BIO DATA

MAHESH KUMAR

General Particulars

Designation	:	Associate Professor
Department	:	Mechanical Engineering
Institute Name	:	G. J. U. S. & T. Hisar-125001
Date of Birth	:	22.10.1974.
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Experience (Teaching)

16.25 years

Designation	Institute	From	To
Lecturer	P.D.M. College of Engg. Bahadurgarh	5/06/2004	1//09/2006
Assistant Professor	G.J.U.S& T Hisar	2/09/2006	2/09/2019
Associate Professor	G.J.U.S& T Hisar	2/09/2019	Till Date

Qualifications

B.Tech. (Mech.)	D.C.E. Delhi	2001	70.43%	I Div
M.E. (Mech. Engg.) (Thermal Engg.)	D.C.E. Delhi	2004	71.67%	I Div.
Ph.D. (Mech.),	N.I.T. Kurukshetra	27 Nov. 2008 (Registration) 15 May 2013 (PhD Notification)		

Thesis title '**Heat and mass transfer analysis during heating of milk (khoa-heat desiccated milk product) under open and closed conditions**'

RESEARCH PUBLICATIONS

JOURNALS

2007

1. 'Analysis of performance characteristics of S- shaped diffuser with offset' by Manoj Gopaliya, **Mahesh Kumar**, Shailander Kumar and Shiv Manjaree Gopaliya. Aerospace Science and Technology, Volume 11, Issues 2-3, March-April 2007, Pages 130-135. Elsevier Publications, **Impact Factor 0.674**. ISSN 1270-9638.

2008

2. 'Experimental study on cooling of Electronics components by spray impaction' by Pankaj Khatak and **Mahesh Kumar**. Journal of the Institution of Engineers (India), Volume 89, October 2008. ISSN 0020-3408.

2010

3. 'Technological advancement in khoa making' by **Mahesh Kumar**, Om Prakash, K.S.Kasana and R.S.Dabur. Indian Dairyman, January, 2010, 62 (1): 64-70. **ISSN**: 0019-4603. **(PhD)**

4. 'Evaluation of convective heat transfer coefficient for pool boiling of milk under closed condition' by **Mahesh Kumar**, K.S.Kasana, Sudhir Kumar and Om Prakash by **Mahesh Kumar**, K.S.Kasana, Sudhir Kumar and Om Prakash. S-JPSET, 2010, 1(2):91-99. **ISSN: 2229-7111 (print & online version). (PhD)**

2011

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6. 'An Experimental Study on Sensible Heating of Sugarcane Juice' by **Mahesh Kumar**, Pankaj Khatak, Rakesh Kumar and Om Prakash, International Journal of Current Research, Vol. 3, Issue 7, 2011, pp 247-251. **ISSN: 0975-833X**

7. 'Experimental investigation on natural convective heating of milk' by **Mahesh Kumar**, Om Prakash and K.S.Kasana. Journal of Food Process Engineering, 2012, 35, 715-726. Wiley Publications. **ISSN** (printed): 0145-8876 **ISSN** (electronic): 1745-4530, Wiley Publications, **Impact Factor 0.875.**

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9. 'Experimental study on pool boiling heat transfer coefficient of milk' by **Mahesh Kumar**, Om Prakash, K.S. Kasana. Scientific Journal FACTA UNIVERSITATIS Series Mechanical Engineering, 2011, Vol. 9 (1): 61-70. p -**ISSN**, 0354-2025.

