

CURRICULUM VITAE

DR. HEMANTKUMAR B. MEHTA

Professor, Department of Mechanical Engineering,
S.V. National Institute of Technology,
Surat, Gujarat, India.

Email: hbm@med.svnit.ac.in

Mobile: +91-8849931589

Date of Birth: 07-01-1977



PROFILE

Accomplished academic with 24+ years of teaching and 2.8 years of industrial experience. Recognized experts in AI/ML for thermal-fluid engineering, battery thermal management, advanced heat pipes, Microchannel Heat Sink (MCHS) and cryogenics.

STATISTICS

- 33 SCI/Scopus-indexed journal papers (Avg. IF: 3.57)
- 56 international + 18 national conference papers
- 10 registered designs and 3 utility patents granted
- 5 major funded projects (₹1.16 crore total value)
- 6 consultancy/testing projects (₹18,03,400; 5 completed, 1 ongoing)
- Guided 4 PhDs (8 ongoing), 51 M. Tech (3 ongoing)
- Reviewer for 15+ international journals, session chair at major conferences

LEADERSHIP & ADMINISTRATION

- Associate Dean (Research & Consultancy),
- Head, Career Development Cell (Training & Placement Cell),
- CPIO, Right-to-Information Cell (RTI Cell)
- Chief Hostel Warden,
- Faculty Incharge Institute Security System
- Lab In-Charge and PG Coordinator, Examination Departmental Coordinator

INTERNATIONAL EXPOSURE

Presented research in USA, UK, Canada, France, Switzerland, Italy, South Africa.

CURRICULUM VITAE

1. PERSONAL INFORMATION

Name: Dr. Hemantkumar B. Mehta

Contact: Professor, Department of Mechanical Engineering,
S.V. National Institute of Technology, Surat, Gujarat, India

Email: hbm@med.svnit.ac.in | **Mobile:** +91-8849931589

Date of Birth: 07-01-1977

Gender: Male

2. RESEARCH INTERESTS

AI/ML in thermal fluid engineering, Battery Thermal Management Systems (BTMS), Heat pipe technology and variants, Flow boiling instability mitigation in Microchannel Heat Sinks (MCHS), Cryogenics, Nanofluids and NE/ME PCM slurry, Computational Fluid Dynamics (CFD)

3. ACADEMIC QUALIFICATIONS

Degree	Year	Subject	Institution	Marks/CGPA
B.E.	1998	Mechanical Engineering	SVRCET, Surat	69.33%
M.Tech.	2006	Mechanical Engineering	SVNIT, Surat	9.33/10 CGPA
Ph.D.	2015	Mechanical Engineering	SVNIT, Surat	9.67/10 CGPA

4. PROFESSIONAL EXPERIENCE

Designation	Institution/ Organization	Duration	Nature of Work
Professor (Present)	SVNIT Surat	Dec 2023-present	Teaching/Research/Admin
Associate Professor	SVNIT Surat	Jan 2019-Dec 2023	Teaching/Research/Admin
Assistant Professor	SVNIT Surat	Oct 2007-Jan 2019	Teaching/Research/Admin
Lecturer,	CKP Engg., Surat	Jul 2003-Oct 2007	Teaching
Maintenance Incharge	Airon Corporation, Vadodara	Jul 1998-Jul 2001	Operation/Maintenance
G.E.T. Trainee	GSFC, Kosamba	Mar 1999-Mar 2000	Utilities Training

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5. FUNDED RESEARCH PROJECTS

Title/Agency	Value (₹)	Duration	Status
Closed Loop Pulsating Heat Pipe, IRG SVNIT (Dean(R&C)/1503/2013-14)	10,00,000.00	2014–2017	Completed
Novel Stacked Microchannel Heat Sink, SERB DST (EMR/2017/000429)	24,47,500.00	2017–2020	Completed
LHP-based BTMS for Hybrid/EV, SERB DST (CRG/2021/008103)	36,44,696.00	2021–2023	Completed
Tapered MCHS (GUJCOST DST, GUJCOST/STI/2023-24/261)	14,20,000.00	2023–2025	Ongoing
Self-Positioning Laser Head for Photothermal Therapy (SERB/DST)	31,24,088.00	2023–2025	Ongoing

6. PATENTS & DESIGN REGISTRATIONS

Utility Patents Granted

- "A Liquid Cooled Variable Channel Width Double Layered Minichannel Heat Sink (VWC DL-MCHS) with Zero Overlap." Indian Patent No. 442614, granted 03/08/2023.
- "Cryogenic Pulsating Heat Pipe with Cylindrical Shell Type Condenser and Cooling Method Thereof." Indian Patent No. 536680, granted 02/05/2024.
- "System to Control Heat from a Battery Pack." Indian Patent No. 522943, granted 11/03/2024.
- "A Method for Suppressing Flow Boiling Instability (FBI) in Microchannel Heat Sink (MCHS)." Indian Patent Application No. 202421002211 (Hearing completed 27/08/2025).

