***CURRICULUM VITAE***

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***Personal Profile:***

1. Name : Dr. Tushar Kumar Mohanta
2. Date of Birth : 26th Feb. 1978
3. Email : tusharmohanta2008@gmail.com
4. Phone : 8603793861(whatsApp) / 9801363348
5. Language Known : Odia, Hindi, Bengali & English

***Educational Qualifications:***

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| --- | --- | --- | --- |
| Name of the  Degree/Course | Year of  Passing | Name of the Board/  University | Subjects  Studied |
| MOOC | 2020 | IIT Kanpur | Learning Physics Through Simple Experiments |
| ARPIT | 2020 | IIT Mumbai, SWAYAM, MHRD | Introduction to Quantum Physics & its Application |
| MOOC | 2019 | IIT Kanpur | Basics of Quantum Mechanics |
| Refresher | 2018 | Academic Staff College, Ranchi University | Environmental Science & Disaster Management (Interdisciplinary) |
| Ph.D. | 2017 | Magadha University | Imbalance D-wave Super Fluidity in the BCS-BEC Crossover region at finite Temp. |
| Refresher | 2016 | Academic Staff College, Ranchi University | Physical Science |
| Refresher | 2013 | Academic Staff College, Ranchi University | Information Technology  (Interdisciplinary) |
| Refresher | 2012 | Academic Staff College, Ranchi University | Experimental Physics |
| Orientation | 2009 | Academic Staff College, Ranchi University | Interdisciplinary Subject |
| M.Ed. | 2008 | R.I.E. (NCERT),BBSR | Elementary Education |
| B.Ed. | 2007 | R.I.E. (NCERT),BBSR | Physical Sc. & Mathematics, Education. |
| CSIR/UGC (NET) | 2002 | CSIR/UGC | Physical Science |
| M. Sc. | 2000 | Utkal University | Solid State Physics  As specialization |
| B. Sc. | 1998 | Utkal University | Physics (Hons.)  Mathematics, Chemistry |
| I.Sc. | 1995 | C. H. S. E. Odisha | Physics, Chemistry, Math., Bio. |
| Matric | 1993 | B. S. E. Odisha | MIL(O), SLE, TLS, Math., G. Sc., S. Sc. |

***Honour/Award/Recognition:***

1. NRTS scholarship for class VII.
2. National Scholarship from MHRD, Govt. Of India, for physically challenged students for B.Ed & M.Ed.

***Professional Profile:***

Qualification : M. Sc. (Utkal), Ph. D. (Magadh), M.Ed. {RIE [NCERT], Bhubaneswar}

Designation : Assistant Professor

Department : Physics

Specialization : Solid State (Condensed Matter) Physics.

Courses designed : CBCS in VBU

Laboratories setup : Physics Lab. In St. Columba’s college, According to CBCS

***Research Interest:***

My area of research is on “Theoretical Condensed Matter Physics & Quantum Statistics”. The main interests of study are Superconductivity, Super Fluidity & their transition at BCS-BEC crossover, followed by critical temperature for the fermion system with the d-wave scattering length, excitation energy of gas of interacting fermions and structure factor for s-wave and d-wave pairings in imbalanced d-wave super fluids in BCS-BEC crossover regime.

Also I am interested in the field of Physics Education.

***Publications:***

***International/National Journals***

1. T. K. Mohanta, V. K. Verma & L. K. Mishra “**A Theoretical study of imbalanced d-wave super fluids in BCS-BEC crossover regime”** J. Chem. Bio. Phy. Sci. Sec. A; Aug. 2013-Oct.2013; Vol.3, No.4; 2962-2971.
2. Mohanta TK, Verma VK & Mishra LK “**A theoretical study of structure factor for the s-wave and d-wave pairings in imbalanced d-wave super fluids in BCS-BEC crossover regime at finite temperature”** IJPRET, 2014; Volume 3 (2): 18-34
3. Tushar Kumar Mohanta, L. K. Mishra “A Theoretical evaluation of GAP function as a function of K/KF of an atomic Fermi gas near the unitary limit” IJPRET, 2018;volume 6(6):122-144
4. Tushar Kumar Mohanta, L. K. Mishra “ A theoretical evaluation of momentum distribution, BCS pair function, BCS pair distribution function, in-compressibility, effective mass and sound velocity of atomic Fermi gas near the unitarity limit” IJPRET, 2018; Volume 6(10): 75-83

