



# Dr. Brij Mohan

## Assistant Professor (Physics)

### My Contact

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### Teaching Experience

- Teaching physics courses of UG level in Govt. Colleges of Himachal Pradesh since March 2017

### Exams Qualified

- Gate
- NET

### Education Background

- Doctorate in Physics**  
Himachal Pradesh University, Shimla  
Completed in 2015
- Masters in Physics**  
Himachal Pradesh University, Shimla  
Completed in 2007
- Bachelor of Science**  
Rajiv Gandhi Govt. College Shimla  
Completed in 2005

### Research Interests

#### Broad Area of Research

Condensed Matter Physics

#### Specific Area of Research

Computational Materials Science with specific focus on low-dimensional nanostructures.

### Research Profile

#### Scopus Profile

<https://www.scopus.com/authid/detail.uri?authorId=57197336475>

#### Goggle Scholar

<https://scholar.google.co.in/citations?user=BDtdXOAAAAJ&hl=en>

#### Research Gate

<https://www.researchgate.net/profile/Brij-Mohan-6>

### Research Publications

#### In International Journals

- Brij Mohan**, Ashok Kumar and P.K. Ahluwalia, *A First Principle Study of Interband Transitions and Electron Energy Loss in Mono and Bilayer Graphene: Effect of External Electric Field*, *Physica E*, **44** (2012) 1670.
- Brij Mohan**, Ashok Kumar and P.K. Ahluwalia, *A First Principle Calculation of Electronic and Dielectric Properties of Electrically Gated Low-Buckled Mono and Bilayer Silicene*, *Physica E* **53** (2013) 233.
- Brij Mohan**, Ashok Kumar and P.K. Ahluwalia, *Electronic and Optical Properties of Silicene Under Uni-axial and Bi-axial Mechanical Strain: A First Principle Study*, *Physica E* **61** (2014) 40.
- Brij Mohan**, Ashok Kumar and P.K. Ahluwalia, *Electronic & Dielectric Properties of Silicene Functionalized with Monomers, Dimers and Trimers of B, C & N atoms*, *RSC Advances* **4** (2014) 31700. =
- Rajesh Thakur, P.K. Ahluwalia, Ashok Kumar, **Brij Mohan** and Raman Sharma, *Electronic Structure and carrier mobilities of twisted Graphene Helix*, *Physica E* **124** (2020) 114280.

## Research Publications

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### In Conference Proceedings

1. Sushila Devi, Munish Sharma, **Brij Mohan**, P.K. Ahluwalia, and Shyam Chand, First principle study of electronic and optical properties of functionalized Stanene quantum dot, AIP Conf. Proc. 2265 (2020) 030372.
2. Sushila Devi, **Brij Mohan**, Munish Sharma, P.K. Ahluwalia and Shyam Chand, Tuning of structural and electronic properties of functionalized germanene quantum dot, AIP Conf. Proc. 2115 (2019) 030170.
3. **Brij Mohan**, Susheela, Shyam Chand and P.K. Ahluwalia, A first principle study of electronic and optical properties of H, F and Cl passivated triangular silicene nano-flakes, AIP Conf. Proc. 1942 (2018) 090044.
4. Sushila Devi, Munish Sharma, **Brij Mohan** and P K Ahluwalia, Influence of edge passivation on electronic properties of triangular germanene nano flake, AIP Conf. Proc. 1953 (2018) 030196-(1-5).
5. Rajesh Thakur, **Brij Mohan**, Munish Sharma, and Raman Sharma, Electronic properties of black phosphorene via Si induced quantum dot, AIP Conf. Proc. 1832 (2017) 050134.
6. **Brij Mohan**, Rajesh Thakur and P. K. Ahluwalia, Electronic Energy Loss Spectra from Monolayer to Few Layers of Phosphorene, AIP Conf. Proc. 1731 (2016) 050026.
7. **Brij Mohan**, Munish Sharma, Ashok Kumar and P.K. Ahluwalia, Electronic and Dielectric Properties of Vacancy Clusters as Quantum Dot in Silicene, AIP Conf. Proc. 1665 (2015) 090041-090043.
8. **Brij Mohan**, Pooja, Ashok Kumar and P.K. Ahluwalia, Shape and Edge Dependent Electronic and Magnetic Properties of Silicene Nano-flakes, AIP Conf. Proc. 1665 (2015) 140054-140056.
9. **Brij Mohan**, Ashok Kumar, and P. K. Ahluwalia, Structural and Electronic Properties of Free Standing One-sided and Two-sided Hydrogenated Silicene, AIP Conf. Proc. 1591 (2014) 1714-1716.
10. **Brij Mohan**, Ashok Kumar, and P. K. Ahluwalia, Electronic structure and electron energy loss spectra of armchair and zigzag edged buckled silicene nano-ribbons, AIP Conf. Proc. 1512, (2013) 378-379.
11. Ashok Kumar, **Brij Mohan**, Arun Kumar, and P. K. Ahluwalia, Mechanically strained tuning of the electronic and dielectric properties of monolayer honeycomb structure of tungsten disulphide (WS<sub>2</sub>), AIP Conf. Proc. 1512 (2013) 1242.
12. Ashok Kumar, **Brij Mohan** and P.K. Ahluwalia, Ab-initio Study of Homo and Hetero Platinum Dimension Ge(001)-(2x1) Surface, AIP Conf. Proc. 1393 (2011) 195.

## School/Workshops/FIP/Refresher Attended

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1. Two-Week Refresher course in "PHYSICS" from 30th March – 12th April, 2024 organized by TLC Ramanujan College, University of Delhi.
2. Professional Development Programme on "Implementation of NEP-2020 for University and College Teachers" held from 12-20 June, 2023 organized by IGNOU.
3. Refresher course "Managing Online Classes & Co-creating MOOCs 24.0", March 11- March 25, 2023, Teaching Learning Centre, Ramanujan College, University of Delhi.
4. "Faculty Induction Programme" July 19- August 17, 2021, Teaching Learning Centre, Ramanujan College, University of Delhi.
5. "Induction Training Programme" May 15-May 27, 2017, SCERT Solan (HP).
6. "ICTP Materials Simulations Theory And Numerics Summer School", June 30 - July 12, 2014, Indian Institute of Science Education and Research, Pune (India).
7. "Workshop on Parallel Computing using HPC", March 2-3, 2012, Punjab University Chandigarh, Chandigarh (India).
8. "Seminar Cum Work Shop on First Principle and other Simulation Methods in Condensed Matter Physics", March 22-29, 2010, Himachal Pradesh University, Shimla (India).