Curriculum Vitae

Name: DR. SANJAY CHATTOPADHYAY

Designation: Associate Professor in Physics

Highest qualification: Ph.D., Post Doc

Contact details/ Office address: Department of Physics, Darjeeling Govt. College, Darjeeling-734101

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Date of joining to this institution: 25.02.2025

Date of joining W.B.E.S.: 26.05.2006

Previous position(s) held:

1. Taki Government College: 26.05.2006 to 17.05.2011.

2. Maulana Azad College: 18.05.2011 to 24.02.2025.

3. Darjeeling Government College : 25.02.2025 to till date as Head of the Department

Teaching experience in years & months: 18 years 10 months

Awards, Recognition and Honours: CSIR (JRF) fellowship, fellowship for Post Doctoral Research

Courses taught: Mechanics, Thermal Physics, Electrostatics, Statistical Mechanics, Analog System and Applications, Digital Systems and Applications, Laser and fibre optics, Communication electronics, Solid State Physics, Electrical circuit and network skill.

Research area/ interest: Experimental Condensed Matter Physics, Rare-earth manganite system, Ion-beam irradiation, Positron annihilation spectroscopy, Mossbauer spectroscopy.

Number of Publications-
***Peer reviewed journals: Thirty three (33)**
***Conference proceedings: Two (02)**
***Chapters in books: Three (03)**

Detailed list of publications: Annexure I

Google Scholar link: https://scholar.google.com/citations?hl=en&user=53A4qeQAAAAJ

ORCID ID: : 0009-0000-8656-1252

Scopus Id: 58343266600

Participation in Workshops/ Training programme/ Certificate course: Annexure II

Annexure-I

Detailed list of publications:

International Journal

1. Positron annihilation lifetime characterization of oxygen ion irradiated rutile TiO_2; Homnath Luitel, A. Sarkar, Mahuya Chakrabarti, S. Chattopadhyay, K. Asokan, D. Sanyal, **Nucl. Instr. Meth. B, 379 (2016) 215.**

2. Defect driven ferromagnetism in SnO2: a combined study using density functional theory and positron annihilation spectroscopy; A Sarkar, D Sanyal, Palash Nath, Mahuya Chakrabarti, S Pal, S Chattopadhyay, D Jana, K Asokan, **RSC Advances, 5 (2) (2015) 1148.**

3. Scaling description of non-Ohmic transport in manganites; TN Ghosh, UN Nandi, S Chattopadhyay, D Jana, SC Saha, **Solid State Communications 152 (16) (2012) 1595.**

4. Disorder driven optical processes in nanocrystalline ZnO; S. Chattopadhyay, S.K. Neogi, P. Pandit, S. Dutta, Tamita Rakshit, D. Jana, S. Chattopadhyay, A. Sarkar, S.K. Ray, **Journal of Luminescence 132 (1) (2012) 6.**

5. Probing Materials by Positron Annihilation Technique and Mossbauer Spectroscopy-Review; M Chakrabarti, S Chattopadhyay, D Sanyal, A Sarkar, D Jana, **Materials Science Forum 699 (2012) 1.**

6. Positron scattering from argon: total cross sections and the scattering length; A Zecca, L Chiari, E Trainotti, DV Fursa, Igor Bray, A Sarkar, S Chattopadhyay, K Ratnavelu, MJ Brunger, **Journal of Physics B: Atomic, Molecular and Optical Physics 45 (1) (2011) 015203.**

7. Optical property modification of ZnO: Effect of 1.2 MeV Ar irradiation; Soubhik Chattopadhyay, Sreetama Dutta, Palash Pandit, D Jana, S Chattopadhyay, A Sarkar, P Kumar, D Kanjilal, DK Mishra, SK Ray, **Physica Status Solidi (c) 8 (2) (2011) 512.**

8. Interplay of defects in 1.2 MeV Ar irradiated ZnO; Soubhik Chattopadhyay, Sreetama Dutta, D Jana, S Chattopadhyay, A Sarkar, P Kumar, D Kanjilal, DK Mishra, SK Ray, **Journal of Applied Physics 107 (11) (2010) 113516.**

9. Procedures for conditioning W- and Ni-moderators for application in positron-scattering measurements; Antonio Zecca, Luca Chiari, A. Sarkar, S. Chattopadhyay, M.J. Brunger, **Nucl. Instr. Meth. B, 268 (2010) 533.**

10. Low-Energy Positron Scattering from Dihydropyran; A. Zecca, L. Chiari, K.L. Nixon, M.J. Brunger , S. Chattopadhyay , D. Sanyal and M. Chakrabarti, J Phys Chem A. **113 (2009)14251**.

