Curriculum Vitae (CV)

Dr. Puja Dey
Associate Professor

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***D. O. B. :* 28th April, 1979**

Academic Qualification:

Name of the examination/Degree	Subjects	Area of specialization	Name of Institute/ University/ Board	Year of passing	Percentage/ Grade
Madhyamik (10)	Beng., Eng., Math, Phys. Sc., Life Sc., Hist., Geo,	Special Paper : Biology	W. B. B. S. E., W. B., India	1995	83 %
Higher Secondary (10 + 2)	Beng., Eng., Phys., Chem., Math, Biology		W. B. C. H. S. E., W. B., India.	1997	76.4 %
Bachelor of Science	Physics (Hons.), Math, Comp. Sc.		University of North Bengal, W. B., India	2000	59.75 %
Master of Science	Physics		University of North Bengal, W. B., India	2002	69.2 %
GATE	Physics		Conducted by I. I. Ts'	2002	83.03 percentile, All India Ranking: 0351.
Ph. D.	Physics	Experimental Condensed Matter Physics	Indian Institute of Technology Kharagpur, Kharagpur, W. B., India.	2008	

Employment History (including post-doc) :

Period (Year)		Name of the examination/Degree/ Post as applicable	Area of specialization/ Subjects	Name of Institute/ University/	Number of Journal Publications
04/05/2018	*Present*	Associate Professor	Physics	Kazi Nazrul University Asansol	***44*** ***(Total Citations = 756, h-index = 13, i10-index = 18)***
01/03/2016	03/05/2018	Assistant Professor	Physics	Kazi Nazrul University Asansol	
12/08/2013	29/02/2016	Assistant Professor	Physics	National Institute of Technology Agartala, Tripura	
July, 2012	August, 2013	Post Doctoral Researcher	Magnetism, Organic Spintronics	UGC-DAE Consortium For Scientific Research, Indore, India	
October, 2008	September, 2011	CNRS Post Doctoral Research Fellow	Spintronics, Hybrid Inorganic-Organic Interface study	IPCMS, CNRS, Strasbourg, France	
January, 2007	September, 2008	CSIR Senior Research Fellow	Magnetism and Magnetic Materials	Indian Institute of Technology Kharagpur, W. B., India	

Area of Interest : **a.** Organic Spintronics; **b.** Organic Photodetector; **c.** Multiferroic Nanocomposites; **d.** Multifunctional Nanostructured Oxides **e.** Ultra-thin Ferromagnetic film.

Research :

No. of articles publications in Referred Journals: ***44***

Citations : *756*

h-index : 13

i10-index : *18*

Website : Google Scholar Citation

Publications :

Books Published :

[1] "*Spintronics For Beginners*" [ISBN No. - 978-3-639-66375-4] by **P. Dey** and S. K. Mandal, *Scholars' Press*, Saarbrücken, Germany, (2014).

[2] "*Physics of Oxide Materials For Spintronics*" [ISBN No. - 978-3-639-51305-9] by S. K. Mandal, **P. Dey** and T. K. Nath, *Scholars' Press*, Saarbrücken, Germany, (2013).

List of Publications (International Journal) relevant to the project :

(Total Publications in International Journals = 48 ; Total Citations = 878, h-index = 14, i10-index = 21)

[1] Photocurrent generation under forward bias with interfacial tunneling of carrier at Pentacene/F_{16}CuPc heterojunction photodetector by Debarati Nath, **Puja Dey**, Aneesh M Joseph, Jayanta Kumar Rakshit and Jitendra Nath Roy, ***Journal of Alloys and Compounds* 815,** *152401 (2020).*

[2] Zero bias high responsive visible organic photodetector based on Pentacene and C_{60} by Debarati Nath, **P. Dey**, Aneesh M Joseph, J. K. Rakshit and J. N. Roy ***Optics and LASER Technology*** (under review).

[3] Effect of interface on temperature dependent magnetoresistance and room temperature magnetoimpedance of $La_{0.7}Sr_{0.3}MnO_3$ / Polyvinyl Alcohol Nanocomposites, by D. Deb, R. Debnath, S. K. Mandal, A. Lakhani, A. Nath, **P. Dey**, ***Physica B: Condensed Matter* 582**, 411962 (2020).

[4] Modeling of Temperature-Dependent Sign Reversal of Magnetoresistance in 99.95% $La_{0.7}Sr_{0.3}MnO_3$ - 0.05% Paraffin Wax Nanocomposite: The Role of Pinning Center at Intergrain Defect Site by D. Deb and **P. Dey**, ***Physica Status Solidi (b)***, doi: 10.1002/pssb.201900402 (2019).

[5] Interface driven electrical and magneto-transport properties of (100-x)% $La_{0.7}Sr_{0.3}MnO_3$ - x% Paraffin wax ($0 \leq x \leq 1$) hybrid nanocomposites by Debajit Deb, Sanjay K. Mandal, Archana Lakhani, Aparna Nath, and **Puja Dey**, ***The European Physical Journal B*, 92** 165 (2019).

