Murshidabad University

FACULTY ACADEMIC PROFILE/ CV

Full name of the faculty member: Dr. Hirak Kumar Chandra

Designation: Assistant Professor

Contact information: email: hirakkumar02@gmail.com mob: 9614906824

Academic qualifications:

College/University from which the degree was obtained	Abbreviation of the degree
National Taiwan University, Taipei	Post Doctorate
Jadavpur University (SNBNCBS)	Ph.D. (Condensed Matter Physics)
Visva-Bharati	M.Sc. (Physics)
Visva-Bharati	B.Sc. (Hons.)
CSIR	NET (June, 2007)

Positions held/ holding: (i) Assistant Prof. of Physics at Heritage Institute of Technology, Kolkata (2012-2017), (ii) Assistant Professor of Physics at Krishnath College, Berhampore (2017-Till date).

Research interests: Topological insulators, Quantum Anomalous & Spin Hall Effect, Dilute Magnetic Semiconductors, Multiferroics

Research guidance: Nil

Projects: SERB sponsored project (TAR/2020/000096)
Title: Electric Field Induced Topological Phase Transition and Quantum Spin Hall Effect Study of Germanene.

Select list of publications (Only number):

a) Journals: 7
b) Books/ book chapters: Nil
c) Conference/ seminar volumes: 2

Membership of Learned Societies: Nil

Invited lectures delivered: 2

Awards: Nil

Other notable activities:

1. Served as convenor of MIS committee
2. Member of Academic and research committee
3. Served as convenor of admission committee.

List of Journal Publication/ Conference Papers: (Last ten years)

1. Defect induced local moment in ZnO as a consequence of Stoner mechanism, **Hirak Kumar Chandra** and Priya Mahadevan, **Solid State Communications** 152, 762-766(2012).
2. Ferroelectric distortions in doped ferroelectrics: $BaTiO_3$:TM (TM = V-Fe), **Hirak Kumar Chandra**, Kapil Gupta, Ashis Kr. Nandy and Priya Mahadevan, Phys. Rev. B 87, 214110 (2013).
3. Boron diffusion in MgO and emergence of magnetic ground state: A first-principles study.

   Hirak Kumar Chandra and Priya Mahadevan, Phys. Rev. B. 89, 144412(2014).

4. Quantum anomalous Hall and half-metallic phases in ferromagnetic (111) bilayers of

   4d and 5d transition metal perovskites, **Hirak Kumar Chandra** and Guang-Yu Guo, Phys. Rev B 95, 134448(2017).

5. Quantum confinement: A route to enhance the Curie temperature of Mn doped GaAs, Basudev Mondal, **Hirak Kumar Chandra**, Poonam Kumari and Priya Mahadevan, Phys. Rev. B 96, 014430 (2017).

6. Spin Hall conductivity of germanene supported by monolayer of different monochalcogenides and emergence of topologically insulating states.

   Hirak Kumar Chandra, Shahnewaz Mondal, and Bikash Chandra Gupta, Solid State Communications, Vol. 352, 114830 (2022)

7. Quantum spin Hall effect and emergence of conducting edge states in silicene supported by MX(M = Ga, In; X = S, Se, Te) monolayer. Shahnewaz Mondal, **Hirak Kumar Chandra**, and Bikash Chandra Gupta, Accepted at Modern Physics Letter B in November, 2023.