UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO **ID CODE ___5853_____**

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 _____ PHYSICS _____**

Scientist- in – charge: **___Prof. SIMONA ACHILI, Prof. GUIDO FRATESI, Prof. GIOVANNI ONIDA _____**

[Name and surname]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	GHOSH
Name	SOUMYADEEP

PRESENT OCCUPATION

Appointment	Structure
LAWRENCE BERKELEY NATIONAL LABORATORY	POSTDOC

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree			
Specialization			
PhD	PHYSICS	HOMI BHABHA NATIONAL INSTITUTE	2022
Master	PHYSICS	UNIVERSITY OF CALCUTTA	2016
Degree of medical specialization			
Degree of European specialization			
Other			

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
ENGLISH	FLUENT (READ, SPEAK, WRITE)
HINDI	FLUENT (READ, SPEAK, WRITE)
BENGALI	FLUENT (READ, SPEAK, WRITE)

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2016	DAE DOCTORAL FELLOWSHIP
2014	DST INSPIRE SCHOLARSHIP FOR MASTERS DEGREE
2011	DST INSPIRE SCHOLARSHIP FOR BACHELOR DEGREE

TRAINING OR RESEARCH ACTIVITY

- POST-DOCTORAL RESEARCH ASSOCIATE, LAWRENCE BERKELEY NATIONAL LABORATORY (SEPT, 2022-SEPT, 2023)
- RESEARCH ASSOCIATE, RESEARCH INSTITUTE FOR SUSTAINABLE ENERGY, TCG-CREST (MAY, 2022-AUGUST, 2022)
- GRADUATE STUDENT RESEARCHER, RAJA RAMANNA CENTRE FOR ADVANCED TECHNOLOGY (AUG. 2016 – APL. 2022)

(I) THEORETICAL CONDENSED MATTER PHYSICS,

(II) DFT-BASED FIRST PRINCIPLES SIMULATION OF BULK/INTERFACES,

(III) ELECTRONIC STRUCTURE THEORY,

(IV) COMPUTATIONAL X-RAY/PUMP-PROBE SPECTROSCOPY,

(V) STUDY OF EXCITED STATE MATERIALS PROPERTIES USING GW-BSE.

PROJECT ACTIVITY

Year	Project
2022-2023	CHARGE TRANSFER DYNAMICS AT Au/TiO2 INTERFACIAL SYSTEM FOR SOLAR ENERGY HARVESTING
2022-2023	INSEARCH OF STABLE PEROVSKITE COMPOUNDS IN HUMID CONDITION FOR SOLAR CELL APPLICATION
2022	STUDY OF Na3PS4 BASED SOLID STATE ELECTROLYTES FOR ALL SOLID STATE Na-ION BATTERIES
2016-2022	STUDY OF ELECTRONI AND LOCAL STRUCTURAL PROPERTIES OF SUPERCONDUCTING COMPOUNDS

PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place
AUG-2023	JDFTx CONFERENCE	OAKLAND, USA
MAY-2023	DOE AMOS PROGRAM REVIEW POSTER SESSION	BERKELEY, USA
FEB-2023	BERKELEY-GW CONFERENCE	OAKLAND, USA
SEPT-2022	DOE LDRD PROGRAM REVIEW POSTER SESSION	BERKELEY, USA
JAN-2020	COMPUTATIONAL SCHOOL ON ELECTRONIC EXCITATIONS IN NOVEL MATERIALS USING THE YAMBO CODE.	ICTP-TRIESTE, ITALY
DEC-2019	64TH DAE SOLID STATE PHYSICS SYMPOSIUM	JODHPUR, INDIA
JAN-2019	INTERNATIONAL CONFERENCE ON ADVANCES IN NANOMATERIALS AND DEVICES FOR ENERGY AND ENVIRONMENT	GWALIOR, INDIA
JAN-2018	COMPUTATIONALLY AIDED MATERIALS DESIGNING FOR MATERIALS GENOME	INDORE, INDIA

