TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO **ID CODE 5951**

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Fisica**

Scientist- in – charge: **Dr. Guido Fratesi**

[Name and surname]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Chakraborty
Name	Shamik

PRESENT OCCUPATION

Appointment	Structure
PhD student	

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
PhD	Computational Materials Science	Amrita Vishwa Vidyapeetham	Awaiting Thesis Defense Presentation
Master	MTech in VLSI Design	Amrita Vishwa Vidyapeetham	2018
Bachelor	BTech in Electronics and Communication Engineering	Punjab Technical University	2016

FOREIGN LANGUAGES

Languages	level of knowledge
English	Write, read and speak.

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of Scholarship
2020	Junior Research Fellow (SERB, India)

TRAINING OR RESEARCH ACTIVITY

description of activity

2020 - Designing novel 2-D magnetic storage devices using van der Waal's Heterostructures.

1. Study of electronic properties of CrI_3 based 2-D vdw heterostructures (Graphene/CrI_3 and CrI_3/MoS_2).
2. Investigation of electronic structure of doped/defect functionalized CrI$_{3}$.
3. Examination of molecules adsorbed on CrI_3 and defect functionalized CrI$_{3}$ (FePc/CrI_3).
4. Publish research articles.
5. Configuration, establishment, and upkeep of a four-node high-performance computing (HPC) cluster utilizing the Linux operating system.

2018 - Investigation of high efficiency solar cells on low-illumination conditions} in Photonics Research Laboratory.

1. Theoretical investigation of high efficiency solar cells for a range of absorption spectra.
2. Design of novel multi-junction solar cells and quantum dot solar cells.
3. Publish research articles.

PROJECT ACTIVITY

Year	Project
2020	Designing novel 2-D magnetic storage devices using van der Waal's Heterostructures
2018	Investigation of high efficiency solar cells on low-illumination conditions

PUBLICATIONS

Articles in reviews
1. S. Chakraborty and A. Ravikumar, "Substrate induced electronic phase transitions of CrI_3 based van der Waals heterostructures", Article, Scientific Reports, Nature Publisher Group, 2021.
2. S. Chakraborty and A. Ravikumar, "Effect of Magnetic Tuning and Induced Charge Transfer Isotropy in a CrI_3-Based 2D Trilayer Heterostructure", Article, The Journal of Physical Chemistry C, American Chemical Society, 2022.
3. S. Chakraborty, G. Fratesi and A. Ravikumar, "Defect controlled spin state transitions in FePc adsorbed CrI_3" [Manuscript Prepared for Submission], 2023.

Conference proceedings
1. GS Reddy, AL Sowmya, A Pudhota, S. Chakraborty, A. Ravikumar, “Effects of Temperature Induced Phase Transition in Bulk CdS Structures”, 3rd International Conference on VLSI Systems, Architecture, Technology and Applications (VLSI SATA), IEEE, 2022.
2. KD Krishna, R Nair, TUS Sree, S. Chakraborty, A. Ravikumar, “Effective Hubbard Parametrization for Optimizing Electronic Bandgap of monolayer CrI_3", 3rd International Conference on VLSI Systems, Architecture, Technology and Applications (VLSI SATA), IEEE, 2022.
3. M.Sreelakshmi, S. Chakraborty, A. Ravikumar, K. Bhowmick, “Modified structural arrangement of InAs-based quantum dots and nanostructures for high efficiency multi-junction solar cells”, International Conference on Inventive Material Science Applications, AIP Conference Proceedings, 2019.

Poster Presentation
1. S. Chakraborty, A. Ravikumar, “Effect of magnetic tuning and charge transfer in CrI_3 based Trilayer Heterostructure”, 33rd IUPAP, Conference on Computational Physics, Austin, TX USA (virtual), 2022.
2. S. Chakraborty, A. Ravikumar, “Axial Spin-Dependent Charge Transfer in Trilayer Graphene/CrI_3/MoS_2 Heterostructure”, CECAM Workshop, Europe (virtual), 2021.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

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Please DO NOT SIGN this form.

Place and date: **Bengaluru, India**