Registered Designs

- "Stacked Minichannel Heat Sink." Registered Design No. 303545, dated 14/03/2018.
- "Pin Fin Embedded Stepped Minichannel Heat Sink." Registered Design No. 332649-001, dated 02/09/2020.
- "Stepped Variable Channel Width Minichannel Heat Sink." Registered Design No. 332650-001, dated 02/09/2020.
- "Tapered Variable Channel Width Minichannel Heat Sink." Registered Design No. 332651-001, dated 02/09/2020.
- "Battery Stack Cooling System for Electric Vehicles." Registered Design No. 341247-001, dated 23/03/2021.
- "Unmanned Cargo Aircraft." Registered Design No. 344532-001, dated 11/06/2021.

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- "Cryogenic Pulsating Heat Pipe with Cylindrical Shell type condenser." Registered Design No. 343124-001, dated 06/05/2021.
- "Electric Go-Kart." Registered Design No. 353957-001, dated 30/11/2021.
- "Stacked Battery Module Holder for Thermal Management." Registered Design No. 386144-001, dated 13/05/2023.
- "Battery Module Holder for Cooling." Registered Design No. 387788-001.

7. PUBLICATIONS

A. Journal Articles (SCI/Scopus, 33, Appendix-1)

B. International Conference Papers (56, Appendix-2)

C. National Conference Papers (18, Appendix-3)

D. Books, Proceedings, Edited Volumes

- Editor, Proceedings of TFSTA-2016, SVNIT, 2016. ISBN: 978-93-5265-440-6.
- Book of Abstracts, FMFP-2012, SVNIT, Surat, 2012.
- Editor, NCAME-2021, SVNIT Surat. ISBN: 978-93-5473-914-9.
- Editor, Recent Advances in Thermal Sciences and Engineering (Springer, LNME, ID: 89175434).
- Recent Advances in Materials and Manufacturing Science (Springer, LNME, ID: 639095).

8. CONSULTANCY PROJECTS

Project Description	Value (₹)	Status
Testing of GI pipe, Surat Airport	22,900.00	Completed
Vetting for EOT Crane, Safex Industries	59,000.00	Completed
Study of heat exchangers, ESSAR Steel	2,87,500.00	Completed
CFD Analysis, Aircraft-Ajinkya, Vadodara	3,54,000.00	Completed
CFD Analysis of piping systems, GAIL Hazira	2,95,000.00	Completed
CFD and simulation study, AM/NS Steel Plant, Hazira	8,85,000.00	Ongoing

Key sectors served: Aviation infrastructure, steel manufacturing, equipment design, aerospace, piping/CFD

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9. AWARDS & HONORS

- Fellow of Institution of Engineers (FIE)
- IASTEM Excellent Paper Award, Cape Town, South Africa (2018)
- GATE Qualified (AIR 2740)
- Evaluator, SERB-DST projects
- Reviewer for 15+ SCI journals

10. PROFESSIONAL MEMBERSHIPS

- Life member of ISHMT (No. 1460)

11. TEACHING AND MENTORSHIP

- 24+ years of academic teaching
- Guided 4 PhDs (8 ongoing), 51 M.Tech. (3 ongoing)
- Developed and taught advanced courses (Thermal Science, CFD, Heat Transfer, Optimization)

12. INTERNATIONAL PRESENTATIONS / COUNTRIES VISITED

- USA (New York, Washington DC, Buffalo, Chicago), United Kingdom (London), Canada (Edmonton), France (Paris), Switzerland (Zurich), Italy, South Africa (Johannesburg, Cape Town)

13. LEADERSHIP & ADMINISTRATION

- Associate Dean (Research & Consultancy),
- Head, Career Development Cell (Training & Placement Cell),
- CPIO, Right-to-Information Cell (RTI Cell)
- Chief Hostel Warden,
- Faculty Incharge Institute Security System
- Lab In-Charge and PG Coordinator, Examination Departmental Coordinator

