



BHARAT BHUSHAN SHARMA

Post-Doctoral Fellow

Chemical Engineering

Indian Institute of Science, Bangalore



SHORT BIO

I was born in a small village Thora from where I completed my schooling. After completing my B.Tech. in mechanical engineering, I obtained my master's from MNNIT Allahabad and doctorate from IIT Roorkee. In my doctorate, one of our research articles published in PCCP was selected as a 2020 HOT PCCP article.

My research interests are focused on computational techniques to characterize organic and inorganic 2D nanosheets for various engineering applications, such as water desalination, ion separation, biomedical, space structures, etc.

CURRENT RESEARCH

- Developing atomistic models to investigate the water desalination performance of nanomembranes.

- Mechanical characterization of nanocomposites using molecular dynamics simulations.

CONTACT

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EDUCATION

PhD, Mechanical Engineering
Indian Institute of Technology, Roorkee

28/12/2017 – 17/02/2021

Thesis title: Atomistic models to study mechanical and fracture behaviour of dry and water submerged h-BN nanosheets

Thesis Advisor: Prof. Avinash Parashar

M. Tech, Applied Mechanics

Motilal Nehru National Institute of Technology Allahabad, Prayagraj

16/08/2011 – 30/06/2013

B. Tech, Mechanical Engineering

UPTU Lucknow

20/07/2006 – 28/06/2010

WORK EXPERIENCE AND FELLOWSHIPS

National Institute of Technology, Uttarakhand [Teaching Associate]

16/01/2017–17/05/2017

Teaching undergraduate & graduate level courses

SELECTED PUBLICATIONS

Bharat Bhushan Sharma and Avinash Parashar, Inter-granular fracture behaviour in bicrystalline boron nitride nanosheets using atomistic and continuum mechanics-based approaches, *J Mater Sci*, 56, 6235-6250, (2021)

Bharat Bhushan Sharma and Avinash Parashar, Mechanical strength of a nanoporous bicrystalline h-BN nanomembrane in a water submerged state, *Phys. Chem. Chem. Phys.*, 22, 20453-2065, (2020)

Bharat Bhushan Sharma and Avinash Parashar, Atomistic simulations to study the effect of grain boundaries and hydrogen functionalisation on the fracture toughness of bi-crystalline h-BN nanosheets, *Phys. Chem. Chem. Phys.*, 21, 13116-13125, (2019)