***National Seminar/Conference/Symposia:***

1. T. K. Mohanta, “**Need of water management for an active and healthy life**” Proceeding of the J.J. College National Seminar, (2014)
2. T.K.Mohanta, “**Solar and Wind energy as an alternative energy source for new age cars and homes”** Book of Abstract Jubilee College National Conference, (2015).
3. National Seminar “Higher Education in India: Critical Issues & Challenges” at Doranda College, Ranchi, Jharkhand (India).( 2016)

***Seminar/Conference/Workshops Attended:***

1. National Seminar “Water management in the service of mankind” at J.J. College, koderma, Jharkhand (India). March 21-22, 2014
2. National Conference “Material science for energy harvesting” at Jubilee College, Bhurkunda, Jharkhand, (India). January 08-09, 2015
3. National Seminar “Higher Education in India: Critical Issues & Challenges” at Doranda College, Ranchi, Jharkhand (India). 10th September 2016
4. Regional Workshop on” Research Based Pedagogical Tools” held at Nirmala College, Ranchi, from 6th – 8th September 2018 , funded by DBT/DST Govt. Of india & Organized by COESME, IISER Pune supported by MHRD Govt. Of india.

***Online Seminar (Webinar)/Conference/Workshops/FDP Attended:***

1. National webinar on “ Exploring world of nuclei” conducted by P.V. college, Goregaon, Mumbai, on july 10, 2020.
2. PMMMNMTT Faculty Development Program on LATEX , conducted by Jamshedpur Women’s college in collaboration with Spoken Tutorial, IIT Bombay, on 13th july to 19 th july 2020.
3. National level webinar on “Nano Structure-Gas Sensing” organized by PG & Research Department of Physics, N.C. college of arts and science, kanyakumari, Tamilnadu. On 17th july 2020.
4. Training session on “Two-Dimensional Materials and their Heterostructures” by IIT Madras Alumni Association. On 29th july 2020.
5. International webinar on” Nuclear Physics and Applications in Medicine” conducted by PG Department of Applied Physics and Ballistics, FM University, Balasore, from 30th july to 01st Aug 2020.
6. National webinar on “ Physics Education” organized by Indian Association of Physics Teachers (IAPT, RC-12A) on 8th and 9th Aug 2020.
7. International webinar on” Super capacitors: A futuristic Energy Storage Device” organized by Department of Physics SSS college for women, Bhopal in association with IAPT RC-09 on 20th Aug 2020.
8. International webinar on “ Need of Good Health: Role of Yoga” organized by KBR college and Mcollege, on 22nd Aug 2020.
9. National webinar on “ Impact of innovation in Electronics on building a strong technology ecosystem for am ATMANIRBHAR BHARAT” Topic- “ From vaccum tubes to Nano transistors “ organised by IAPT andDept of Electronics, WB- MPHEQIP, on 26th Aug 2020.
10. National webinar on “ Leveraging emerging technologies via physics: a leap towards self- reliant india” Topic- “ Fundamentals of Microprocessor” organized by Dept of Physics WB-MPHEQIP and IAPT. On 24th Aug 2020
11. International Symposium on “ Materials Science and Innovation for Sustainable Society” organized by Nanomaterial Research Center, Meijo University, DCT’s Dhempe College of Arts & Science,Goa on 26th and 27th Aug 2020.
12. National webinar on “ Fundamental Physics” organized by Asutosh college, on 27th and 28th Aug 2020.
13. International webinar on “ Laser, Space Programme and Low temperature Physics” organized by Vijaya college, bengaluru on 27th and 28th Aug 2020.
14. National webinar on “ New Education Policy 2020: Challenges and Opportunities” organized by panjab university with Indian economic association. On 12th Sep 2020.
15. National webinar on “ Science and Society” Topic:- Advances in Nanotechnology: impact on the society” organized by Dept of Chemistry WB-MPHEQIP on 04th Sep 2020.
16. National webinar on “ Bharatiya kal Ganana ki Vaigyanikata” organized by Government Girl’s PG college, Ujjain , and IAPT RC-9 on 10th Sep 2020.
17. International webinar on “ Modern approach on magnetism and material science in Engineering” organized by MIT, Mysore, from 15th to 18th Sep 2020.
18. International virtual workshop on “ Recent Advancement in Astrophysics and Cosmology” organized by PG dept of Physics Tata college, Chaibasa. On 12th and 13th Oct. 2020.

***Invited Lectures:***

1. Guest Lecturer at Remedial coaching centre for Engineering and Medical classes at St. Columba’s College, Hazaribag.
2. Guest Lecturer for BCA department at St. Columba’s College, Hazaribag.

I am solemnly declared that the above entries in this CV are true to the best of my knowledge and belief.

Date: 15/10/2020 Signature:

Place: Hazaribag Present Address: Dept. Of Physics, St.CC, Hazaribag