**1.** Name : Dr. Hemantkumar B. Mehta

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(O) : +91-261-2201989
(H) : +91-261-2201958

**3.** Date of Birth : 07/01/1977

**4.** Gender : Male

**5.** Research Area : Fluid Flow and Heat Transfer, Two-Phase Flow through microscale channels, Pulsating Heat Pipe, Heat Sink, Jet Impingement, Experimental, Numerical (CFD) and Optimization of thermal systems.

**6.** Academic Qualification (Undergraduate onwards)

| Degree | Year | Subject | University/Institution | %of Marks |
|---|---|---|---|---|
| B.E. | 1998 | Mechanical Engineering | SVRCET, Surat | 69.33% (Distinction) |
| M.Tech. | 2006 | Mechanical Engineering | SVNIT, Surat | 9.33/10 CGPA |
| PhD | 2015 | Mechanical Engineering | SVNIT, Surat | Course Work 9.67/10 CGPA |

**7.** PhD Thesis Title : Experimental Investigations on Air-Water Two-Phase Flow through a Minichannel

M.Tech. Dissertation Title : Coupled Conduction-Radiation Heat Transfer in Absorbing, Emitting and Scattering Participating Media using Finite Volume and Discrete Ordinates Methods.

**8.** Professional Experience:

1. Industrial: 02 years and 10 months
2. Academic: More than 14 years (Continue)

| Name of Employer & Place | Designation of post held | Nature of work | Period | | |
|---|---|---|---|---|---|
| | | | From | To | Years-Months-Days |
| **INDUSTRIAL EXPERIENCE (02 Years and 10 Months)** | | | | | |
| Airon Corporation, Vadodara | Maintenance Incharge | Operation and maintenance | July-1998 to February-1999 | | 00-07-00 |
| GSFC, Kosamba | G.E.T. | Training of different utilities | March-1999 to March-2000 | | 01-00-00 |
| Airon Corporation, Vadodara | Maintenance Incharge | Operation and maintenance | April-2000 to July-2001 | | 01-03-00 |
| **TEACHING EXPERIENCE (More Than 14 Years Continue)** | | | | | |
| C. K. Pithawala College of Engg. & Tech., Surat | Adhoc Lecturer | Technical Teaching | August-2001 to June-2003 | | 01-10-00 |
| C. K. Pithawala College of Engg. & Tech., Surat | Permanent Lecturer | Technical Teaching | 09-07-2003 to 04-10-.-2007 | | 04-02-25 |
| S. V. National Institute of Technology, Surat | Assistant professor | Technical Teaching and Research | 05-10-2007 to till date | | Continue |

**9.** Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

| Sr. No. | Name of award | Awarding agency | Number | Year |
|---|---|---|---|---|
| **1.** | **Reviewer** for 6th International and 43th National Conference on Fluid Mechanics and Fluid Power | FMFP-2016 | 04 | 2016 |
| 2. | **Reviewer** for project proposal under Early Career Research Award scheme and Extra Mural Research Funding scheme | Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Government of India | 02 | 2015 |
| 3. | **Reviewer** for International journal of Experimental Thermal and Fluid Science (ETFS) | Elsevier Publication | 01 | 2015 |

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|---|---|---|---|---|
| 4. | **Reviewer** for International journal of Sadhana - Academy Proceedings in Engineering Science | Springer Publication | 01 | 2015 |
| 5. | **Reviewer** for International Conference on Applied Energy (ICAE2015) | ICAE-2015 | 01 | 2015 |
| 6. | **Reviewer** for International Conference paper | ASME India | 02 | 2015 |
| 7. | **Reviewer** for ASME 2014, 4th joint US-European Fluids Engineering Division summer meeting and 12th International Conference on Nanochannels, Microchannels and Minichannels | ASME Conferences | 02 | 2014 |
| 8. | **Session Chair** for International Conference on Mechanical Engineering (ICME2009), London, UK during 1-3 July, 2009 | International Association of Engineers (IAENG), World Congress on Engineering, London, UK | -- | 2009 |
| 9. | Graduate Aptitude Test for Engineering **(GATE)** exam qualified in Mechanical Engineering with 88.72 percentile and obtained All India Rank (AIR) 2740 in 2004. | | | |