11. Electrical resistivity peculiarities and positron lifetime in annealed CdO; A. Sarkar, S. Chattopadhyay and Udayan De, **Physica Status Solidi C, 6 (2009) 2526.**

12. Defects dynamics in annealed Si_3N_4 by positron annihilation spectroscopy Soubhik Chattopadhyay, Sreetama Dutta, Debnarayan Jana, Sanjay Chattopadhyay, Debabrata Das, Mahuya Chakrabarti, Dirtha Sanyal and Anindya Sarkar, **Physica Status Solidi C, 6 (2009) 2533.**

13. Synthesis and characterization of single-phase Mn-doped ZnO; S. Chattopadhyay, S. Dutta, A. Banerjee, D. Jana, S. Bandyopadhyay, S. Chattopadhyay and A. Sarkar, **Physica B: Condensed Matter, 404 (2009) 1509.**

14. Role of defects in tailoring structural, electrical and optical properties of ZnO; Sreetama Dutta, S. Chattopadhyay, A. Sarkar, Mahuya Chakrabarti, D. Sanyal and D. Jana, **Progress in Materials Science, 54 (2009) 89.**

15. Magnetic ordering and electrical resistivity in Co0.2Zn0.8Fe2O4 spinel oxide; R.N. Bhowmik, R. Ranganathan, B. Ghosh, S. Kumar and S. Chattopadhyay, **Journal of Alloys and Compounds, 456 (2008) 348.**

16. Field-induced spin–flop transitions of interacting nanosized -Fe_2O_3 particles dispersed in a silica glass matrix, Sudip Mukherjee, Arun Kumar Pal, S Bhattacharya, S Chattopadhyay, **J. Phys.: Condens. Matter 20 (2008) 055204.**

17. Defects and the optical absorption in nanocrystalline ZnO, Sreetama Dutta, Sanjay Chattopadhyay, Manas Sutradhar, Anindya Sarkar, Mahuya Chakrabarti, Dirtha Sanyal, Debnarayan Jana, **J. Phys.: Condens. Matter 19 (2007) 236218.**

18. Studies of quenched disorder in $La_{0.7}Ca_{0.3}MnO_3$-type CMR manganite system from magnetic, transport and positron annihilation spectroscopic measurements, S. Chattopadhyay, A. Sarkar, Sudipta Pal, S.D. Kulkarni, P.A. Joy, B.K. Chaudhuri, **Physica B: Condensed Matter, 398 (2007) 23.**

19. Annealing effect on nano-ZnO powder studied from positron lifetime and optical

absorption spectroscopy, Sreetama Dutta, S. Chattopadhyay, D. Jana, A. Banerjee, S. Manik, S.K. Pradhan, Manas Sutradhar, A. Sarkar, **J. Appl. Phys., 100 (2006) 114328.**

20. Unusual metal-like state in HTSC and CMR oxides; S. Chattopadhyay, Ravi Kumar, A. Sarkar, **Nucl. Instr. Meth. B, 244, (2006) 132.**

21. Defect dynamics in annealed ZnO by positron annihilation spectroscopy, Sreetama Dutta, Mahuya Chakrabarti, S. Chattopadhyay, D. Sanyal, A. Sarkar, Debnarayan Jana, **J. Appl. Phys. 98 (2005) 053513.**

22. Doppler broadening measurements of the electron-positron annihilation radiation in nanocrystalline ZrO_2, M. Chakraborti, D. Bhowmick, A. Sarkar, S. Chattopadhayay, S. De Choudhuri, D. Sanyal, and A. Chakraborti, **J. Mater. Sci. 40 (2005) 5265.**

23. Memory in a magnetic nano particle system: Polydispersity and interaction effects, S. Chakraverty, M. Bandyopadhyay, S. Chatterjee, S. Dattagupta, A. Frydman, S. Sengupta and P.A. Sreeram, **Phys. Rev. B, 71 (2005) 054401.**

24. Interesting aspects of the analysis of resistivity in Li^{3+} irradiated Bi-2212; A. Sarkar, S. Chattopadhyay, Ravi Kumar and Udayan De, **Nucl. Instr. Meth. B, 230 (2005) 284.**

