative after cooling on the energetic exergetic environmental performance of combustion gas turbines, Funded by DSR of KFUPM Project No. IN151034, Started in April 2016, Acted as a PI (Funding Amount Rs. 48 Lacs) **Completed in March 2019.**

Details of M.Tech. Theses Supervised

1. **Vaqar Ali (1999):** Study on power output and thermal efficiency of some endoreversible power generation systems using finite time thermodynamics; with *Prof. R.P. Kapoor, Department of Mechanical Engineering, Delhi Technological University erstwhile Delhi College of Engineering, Delhi.*

2. **Tasmeem Ahmad Khan (2000):** Performance analysis and optimization of some irreversible heat pump cycles with finite time thermodynamics; with *Prof. R.P. Kapoor, Department of Mechanical Engineering, Delhi Technological University erstwhile Delhi College of Engineering, Delhi.*

3. **Rajeev Taneja (2000):** Optimization techniques applied to fuel/cooling circuits for cogeneration system; *with Prof. R.P. Kapoor, Department of Mechanical Engineering, Delhi Technological University erstwhile Delhi College of Engineering, Delhi.*

4. **S.M. Mahmood (2003):** Exergy optimization of cogeneration system using finite time thermodynamics; with *B.B. Arora, Department of Mechanical Engineering, Delhi Technological University erstwhile Delhi College of Engineering, Delhi.*

5. **Mohd. Parvez (2009):** Exergy analysis of multi-effect vapor absorption refrigeration system; *U.P. Technical University, Lucknow (Uttar Pradesh*).

6. **Muhammad Rashid**: (**2011**): Investigation on irreversibilities in novel biomass operated thermodynamic cycle for multiple outputs (*Jamia Millia Islamia, New Delhi).*

7. **Robhul Miah: (2016):** Some aspects of exergy applications for the analysis of biomass derived syngas fuelled combined cycle plant; (*King Fahd University of Petroleum and Minerals) KFUPM, Dhahran, Saudi Arabia.*

8. **Suleman Haroon: (2017**): Impact of inlet air cooling and evaporative after cooling on the energetic and exergetic performance of combustion gas turbines operated in the hot climates; (*King Fahd University of Petroleum and Minerals) KFUPM, Dhahran, Saudi Arabia*

9. **Mohd Asjad Siddiqui: (2018):** Energetic and exergetic efficiency analyses of a solar powered hybrid thermal system; (AFU), Faridabad, Haryana (India).

Books/Book Chapters Authored

1. Tawfiq Al-Mughanam and **Abdul Khaliq** (**2023**) Thermodynamic analysis of a hydrogen blended wet-ethanol fueled HCCI engine based combined power and refrigeration system, in the book on "Compression Ignition: Technologies and Applications", **Nova Science** Publishers, New York, USA.

2. **Abdul Khaliq**, Faizan Ahmad, Faizan Khalid: (**2019**) Effective utilization of bio-hydrogen as a fuel for sustainable transportation, in the "Encyclopedia of Renewable and Sustainable Materials" **Elsevier Press,** London, U.K. https://doi.org/10.1016/B978-0-12-803581-8.11524-3

3. **Abdul Khaliq:** (**2017**) The effects of absorption inlet air cooling and evaporative after cooling on the thermodynamic performance parameters of a regenerative gas turbine engine, in the "*Advances in Engineering Research*", **Nova Science** Publishers, New York, USA.

4. **Abdul Khaliq** and Ibrahim Dincer**:** (**2014**) Thermodynamic assessment of waste heat operated combined compression-Absorption refrigeration system, *Progress in Exergy, Energy and the Environment*, Published by **Springer** International Publishing, Switzerland.

5. **Abdul Khaliq** and Mohd. Parvez**:** (**2010**) Fundamentals of Machine Drawing**:** Published by Arihant Prakashan Pvt. Ltd., New Delhi.

6. **Abdul Khaliq** and Rajesh Kumar**:** (**2009**) Exergy analysis of industrial waste heat recovery based combined compression/absorption refrigeration system, in *Refrigeration Theory: Technology and Applications*, (Eds. Frank Columbus) **Nova Science** Publishers, ISBN: 978-1-61668-930-8, New York, USA.

7. **Abdul Khaliq** and Mod. Parvez: (**2005**) Engineering Drawing and AutoCAD**:** Published by Galgotia publications Pvt. Ltd., New Delhi.