14. OTHER ACADEMIC CONTRIBUTIONS

- Conference/workshop organization (15+ events)
- Session Chair (ICME2009 London, IHTC-17, FMFP)
- Project proposal evaluation for SERB DST
- 50+ expert lectures delivered
- PhD Thesis examiners of various Institutes

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APPENDIX-1 INTERNATIONAL JOURNALS: 33

1. H. B. Mehta, Mihir Pandya, Ram Kalyankar, Vipul Patel. "Comparative Assessment of Machine Learning Models for Lithium-Ion Battery Module with Heat Sink." *Heat Transfer Engineering*, 48(8), 2026. [SCI Indexed, IF: 3.2]
2. H. B. Mehta, Nishant Shah, Jyotirmay Banerjee. "Synchronized Visualization and Thermal Measurements of Flow Boiling in High-Aspect-Ratio Microchannel with Backflow Controller." *International Journal of Multiphase Flow*, 185, 105140: 1–19, 2025. [SCI Indexed, IF: 4.0]
3. H. B. Mehta, Nishant Shah, Jyotirmay Banerjee. "Dynamics of Pressure Oscillations in Subcooled Flow Boiling in Microchannel with Flow Restrictor: Insight from Wavelet Analysis." *Experimental and Computational Multiphase Flow*, 0055, 1–20, 2024. [SCI Indexed, IF: 2.1]
4. H. B. Mehta, Nishant Shah, Ashish Prajapati, Jyotirmay Banerjee. "Effect of Microchannel Depth on Subcooled Flow Boiling Instability and Heat Transfer." *Journal of Applied Fluid Mechanics*, 18(3), 698–709, 2025. [SCI Indexed, IF: 1.3]
5. H. B. Mehta, Nishant Shah, Jyotirmay Banerjee. "Experimental investigations on a novel instability suppression mechanism for subcooled flow boiling in microchannel heat sink." *Applied Thermal Engineering*, 239, 122006, 2024. [SCI Indexed, IF: 6.1]
6. H. B. Mehta, Milan Vachhani, Kalpak R. Sagar, Durga Nand Jha, Vipul M. Patel. "Cooling hybrid/electric vehicle battery module: exploring the thermal potential of single evaporator loop heat pipe." *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 46, 689–705, 2024. [SCI Indexed, IF: 3.1]
7. H. B. Mehta, Milan Vachhani, Kalpak R. Sagar, Vipul M. Patel. "Enhancing battery thermal management: a study on the feasibility of dual-evaporator loop heat pipe technology." *Journal of Thermal Analysis and Calorimetry*, 148, 13639–13654, 2023. [SCI Indexed, IF: 3.0]
8. H. B. Mehta, Milan Vachhani, Kalpak R. Sagar, Vipul M. Patel. "Novel integration of dual evaporator loop heat pipe for improved electric vehicle battery thermal regulation." *Applied Thermal Engineering*, 236, 121832, 2023. [SCI Indexed, IF: 6.1]
9. H. B. Mehta, Kalpak R. Sagar, H.B. Naik. "Performance assessment of planar and non-planar cryogenic pulsating heat pipe with novel condenser." *Cryogenics*, 129, 103614, 2023. [SCI Indexed, IF: 1.9]
10. H. B. Mehta, Kalpak R. Sagar, H.B. Naik. "Novel condenser based cryogenic pulsating heat pipe: Investigations on influence of geometrical parameters." *Cryogenics*, 126, 103543, 2022. [SCI Indexed, IF: 1.9]
11. H. B. Mehta, Kalpak R. Sagar, H.B. Naik. "Experimental investigations on two-turn cryogenic pulsating heat pipe with cylindrical shell-type condenser." *Applied Thermal Engineering*, 196, 117240, 2021. [SCI Indexed, IF: 6.1]
12. H. B. Mehta, Kalpak R. Sagar, H.B. Naik. "Numerical study of liquid nitrogen based pulsating heat pipe for cooling superconductors." *International Journal of Refrigeration*, 122, 33–46, 2021. [SCI Indexed, IF: 4.7]
13. H. B. Mehta, Nirav Patel. "Experimental Investigations on VWc DL-MCHS." *International Journal of Heat and Mass Transfer*, 165, 120633, 2021. [SCI Indexed, IF: 5.0]
14. H. B. Mehta, Nirav Patel. "Investigations on a Variable Channel Width Double Layered Minichannel Heat Sink using advanced coolants." *Journal of Thermal Analysis and Calorimetry*, 145, 3359–3379, 2021. [SCI Indexed, IF: 3.0]

