

# PUJA RANI PAUL

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## ACADEMIC CREDENTIALS

**Bangladesh University of Engineering and Technology (BUET), Dhaka** **Apr 2019 - Jun 2024**  
Bachelor of Science in Mechanical Engineering  
Cumulative GPA : 3.87/4.00 | Top 10% of the Department

**Holy Cross College, Dhaka** **Jul 2016 - Jul 2018**  
Higher Secondary School Certificate (HSC)  
GPA : 5.00/5.00 | Obtained Marks: 88.5% | Major: Science  
Board scholarship in General category

**Savar Girls' High School, Savar, Dhaka** **Jan 2014 - Jun 2016**  
Secondary School Certificate (SSC)  
GPA : 5.00/5.00 | Major: Science  
Board scholarship in Talentpool category

## RESEARCH INTERESTS

- Advanced Materials
- Manufacturing
- Molecular Dynamics
- Thermal Engineering

## RESEARCH EXPERIENCES

**Undergraduate Thesis** \*\*abstract submitted to a conference  
**Topic:** Analysis of Effective Heat and Sound Insulation Properties of Locally Available Jute Stick Board  
**Supervisor:** Dr. Anup Saha, Assistant Professor, Dept. of Mechanical Engineering, BUET  
Software utilized: Ansys FLUENT, Tecplot 360, MS Office Suite

**Journal Paper**  
**Title:** Molecular Dynamics Simulation of Alloying Characteristics of Al-Mg Nanoparticles: Effect of thermal process parameter  
[DOI: <https://doi.org/10.1080/08927022.2024.2381583>]  
Authors: Partho Kundu, **Puja Rani Paul**, Apurba Sarker, Mohammad Nasim Hasan  
Software utilized: LAMMPS, MATLAB, Tecplot, Ovito, AtomsK

**Journal Paper** \*\*under preparation  
**Title:** Thermal Management of Outer Shell of Coaxial Cylinder Containing a Constant Flux Heat Source Using P, PI and PID Controllers  
Supervisor: Dr. Sumon Saha, Professor, Dept. of Mechanical Engineering (BUET)  
Software utilized: COMSOL

## PROJECTS

**Spiral Plate Cross Flow Heat Exchanger - a prototype for automobile radiator** **Mar 2023**

- Design and manufacturing of a spiral plate heat exchanger
- Numerical simulation of the design using Ansys

**Med\_Pro : A Medicine Delivery Drone** **Oct 2022**

- Design and manufacturing of a complete drone with real-time video and GPS transmission system

TECHNICAL SKILLS

- LAMMPS
  - SOLIDWORKS
  - COMSOL
- OVITO
  - AutoCAD
  - Ansys FLUENT
- MATLAB
  - Python
  - Adobe Illustrator

WORK EXPERIENCE

Intern, British American Tobacco Bangladesh (BATB)

Nov 2023 - Dec 2023

AWARDS & ACHIEVEMENTS

- The “RISE Student Research Grant 2023, BUET” worth of BDT 55,830
- “Dean’s Award” throughout 4 levels in the department of Mechanical Engineering
- 3rd position in the “Best Term Paper Award” under the course of ME 461: Control Engineering
- Accomplished competitor in “University Physics Competition 2022”
- 2nd Position in the “BAS Divisional Science Olympiad”
- General scholarship in Higher Secondary School Certificate (HSC)
- Talent Pool scholarship in Secondary School Certificate (SSC)

AFFILIATIONS

- **Technical Executive**, ImechE BUET (2021- 2024)
  - **Logistics Executive**, BUET Automobile Club (2020 – 2023)
  - **Association Representative**, Mechanical Engineering Association (MEA), BUET
  - **Core Organizer**, Mechanical Festival 2024, BUET
  - **Executive Member**, BUET Brain Teaser Club
  - **Active Member**, BUET Drama Society
- 2021 - 2024

2020 - 2023

2019 - 2024

2024

2022 - 2024

2019 - 2024

REFERENCES

Dr. Mohammad Nasim Hasan

Professor, Department of Mechanical Engineering, BUET  
Email: nasim@me.buet.ac.bd

Dr. Anup saha

Assistant Professor, Department of Mechanical Engineering, BUET  
Email: anup106@me.buet.ac.bd