25. Radiation damage effects in CMR manganite materials; S. Chattopadhyay, Sudipta Pal, A. Sarkar, A. Banerjee, Ravi Kumar and B.K. Chaudhuri, **Nucl. Instr. Meth. B, 230 (2005) 274.**

26. Positron annihilation studies of some anomalous features of $NiFe_2O_4$ nanocrystals grown in SiO_2; S. Chakraverty, Subarna Mitra, K. Mandal, P.M.G. Nambissan and S. Chattopadhyay, **Phys. Rev. B, 71 (2005) 024115.**

27. Magnetic properties of $NiFe_2O_4$ nanoparticles in SiO_2 matrix; S. Chakraverty, K. Mandal, Subarna Mitra, S. Chattopadhyay and S. Kumar, **Japanese Journal of Applied Physics, 43 (2004) 7782.**

28. Grain size dependence of optical properties and positron annihilation parameters in Bi_2O_3 powder, Mahuya Chakrabarti, Sreetama Dutta, S Chattopadhyay, A Sarkar, D Sanyal and A Chakrabarti, **Nanotechnology, 15 (2004) 1792**.

29. Doppler broadening measurements of positron annihilation in single crystalline $Bi_2Sr_2CaCu_2O_{8+d}$ high T_c superconductor along two different crystallographic

directions; Mahuya Chakrabarti, A. Sarkar, S. Chattapadhayay, D. Sanyal, A. Chakrabarti, **Physica C, 416 (2004) 25**.

30. Doppler broadening measurements of the electron-positron annihilation radiation in $La_{0.7}Y_{0.3}Ca_{0.5}Ba_{0.15}Cu_3O_z$ superconductor; Mahuya Chakraborti, K.R. Mavani, S. Chattopadhayay, A. Sarkar and D. Sanyal, **Physics Letter A, 329 (2004) 231.**

31. Effect of Li^{3+} irradiation on the transport properties of $La_{0.7}Pb_{0.3}MnO_3$ type CMR material; S. Chattopadhyay, A. Sarkar, Aritra Banerjee, S. Karmakar, D. Banerjee, Ravi Kumar and B.K. Chaudhuri, **Nucl. Instr. Meth. B, 226 (2004) 274.**

32. Anisotropy of the electron momentum distribution in $Bi_2Sr_2CaCu_2O_{8+}$ superconductor by positron annihilation, M. Chakraborti, A. Sarkar, S. Chattopadhayay, D. Sanyal, R. Bhattacharya, A. K. Pradhan and D. Banerjee, **Solid State Commun., 128 (2003) 321.**

33. Study of 50 MeV Li^{3+} irradiation induced changes in $La_{0.7}Pb_{0.3}MnO_3$; S. Chattopadhyay, A. Banerjee, A. Sarkar, Ravi Kumar, B.K. Chaudhuri and D. Banerjee, **Radiat. Meas., 36 (2003) 689.**

National Journals

1. The Magnetic Properties of $NiFe_2O_4$ – SiO_2 nanocomposite; S. Chakraverty, S. Chattopadhyay, S. Kumar and K. Mandal, **Indian J. Phys. 78A (2) (2004) 177.**
2. Oxidation mechanism of Si nanoparticles grown by plasma-CVD; K. Nandi, S. Chattopadhyay, S. Ghosh, D. Das and D. Jana, **Indian J. Phys. 78A (1) (2004) 57.**

Books

1. 'Studies of Cu-based High Temperature Superconductors by Using Coincidence Doppler Broadening of the Electron Positron Annihilation Radiation Measurement Technique', Mahuya Chakrabarti, A. Sarkar, S. Chattopadhyay, D. Sanyal in **N*ew Topics in Superconductivity Research* (Ed. Barry P. Martins), Nova Science Publishers, New York (2005).**

2. A study of radiation damage on rare-earth manganites, Sanjay Chattopadhyay, **Lambert Academic Publishing, ISBN-13: 978-620-0-09510-7, 2019.**

3. Defect characterization in rare-earth manganite system by Positron annihilation spectroscopy**, Lambert Academic Publishing, ISBN-13:978-620-2-51694-5. 2020.**

Annexure-II

Participation in Workshops/ Training programme/ Certificate course:

Conferences/Schools/Workshops and Presentations

International

1. International Conference on Lasers and Nanomaterials (ICLAN 2006), **November 30-December 02, 2006, Kolkata, India.**

2. Indo-German workshop – "Synthesis and Modification of Nano Structured Materials by Energetic Ion beams", **February 20-24, 2005, Nuclear Science Centre, New Delhi, India.**