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15. H. B. Mehta, Kalpak Sagar, H.B. Naik. "CFD Analysis of Cryogenic Pulsating Heat Pipe with Near Critical Diameter under Varying Gravity Conditions." *Theoretical Foundations of Chemical Engineering*, 54, 64–76, 2020. [SCI Indexed, IF: 0.4]
16. H. B. Mehta, Kalpak Sagar, Chirag N. Chaudhari. "Influence of Direct and Co-Flow Pre-Injection of a Gas Phase on Gas–Liquid Two-Phase Flow through a Vertical Minichannel." *Theoretical Foundations of Chemical Engineering*, 54, 116–131, 2020. [SCI Indexed, IF: 0.4]
17. H.B. Mehta, M. Zufar, K.C. Ng. "Numerical and experimental investigations of hybrid nanofluids on pulsating heat pipe performance." *International Journal of Heat and Mass Transfer*, 146, ---, 2020. [SCI Indexed, IF: 5.0]
18. H. B. Mehta, Vipul Patel. "Channel wise displacement-velocity-frequency analysis in acetone charged multi-turn Closed Loop Pulsating Heat Pipe." *Energy Conversion and Management*, 195, 367–383, 2019. [SCI Indexed, IF: 13.2]
19. H. B. Mehta, Vipul Patel. "Experimental Investigations on the Effect of Influencing Parameters on Operating Regime of a Closed Loop Pulsating Heat Pipe." *Journal of Enhanced Heat Transfer*, 36(4), 333–344, 2019. [SCI Indexed, IF: 1.59]
20. H. B. Mehta, Nirav Patel. "Investigations on a Variable Channel Width Double Layered Minichannel Heat Sink." *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 10(9), 2036–2045, 2019. [SCI Indexed, IF: 2.5]
21. H. B. Mehta, Vipul Patel. "Thermal Performance Prediction Models for a Pulsating Heat Pipe using Artificial Neural Network (ANN) and Regression/Correlation Analysis (RCA)." *Sadhana*, 43(11), ---, 2018. [SCI Indexed, IF: 1.05]
22. H. B. Mehta, Vipul Patel, Gaurav. "Experimental Investigations on Heat Transfer Characteristics of Pulsating Single Phase Liquid Flow and Two-Phase Taylor Bubble Flow through a Minichannel." *Sadhana*, 42(47), 2018. [SCI Indexed, IF: 1.05]
23. H. B. Mehta, Vipul Patel, Gaurav. "Influence of Working Fluids on Startup mechanism and Thermal Performance of a Closed Loop Pulsating Heat Pipe." *Applied Thermal Engineering*, 110, 1568–1577, 2017. [SCI Indexed, IF: 6.1]
24. H. B. Mehta, Sourabh Yadav. "Experimental Investigations on Air-Water Two-Phase Flow through a Minichannel U-bend." *Experimental Thermal and Fluid Science*, 78, 182–198, 2016. [SCI Indexed, IF: 5.6]
25. H. B. Mehta, Vipul Patel. "Artificial Neural Network Modelling of a Closed Loop Pulsating Heat Pipe." *International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering*, 10(10), 1754–1757, 2016. [Scopus Indexed]
26. H. B. Mehta, Vipul Patel, J. Banerjee. "Prediction of Two-Phase frictional pressure drop using ANN." *International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering*, 10(1), 210–213, 2016. [Scopus Indexed]
27. H. B. Mehta, Vipul Patel. "Influence of Gravity on the Performance of Closed Loop Pulsating Heat Pipe." *International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering*, 10(1), 219–223, 2016. [Scopus Indexed]
28. H. B. Mehta, J. Banerjee. "Experimental Investigations on Thermo-Hydrodynamics of Continuous Taylor Bubble Train Flow through Minichannel." *International Journal of Heat and Mass Transfer*, 94, 119–137, 2015. [SCI Indexed, IF: 5.0]
29. H. B. Mehta, Harshal Gamit, Vinayak More, Bade Mukund. "Experimental investigations on pulsating heat pipe." *Energy Procedia*, 75, 3186–3191, 2015. [Scopus Indexed]
30. H. B. Mehta, J. Banerjee. "Influence Of Inlet Premixing on Two-Phase Flow Patterns in Horizontal Minichannel." *Heat Transfer Engineering*, 36(6), 1–11, 2014. [SCI Indexed, IF: 3.2]