Referee of the Following Peer Reviewed ISI- Indexed and High Impact Journals of International Repute

1. International Journal of Refrigeration, Elsevier, France
2. ASME Transactions, Journal of Energy Resources Technology, USA
3. ASME Transactions, Journal of Solar Energy Engineering, USA
4. Applied Thermal Engineering, Elsevier, Netherlands
5. International Journal of Thermal Sciences, Elsevier, UK
6. International Journal of Energy Research, Wiley & Sons, UK
7. Energy- The International Journal, Elsevier, UK
8. Applied Energy, Elsevier, UK
9. International Journal of Exergy, Switzerland
10. International Communications in Heat and Mass Transfer, Elsevier Journal
11. Proc. of I Mech E, Part A: Journal of Power and Energy, UK
12. Proc. of I Mech E, Part E: Journal of Energy and Environment, UK
13. Energy Engineering-ASCE Transactions, USA
14. International Journal of Sustainable Engineering, Taylor & Francis, UK
15. Energy Conversion and Management, Elsevier, U.K
16. International Journal of Ambient Energy, Taylor & Francis, USA
17. Energy & Fuels Journal, American Chemical Society (ACS), USA
18. Solar Energy- Elsevier Journal, Germany
19. Case Studies in Thermal Engineering, Elsevier Journal
20. Journal of Sustainable Energy Technologies and Assessments, Elsevier
21. Journal of Cleaner Production, Elsevier
22. Journal of Process Safety and Environmental Protection

Member Editorial Board

1. Journal of Mechanical Engineering Research, U.K.
2. Journal of Petroleum and Gas Engineering, U.K.
3. Journal of Mechanical Engineering, India.
4. Journal of Natural Resources, California, USA

National Journals

1. S.C. Kaushik, P.Kumar and **A. Khaliq**, (1999) 'Thermodynamic analysis of an endoreversible Rankine cycle cooling system', *Journal of Energy Opportunities,* Vol. 4 March issue.

2. S.C. Kaushik, S. Kumar and **A. Khaliq, (1998)** 'Applications of finite-time thermodynamics to refrigeration and air conditioning systems', *Journal of Energy Opportunities,* Vol. 3 March issue.

3. Tasmeem A. Khan and **A. Khaliq,** 'Second-law based thermodynamic performance assessment of coal-fired electricity generation plant' *Journal of Institution of Engineers, India* (2008) **In Press**.

Papers Presented by Self Abroad

1. **A. Khaliq** and S.C. Kaushik, (2002) 'Optimization of finite-thermal reservoir and Rankine engine based solar thermal power plant', Proceedings of World Renewable Energy Congress, 29thJune - 5thJuly, Cologne **(Germany)**.

2. **A. Khaliq** and A. Mubeen, (2003) 'Thermodynamic performance evaluation of biomass fired cogeneration plant', International Conference on Solid Waste Technology and Management, March 23-26, Widener University Philadelphia PA **(USA)**.

3. **Abdul Khaliq** and Ibrahim Dincer (2010 "Exergy analysis of biomass gasified gas turbines for cogeneration applications ",5th International symposium on Ege Energy and Exhibition, June 27-30,Denizli,**Turkey**

Papers Presented by Self in India

4. M.A. Siddiqui, **A. Khaliq**, R. Kumar (2021) "Thermodynamic analysis of exhaust waste heat recovery from turbocharged HCCI engine fueled by wet-ethanol using an absorption refrigeration cycle (ARC)"
Materials Today: Proceedings, Elsevier Press.

5. **Abdul Khaliq (2018)** "Concept and analysis of a zero-emission engine for sustainable transportation" Indo-Gulf Conference on Design and Development of Thermal Systems, February 15, 2018, SRCEM, Gwalior (M.P.), India

6. **Abdul Khaliq,** Faizan Khalid, Suhail A. Siddiqui **(2017)** "Cascade utilization of energy and exergy for the performance analysis of a solar powered cogeneration cycle", Advances in Power Generation and Renewable Energy Systems, Dec 21-22, 2017, Govt. Engineering College, Banswara (Rajasthan).

7. **Abdul Khaliq,** Mohd Parvez **(2017)** "Thermodynamic investigation on biomass derived syngas fueled combined cycle power plant", Advances in Power Generation and Renewable Energy Systems, Dec 21-22, 2017, Govt. Engineering College, Banswara (Rajasthan).

8. **Abdul Khaliq (2015)** "Biomass gasification combined cycle: Thermodynamic benefits and opportunities for sustainable power generation", Advances in Power Generation and Renewable Energy Systems, June15-16,2015, Rajasthan Technical University, Kota, Rajasthan (India).