10. 'Experimental investigation on Convective Heat Transfer Coefficient for Khoa Drying' by **Mahesh Kumar**, K.S.Kasana, Sudhir Kumar and Om Prakash. International Journal of Current Research, Vol. 3 (8), pp 088-093. **ISSN: 0975-833X**

11. 'Pool Boiling of Milk in a Stainless Steel Pot under Closed Conditions' by **Mahesh Kumar**, K.S.Kasana, Sudhir Kumar and Om Prakash. International Journal of Current Research, Vol. 3 (8), pp 094-099. **ISSN: 0975-833X**

12. 'Experimental study on heat and mass transfer for heating of milk' by **Mahesh Kumar**, K.S.Kasana, Sudhir Kumar and Om Prakash. Journal of Energy in Southern Africa, 2011, 22(3): 45-53. **ISSN** 1021-447X

13. 'Experimental Evaluation of Constants for the Rohsenow Pool Boiling Correlation for Khoa' by **Mahesh Kumar**, K.S.Kasana, Sudhir Kumar and Om Prakash. S-JPSET, 2011, vol. 2 (1), pp 21-25. **ISSN: 2229-7111**

14. Energy requirements in manufacture of khoa under closed condition by Mahesh Kumar, K.S. Kasana, Sudhir Kumar and Om Prakash, International Journal of Mechanical Engineering Research and Development, Vol. 1(2), pp 33-40. **ISSN 2248-9347**

15. 'An experimental study on optimization of wire cut electrical discharge machining' by Prem Sagar, Pankaj Khatak and **Mahesh Kumar**, International Journal of Science Engineering & Computer Technology, 2011, 1(1), PP 4-6.

2012

16. 'Evaluation of the evaporative heat transfer coefficients during sensible heating of milk' by **Mahesh Kumar**, Sudhir Kumar, K.S.Kasana, and Om Prakash. S-JPSET, 2012, 3(1):1-6. **ISSN: 2229-7111 (print & online version).**

17. 'An experimental study on open sun drying of vermicelli' by Ravinder Kumar Sahdev, Praveen Sehrawat, and **Mahesh Kumar.** International Journal of Advances in Engineering Sciences, July 2012, 2(3): 1-8.

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20. 'Forced convection greenhouse papad drying: An experimental study' by **Mahesh Kumar**, Journal of Engineering Science and Technology, 2013, Vol. 8, Issue 2, pp 191-207.

21. 'Convective heat transfer enhancement by internal heating of sugarcane juice' by **Mahesh Kumar,** Rakesh Kumar, Pankaj Khatak, and Om Prakash. Asian Journal of Science and Technology, April 2013, Vol. 4, Issue 4, pp. 001-003, ISSN: 0976-3376.

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2014

26. **'**Effect of size on convective heat and mass transfer coefficients during natural convection greenhouse drying of khoa-a heat desiccated milk product' **by Mahesh Kumar** in the International Journal of Renewable Energy and Biofuels, 2014, Vol. 2014, Article ID 961114, DOI: 10.5171/2014.961114.

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2015

29. 'Enhancement in cooling of electronic components by nanofluids' by Pankaj Khatak, Rahul Jakhar, and Mahesh Kumar Journal of The Institution of Engineers (India): Series C, 2015, 96(3), pp-245-251.

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2005

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2. 'Review paper on Methods of Enhancement of Pool Boiling heat transfer' by **Mahesh Kumar**, Om Prakash and, Samsher **published** in 14th ISME International conference on Mechanical Engineering in Knowledge Age, December 12-14, 2005 held by Delhi College of Engineering Delhi, Delhi.

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2006

4. 'An experimental set up to locate centre of gravity of human body' by Shailander Kumar and **Mahesh Kumar published** in National conference on Advances in Mechanical Engineering March 18-19, 2006, held by Engineering College Kota, Rajasthan.

2011

5. 'Technical aspects for khoa production and its preservation' by **Mahesh Kumar**, Om Prakash, Sudhir Kumar and K.S.Kasana in National conference on Multidisciplinary Approach in Frontier Areas of Environmental Science and Engineering (MAFAESE-2011) March 4-5, 2011, pp. 250-252. (Presented).