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31. H. B. Mehta, J. Banerjee. "Air-Water Two-Phase Flow in Minichannel: Effect of Flow Orientation." *Heat and Mass Transfer*, 50(10), 1353–1364, 2014. [SCI Indexed, IF: 2.2]
32. H. B. Mehta, J. Banerjee. "Empirical Modelling and Experimental Investigations on Isothermal Air-Water Two-Phase Flow through Circular Minichannel." *Journal of Applied Fluid Mechanics*, 7(2), 227–237, 2014. [SCI Indexed, IF: 1.3]
33. H. B. Mehta, J. Banerjee. "Isothermal Air-Water Two-Phase Flow through Vertical Minichannel." *International Journal of Engineering Sciences*, 2(1), 16–19, 2013. [Scopus Indexed]

APPENDIX-2 INTERNATIONAL CONFERENCES: 56

1. H. B. Mehta. "Experimental Study of Vascular Cooling Effects in Laser–Tissue Interaction." 40th International Conference on Innovation for Health (Bio-Manthan), IIT-Ropar, December 2025.
2. H. B. Mehta. "Experimental Investigation of Temperature Distribution of Subsurface in Tissue Phantoms Exposed to Laser Radiation." 40th International Conference on Innovation for Health (Bio-Manthan), IIT-Ropar, December 2025.
3. H. B. Mehta. "Machine Learning based Prediction and Interpolation of Thermoelectric Performance in Li-ion Battery Module." 6th International and 28th National Conference On Heat and Mass Transfer (ISHMT-ASTFE-2025), IIT-Jodhpur, December 2025.
4. H. B. Mehta. "Comparative Assessment of Cell/Tab Cooling of Li-ion Battery Module." 6th International and 28th National Conference on Heat and Mass Transfer (ISHMT-ASTFE-2025), IIT-Jodhpur, December 2025.
5. H. B. Mehta. "Electrothermal Behaviour Prediction of Lithium Ion Battery using LSTM Deep Learning Model." 12th International and 52nd National Conference on Fluid Mechanics and Fluid Power (FMFP-2025), Nirma University Ahmedabad, December 2025.
6. H. B. Mehta. "Hybrid Deep Learning Approach for Transient Thermal Behaviour of a Loop Heat Pipe." 12th International and 52nd National Conference on Fluid Mechanics and Fluid Power (FMFP-2025), Nirma University Ahmedabad, December 2025.
7. H. B. Mehta. "Subcooled Flow Boiling Instability Investigations in Closed and Open MCHS." 12th International and 52nd National Conference on Fluid Mechanics and Fluid Power (FMFP-2025), Nirma University Ahmedabad, December 2025.
8. H. B. Mehta. [Title missing or not provided.] 12th International and 52nd National Conference on Fluid Mechanics and Fluid Power (FMFP-2025), Nirma University Ahmedabad, December 2025.
9. H. B. Mehta. "A Machine Learning Approach to Li-Ion Battery Module." 5th International Conference on Recent Advances in Mechanical Infrastructure (ICRAM-2025), IITRAM Ahmedabad, January 2025.
10. H. B. Mehta. "Comparative Assessment of Machine Learning Models for Li-Ion Battery Module." 5th International Conference on Recent Advances in Mechanical Infrastructure (ICRAM-2025), IITRAM Ahmedabad, January 2025.
11. H. B. Mehta. "Experimental investigations into subcooled flow boiling in MCHS." 5th International Conference on Recent Advances in Mechanical Infrastructure (ICRAM-2025), IITRAM Ahmedabad, January 2025.