PUBLICATIONS

Journals
Soumyadeep Ghosh and Haranath Ghosh, “As K-edge absorption at high pressures in AFeAs (A=Na/Li): first principles results”, Journal of Electron Spectroscopy and Related Phenomena 263, 147286 (2023)
Debasmita Swain, Soumyadeep Ghosh, K. Bera, Sven Friedemann, Haranath Ghosh, Anushree Roy, Sitikantha D. Das, “Possible signature of broken symmetry state near the quantum critical point in P doped BaFe2As2: A Raman spectroscopy study”, Physica C: Superconductivity and its applications 606, 1354211 (2023)
Soumyadeep Ghosh and H. Ghosh, “Core electron spectroscopic studies on new structure type iron based superconductors CaKFe4As4 and KCa2Fe4As4F2: DFT predictions”, Journal of Physics and Chemistry of Solids 160, 110310 (2022)
Soumyadeep Ghosh and Haranath Ghosh, “Excitonic effects in Fe/As K-edge absorption for iron based superconductors: a combined DFT and BSE analysis”, Advanced Theory and Simulations 5, 2100525 (2022)
C. Liu, P. Bourges, Y. Sidis, T. Xie, G. He, F. Bourdarot, S. Danilkin, H. Ghosh, Soumyadeep Ghosh, X. Ma, S. Li, Y. Li, and H. Luo, “Preferred Spin Excitations in the Bilayer Iron-Based Superconductor CaK(Fe0.96Ni0.04)4As4 with Spin-Vortex Crystal Order”, Physical Review Letters 128, 137003 (2022)
Soumyadeep Ghosh and H. Ghosh, “Pressure induced Lifshitz transition and anomalous crystal field splitting in AFeAs (A=Li/Na) Fe-based superconducting compounds: A first principles study”, Computational Materials Science 204, 111170 (2022)
A. Ghosh, Soumyadeep Ghosh and H. Ghosh, “Nematic like band splitting and crystal field splitting in newly discovered hybrid 12442 Fe based superconductors, The European Physical Journal B 94, 201 (2021)
Soumyadeep Ghosh, Ruksana Pervin, Haranath Ghosh, M. K. Tiwari, and Parasharam M. Shirage, “Near edge absorption studies of pure and impure NbSe2; Theory and Experiment”, Journal of Materials Science 56, 17062 (2021)
Soumyadeep Ghosh and Haranath Ghosh, “High pressure core electron spectroscopy in 111 Fe-based superconducting materials: A first principles study”, Computational Materials Science 192, 110316 (2021)

Soumyadeep Ghosh and Haranath Ghosh, “Sensitivity of As K-edge absorption to rare earth (RE) doping in Ca1-xRExFeAs2: A first principles study”, Journal of Physics and Chemistry of Solids 153, 109993 (2021)
A. Ghosh, Soumyadeep Ghosh and H. Ghosh, “Electron correlation induced orbital selective Lifshitz transition in new hybrid 12442 iron based supercond, Computational Materials Science 183, 109802 (2020)
Haranath Ghosh, Soumyadeep Ghosh, and Abyay Ghosh, “Doping site identification in 112 iron pnictides through a first-principles core-electron spectroscopic study”, J. Synchrotron Rad. 26, 1367 (2019)

Articles in Preparation
Soumyadeep Ghosh *et. al.*, “Project: Charge transfer dynamics through Au/TiO2 interface for solar energy harvesting”, [in preparation] (2023)
Soumyadeep Ghosh et. al. “Project: In search of water stable Perovskites”, [in preparation] (2023)

Congress proceedings
Soumyadeep Ghosh and Haranath Ghosh, “Core electron spectroscopic studies for 11 iron based superconductors”, Materials Today Proceedings 48, 644 (2022)
Soumyadeep Ghosh and Haranath Ghosh, “As-L-edge Absorption Spectra of Ca1-xRExFeAs2 Superconducting Materials: a DFT Study”, AIP Conference Proceedings 2265, 030342 (2020)

OTHER INFORMATION

I also serve as a board member of the voluntary organization Berkeley Lab Postdoc Association (#BLPA).

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.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: _____ BERKELEY _____, _____03/08/2023_____