

Dr. Prasanta Mandal

Assistant Professor
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Current Position

Assistant Professor in Physics at Sri Ramkrishna Sarada Vidya Mahapitha (Govt. approved general degree college affiliated to The University of Burdwan), Hooghly, West Bengal (03rd April, 2017 to till date)

Academic Information

- Doctoral Degree: Ph.D. (2024) in Science entitled “*Development of some Cu based p-type transparent conducting oxides through novel doping strategy and investigation of its electrical and optical properties*” from Department of School of Materials Science and Nanotechnology, Jadavpur University, India.
- Post Graduate Education: M. Sc. (2013) in Physics with specialization in Applied Electronics, Department of Physics, Vidyasagar University, India.
- Undergraduate Education: B. Sc. (2011) in Physics (Hons.), Department of Physics, Midnapore College, Vidyasagar University, India.

Research Awards

- Qualified National Eligibility Test (**NET**) and Junior Research Fellowship (**UGC JRF**) 2012 in Physical Science, conducted jointly by University Grant Commission and Council of Scientific and Industrial Research, Govt. of India.
- Senior Research Fellowship (**SRF**) 2015 by Council of Scientific and Industrial Research, Govt. of India.

List of Publications

- (1) **P. Mandal**, N. Mazumder, S. Saha, U. K. Ghorai, R. Roy, G. C. Das and K. K. Chattopadhyay, “A scheme of simultaneous cationic–anionic substitution in CuCrO_2 for transparent and superior p-type transport” *Journal of Physics D: Applied Physics*, **2016**, 49, 275109. IF= 2.877
- (2) **P. Mandal**, N. Mazumder, S. Saha, U. K. Ghorai, R. Roy, G. C. Das and K. K. Chattopadhyay, “Experimental observation of valence band dispersion and increased hole conductivity in $\text{CuCr}_{1-x}\text{Li}_x\text{O}_{2-y}\text{S}_y$ ” *Current Applied Physics*, **2021**, 25, 90–96. IF= 2.856
- (3) **P. Mandal**, N. Mazumder, A. J. Akhtar, R. Roy, and K. K. Chattopadhyay, “En route to the conductivity bottleneck in p-type $\text{CuCr}_{1-x}\text{M}_x\text{O}_{2-y}\text{S}_y$ (M = Li, Mg)” *AIP Conference Proceedings*, **2017**, 1832, 110054.
- (4) N. Mazumder, **P. Mandal**, R. Roy, U. K. Ghorai, S. Saha and K. K. Chattopadhyay, “Exploring the effect of hole localization on the charge–phonon dynamics of hole doped delafossite” *Journal of Physics: Condensed Matter*, **2017**, 29, 375701. IF= 2.745
- (5) N. Mazumder, **P. Mandal**, R. Roy, U. K. Ghorai, S. Saha and K. K. Chattopadhyay, “Negative capacitance in $\text{ZnO}_{1-x}\text{Ch}_x$ (Ch = S, Se, Te): Role of localized charge recombination” *Journal of Applied Physics*, **2017** 121, 135702. IF=2.877
- (6) **P. Mandal**, N. Mazumder, G. C. Das and K. K. Chattopadhyay, “Investigation of the transport and structural properties of nanocrystalline delafossite p-CuAlO₂” (Manuscript under communicated).

(7) N. Mazumder, **P. Mandal**, U. K. Ghorai, R. Roy, K. K. Chattopadhyay “Spectroscopic and Microscopic Evidence of Charge ordering and Relaxor Behavior in Delafossite CuCrO_2 ” PROCEEDINGS OF UGC SPONSORED NATIONAL LEVEL SEMINAR.

Google Scholar h-index=03

Google Scholar i10-index=02

Google Scholar profile link <https://scholar.google.com/citations?user=P36kxp4AAAAJ&hl=en>

Posters/Oral/Papers presented in National / International seminars / conferences / workshop

1. **61st DAE Solid State Physics Symposium-2016, KITT University, Bhubaneswar, 26-30 December.** Presented a paper. “En route to the Conductivity Bottleneck in p-type Delafossites”.
2. **Recent Advances in Materials Science-2017, Dept. of Industrial Chemistry, Ramkrishna Mission Vidyamandira, 28-29 March.** Presented a poster. “Spectroscopic and Microscopic Evidence of Charge ordering and Relaxor Behavior in Delafossite CuCrO_2 ”.
3. **ICONSEA-2018, 4-6 October, Jawaharlal Nehru Technological University, Hyderabad. (Poster Presentation).**

National / International seminars / conferences / Science outreach / workshop attended

1. **Attended NCRDNN-2019, 29-31 January,** Organization by the School of Materials Science & Nanotechnology, Jadavpur University, Kolkata.

Research Interest

- P-Type Transparent conducting oxides
- Structural and optical properties of TCOs
- Transport properties
- High dielectric constant materials
- II–VI semiconductors
- Optoelectronic properties
- DFT based calculation of electric properties