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12. H. B. Mehta. "Development and Characterization of Agar-Based Tissue Phantom for Photothermal Therapy." 5th International Conference on Recent Advances in Mechanical Infrastructure (ICRAM-2025), IITRAM Ahmedabad, January 2025.
13. H. B. Mehta. "Frequency Analysis of Pressure Oscillations in Subcooled Flow Boiling through Microchannel Heat Sink." 7th International Conference on Micro and Nano Scale Heat and Mass Transfer, ASME, University of Nottingham United Kingdom, August 2024.
14. H. B. Mehta. "Performance evaluation of a novel loop heat pipe based BTMS systems: An experimental investigation." Global Energy Meet (GEM 2024), Los Angeles United States, March 2024.
15. H. B. Mehta. "Electro-thermal analysis of Li-ion cell." 10th International and 50th National Conference on Fluid Mechanics and Fluid Power (FMFP), IIT Jodhpur, December 2023.
16. H. B. Mehta. "Electro-Thermal Characteristics of Loop Heat Pipe based BTMS: An Experimental Investigation." 27th National and 5th International ISHMT-ASTFE Heat and Mass Transfer Conference, IIT Patna, December 2023.
17. H. B. Mehta. "The Impact of Training Algorithms and Transfer Functions on the Accuracy of Neural Network-Based Temperature Prediction of 3S4P Battery Module." 9th International Conference on Advances in Energy Research, IIT Bombay, Mumbai, December 2023.
18. H. B. Mehta. "Reduction of Instability during Flow Boiling in Microchannel Heat Sink using Flow Restrictor at Inlet Plenum." International Heat Transfer Conference, ASTFE, Cape Town, South Africa, August 2023.
19. H. B. Mehta. "Experimental investigations on a loop heat pipe in the context of BTMS." Joint 21st IHPC and 15th IHPS, Melbourne Australia, February 2023.
20. H. B. Mehta. "Comparative Assessment of Various Turbulent Models for 2D Flow Over an Airfoil." 2nd National and 1st International Conference on Advances in Fluid Flow and Thermal Sciences (ICAFFTS-2021), SVNIT Surat, September 2021.
21. H. B. Mehta. "A CFD Analysis of Closed Loop Pulsating Heat Pipe using Fourth-Generation Refrigerant." 2nd National and 1st International Conference on Advances in Fluid Flow and Thermal Sciences (ICAFFTS-2021), SVNIT Surat, September 2021.
22. H. B. Mehta. "Effect analysis of Heat Extraction on the Performance of the TAE." 2nd National and 1st International Conference on Advances in Fluid Flow and Thermal Sciences (ICAFFTS-2021), SVNIT Surat, September 2021.
23. H. B. Mehta. "CFD Analysis of Liquid Nitrogen based Cryogenic Pulsating Heat Pipe at Low Gravity Condition." Heat and Mass Transfer Conference (IHMTTC-2019), IIT Roorkee India, December 2019.
24. H. B. Mehta. "Investigations on a Variable Channel Width Minichannel Heat Sink using NEPCM Slurry." Heat and Mass Transfer Conference (IHMTTC-2019), IIT Roorkee India, December 2019.
25. H. B. Mehta. "Relative Significance of an Individual Parameter for Pulsating Heat Pipe Performance." 12th International Conference on Thermal Engineering: Theory and Applications, PDPU Gandhinagar India, February 2019.
26. H. B. Mehta. "Investigations on Oscillating Motion of Ethanol Charged Pulsating Heat Pipe Using Single Slug-Plug Approach." 12th International Conference on Thermal Engineering: Theory and Applications, PDPU Gandhinagar India, February 2019.
27. H. B. Mehta. "CFD Analysis of a Liquid Cooled Variable Channel Width Single Layered Minichannel Heat Sink." 12th International Conference on Thermal Engineering: Theory and Applications, PDPU Gandhinagar India, February 2019.

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28. H. B. Mehta. "Thermal Modelling and Numerical Investigations on a Double Layered Microchannel Heatsink." 157th IASTEM International Conference, Cape Town South Africa, December 2018.
29. H. B. Mehta. "Insight of a Pulsating Heat Pipe at Steady High Heat Flux." 7th International and 45th National Fluid Mechanics and Fluid Power Conference (FMFP 2018), IIT Bombay India, December 2018.
30. H. B. Mehta. "Effect of Water-Based CuO nanofluid on Startup Mechanism and Thermal Performance of a Closed Loop Pulsating Heat Pipe." 19th International Heat Pipe Conference and 13th International Heat Pipe Symposium (Joint IHPC-IHPS 2018), Pisa Italy, June 2018.
31. H. B. Mehta. "Experimental Investigations on the Effect of Influencing Parameters on Operating Regime of Closed Loop Pulsating Heat Pipe." 24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2017), BITS Pilani Hyderabad campus India, December 2017.
32. H. B. Mehta. "Artificial Neural Network Modeling of a Closed Loop Pulsating Heat Pipe." 18th International Conference on Fluid Mechanics and Thermodynamics (ICFMT2016), New York USA, October 2016.
33. H. B. Mehta. "Influence of gravity on the performance of the closed loop pulsating heat pipe." 18th International Conference on Fluid Mechanics and Thermal Engineering (ICFMTE2016), Zurich Switzerland, January 2016.
34. H. B. Mehta. "Prediction of Air-Water Two Phase Frictional Pressure Drop Using Artificial Neural Network." 18th International Conference on Experimental Fluid Science (ICEFS2016), Paris France, January 2016.
35. H. B. Mehta. "Experimental investigations on pulsating heat pipe." 7th International Conference on Applied Energy (ICAE2015), Abu Dhabi United Arab Emirates, March 2015.
36. H. B. Mehta. "Pressure Driven Slip Flow between Parallel Plates." 19th Annual cum 4th International Conference Gwalior Academy of Mathematical Sciences (GAMS), SVNIT Surat, October 2014.
37. H. B. Mehta. "Experimental Investigation on Two-Phase Flow through Minichannel." 5th International and 41st National Conference on Fluid Mechanics and Fluid Power (FMFP2014), IIT Kanpur, December 2014.
38. H. B. Mehta. "Experimental Investigation of Degree of Premixing On Isothermal Air-Water Two-Phase Flow Through Minichannel." ASME 2014 12th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM2014), Chicago Illinois, August 2014.
39. H. B. Mehta. "Investigation on Air-Water Two-Phase Flow in Downward Minichannel." ASME 2014 12th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM2014), Chicago Illinois, August 2014.
40. H. B. Mehta. "Review of Two-Phase Frictional Pressure Drop in Microscale Channels." ASME 2014 12th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM2014), Chicago Illinois, August 2014.
41. H. B. Mehta. "Isothermal Air-Water Two-Phase Flow through Vertical Minichannel." International Conference on Advances in Engineering and Technology (ICAET2013), Lonavala Pune India, May 2013.
42. H. B. Mehta. "Numerical Simulation of Taylor Flow in Inverted Y-Junction Minichannel." 39th National Conference on Fluid Mechanics and Fluid Power (NCFMFP2012), S.V. National Institute of Technology Surat, December 2012.

