

Allegato alla domanda di partecipazione
Curriculum formativo, didattico, scientifico e professionale del candidato

Dichiarazione sostitutiva di certificazioni

(Art. 46, D.P.R. 28 dicembre 2000 n. 445)

Dichiarazione sostitutiva dell'atto di notorietà

(da sottoscrivere davanti all'impiegato addetto o da presentare o spedire con la fotocopia di un documento di identità)

(Art. 47, D.P.R. 28 dicembre 2000 n. 445)

Estremi del bando di selezione	(D.R. n. _ 1478/2023 _ del _ 16/12/2023 _) - Codice Selezione n. _ 123A_23 ___ AREA _ 02 Titolo: Calcoli da Principi Primi di materiali topologici e 2D van der Waals
Informazioni aggiornate al	01/06/2024
Nome e Cognome	Chanchal Kumar Barman
Data di nascita	17.02.1991

Esperienza professionale

Periodo	Ente	Principali attività e responsabilità
01/03/2021- 01/11/2021	Indian Institute of Technology, Bombay, India	Post Doctoral Fellow
08/11/2021- 08/11/2023	Sungkyunkwan University, Seoul, South Korea	Post Doctoral Fellow

Istruzione, formazione (es. titoli di studio, certificazioni professionali/linguistiche/informatiche)

Data	Titolo / Principali tematiche	Ente
01/07/2009- 01/06/2012	Bachelor of Science	University of North Bengal, West Bengal, India
01/07/2012- 09/08/2014	Master of Science	Indian Institute of Technology, Bombay, India
01/12/2014- 01/04/2021	PhD in Physics	Indian Institute of Technology, Bombay, India

Pubblicazioni / Convegni

C K Barman, C Mondal, B Pathak and Aftab Alam, Quaternary Heusler alloy: An ideal platform to realize triple point fermions, Phys. Rev. B 99, 045144 (2019).
C K Barman, P Singh, D D Johnson and Aftab Alam, Revealing the nature of antiferro-quadrupolar ordering in cerium hexaborides CeB ₆ , Phys. Rev. Lett. 122, 076401 (2019)
Vikram, Bhawna Sahni, C K Barman and Aftab Alam, Accelerated discovery of new 8-electron half-Heusler compounds as promising energy and topological quantum materials, J. Phys. Chem. C 123 (12), 7074-7080 (2019).
C Mondal*, C K Barman*, Aftab Alam and B Pathak, Broken symmetry driven phase transitions from a topological semimetal to a gapped topological phase in SrAgAs, Phys. Rev. B 99, 205112 (2019). (*Equal author contribution)
C Mondal*, Chanchal K Barman*, Biswarup Pathak and Aftab Alam, Type-II Dirac states in full Heusler compounds XInPd ₂ (X = Ti, Zr and Hf), Phys. Rev. B 100, 245151 (2019).
C Mondal*, Chanchal K Barman*, Shuvam Sarkar, Sudipta Roy Barman, Aftab Alam and Biswarup Pathak, Unique Dirac and Triple point fermiology in transition metals and their binary alloys, Phys. Rev. B 101, 155108 (2020).
Vikram, Bhawna Sahni, C K Barman and Aftab Alam, Reply to "Comment on 'Accelerated Discovery of New 8Electron Half-Heusler Compounds as Promising Energy and Topological Quantum Materials'", J. Phys. Chem. C 124, 22452246 (2020).
Chanchal K Barman, C Mondal, Biswarup Pathak and Aftab Alam, Symmetry driven topological phases in XAgBi (X=Ba,Sr): An ab-initio hybrid functional calculations, Phys. Rev. Materials 4, 084201 (2020).
Chanchal K Barman, C Mondal, Sumiran Pujari, Biswarup Pathak and Aftab Alam, Symmetry protection and giant Fermi arcs from multifold fermions in binary, ternary, and quaternary compounds, Phys. Rev. B 102, 155147 (2020).

Chia-Hsiu Hsu, P. C. Sreeparvathy, Chanchal K Barman, Feng-Chuang Chuan, and Aftab Alam, Coexistence of topological nontrivial and spin-gapless semiconducting behavior in MnPO_4 : A composite quantum compound, <i>Phys. Rev. B</i> 103, 195143, (2021).
C Mondal, Chanchal K Barman, Aftab Alam and B Pathak, Intertwined non-trivial band topology and giant Rashba spin splitting, <i>Phys. Rev. B</i> 104, 085113, (2021).
Himadri Chakraborti, Bhanu P Joshi, Chanchal K Barman, Aditya K Jain, Buddhadeb Pal, Bikash C Barik, Tanmay Maiti, Rdiger Schott, Andreas D Wieck, MJNV Prasad, S Dhar, Hridis K Pal, Aftab Alam, K Das Gupta, Formation of tungsten carbide by focused ion beam process: A route to high magnetic field resilient patterned superconducting nanostructures, <i>Appl. Phys. Lett.</i> 120, 132601, (2022).
Sudip Malick, Arup Ghosh, Chanchal K Barman, Aftab Alam, Z Hossain, Prabhat Mandal, J Nayak, Weak antilocalization effect and triply degenerate state in Cu-doped CaAuAs , <i>Phys. Rev. B</i> 102, 165105, (2022).
P. C. Sreeparvathy, Chiranjit Mondal, Chanchal K Barman, Aftab Alam, Coexistence of multifold and multi-dimensional topological phonons in KMgBO_3 , <i>Phys. Rev. B</i> 106, 085102, (2022).
T. K. Dalui, B. Das, C. K. Barman et al., Unconventional electronic phase transition in SnBi_2Te_4 : Role of anomalous thermal expansion, <i>J. Phys.: Condens. Matter</i> 35, 465701, (2023).
National Conference On Quantum Condensed Matter at Indian Institute of Science Education and Research (IISER) Mohali, India, 25th - 27th July, 2018. Presented poster: Topological phase transition in ternary half-Heusler alloy ZrIrBi
Topological Aspects of Quantum Matter (TAQM 2018), 17th - 20th December, 2018, Tata Institute of Fundamental Research, Mumbai, India. Presented poster: Quaternary Heusler Alloy: An Ideal Platform to Realize Triple Point Fermion
International Workshop on Recent Developments in Electronic Structure (ES21), July 12th–15th, 2021, Flatiron Institute, Simons Foundation, New York. Presented poster: Broken symmetry driven topological semi-metal to gapped phase transitions in ternary SrAgAs

Altre attività scientifiche

2022: “Award for Excellence in Ph.D. Research” for the year 2020-22, IIT Bombay, Mumbai, India.

Ulteriori informazioni pertinenti

Experienced with first-principles calculation methods (Vienna Ab initio Simulation Package, Quantum Espresso, Wannier90, and WannierTools) to explore the electronic structure and their related properties of materials
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Khattimari on 01/06/2024

_____ Chanchal Kumar Barman _____
(Digitally signed)