6. 'Thermal analysis of exhaust waste heat of DG set system for cooling using vapor absorption refrigeration system' by Om Prakash, Ritesh Kumar Chaurasia and **Mahesh**

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7. 'A study on pulverized biomass stove' by **Mahesh Kumar**, Pankaj Khatak and Ravinder Kumar Sahdev in National conference on Multidisciplinary Approach in Frontier Areas of Environmental Science and Engineering (MAFAESE-2011) March 4-5, 2011 **(Poster presentation)**

2012

8. Energy Requirements in Manufacture of Khoa - a Heat Desiccated Milk Product by *Mahesh Kumar[1], Sudhir Kumar[2], Om Prakash[3] and K.S. Kasana[4], in Proceeding of International Conference on Energy Security, Global Warming, and Sustainable Climate (SOLARIS 2012), February 7-9, 2012, pp 174-179, published by I.K. International Publishing House Pvt. Ltd, New Delhi, India.

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10. 'An overview on ohmic heating' by Rakesh Kumar and Mahesh Kumar AICTE Sponsored National Conference on Recent Trends in Engineering & Technology (RTET-12), June 4-6, 2012, pp 266-269.

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15. 'An overview on induction heating' by Mahesh Kumar, Himanshu Manchanda, Rohit Kumar and Rakesh Kumar. Sponsored by Ministry of Science New Delhi, International Conference on Technological innovations through modern engineering science TIMES-2013, Dpartment of applied science institute of engineering and technology, M.I.A., Alwar (Rajasthan).

16. 'A review on induction cooking of household commodities' by Mahesh Kumar, Himanshu Manchanda, Rohit Kumar and Rakesh Kumar. International Conference on

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17. 'Thermal technical aspects for jaggery production' by Rakesh Kumar and Mahesh Kumar. International Conference on evolution of science & technology & eyne on educational methodologies (ESTEEM-2013), Prannath Parnami Institute of Management & Technology, Hisar (Haryana), 288-291.

18. 'A study on solar drying techniques' by Surender Kumar and Mahesh Kumar. International Conference on evolution of science & technology & eyne on educational methodologies (ESTEEM-2013), Prannath Parnami Institute of Management & Technology, Hisar (Haryana), 223-227.

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20. 'Effects of various parameters on the performance of spray cooling for electronic components: a review' by Rahul, Pankaj Khatak, and Mahesh Kumar, in All India National Conference on recent trends in Mechanical Engineering (NRTME-2014), at Maharishi Arvind Institute of Engineering & Technology, Jaipur (Rajasthan).

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29. Mahesh Kumar, Amit Malik, Himanshu Manchanda and Ravinder Sahdev, 'Experimental study on conventional and stepped solar stills coupled with evacuated tube solar water heater' 10th international conference on recent development in engineering science, humanities and management (RDESHM-2017), held on 24-12-2017 at The Indian council of social science research, (ICSSR), North West regional centre, Punjab University campus, Chandigarh (India), ISBN: 978-93-86171-89-4, pp. 372-383.

2018

30. Rahul Grewal, Himanhu Manchanda, **Mahesh Kumar**, **"**A review on applications of phase change materials in solar distillation**"** in 2nd international conference on emerging trends in science, engineering & technology held on 29th -30th September 2018 at Mahratta Chamber of commerece, industries and agriculture, Tilak road, Pune (India), ISBN: 978-93-87793-46-0, pp. 722-735.

2019

31. Himanhu Manchanda, Mahesh Kumar, Munish Gupta, Shimpy, "No load testing of single slope solar distillation-cum-drying unit: an experimental study" Proceedings of the National Conference on Trends and Advances in Mechanical Engineering (TAME 2019) April 04-05, 2019, pp. 17-22.

32. Shimpy, Himanhu Manchanda, Mahesh Kumar, Munish Gupta, "Recent developments and comprehensive review on greenhouse dryers" Proceedings of the National Conference on Trends and Advances in Mechanical Engineering (TAME 2019) April 04-05, 2019, pp. 23-31.

2020

33. Mahesh Kumar presented a paper titled "Recent comprehensive studies on induction heating and stepped solar still" in the National Conference on Solaris 2020, February 07-09, 2020.