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43. H. B. Mehta. "CFD Analysis on Taylor Slug Flow Through 3D Vertical Mini-Channel." ASME 2011 9th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM2011), Edmonton Alberta Canada, June 2011.
44. H. B. Mehta. "CFD Analysis of the Taylor Slug Flow in A Microchannel Under Microgravity Condition Using VOF Method." 37th National and 4th International Conference on Fluid Mechanics and Fluid Power (FMFP2010), IIT Madras Chennai, December 2010.
45. H. B. Mehta. "A Numerical Investigation on Premixed Micro-combustion of CH₄-Air Mixture." 37th National and 4th International Conference on Fluid Mechanics and Fluid Power (FMFP2010), IIT Madras Chennai, December 2010.
46. H. B. Mehta. "Numerical Simulation of Taylor Slug Flow in Horizontal Mini-Channel." The 11th Asian International Conference on Fluid Machinery and the 3rd Fluid Power Technology Exhibition, IIT Madras Chennai, November 2011.
47. H. B. Mehta. "Investigation of Bulk Radiation on Natural Convection and Heat Transfer in a Partially Heated Side wall." 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, January 2010.
48. H. B. Mehta. "Power, efficiency, entropy generation rate and ecological optimization of an irreversible Otto cycle." 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, January 2010.
49. H. B. Mehta. "Analysis of the Irreversible Reciprocating Heat Engines using Finite Time Thermodynamics." 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, January 2010.
50. H. B. Mehta. "Effect of Heat Transfer on the Performance of an Air-Standard Diesel Cycle." International Conference on Advances in Mechanical Engineering (ICAME-2009), SVNIT Surat Gujarat, August 2009.
51. H. B. Mehta. "Performance Analysis of an Irreversible Otto Cycle using Finite Time Thermodynamics." International Conference on Mechanical Engineering (ICME-2009), IAENG Conferences – WCE 2009, London UK, July 2009.
52. H. B. Mehta. "Transient Conduction and Radiation Heat Transfer Analysis in Participating Media using Discrete Ordinates Method." International Conference on Advances in Mechanical Engineering (ICAME-2008), SVNIT Surat Gujarat, December 2008.
53. H. B. Mehta. "Investigation of Boundary Conditions on the Conduction Radiation Heat Transfer Analysis in Participating Media." International Conference on Emerging Trends in Engineering & Technology (ICETET-2008), G.S. Rasoni College of Engineering and Technology Nagpur, July 2008.
54. H. B. Mehta. "Numerical Simulation of Conduction-Radiation Heat Transfer Analysis in Participating Media with Linearly Heated Walls." IISc Centenary International Conference on Advances in Mechanical Engineering (IC-ICAME-2008), IISc Bangalore, July 2008.
55. H. B. Mehta. "Effect of Temperature Dependent Thermal Conductivity on 2-D Transient Coupled Conduction-Radiation Heat Transfer using Non-uniform Heating." International Conference on Aerospace Science and Technology (INCAST), National Aerospace Laboratories (CSIR) Bangalore, June 2008.
56. H. B. Mehta. "Coupled Conduction-Radiation Heat Transfer Analysis in Participating Media using Discrete Ordinates Method." International Conference on Emerging Technologies and Applications in Engineering, Technology and Science (ICETAETS-2008), Saurashtra University Rajkot Gujarat, January 2008.

