

DR. A H M ABDUL WASEY

Assistant Professor

M. Sc. (Physics), Ph.D.

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» **Overview:**

I have started my journey of life as well as my formal education from a village of Murshidabad district of West Bengal, India. After completing my schooling in Murshidabad, I enrolled at Aligarh Muslim University, Aligarh, India for my Bachelors (2004) and Masters (2009) both in Physics. In the end of 2009, I joined Indian Association for the Cultivation of Science (IACS), Kolkata, India as a Junior Research Fellow under the joint supervision of Prof. G. P. Das (Theoretician) and Prof. B. N. Dev (Experimentalist). After completing my doctoral work from IACS, in the middle of 2016 I moved to Singapore to join the group Prof. S. Y. Quek in the Center for Advanced 2D Materials of National University of Singapore (NUS), Singapore. I worked there as a Post-Doctoral Research Fellow for a year. Then I came back India in the middle of 2017 to join Triveni Devi Bhalotia College as an Assistant Professor of Physics.

» **Date of appointment to the present job:**

07/01/2017

» **Other Academic/ Administrative post:**

- Member, Internal Quality Assurance Cell, Trivenidevi Bhalotia College

» **Academic background:**

- Secondary and Higher Secondary: Chak-Islampur S. C. M. High School, Islampur, Murshidabad, West Bengal, India
- Bachelor of Science (Honours) in Physics: Aligarh Muslim University, Aligarh, India
- Master of Science in Physics : Aligarh Muslim University, Aligarh, India
- Doctorate: Indian Association for the Cultivation of Science (Awarded by University of Calcutta), Kolkata, India
- Post-Doctoral: Center for Advanced 2D Materials, National University of Singapore, Singapore

» **Information about Ph.D./ M.Phil.:**

» **Ph.D.:**

- **Date of Award:** 22nd April, 2016
- **Title of Thesis:** *Studies of Two-Dimensional Quantum Structures Using First Principles Density Functional Approach.*

» **Professional Qualifications:**

- **NET:** Joint CSIR-UGC, 2014
- **GATE:** DST, 2009

» **Publications in Journals:**

1. A. H. M. Abdul Wasey, R. Batabyal, J. C. Mahato, B. N. Dev, Y. Kawazoe and G. P. Das, First principles electronic structure of coincidence site epitaxial Ag/Si (111) interface, Phys. Status Solidi B 250, No-7, 1313 (2013).

2. R. Batabyal, A. H. M. Abdul Wasey, J. C. Mahato, Debolina Das, A. Roy, G. P. Das and B. N. Dev, Negative differential resistance in electron tunneling in ultra thin films near the two-dimensional limit, *J. Appl. Phys.* 113, 034308 (2013).
3. A. H. M. Abdul Wasey, D. Karmakar and G. P. Das, Manifestation of Long Range Ordered State in Layered VX₂ (X= Cl, Br, I) Systems, *J. Phys: Condens. Matter* 25, 476001 (2013).
4. A. H. M. Abdul Wasey, Soubhik Chakrabarty, G. P. Das and C. Majumder, h-BN monolayer on the Ni(111) surface: A potential catalyst for oxidation, *ACS Appl. Mater. Interfaces* 5(21), 10404 (2013).
5. A. H. M. Abdul Wasey, Soubhik Chakrabarty and G. P. Das, Substrate induced modulation of electronic, magnetic and chemical properties of MoSe₂ monolayer, *AIP-Adv.* 4, 047107 (2014).
6. Riya Bose#, A. H. M. Abdul Wasey#, G. P. Das and N. Pradhan, Hetero-epitaxial Junction in Au/ZnSe Nanostructure: Experiment versus First Principles Simulation, *J. Phys. Chem. Lett.* 5, 1892 (2014). (#R.B. and A.H.M.A.W. contributed equally to this work).
7. A. H. M. Abdul Wasey, Soubhik Chakrabarty and G. P. Das Quantum size effects in layered VX₂ (X=S, Se) materials: Manifestation of metal to semimetal or semiconductor transition, *J. Appl. Phys.* 117, 064313 (2015). arXiv:1408.1777 [cond-mat.mtrl-sci]
8. Soubhik Chakrabarty, A. H. M. Abdul Wasey, Ranjit Thapa and G. P. Das First Principles Design of Divacancy Defected Graphene Nanoribbon based Rectifying and NDR Device, *AIP- Adv.* 5, 087163 (2015). arXiv:1502.07465 [cond-mat.mtrl-sci]
9. R. Batabyal, A. H. M. Abdul Wasey, J. C. Mahato, Debolina Das, G. P. Das and B. N. Dev, Evolution of Fermi Level State Density in Ultrathin Films Near the Two-Dimensional Limit: Experiment and Theory, <https://arxiv.org/abs/1412.1238>.
10. A. H. M. Abdul Wasey*, G. P. Das and C. Majumder, Exploring the effect of oxygen coverage on the electronic, magnetic and chemical properties of Ni (111) supported h-BN sheet: A density functional study, *Chem. Phys. Lett.*, 676, 124 (2017).
11. Soubhik Chakrabarty, A. H. M. Abdul Wasey, Ranjit Thapa and G. P. Das, Origin of Spin-polarization in Edge Boron doped Zigzag Graphene Nanoribbon and Its Usage as Spin-filter, *Nanotechnology* 29, 345203 (2018).
12. A. H. M. Abdul Wasey and G. P. Das, Manifestation of Interface-Induced Effects of Two-Dimensional MSi₂/Si(111) Quantum Heterostructures: A First Principles Study, *Physica E* 142, 115291 (2022).
13. A. H. M. Abdul Wasey and G. P. Das, Electronic and Magnetic Properties of Vanadium Di Chalcogenides: Theory and Experiment, *J. Appl. Phys.* 131, 190701 (2022).

» **Books and Chapters:**

N. A.

» **Seminars, Conferences, Webinars and workshops attended:**

- Seminars: 02
- Conferences: 01
- Workshops: 01

- Webinar: 09

» **Life Membership:**

- Life Member of Indian Association for the Cultivation of Science
- Member of Asian Consortium on Computational Materials Science

» **Awards/ Academic Achievements:**

N. A.

» **Professional Courses:**

- **Orientation Programme/FIP/FDP:** 01
- **Refresher Course:** 01
- **Short Term Course:** 00

» **Others/ Miscellaneous:**

N. A.