9. Trinath Mahala and **Abdul Khaliq (2010)** "Energetic and Exergetic efficiency analysis of a syngas fuelled cogeneration system", National conference on advanced in management of energy efficiency and clean environment April 3-4, 2010, HBTI, Kanpur (UP).

10. Shailesh K.Trivedi and **Abdul Khaliq (2010)** "Utilization of Wet Ethanol in Homogeneous Charge Compression Ignition Engine", Proc. Of the 4th International Conference on advances in Mechanical Engineering, September 23-25, 2010, SVNIT Surat, Gujarat, India.

11. S. K. Trivedi, **A. Khaliq**, P. B. Sharma (2010) 'An examination of exergy destruction in wet ethanol operated HCCI engine', 1st International Conference on New frontiers in Biofuels, January 18-19, India Habitat Centre, New Delhi.

12. S. Adil, V. Hura, A. Mehrotra, **A. Khaliq** (2004) "Recent Advancements of Porous Medium Combustion Technology in IC Engines and a New Concept of Cogeneration in PM-Engine" Cogniz.'04–Annu. Tech. Festival, IIT Roorkee, 19-21

13. **A. Khaliq**, (2003) 'Optimization of an endoreversible and finite-thermal reservoir heat pump system', International conference on Emerging Technology (ICET-2003) Dec. 19-21, Bhubaneshwar, Orissa.

14. **A. Khaliq,** S.C. Kaushik, A. Mubeen (2002) 'Theoretical investigations on irreversibilities due to heat transfer and fluid flow in a duct', International Conference on Recent Trends in Heat and Mass Transfer, 6th–8th January, Indian Institute of Technology, Guwahati, Assam.

15. **A. Khaliq,** A. Mubeen, T.A. Khan (2001) 'Performance optimization of an endoreversible Stirling heat engine with regeneration', National Conference on Thermal Power Plant Protection and Sustainable Development, February 21-23, M.A.C.T. Bhopal.

16. **A. Khaliq** and S.C. Kaushik, (2000) 'A general finite time power optimization of an endoreversible Rankine engine based solar thermal power plant', National Renewable Energy Conference, Nov. 30 – Dec. 2, IIT Bombay.

17. **Abdul Khaliq** (2000) 'Improvement of an existing method for optimization of thermal insulation systems', 3rd International Symposium on Science & Technology, Jan. 9–12, Bengal Engineering College, Calcutta.

18. **A. Khaliq** and S.C. Kaushik, (1999) 'A general finite-time power optimization of refrigeration plant', Proceedings of National Conference on Renewable Energy and Sustainable Development, Nov. 19-20, Indore.

19. S.C. Kaushik, N.Singh, **A. Khaliq (**1997) 'Applications of finite time thermodynamics in solar thermal power generation', National Energy Convention, Dec. 22-23, Anna University, Madras.

20. **Abdul Khaliq,** SMH Adil, Tasmeem Ahmad Khan (2004) 'Prospective utilization of porous medium combustion technology of low pollutant emissions and high energy efficiency systems', International Conference on Energy Environment and Sustainable Development, Jan. 23-24, Jamia Millia Islamia, New Delhi-25.

21. S.M. Mahmood, **A. Khaliq**, B.B. Arora, Shamama Ahmad (2004) 'Thermodynamic analysis of an indirect fired air turbine cogeneration plant', International Conference on Energy Environment and Sustainable Development, Jan. 23-24, Jamia Millia Islamia, New Delhi-25.

22. Generation of mechanical power is still a challenge, Hindustan Times (Bhopal Live) 27th February 2001 (An Article Published).

23. Tasmeem A. Khan, **A. Khaliq**, and Shamama Ahmad (2006) 'Optimization of steam power plants using finite-time thermodynamics' National Conference on Advances in Mechanical Engineering January 20-21, Jamia Millia Islamia, New Delhi-25.

24. Shamama Ahmad, **A. Khaliq** and P. B. Sharma (2005) "Performance evaluation of an integrated gas turbine-geothermal power plant based on first and second law analysis", 14th – ISME International conference on " Mechanical Engineering in Knowledge Age" organized by Delhi College of Engineering, Delhi-110042.

23. **Abdul Khaliq** and Tasmeem A. Khan (2006), 'Optimization of solar assisted Rankine heat engine using Langrangian multiplier method' National Conference on Application of Emerging Technologies, 29th-30th March, Adhiyamaan College of Engineering, Hosur, Tamilnadu.

