Ankit Verma

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EDUCATION

Indian Institute of Technology Kanpur
2012 – 2014 Master of Technology in *Fluid and Thermal Sciences* (Mechanical Engineering) GPA: **8.75/10.00**

Birla Institute of Technology and Science Pilani, Pilani Campus
2008 – 2012 Bachelor of Engineering in *Mechanical Engineering* GPA: **7.59/10.00**

Class XII
2008 Central Board of Secondary Examination % marks: **87.20 %**

Class X
2006 Council for the Indian School Certificate Examinations % marks: **92.20 %**

RESEARCH EXPERIENCE

Project Associate
July 2014 – July 2015.
OpenFOAM® Simulations of Phase Change Material Melting Process in a Heated Enclosure
Principal Investigator: Dr. Malay Kumar Das & Dr. Sameer Khandekar (IIT Kanpur)
Duties: Validation of experimental results obtained using simulation of melting process on OpenFOAM®

Master's Thesis
OpenFOAM® simulations of Rising Hydrogen Bubble in Water Splitting Reactor
Supervisor: Dr. Malay Kumar Das (IIT Kanpur)
Keywords: Surface tension, Volume of Fluid, Surface Compression, Rising Bubble Benchmark

Publications
1. (Under Review) Saraswat A., Verma, A., Khandekar S., Das, M.K., 2015, *Latent Heat Thermal Energy Storage in a Heated Semi-Cylindrical Cavity: Numerical Analysis and Comparison with Experiments*, 23rd National & 1st International ISHMT-ASTFE Heat and Mass Transfer Conference
2. (In progress) Verma, A., Babu R., Das, M.K., 2015, *Thermodynamic Analysis of Photo-electrochemical Hydrogen Production System*
3. (In progress) Mistry, A., Verma, A., Das, M., 2015, *Finite Reaction Space Model for PEM Fuel Cell Cathode Assembly*
4. (In progress) Verma, A., Babu R., Das, M. K., 2015, *Three Dimensional Numerical Simulation of a Bubble rising in a Viscous Liquid*
5. Verma, A., Babu R., Das, M. K., 2014, *Modeling of a Single Bubble Rising in a Water Column*, Proceedings of 5th International and 41st National Conference on Fluid Mechanics and Fluid Power, December 2014
6. Mistry, A., Verma, A., Das, M. K., 2013, *Modeling of Polymer Electrolyte Membrane (PEM) Fuel Cell Cathode with Agglomerate Catalyst Layer*, Proceedings of Fortieth National Conference on Fluid Mechanics and Fluid Power, December 2013

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Poster Presentations

1. Verma, A., Babu, R., Das, M.K., March, 21st, 2014, *Hydrogen Bubble Dynamics and Generation by Photo-electrochemical Splitting of Water*, Departmental Poster Presentation, IIT Kanpur

Term Papers

1. *Object Detection by Ultrasonic Sonar Scanner using LabVIEW*
   Guide: Dr. Kamal Poddar (IIT Kanpur)
   Keywords: Servo Motor, Ultrasonic Sensor, LabVIEW, DAQ board
2. *Performance of PEM Fuel Cell Cathode*
   Guide: Dr. Malay Das (IIT Kanpur)
   Keywords: Polymer Electrolyte Membrane fuel cell cathode, Gas diffusion layer, Catalyst layer, Agglomerate model, Distributed cell reaction, One-dimensional, Two-phase, Multicomponent, Non-isothermal, Finite Volume Method
3. *Calculations of Plane Turbulent Couette type flow using modified k- ε Model*
   Guide: Dr. Arun Kumar Saha (IIT Kanpur)
   Keywords: Couette Flow, *k*- ε Model, Turbulent Kinetic Energy

TEACHING EXPERIENCE

Teaching Assistantships

1. Spring 2014: *Fluid Mechanics* (ME 231) class strength – 115
2. Fall 2013: *Energy Systems II* (ME 401) class strength – 105

MISCELLANEOUS

Relevant Courses

Computational Fluid Dynamics, Flow and Heat Transfer in Porous Media, Heat Transfer, Turbulence, Virtual Instrumentation
Coursera Courses:

1. Learn to Program: The Fundamentals, University of Toronto
2. High Performance Scientific Computing, University of Washington

Programming Expertise

OpenFOAM, C/C++, Fortran 90/95, python, MATLAB, LabVIEW, LaTeX

Language Proficiency

1. English (fluent) **GRE**: 322/340, Analytical Writing: 4.5/6
   TOEFL: 108/120
2. Hindi (native)

Hobbies

Programming, Lawn Tennis

Extra-curricular Activities:

Anchoring events in technical festivals
e.g., anchored a two days conference *IITK Student Research Convention 2014* for undergraduate and graduate students of IIT Kanpur on Aug, 9th-10th, 2014