3. 21st International Conference on Atomic Collisions in Solids (ICACS 21), **July 4-9, 2004, Genova, Italy.**

4. International Conference on Nanoscience and Technology (ICONSAT 2003), **December 17-20, 2003, Kolkata, India.**

5. 21st International Conference on Nuclear Tracks in Solids (ICNTS 2002), **October 21-25, 2002, New Delhi, India.**

National

1. UGC sponsored National Conference on "Nano science & its impact on society", **March 27-28, 2008, Department of Physics, Narsinha Dutt College, Howrah.**
2. National Seminar and Meeting on POSITRON ANNIHILATION, **February 9-10, 2007, Saha Institute of Nuclear Physics, Kolkata.**
3. National Conference on Condensed Matter and Materials Physics (CMMP 06), **January 19-21, 2006, Department of Physics, Maharaja Sayaji Rao University of Baroda, Vadodara.**
4. Condensed Matter Days-2002, **August 29-31, 2005, Berhampur University, Berhampur.**
5. One day Seminar on Positron / Positronium Annihilation, **February 20, 2004, Saha Institute of Nuclear Physics, Kolkata.**
6. 46th Solid State Physics Symposium organized by DAE and BRNS, **December 26-30, 2003, Jiwaji University, Gwalior.**
7. Discussion Meet on Positron Annihilation Spectroscopy, **November 7, 2003, Radiochemistry Division, BARC, Mumbai.**

8. National Seminar on Science and Technology of Nanomaterials (Nanomaterials-2003), **March 6-7, 2003, CGCRI, Jadavpur, Kolkata.**

9. 45th Solid State Physics Symposium organized by DAE and BRNS, **December 26-30, 2002, Punjab University, Chandigarh.**

10. Condensed Matter Days-2002, **August 29-31, 2002, University Department of Physics, Bhagalpur.**

11. 44th Solid State Physics Symposium organized by DAE and BRNS, **December 26-30, 2001, BARC, Mumbai.**

12. NSC User Workshop on "Engineering of Oxide Materials by SHI", **April 10-11, 2001, Department of Physics, Saurashtra University, Rajkot.**

Webinar/ Online workshop

1. Webinar on Introduction to Non Equilibrium Statistical Mechanics and Light meets 'Nano' held on 28th February, 2022 organised by the Department of Physics in collaboration with Internal Quality Assurance Cell, Maulana Azad College, Kolkata.

2. One day International Webinar on "RAY ACROSS BORDERS: MUSIC AND MEMORY" organised by The Cultural Committee, Barasat Government College, Barasat, 30th April, 2021.

3. One day webinar on "Values in neo normal society" organised by Government General Degree College, Kalna-I, 28th April, 2021.

4. Two Day National Webinar on " Some Selected Topics on DSE Physics Course Under CBCS, CU" held on 23rd and 24th September, 2020 organised by the Department of Physics in collaboration with Internal Quality Assurance Cell, Maulana Azad College.

5. One Day National Level Webinar on "Discovering the Fascinating World of Physics" Chapter 02: "Exploring the Sky: From Aryabhata to Chandrayaan" organized by the Department of Physics, Krishnagar Government College, Krishnagar, Nadia, West Bengal, India, 21st August 2020.

6. One Day National Level Webinar Entitled "Nanomaterials: Their Recent Issues & Impacts on Society" organized by Department of Physics in collaboration with IQAC of Sovarani Memorial College, Jagatballavpur, Howrah, 21st August, 2020.

7. One Day State Level Webinar on "Discovering the Fascinating World of Nano-Science" organized by the Department of Physics, Krishnagar Government College, Krishnagar, Nadia, West Bengal, India, 3rd August 2020.

8. Python for a cause: Online workshop on Python Computing organised by Teach Python in association with IISER, Kolkata, June 12-24, 2020.

9. Webinar on "Exploring universal phenomenon in different energy scales: materials for the decades" organised by Adamas University, Kolkata, 12th June,2020.

RC/OP/STC

1. Short term course on "Digital India" organised by the UGC HRDC, University of Calcutta, December 21-27, 2018.

2. Short term course on "Gender sensitization" organised by the UGC HRDC, University of Calcutta, November 14-20, 2018.

3. UGC Refresher Course organised by The academic Staff College, University of Calcutta, From 10th February, 2011 to 3rd March, 2011

4. Orientation programme organised by The academic Staff College, University of Calcutta, in 2009