Conferences Attended Abroad Recently

- 5th International Conference on Renewable Energy Research and Applications (ICRERA) 2016, **Birmingham, England**, during November 20-23, **2016**

- The International Conference on Power and Energy Engineering, **London, England,** During September 29-30**, 2016**

- 2015 ASME Fall Technical Conference on IC Engines at Houstan, **Texas, USA,** During November 08-11, **2015**

Papers Published / Not Presented Abroad

24. Al-Mughanam T. and **Abdul Khaliq** (2023), "Exergetic analysis of the process for hydrogen rich syngas production through biomass gasification and its onsite use in HCCI engine for land transportation" 14th International Conference on Hydrogen Production (ICH2P-2023), Dec. 19-21, 2023 at Hammad Bin Khalifa University, Doha, Qatar.

25. K. Choudhary and **Abdul Khaliq** (2005), 'Thermodynamic performance analysis of an intercooled reheat gas turbine plant', 4th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT2005) 19-22 September, Cairo (**Egypt**).

26. **Abdul Khaliq** (2006), 'Energy and exergy-based performances of combined heat and power system', Second international symposium on Energy, Informatics and Cybernetics (EIC 2006), July 16-19, 2006, Orlando FL (**USA).**

27. Rajesh Kumar and **Abdul Khaliq** (2005), 'Finite time heat transfer analysis and optimization of solar operated Rankine heat engine', Heat Transfer in Energy Technologies (Heat-SET 2005) Conference, 5-7 April, Grenoble (**France**).

Administrative Experience

1- Head, Department of Food Technology at Jamia Hamdard (Sept. 2025- Continue)
2-Chairman, Faculty Research Program, Taibah University, Yanbu, KSA
2- Coordinator, Graduate Studies Program (Engg.), Taibah University, Yanbu, KSA
3-Chairman, University Central Library Advisory Committee DTU Delhi 2012-13
4-Chairman, Central Liveries Purchase Committee DTU Delhi 2012-2013
5-President, Delhi Technological University, Teachers Association, Delhi 2012-2013
6-Member University Anti Raging Committee DTU Delhi 2012-2013
7-Convener Invitation and Printing Committee for University Convocation-2013
8-Director, International Institute of Telecom Technology (IITT), SCO, Manimajra, Chandigarh, Punjab (Nov. 01, 2011- June 11, 2012)
9-Head, Department of Mechanical and Civil Engineering Galgotias University 2011
10-Chairman, Scrutiny Committee for Office Assistant positions, at DTU Delhi 2013
11-Warden, Allama Iqbal Hostel, Jamia Millia Islamia, New Delhi, July-Nov. 2010

Significant Contributions and Achievements

I Dr. Abdul Khaliq was born on Ist September 1973 at Village Untgir (Silla Bisawanpur) near Harduaganj town at Ramghat Road of District Aligarh U.P, India. Presently I am working as Professor and Head of the Department of Food Technology of Jamia Hamdard (A Government-Aided Deemed to be University), New Delhi (Since Sept. 10, 2025 -Till date). I started my academic career in the year 1996 as a Lecturer in Mechanical Engineering Department of a Central Government University (JMI) in New Delhi. I rose to the level of Associate Professor in the same department based on my academic output. I worked there quite successfully till August 2011. From August 2011-June 2012, I had served a newly incepted Galgotias University in Greater Noida as a Professor and Head of the Department of Mechanical Engineering. In June 2012, I was selected as Professor of Mechanical Engineering at Delhi Technological University, Delhi (Formerly Delhi College of Engineering, DCE of the University of Delhi) through open selection committee on regular basis and worked there with great devotions and dedications during (June 12, 2012- Aug. 26, 2013). I developed a course on Renewable Energy Technology at DTU for a new Master's Program, and also undertook some administrative assignments.

On August 27, 2013, I had joined the Mechanical Engineering Department of King Fahd University of Petroleum and Minerals (KFUPM), Dhahran at a Professorial Rank and there I had discharged my duties of teaching and research. At KFUPM, I was involved in teaching advanced level courses of Thermal Science and Engineering like: Combustion & Emissions, Advanced Thermodynamics, Internal Combustion Engines along with working on some client funded and sponsored research projects as a Principal Investigator. These research projects were funded by Government organizations and Private Industry like: DST, AICTE, KACST, KFUPM and General Electric (GE) Company of USA. Research output of the work carried out in these projects has been published in high Impact ISI-indexed Journals of International repute. I have an experience of more than 27 years of university teaching of various subjects of Mechanical Engineering which includes; Thermodynamics, Combustion, Heat Transfer, Fluid Mechanics, Engineering Mechanics, Mechanics of Solids, Power Plant Engineering, Non-Conventional Energy Sources, Refrigeration, I.C. Engines and Air Pollution. During teaching these subjects I followed the method to evoke interest and encourage the students to ask and answer questions on subject of discussion. I also designed and developed some courses for undergraduate and postgraduate teaching in Mechanical Engineering like; Non-Conventional Energy Sources, Waste to Energy, Environmental Engineering, Power Plant Engineering, IC Engines and Combustion, Refrigeration, Advanced Thermodynamics.