34. Mahesh Kumar presented a paper titled "A comprehensive review on hybrid solar dryersl" in the National Conference on Solaris 2020, February 07-09, 2020.

35. Mahesh Kumar presented a paper titled "Correlations for thermal properties of milk" in the National Conference on Emerging Trends in Mechanical Engineering 2020, February 26.

36. Mahesh Kumar presented a paper titled "A decade review on greenhouse dryers" in the National Conference on Emerging Trends in Mechanical Engineering 2020, February 26.

37. Mahesh Kumar presented a paper titled "Recent advancements in indirect solar dryers" in the National Conference on Emerging Trends in Mechanical Engineering 2020, February 26.

38. Mahesh Kumar presented a paper titled "Induction heating and its applications: state of the art" in the National Conference on Emerging Trends in Mechanical Engineering 2020, February 26.

2021

39. Mahesh Kumar and Rakesh Kumar. Issues, problems and amelioration in jaggery making process and plants. ICRITSEHM-2021, ISBN: 978-81-948668-8-6. 2021; 366-372.

40. Ankit, Rakesh Kumar and Mahesh Kumar. Energy and exergy analysis of a boiler in co-generative sugar plant. 31 October 2021, International Multidisciplinary Conference 2021, pp-79-91, ISBN: 978-93-91535-12-4.

41. Sukhbir Singh, Rakesh Kumar and Mahesh Kumar. A case study on a traditional jaggery making plant. 31 October 2021, International Multidisciplinary Conference 2021, pp-92-100, ISBN: 978-93-91535-12-4.

42. Ajay Prakash, Mahesh Kumar, Himanshu Manchanda and Rahul Grewal. A review on solar flat plate air collector with different design modifications. 31 October 2021, International Multidisciplinary Conference 2021, pp-65-78, ISBN: 978-93-91535-12-4.

(M.Tech.) Thesis Supervision

2008

1. 'An experimental study of heat and mass transfer during papad drying' By Ravinder Kumar Sahdev (Roll no. 0621609)
2. 'Thermal load analysis of wire EDM' (**Co- Supervisor**) By Rajender Kumar (Roll No. 0621611)

2010

3. 'Optimization of non cutting time during machining' by Satish Kumar (Roll No. 0621606) Completed.

2011

4. 'Optimization of wire electrical discharge machining for multi responses' (**Co-Supervisor**) By Prem Sagar (Roll No. 0816104)
5. 'An experimental study on sensible heating of milk during jaggery making' by Rakesh Kumar (09161011)

2012

6. Surender Kumar (10161007)-Continue 'convective heat transfer coefficient of papad during greenhouse drying'- Completed in 2012

7. Amit Grag (10161005) – Continue 'Thermal performance evaluation of copper and brass immersion rods for sensible heating of sugarcane juice' Completed in 2012
8. Nahid Akhtar (10161003) 'Experimental study on sensible heating of sugarcane juice under closed condition'
9. Mandeep Singh- (0816101)- Wire electrical discharge machining parameters optimization for H13 (hot die) steel. (**Co- Supervisor**).
10. 'An experimental study on indoor forced convection drying of vermicelli' by Nitesh Jain (Roll No. 1135911088, Regn. No. 1079167890, MED, MDU Rohtak). (**Co- Supervisor**).
11. 'An experimental study on open sun drying of vermicelli' by Praveen Sehrawat (Roll No. 1135911092, Regn. No. 1079168491, MED, MDU Rohtak). (**Co- Supervisor**).