**10.** Publications *(List of papers published in SCI Journals, in year wise descending order).*

**International Journals: 09 + 01 (Under Review)**

| Sr. No. | Author(s) | Title | Name of Journal | Volume | Page | Year |
|---|---|---|---|---|---|---|
| 1. | H. B. Mehta, Vipul Patel and Gaurav | Influence of Working Fluids on Startup mechanism and Thermal Performance of a Closed Loop Pulsating Heat Pipe | Applied Thermal Engineering | Under Review since 16-06-2016 | | |
| 2. | H. B. Mehta and Sourabh Yadav | Experimental Investigations on Air-Water Two-Phase Flow through a Minichannel U- | Experimental Thermal and Fluid Science | 78 | 182-198 | 2016 |

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| | | bend | | | | |
| 3. | H. B. Mehta Vipul Patel, and 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 |
| 4. | H. B. Mehta and 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 |
| 5. | H. B. Mehta and 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 |
| 6. | H. B. Mehta, Harshal Gamit, Vinayak More, Bade Mukund | Experimental investigations on pulsating heat pipe | Energy Procedia | 75 | 3186 – 3191 | 2015 |
| 7. | H. B. Mehta and J. Banerjee | Influence Of Inlet Premixing On Two-Phase Flow Patterns in Horizontal Minichannel | Heat Transfer Engineering | 36(6) | 1-11 | 2014 |
| 8. | H. B. Mehta and J. Banerjee | Air-Water Two-Phase Flow in Minichannel: Effect of Flow Orientation | Heat and Mass Transfer | 50(10) | 1353-1364 | 2014 |
| 9. | H. B. Mehta and J. Banerjee | Empirical Modelling and Experimental Investigations on Isothermal Air-Water Two-Phase | Journal of Applied Fluid Mechanics (JAFM) | 7(2) | 227-237 | 2014 |

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|---|---|---|---|---|---|---|
| | | Flow through Circular Minichannel | | | | |
| 10. | H. B. Mehta and J. Banerjee | Isothermal Air-Water Two-Phase Flow through Vertical Minichannel | International Journal of Engineering Sciences | 2(1) | 16-19 | 2013 |

**International Conferences: 24**

| Sr. No. | Name of Conference | Month/Year | Venue | Title |
|---|---|---|---|---|
| **1.** | 18th International Conference on Fluid Mechanics and Thermal Engineering | (ICFMTE2016) January 12-13, 2016 | Zurich, Switzerland | Influence of gravity on the performance of the closed loop pulsating heat pipe |
| **2.** | 18th International Conference on Experimental Fluid Science | (ICEFS2016) January 12-13, 2016 | Paris, France | Prediction of Air-Water Two Phase Frictional Pressure Drop Using Artificial Neural Network |
| **3.** | 7th International Conference on Applied Energy | (ICAE2015) March 28-31, 2015 | Abu Dhabi, United Arab Emirates | Experimental investigations on pulsating heat pipe |
| **4.** | 19th Annual cum 4th International Conference Gwalior Academy of Mathematical Sciences (GAMS) on "Advances in Mathematical Modeling to Real World Problems" | October 3-6, 2014 | SVNIT, Surat | Pressure Driven Slip Flow between Parallel Plates |
| **5.** | 5th International and 41st National Conference on Fluid Mechanics and Fluid Power | (FMFP2014) December 12-14, 2014 | Indian Institute of Technology (IIT), Kanpur | Experimental Investigation on Two-Phase Flow through Minichannel |
| **6.** | ASME 2014 12th International Conference on Nanochannels, Microchannels, and Minichannels | (ICNMM2014) August 03–07, 2014 | Chicago, Illinois | Experimental Investigation Of Degree Of Premixing On Isothermal Air-Water Two-Phase Flow Through Minichannel |
| **7.** | ASME 2014 12th International Conference on | (ICNMM2014) August 03–07, 2014 | Chicago, Illinois | Investigation on Air-Water Two-Phase Flow in Downward |