After completing my schooling with first class at various levels, I did my Bachelor of Science (Mechanical Engineering) in 1994 with first division from A.M.U. Aligarh, and then subsequently after qualifying GATE (Mechanical Engineering) Examination, I joined Master of science (Mechanical Engineering, Specialization in Thermal Engineering) and passed in 1998, with first division (Distinction) and first position in the Department of Mechanical Engineering of Aligarh of Muslim University, Aligarh. I have obtained my **PhD degree** in area of Thermal Engineering for research on **Second Law analysis of Thermal power cycles and Thermo-fluid systems** from Indian Institute of Technology (IIT) Delhi during (2000-2003). I have also worked at the University of Ontario Institute of Technology, Oshawa, Canada for Post-Doctoral Research in area of Energy Engineering during 2007-2008. I have contributed large number of research papers in the area of Energy Conservations in Thermal Power Cycles and Refrigeration Systems to the high impact ISI-indexed and prestigious Journals of International repute like; International Journal of Refrigeration, Energy, Applied Thermal Engineering, Energy Conversion & Management, ASME Journal of Energy Resources Technology, ASME Journal of Engineering for Gas Turbines and Power, Applied Energy etc. **I have Guided/Guiding Eleven (11) Ph.D. Thesis out of which 10 (ten) have been successfully awarded,** and one is in progress. I have also Supervised Nine (09) M.Tech. Dissertations in area of Mechanical Engineering. **Two United States Patent have also been awarded on my name on "Solar Powered Cooling System" in December 2016, and another patent on "Biomass Gasification Based Flexible Energy System" is granted in Oct. 2023.**

I have also authored four books; 1-Exergy analysis of industrial waste heat recovery based combined compression/absorption refrigeration system, published by Nova Science Publishers, New York, USA, 2-Impact of inlet air cooling on gas turbine power generation, published by Nova Science Publishers, USA. 3-Machine Drawing and 4- Fundamentals of Engineering Drawing and Auto CAD published in 2004 and 2005 respectively by Galgotia Publications Pvt. Ltd., New Delhi. I have also organized one International Conference on Energy Environment and Sustainable Development, on Jan. 23-24, 2004, and another National Conference on Advances in Mechanical Engineering on Jan. 19-20, 2006.

I have been invited to various countries (USA, Germany, England, Canada, Turkey etc.) to deliver expert Lectures on Energy Science and Engineering, and in India as well, to IIT Kanpur, IIT Bombay, IIT Delhi etc. Based on my expertise in the area "**Exergy and its Application for the Performance Assessment of Integrated Energy Systems"** I have the honor of being a potential reviewer for many ISI-Indexed and peer reviewed Journals of International repute like: International Journal of Refrigeration, ASME Transactions, Energy, Applied Thermal Engineering, Applied Energy etc. **In the year 2006-2007, I was awarded the prestigious BOYSCAST** (Better Opportunities for Young Scientists in the Chosen Area of Science and Technology) **Fellowship by the DST (Department of Science and Technology) of the Govt. of India** against which I had received a research grant of Rs. Twelve lacs. I had availed that grant to work at UOIT, Canada for a year and also to visit several top-class universities like; University of Waterloo, University of Toronto, and Mc Gill University. I am also the recipient of **Career Award** for young teachers offered by AICTE for the year 2007-08 with the research grant of Rs. Ten lacs and fifty thousand. I have also worked as a Visiting Associate Professor/Post-Doctoral Fellow at the University of Ontario (UOIT), Canada for the session 2007-2008.

My research interests are; Gas Turbine Power Augmentation, Multi-effect Refrigeration, Alternative Fuel Combustion, Finite time thermodynamics, Industrial Waste Heat Recovery, Solar Thermal and PV

Applications, Waste to Energy Technology. Presently I am engaged in imparting high-quality engineering knowledge to the students and in completing various funded research projects sanctioned by the Government agencies through research on "Effective Utilization and Commercialization of Renewable Energy Sources" for meeting out the increasing energy needs of the Society.

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