Curriculum Vitae

Personal Details

Name: Abhinav Bhanawat
Gender: Male
Nationality: Indian
Date of Birth: 7th December, 1995
Email id: abhinavbhanawat7@gmail.com
Languages: English (Fluent)
Mobile No.: +91-8604918967
Hindi (Mother Tongue)

Research Interests

Phase Change Heat Transfer, Energy Systems, Solar Energy Technologies, Surface Engineering, Nanotechnology, Thermal Management

Education

Year	Degree/Certificate	Institution	CGPA
2018-2019	Master of Technology, Mechanical Engineering	Indian Institute of Technology (IIT) Kanpur, India	9.40/10
2014-2018	Bachelor of Technology, Mechanical Engineering	Indian Institute of Technology (IIT) Kanpur, India	8.73/10

Publications

- **Bhanawat A.**, Yadav M. K., Punetha M., Khandekar S., "Effect of Surface Inclination on Filmwise Condensation Heat Transfer during Flow of Steam-Air Mixtures", ASME Journal of Thermal Science and Engineering Applications (submitted)
- Punetha M., Yadav M. K., **Bhanawat A.**, Khandekar S., "Steam Condensation Heat Transfer during Initial Blow-down Period of a Severe Nuclear Accident", ASME Journal of Nuclear Engineering and Radiation Science (submitted)
- Yadav M.K., **Bhanawat A.**, Punetha M., Khandekar S., "Condensation Heat Transfer Measurement", Book Chapter (Submitted), Drop Dynamics and Dropwise Condensation on Textured Surfaces, Springer Mechanical Engineering Series, 2019-20.

Conference Presentations

- **Bhanawat A.**, Yadav M. K., Punetha M., Khandekar S., "Effect of surface inclination on film condensation heat transfer in the presence of air", 27th International Conference on Nuclear Engineering (ASME), Japan, May 19-24, 2019

Research Experience

MASTER'S THESIS *(Supervisor: Dr. Sameer Khandekar, Phase Change Thermal Systems Laboratory, IIT Kanpur)*

- **Effect of surface inclination on steam condensation heat transfer in the presence of air** *(May'18 – May'19)*
  Experimentally investigated the heat transfer during steam condensation process (filmwise and dropwise modes), in the presence of air, on a test surface inclined at various inclination angles from the vertical
- **Steam condensation studies in the presence of Non-Condensable Gases (NCG) for nuclear containment cooling** *(May'18 – Dec'18)*
  Conducted experiments to study the effect of various parameters like bulk pressure, air mass fraction, wall subcooling etc. on heat transfer during steam condensation process, in the presence of non-condensable gases, with applications in nuclear containment cooling

B. TECH (UNDERGRADUATE) PROJECT *(Supervisor: Dr. P. S. Ghoshdastidar, IIT Kanpur)*

- **Sugarcane/ sweet-sorghum syrup making machine** *(Group of three)* *(Aug'17 – Apr'18)*
  Developed a thermal-based machine for value addition to farm produce by converting sugarcane juice into its syrup, using waste sugarcane bagasse as fuel. Also, designed and fabricated a shell and tube heat exchanger to quickly cool the syrup for better taste

ACADEMIC PROJECT

- **Design and simulation of duct network of central air conditioning system for student hostel** *(Group of three)* *(Jan'17 – Apr'17)*
  Designed an appropriate duct network for chilled water type central air conditioning system taking into account variable demand during the day and the contribution of heat generation and solar irradiation to the cooling loads

RURAL RESEARCH AND DEVELOPMENT

- **Solar water purifier** *(Nimbkar Agricultural Research Institute, Phaltan, India)* *(May'17 – Jun'17)*
  Studied the thermal aspect of solar-based water purifier and documented its detailed part drawings and assembly details
- **Increasing the post-harvest storage time of tomatoes** *(Rural Tech Action Group, IIT Kanpur, India)* *(Sep'15 – Nov'15)*
  Identified the main parameters affecting decay of tomatoes i.e. temperature and moisture, and exploited the thermal energy storage properties of soil to build a dedicated low-cost underground storage facility for village farmers

Awards, Scholarships and Achievements

- '**Best Poster Award**' at the 27th International Conference on Nuclear Engineering (ASME), held in Tsukuba, Japan
- One of the 15 students from Asia awarded with **travel and stay funding** at the 27th International Conference on Nuclear Engineering
- '**Academic Excellence Award**' (**twice**) for outstanding academic performance at IIT Kanpur
- **MHRD Fellowship** for pursuing Master's studies at IIT Kanpur

Skills

- **Programming:** C, FORTRAN, MATLAB, HTML, LABVIEW
- **Graphics Editing:** ImageJ, Adobe Photoshop, Adobe Premiere Pro
- **Multi-physics/CAD:** ANSYS Fluent, Autodesk Inventor, AutoCAD

Test Scores

GRE : Total – 326/340
Verbal -156/170, Quantitative -170/170, Analytical Writing – 4.0/6.0
TOEFL : Total – 114/120
Reading – 30/30, Listening – 30/30, Writing – 29/30, Speaking – 25/30