2013

12. Himanshu Manchanda (11161005)- 'An experimental study on sensible induction heating of sugarcane juice' - Completed in 2013
13. Rohit Kumar (11161006) 'Thermal performance of a cast iron pot during natural convective induction heating of sugarcane juice' Completed in 2013

2014

14. Paramjeet Lamba (11161001) 'Design, Fabrication, and analysis of an indirect solar dryer'. Completed in 2014
15. Punit Kumar (11161012) "Greenhouse Drying of Vermicelli" Completed in 2014
16. Nidhi(12161014) (June-2013)-Design, analysis and comparative study on forced convection vermicelli greenhouse dryers: an experimental study' Completed in 2014
17. Sunil (12161005) (June-2013) 'Analysis of ginger drying inside a forced convection indirect solar dryer: an experimental study' Completed in 2014
18. Vijay (12161007)-'Heat and mass transfer analysis of a sugarcane juice distillation unit' (June-2013) Completed in 2014
19. Rahul (12161003)-'Experimental study on cooling of electronics component by spray impaction using nanofluids' (June-2013) - Completed in 2014
20. Dinesh (12161019)-'Experimental study on forced convection cooling of a pin fin' (September-2013)- Completed in 2014

2015

21. Vishu (13161008) (June-2014)- Design and thermal analysis of an indirect solar dryer for drying ayurvedic medicinal plants- Completed on September 2015
22. Naveneet (13161003) (June-2014)- Thermo-economic optimization of absorption heat transformer- Completed on September 2015
23. Lalit (13161007) (June-2014)- Experimental study on air pressurized spray cooling of micro-electronic components- - Completed on September 2015

2016

24. Chaturbhuj (14161009) Design, fabrication and thermal analysis of a weir-type cascade solar still.
25. Sudarshan (14161004) Design, fabrication and thermal analysis of a stepped-type cascade solar still.

2017

26. Suraj (15161001) 'Experimental investigation of weir type solar still coupled with evacuated tube.
27. Amit Malik (15161020) 'Experimental investigation of stepped type solar still coupled with evacuated tube.

2018

28. Rahul Grewal (16161002) 'Performance analysis of stepped solar still coupled with evacuated tube collector (ETC) & laden with phase change material (PCM).

2019

29. Shimpy (170161610011) 'Experimental investigation on modified greenhouse dryer for groundnuts drying.

2021

30. Ajay Prakash (190161610002) 'Performance evaluation of PCM laden stepped solar still coupled with a modified solar flat plate air collector'.

31. Gaurav Kadyan (190161610007) 'Performance evaluation of PCM laden stepped solar still coupled with a flat plate solar air collector'.

(PhD) Thesis Supervision

1. "Heat and Mass transfer analysis for the drying of groundnuts", Ravinder Kumar Sahdev (Regsisteration Number: 13-UIETR-0499) Completed-08/02/2018 (Notification)
2. "Experimental investigations and thermal analysis of solar water distillation cum drying units", Himanshu Manchanda (Regn. Number: 14169004) Registration date: 10-10-2014, Completed-03-08-2018 (Notification)
3. "An experimental study on enhancement of heat utilization in a conventional jaggery making plant", Rakesh Kumar (Regn. Number: 15169001)- (Registration date: 24-03-2015), Completed-19-04-2022 (Notification)
4. "Performance analysis of experimental active solar still-cum-dryer", Paramjeet Lamba (Regn. Number: 180160090004)- Continue (Registration date: 31-08-2018)
5. Rahul Grewal (Regn. Number: 190160090004), Experimental study on solar and induction heating of sugarcane juice, (Registration date: 14-11-2019) **Submitted**
6. Amit Malik (Regn. Number: 190160090005), Thermo-economic analysis of innovative solar herbs dryers, (Registration date: 12-03-2020)
7. Shimpy (Regn. Number: 190160090105), Thermodynamic performance evaluation of domestic hybrid solar dryer, (Registration date: 06-01-2021)

Project

Sr. No.	Project Title	Funding Agency	Amount	Duration
1.	Experimental investigations on stepped solar system with different modifications for the distillation of RO waste water	**GJU S&T, Hisar**	**108000/-**	**2021-2022**
2.	Experimental investigations on an active stepped solar still laden with PCM	**GJU S&T, Hisar**	**100000 /-**	**2017-18**
3.	Experimental analysis of the effect of cooling on the condensation process in the distillation-cum-sugarcane juice heating system	**GJU S&T, Hisar**	**58000 /-**	**2015-16**
4.	Fabrication, design, and thermal analysis of an indirect solar dryer for medicinal herb drying	**GJU S&T, Hisar**	**45000 /-**	**2014-15**

BOOKS

1. **'Elements of Mechanical Engineering**: **ISBN:** 9789382332404' in 2013 Published by I.K. International Publishing House Pvt. Ltd.
2. '**Fluid Mechanics and Hydraulic Machines**' **ISBN:** 9789353433697, 25 May 2019 Published by Pearson Education.