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APPENDIX-3 NATIONAL CONFERENCES: 18

1. H. B. Mehta. "Development of Software for the Thermal Analysis of Aqua-ammonia Absorption Refrigeration System." Advances in Mechanical Engineering (AIME-2004), JDIET Yavatmal Maharashtra, April 23-24, 2004.
2. H. B. Mehta. "Software to Carry out Parametric Study of the Aqua-ammonia Absorption Refrigeration System." Recent Trends in Mechanical Engineering (RTIME-2004), SRESOCOP Kopargaon, July 23-24, 2004.
3. H. B. Mehta. "Comparison of Methods for Predictions of Shell side Heat Transfer Co-efficient of Shell and Tube Heat Exchanger." Recent Trends in Mechanical Engineering (RTIME-2004), SRESOCOP Kopargaon, July 23-24, 2004.
4. H. B. Mehta. "Design of Stiffener Plate for Radial Nozzle on Hemispherical Head of Pressure Vessel Using FEM." Recent Trends in Mechanical Engineering (RTIME-2004), SRESOCOP Kopargaon, July 23-24, 2004.
5. H. B. Mehta. "Comparative Parametric Study of Horizontal and Tilted Evacuated Tubular Solar Collector." Recent Trends in Mechanical Engineering (RTIME-2006), SJCE Mysore, November 17-18, 2006.
6. H. B. Mehta. "Development of Software for the Thermal Analysis of Single Effect LiBr₂-H₂O Vapour Absorption Refrigeration System." Recent Trends in Mechanical Engineering (RTIME-2006), SJCE Mysore, November 17-18, 2006.
7. H. B. Mehta. "Analysis of Coupled Conductive-Radiative Heat Transfer in Presence of plane parallel Participating Media." Indian Institute of Chemical Engineers (CHEMCON-2006), GNFC Ankleshwar Gujarat, December 27-30, 2006.
8. H. B. Mehta. "Computer aided design of solar chimney to generate electricity employing a convergent nozzle." Emerging Trends in Mechanical Engineering (ETME-2007), SVNIT Surat Gujarat.
9. H. B. Mehta. "Discrete ordinates solution of radiative transport equation in absorbing, emitting, and scattering participating media." Emerging Trends in Mechanical Engineering (ETME-2007), SVNIT Surat Gujarat.
10. H. B. Mehta. "Optimization of Liquid Cooled Minichannel Heat Sink." National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016), SVNIT Surat Gujarat, May 27-28, 2016.
11. H. B. Mehta. "Start-up Mechanism of Pulsating Heat Pipe." National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016), SVNIT Surat Gujarat, May 27-28, 2016.
12. H. B. Mehta. "Influence of Imposed pulsation on Axial Back Conduction for Laminar Flow through a circular Minichannel." National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016), SVNIT Surat Gujarat, May 27-28, 2016.
13. H. B. Mehta. "CFD Analysis of 2D Blade Profile of an Axial Flow Compressor using Axstream Software." National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016), SVNIT Surat Gujarat, May 27-28, 2016.
14. H. B. Mehta. "Experimental Investigations on Start-up behaviour of CLPHP." National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016), SVNIT Surat Gujarat, May 27-28, 2016.
15. H. B. Mehta. "A Review on Dry out Mechanism of Pulsating Heat Pipe." National Conference on "Critical Heat Flux and Multiphase Flow", IIT(BHU) Varanasi, December 22-23, 2018.

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16. H. B. Mehta. "Investigations on oscillating motion of Acetone charged Pulsating Heat Pipe using Three Slug-Plug approach." National Conference on Advances in Mechanical Engineering (NCAME-2021), SVNIT Surat, May 27-28, 2021.
17. H. B. Mehta. "A Review of Techniques for Mitigate the Flow Boiling Instabilities in Micro-channels." National Conference on Advances in Mechanical Engineering (NCAME-2021), SVNIT Surat, May 27-28, 2021.
18. H. B. Mehta. "Investigations on a Conventional Single Layered and Double Layered Minichannel Heat Sink." National Conference on Advances in Mechanical Engineering (NCAME-2021), SVNIT Surat, May 27-28, 2021.