Name: **Dr. Pooja Rani**

Designation: Assistant Professor

Specialization: Material Science and Nanotechnology

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Education

M.Sc. Physics (2008, Panjab University, Chandigarh),

UGC NET-JRF-2007

Ph.D. (7th Nov., 2014, Panjab University, Chandigarh)

Title of Ph. D Thesis- Stability, Structure and Electronic properties of Hetero-graphenes

Professional Experience:

Department of Physics, M.M. Modi College, Patiala, India (2nd Feb., 2016 to till date)

Department of Physics, D.A.V College, Sec-10, Chandgarh, India (15 July 2015 to 27 January 2016)

Department of Physics, D.A.V College Sec-10, Chandigarh, India(21 July, 2014 to 28 February 2015)

Department of Physics, G.G.D.S.D College Chandigarh (11 September 2013 to 28 February 2014)

Teaching Interests:

- Condensed Matter Physics
- Waves and Vibrations

Research Interest:

Material Science and Nanotechnology (Graphene and other 2-D materisls, Density Functional theory (DFT)

Publications:

Papers in refereed international journals

1. Designing band gap of graphene by B and N dopant atoms,

   Pooja Rani and V.K. Jindal RSC Advances, 802-812 (2013). Impact factor 3.8

   ISSN- 2046-2069, https://doi.org/10.1039/C2RA22664B

2. Stability and electronic properties of isomers of B/N co-doped graphene

   Pooja Rani and V.K. Jindal, Appl Nanosci., 4, 989-996 (2014).

   ISSN 2190-5509, https://doi.org/10.1007/s13204-013-0280-3

3. DFT Study of optical properties of pure and doped graphene

   Pooja Rani, Girija S. Dubey and V.K. Jindal, Physica E 62, 28–35 (2014).

   ISSN-13869477, https://doi.org/10.1016/j.physe.2014.04.010

4. Structural and electronic properties of sulphur-doped boron nitride nanotubes

Sheetal Sharma, Pooja Rani, A.S. Verma, V.K. Jindal, Solid State Commu.152, 802–805 (2012). ISSN-0038-1098, https://doi.org/10.1016/j.ssc.2012.01.038

5. Band gap modulation of B/Li doped Graphene

Pooja Rani, Rajiv Bhandari and V.K. Jindal, Adv. Sci. Lett. 21, 2826-2829 (2015)

ISSN: 1936-6612, https://doi.org/10.1166/asl.2015.6363

6. Theoretical investigation of structures and energetics of sodium adatom and its dimer on graphene: DFT study Gagandeep Kaur, Shuchi Gupta, Pooja Rani, Keya Dharamvir, PhysicaE, 74(2015)87–92.

ISSN-13869477, https://doi.org/10.1016/j.physe.2015.06.014

7. Thermodynamic properties of pure and doped (B, N) graphene

Sarita Mann, Pooja Rani, Ranjan Kumar, Girija S. Dubey and V.K. Jindal

RSC Adv., 2016, 6, 12158-12168,

ISSN- 2046-2069 https://doi.org/10.1039/C5RA25239C,

2. Articles in Books

1. Al/P Codoping in graphene

Pooja Rani and Sheetal Sharma, NANOSCITECH-2012

Emerging Paradigms in Nanoscience, 851-855, Pearson ISBN: 978-81-317-8991-9

Edits- Ranbir Chander sobti, Anupama Kaushik, Surya Kant Tripathi

2. H2S adsorption on Graphene – A Density Functional Theory Study

Pooja Rani and Sheetal Sharma, NANOSCITECH-2012

Emerging Paradigms in Nanoscience,828-832, Pearson ISBN: 978-81-317-8991-9

Edits- Ranbir Chander sobti, Anupama Kaushik, Surya Kant Tripathi

3. Papers in referred Conferences/Symposia proceedings

1. Structure and Stability of Pure and Doped Lithium Clusters (Lin and LinX, n = 2–8, X = B, Al) A DFT study Pooja Rani, Sheetal Sharma, and V. K. Jindal, ICACNM 2011, AIP Conf. Proc. 1393, 191 (2011); doi: 0.1063/1.3653674. ISSN: 0094-243X

2. Study of B and N doped graphene by varying dopant positions Pooja Rani and V. K. Jindal, 56th DAE Symposium 2012, AIP Conf. Proc. 1512, 262 (2013); doi: 10.1063/1.4791011

3. Toluene Adsorption on Na-Graphene Interface- A DFT Study

Pooja Rani and V. K. Jindal, Recent Trends in Applied Physics and Material Science (RAM 2013), AIP Conf. Proc. 1536, 389 (2013).

4. DFT Study of Defects in Graphene, Pooja Rani an Rajiv Bhandari

Proceedings of the International Conference on Advanced Nanomaterials and Emerging

Engineering Technologies (ICANMEET 2013) ISBN: 978-1-4799-1377-0

5. Adsorption of silver dimer on Graphene- A DFT study, Gagandeep Kaur, Suchi Gupta, Pooja Rani and Keya Dharmvir, AIP Conf. 1591, 339 (2014)

6. DFT Study of B, N, and BN doped graphene, MRS Proceedings, 2014. **ISSN**: 1946-4274

7. DFT study of Phonon Dispersion in Pure Graphene, AIP Conference Proceedings **1675**, 030035 (2015); doi: 10.1063/1.4929251.

Workshops and training courses

1. Attended UGC Sponsored Faculty Development Program at Multani Mal Modi College, Patiala. (9-16 January, 2017)
2. Attended UGC Sponsored Faculty Development Program at Multani Mal Modi College Patiala (20-26th July, 2018)

Achievements, Awards and Recognitions

- Awarded UGC-JRF fellowship to carry out research during Ph.D
- Awarded DST travel grant for presenting Research paper accepted in MRS Spring Meeting & Exhibit 2014 **, San Francisco,** USA.

Membership

- Indian Physics Association
- High Energy and Materials Society of India (HEMSI)