



RIBHU BHATIA

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About me:

I am an enthusiastic and a pliable researcher. I am looking for a PhD that will test my knowledge, help me to expand my horizons and develop pragmatic skills.

● WORK EXPERIENCE

2021 – 2022 – TURIN

MASTER THESIS STUDENT – POLITECNICO DI TORINO

Title- Evaluating the effect of wettability of the evaporation rate of a sessile droplet.

Summary- Systematic molecular dynamics simulations in a pseudo 3D system containing Lennard-Jones particles were performed. **Equilibrium contact angles** were evaluated for several cases followed by **evaporation rates** of nanodroplet on heated substrates. During the whole evaporation process, neither the constant-angle or the constant-radius model was found to be applicable. The contact angle and the contact radius were observed to decrease on both hydrophilic and hydrophobic substrates, throughout the evaporation process.

2019 – 2020 – TURIN

RESEARCH INTERN – POLITECNICO DI TORINO

Analyzed the **electromagnetic shielding effectiveness of a composite material**, as a part of SMARTFAN European project. Simulations were performed using COMSOL MULTIPHYSICS to understand the effect of parameters viz. conductivity, thickness, frequency etc. on shielding effectiveness of a composite material.

2019 – 2020 – MILAN

RESEARCH INTERN – FONDAZIONE ENI ENRICO MATTEI

Conducted a Value Chain Analysis of agricultural crops (Tomato and Cashew) for Okuafo Pa project which is a pilot initiative of ENI's Africa Program.

06/2016 – 08/2016 – BANGALORE

IN-PLANT TRAINEE – AGNI AEROSPACE

Hands on experience on critical systems of Zenith air CH 701 and 601

06/2015 – 09/2015 – HOSUR

STUDENT TRAINEE – E2-KONCEPT SOFTWARE SOLUTIONS

Designed a Horizontal Stabilizer using CATIA V-5 for a project from Hindustan Aeronautics Limited (HAL).

LANGUAGE SKILLS

Mother tongue(s): **HINDI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
PUNAJBI	B2	A2	A1	A2	A1
ENGLISH	C2	C2	C2	C2	C2
ITALIAN	A1	A1	A1	A1	A1
GERMAN	A1	A1	A1	A1	A1
MARATHI	C1	C1	B2	B2	C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

My Digital Skills

Microsoft Word | Microsoft Excel | Microsoft Powerpoint | Microsoft Office

DESIGN AND ANALYSIS

AutoDESK AutoCAD (Optimal Knowledge) | ANSYS WORKBENCH , ANSYS FLUENT | OVITO | Moltempl ate | Comsol Multiphysics | Catia V5 (Professional Proficiency) | Classical Molecular Dynamics | VM D | AmberTools | Atomistic simulations using Large-scale AtomicMolecular Massively Parallel Simulator (LAMMPS)

PROGRAMMING

MATLAB: intermediate | Fortran | Python

PUBLICATIONS

EXPERIMENTAL INVESTIGATION OF ENCLOSURE PHENOMENON IN VARYING FLOW FORCED CONVECTION

<https://doi.org/10.1115/GTINDIA2019-2656>

2019

Systematic experimentation was carried out on forced convection heat transfer apparatus under varying non-linear flow conditions to understand the energy transfer as heat, with the purpose of enhancing performance of numerous engineering applications.

CONVONICS: ACOUSTIC FILED ASSISTED CONFINED NATURAL CONVECTION

2019

Proceeding of 14th International Conference of Heat Transfer, Fluid Mechanics and Thermodynamics 2019.

EXPERIMENTAL INVESTIGATION OF PERFORATED ENCLOSURES IN CONFINED NATURAL CONVECTION

<https://doi.org/10.1115/GTINDIA2017-4580>
2017

Work was an attempt to pact optimization of perforated enclosures for internal natural convection heat transfer. Heat dissipation effect is experimented over a flat plate and implications are understood with variation in convective heat transfer coefficient. Controlling parameters viz., plate orientation, perforation shape and size, enclosures in diverse configurations were varied systematically aiming enhanced heat transfer

FLEXIBLE LANDING SYSTEM FOR EXPLORATION OF ROCKY CELESTIAL BODIES

2017

Through proper design and analysis, the requirements and effectiveness of flexible landing systems for space crafts were explored. Impact stresses developed at the time of landing were analysed for different types of system configurations to determine their applicability and extent of variability. The role of controlling parameters viz. the shape and size of the components, weight of the space craft, materials suitable for building the system etc. under different environmental conditions were probed and optimized for a wide range of terrains.

ENCLOSURE PHENOMENON IN CONFINED NATURAL CONVECTION

2016

Through proper experimentation, the role of an external enclosure on confined natural convective heat transfer on a square flat plate is explored. The effect and the extent of effect of different external enclosure on heat transfer rates is investigated.

PROJECTS

03/06/2017 – 15/09/2017

DESIGNED A CONCEPT TILT ROTOR AIRCRAFT FOR AIRCRFAT DESIGN PROJECT COURSE AT SRMIST

19/12/2016 – 20/04/2017

DESIGNED AND FABRICATED A TUBE STORED FOLADABLE WING AIRCRAFT FOR AIAA DESIGN BUILD AND FLY COMPETTITON

06/07/2015 – 07/12/2015

DESIGNED AND FABRICATED A WEATHER MONITORING NON-AUTONOMOUS QUAD COPTER WITH A TEAM STUDENT COPTER RESEARCH ORGANIZATION

EDUCATION

18/09/2018 – 22/07/2022

MASTER OF SCIENCE IN ENERGY ENGINEERING(POWER PRODUCTION), AT POLITECNICO DI MILANO (GRADUATION DATE - 22/07/2022)

10/06/2014 – 10/03/2018

BACHELOR OF TECHNOLOGY IN AEROSPACE ENGINEERING, AT SRM INSTITUE OF SCIENCE AND TECHNOLOGY