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|---|---|---|---|---|
| | Nanochannels, Microchannels, and Minichannels | | | Minichannel |
| **8.** | ASME 2014 12th International Conference on Nanochannels, Microchannels, and Minichannels | (ICNMM2014) August 03–07, 2014 | Chicago, Illinois | Review on Two-Phase Frictional Pressure Drop in Microscale Channels |
| **9.** | International Conference on Advances in Engineering and Technology | (ICAET2013) May 15-17, 2013 | Lonavala, Pune, India | Isothermal Air-Water Two-Phase Flow through Vertical Minichannel |
| **10.** | 39th National Conference on Fluid Mechanics and Fluid Power | (NCFMFP2012) December 13-15, 2012 | S. V. National Institute of Technology, Surat | Numerical Simulation of Taylor Flow in Inverted Y-Junction Minichannel |
| **11.** | ASME 2011 9th International Conference on Nanochannels, Microchannels, and Minichannels | (ICNMM2011) June 19–22, 2011 | Edmonton, Alberta, Canada | CFD Analysis on Taylor Slug Flow Through 3D Vertical Mini-Channel |
| **12.** | 37th National and 4th International conference on Fluid Mechanics and Fluid Power TF-06, ISBN: 978-81-910571-1-9 | (FMFP2010) December 16-18, 2010 | Indian Institute of Technology, Madras, Chennai, | CFD Analysis Of The Taylor Slug Flow In A Microchannel Under Microgravity Condition Using VOF Method |
| **13.** | 37th National and 4th International conference on Fluid Mechanics and Fluid Power TF-06, ISBN: 978-81-910571-1-9 | (FMFP2010) December 16-18, 2010 | Indian Institute of Technology, Madras, Chennai, | A Numerical Investigation on Premixed Micro-combustion of $CH_4$-Air Mixture |
| **14. .** | The 11th Asian International Conference on Fluid Machinery and The 3rd Fluid Power Technology Exhibition | November 21-23, 2011 | Indian Institute of Technology, Madras, Chennai, | Numerical Simulation Of Taylor Slug Flow In Horizontal Mini-Channel |
| **15.** | 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference | 4-6 January, 2010 | Indian Institute of Technology (IIT), Bombay | Investigation of Bulk Radiation on Natural Convection and Heat Transfer in a Partially Heated Side wall |
| **16.** | 20th National and | 4-6 January, | Indian | Power, efficiency, |

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|---|---|---|---|---|
| | 9th International ISHMT-ASME Heat and Mass Transfer Conference | 2010 | Institute of Technology (IIT), Bombay | entropy generation rate and ecological optimization of an irreversible Otto cycle |
| **17.** | 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference | 4-6 January, 2010 | Indian Institute of Technology (IIT), Bombay | Analysis of the Irreversible Reciprocating Heat Engines using Finite Time Thermodynamics |
| **18.** | International Conference on Advances in Mechanical Engineering | (ICAME-2009) 3-5 August, 2009 | SVNIT, Surat, Gujarat | Effect of Heat Transfer on the Performance of an Air-Standard Diesel Cycle |
| **19.** | International Conference on Mechanical Engineering | (ICME-2009) 1-3 July, 2009 | IAENG Conferences – WCE 2009, London, U. K. | Performance Analysis of an Irreversible Otto Cycle using Finite Time Thermodynamics |
| **20.** | International Conference on Advances in Mechanical Engineering | (ICAME-2008) 15-17 December, 2008 | SVNIT, Surat, Gujarat | Transient Conduction and Radiation Heat Transfer Analysis in Participating Media using Discrete Ordinates Method |
| **21.** | International Conference on Emerging Trends in Engineering & Technology | (ICETET-2008) 16-18 July, 2008 | G.S.Raisoni College of Engineering and Technology, Nagpur, M.S. | Investigation of Boundary Conditions on the Conduction Radiation Heat Transfer Analysis in Participating Media |
| **22.** | IISc Centenary International Conference on Advances in Mechanical Engineering | (IC-ICAME-2008) 2-4 July, 2008 | Indian Institute of Science (IISc), Bangalore | Numerical Simulation of Conduction-Radiation Heat Transfer Analysis in Participating Media with Linearly Heated Walls |
| **23.** | International Conference on Aerospace Science and Technology | (INCAST) 26-28 June, 2008 | National Aerospace Laboratories (CSIR), Bangalore | Effect of Temperature Dependant Thermal Conductivity on 2-D Transient Coupled Conduction-Radiation Heat Transfer using Non-uniform Heating |
| **24.** | International Conference on Emerging Technologies and | (ICETAETS-2008) 13-14 January, 2008 | Saurastra University, Rajkot, Gujarat | Coupled Conduction-Radiation Heat Transfer Analysis in Participating Media |

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|---|---|---|---|---|
| | Applications in Engineering, Technology and Science | | | using Discrete Ordinates Method |