Responsibilities Held

- In-Charge, Heat Transfer lab
- Academic Incharge

STC/Workshop/conference/FDP Attended

- 2 weeks Staff development program on recent developments in thermal power plants at DCE, Delhi (17-28 July, 2006).
- 1 day national workshop on nuclear energy and environment, (December 15, 2007).
- 1 day national workshop on RTE&T, at GJUS&T, Hisar (March, 17, 2009).
- 1 day national workshop on career prospects for engineering students in today's scenario, at GJUS&T, Hisar (April 25, 2009).
- 3 weeks Refresher course on 'Engineering Sciences' UGC Sponsored at GJUS&T, Hisar (21.12.2009 – 09.01.2010)
- 4 weeks orientation course UGC Sponsored at GJUS&T, Hisar (31.05.2010 – 26.06.2010)
- **Completed 3 week UGC sponsored Refresher course** in Information Technology (ID for all steams) w.e.f. 03-06-2013 to 22-06-2013 with 'A' grade at UGC-Academic Staff College GJUS&T, Hisar
- Completed faculty development programme on recent advances in engineering and technology from 20-09-2013 to 28-09-2013, sponsored by world bank project 'technical education quality improvement programme (TEQIP-II)' jointly organized by TEQIP-II cell & Academic staff college.
- Completed one week course on the finite element method in engineering (basic procedure, applications and current research topics) under GIAN (Global initiative on academic network) from December 18-22, 2017 by Mechanical Engineering Department, GJUS&T Hisar.

- Completed one week course on “Quality control for products, processes, or services” under GIAN (Global initiative on academic network) from July 22-27, 2019 by Mechanical Engineering Department, UIET, MDU, Rohtak.
- Participated in National Conference on Recent Trends in the field of environmental science and engineering (RTIFESE19) September 20-21, 2019.
- Attended one day workshop on patent filing and protection of intellectual property rights organized by centre for industry institute partenership, GJUS&T, Hisar, Febuary, 20, 2020.
- Completed One Week Online Faculty Development Programme on Solar Energy Conversion & Storage Organized by Rajasthan Technical University, Kota & Poornima Institute of Engineering & Technology, Jaipur from 31-8-20 to 04-9-20.
- Participated in five days webinar on “Building Science and Energy Conservation” organized by Department of Mechanical Engineering, Madhav Institute of Technology & Science, Gwalior under the sponsorship of TEQIP III from September 22-26, 2020.
- Attended five days online FDP on “Renewable energy sources and future energy needs” organized by Department of Mechanical Engineering, Madhav Institute of Technology & Science, Gwalior under the sponsorship of TEQIP III from February 15-19, 2021.
- Attended one day workshop on “Ethical concerns in research” organized by Department of Mechanical Engineering, GJUS&T, Hisar, February 22, 2021.
- Organized one day workshop on “Ethical concerns in research” organized by Department of Mechanical Engineering, GJUS&T, Hisar, February 22, 2021.
- Completed One Week Online Faculty Development Programme on Recent trends & issues in mechanical engineering sponsored by AICTE AND Organized by Department of mechanical engineering, GJUS&T, Hisar from 10-01-2022 to 15-01-2022.

Courses Taught

- Heat Transfer
- Fluid Mechanics
- Hydraulic Machines
- Thermodynamics

- Internal Combustion Engines
- Automobile Engineering
- Elements of Mechanical Engineering
- Optimal design of thermal systems
- Research methodology

(Dr. Mahesh Kumar)