**National Conferences: 14**

| Sr. No. | Name of Conference | Month/Year | Venue | Title |
|---|---|---|---|---|
| **1.** | Advances in Mechanical Engineering (AIME-2004) | 23rd and 24th April 2004 | JDIET, Yavatmal, Maharashtra | Development of Software for the Thermal Analysis of Aqua-ammonia Absorption Refrigeration System |
| **2.** | Recent Trends in Mechanical Engineering (RTIME-2004) | 23rd and 24th July 2004 | SRESCOE, Kopargaon | Software to Carry out Parametric Study of the Aqua-ammonia Absorption Refrigeration System |
| **3.** | Recent Trends in Mechanical Engineering (RTIME-2004) | 23rd and 24th July 2004 | SRESCOE, Kopargaon | Comparison of Methods for Predictions of Shell side Heat Transfer Co-efficient of Shell and Tube Heat Exchanger |
| **4.** | Recent Trends in Mechanical Engineering (RTIME-2004) | 23rd and 24th July 2004 | SRESCOE, Kopargaon | Design of Stiffener Plate for Radial Nozzle on Hemispherical Head of Pressure Vessel Using FEM |
| **5.** | Recent Trends in Mechanical Engineering (RTME-2006) | 17th and 18th November 2006 | SJCE, Mysore | Comparative Parametric Study of Horizontal and Tilted Evacuated Tubular Solar Collector |
| **6.** | Recent Trends in Mechanical Engineering (RTME-2006) | 17th and 18th November 2006 | SJCE, Mysore | Development of Software for the Thermal Analysis of Single Effect $LiBr_2$-$H_2O$ Vapour Absorption Refrigeration System |
| **7.** | Indian Institute of Chemical Engineers (CHEMCON-2006) | 27-30 December 2006 | Ankleshwar, GNFC, Gujarat | Analysis of Coupled Conductive-Radiative Heat Transfer in Presence of plane parallel Participating |

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|---|---|---|---|---|
| | | | | Media |
| **8.** | Emerging Trends in Mechanical Engineering (ETME-2007) | | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | Computer aided design of solar chimney to generate electricity employing a convergent nozzle |
| **9.** | Emerging Trends in Mechanical Engineering (ETME-2007) | | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | Discrete ordinates solution of radiative transport equation in absorbing, emitting, and scattering participating media |
| **10.** | National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016) | 27-28 May, 2016 | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | Optimization of Liquid Cooled Minichannel Heat Sink |
| **11.** | National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016) | 27-28 May, 2016 | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | Start-up Mechanism of Pulsating Heat Pipe |
| **12.** | National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016) | 27-28 May, 2016 | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | Influence of Imposed pulsation on Axial Back Conduction for Laminar Flow through a circular Minichannel |
| **13.** | National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016) | 27-28 May, 2016 | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | CFD Analysis of 2D Blade Profile of an Axial Flow Compressor using Axstream Software |
| **14.** | National Conference on Thermal Fluid Science and Tribology Applications (TFSTA-2016) | 27-28 May, 2016 | S. V. National Institute of Technology (SVNIT), Surat, Gujarat. | Experimental Investigations on Start-up behavior of CLPHP |

**11.** **Detail of patents.** : Nil

**12.** **Details of Sponsored Research Projects** : 01

1. The research being carried out on ***Closed Loop Pulsating Heat Pipe*** is sponsored under Institute Research Grants, SVNIT, Surat vide office order no. 01

Dean(R&C)/1503/2013-14. The research project amount is Rs. 10 Lakh.

**12. Books/Reports/Chapters etc.** : 02

1. Editor of the "Proceedings of the First National Conference on Thermal Fluid Science and Tribology Applications" S.V. National Institute of Technology, Surat, 27-28 May 2016 (ISBN: 978-93-5265-440-6).
2. Book of abstracts for 39th National Conference on "Fluid Mechanics and Fluid Power", S.V. National Institute of Technology, Surat, 13-15 December 2012.

**13. Country visited (Outside World Interaction)** : 07

USA (Chicago), UK (London), Canada (Edmonton), France (Paris), Switzerland (Zurich), Italy, South Africa (Johannesburg)

**14. Any other Information**

1. ***Ph.D. Guided***: 02 Full time Institute Research Scholar (on-going)
2. ***M.Tech. Guided:*** 30 +04 (on-going)
3. ***Conference, Workshop and STTP organized/attended:*** 03/14
4. ***Expert Lectures Delivered:*** 15
5. Involved in various administrative duties such as hostel warden and member secretary in hostel section for 06 years. Presently acts as lab in charges for Advanced Fluid Dynamics and Turbomachinary labs.
6. Departmental coordinators for consultancy, testing, research projects and patents
7. Departmental coordinator for expert and visiting lectures to be organized.

**Dr. Hemantkumar B. Mehta**