[6] Magnetically tunable alternating current electrical properties of (100-x)% La0.7Sr0.3MnO3 - x% paraffin wax(0.05_x_1.0) hybrid nanocomposites, D. Deb, Rajesh Debnath, S.K. Mandal, A. Nath, **P. Dey**, ***Journal of Alloys and Compounds* 776,** (2019) 71-82.

[7] Light tuning DC and AC electrical properties of ZnO-rGO based hybrid nanocomposite film, Debarati Nath, S. K. Mandal, Debajit Deb, J. K. Rakshit, **P. Dey**, and J. N. Roy, ***Journal of Applied Physics*** **123**, 095115 (2018).

[8] Optical, electrical properties and structural characterization of ZnO:rGO based photodetector, Debarati Nath, S. K. Mandal, Debajit Deb, J. K. Rakshit, **P. Dey** and J. N. Roy, ***AIP Conference Proceedings*** **1942**, 080006 (2018).

[9] Sign reversal of spin-polarized tunnelling magnetoresistance in 99.95% $La_{0.7}Sr_{0.3}MnO_3$-0.05% Paraffin wax nanocomposite: An effect of spin-flip scattering at intergranular Paraffin wax interface, **P. Dey**, D. Deb, Rajesh Debnath, S.K. Mandal, Archana Lakhani, T.K. Nath, J.N. Roy, A. Nath, ***Journal of Magnetism and Magnetic Materials*** **468,** (2018) 85–90.

[10] Fabrication and characterization of organic semiconductor based photodetector for optical communication, Debarati Nath, **Puja Dey**, Debajit Deb, Jayanta Kumar Rakshit and Jitendra Nath Roy, SPECIAL ISSUE VISVESVARAYA 2016 OF CSIT, DOI 10.1007/s40012-016-0150-8.

[11] Irreversibility in Room Temperature Current-Voltage Characteristics of $NiFe_2O_4$ Nanoparticles: A Signature of Electrical Memory Effect", **P. Dey**, Rajesh Debnath, Swati Singh, S. K.Mandal and Jitendra Nath Roy, *Journal of Magnetism and Magnetic Materials, **421***, 132 (2017). **(Impact Factor = 2.630)**

[12] Enhancement of dielectric constant in transition metal doped ZnO nanocrystals by S. Singh, **P. Dey**, J. N. Roy and S. K. Mandal, *Applied Physics Letters* **105**, 092903 (2014). **(Impact Factor = 3.817)**

[13] Breakdown of the electron-spin motion upon reflection at metal-organic or metal-carbon interfaces by F. Djeghloul, **P. Dey**, A. Hallal, E. Urbain, S. Mahiddine, M. Gruber, D. Spor, M. Alouani, H. Bulou, F. Scheurer, W. Weber, *Phys. Rev. B* **89**, 134411 (2014) ***(Editor choice).***

(Impact Factor = 3.767)

[14] Temperature driven transition from Giant to Tunneling magneto-resistance in $Fe_3O_4/Alq_3/Co$ Spin Valve: Role of Verwey transition of Fe_3O_4 by **P. Dey**, R. Rawat, S. R. Potdar, R. J. Choudhary, A. Banerjee, *J. Appl. Phys.* **115**, 17C110 (2014). **(Impact Factor = 2.276)**

[15] Ultimate limit of electron-spin precession upon reflection in ferromagnetic films by A. Hallal, T. Berdot, **P. Dey**, L. Tati Bismaths, L. Joly, A. Bourzami, F. Scheurer, H. Bulou, J. Henk, M. Alouani and W. Weber, *Phys. Rev. Lett.* **107**, 087203 (2011). **(Impact Factor = 7.943)**

[16] Electron-spin motion: A new tool to study ferromagnetic films by **P. Dey** and W. Weber, *J. Phys.: Condens. Matter (Topical Review)* **23**, 473201 (2011). **(Impact Factor = 2.332)**

[17] $x Zn_{0.3}Ni_{0.7}Fe_2O_4$–$(1 - x)HoMnO_3$ (x = 0.1, 0.3 and 0.5) nanocomposites: magnetoelectric, magnetodielectric and AC electrical response, S. K. Mandal , Rajesh Debnath, **P. Dey** and A. Nath, ***Mater. Res. Express*, 4,** 115014 (2017). **(Impact Factor = 1.08)**

[18] Magnetoelectric coupling and AC electrical properties of $x La_{0.7}Sr_{0.3}MnO_3$ - *(1-x)* $HoMnO_3$ (x = 0.1, 0.3 and 0.5) lead free multiferroic nanocomposites, S. K. Mandal, Swati Singh, Rajesh Debnath, **P. Dey**, J.N. Roy, T.K. Nath, *Materials Chemistry and Physics* **205** 217-227 (2018). **(Impact Factor = 2.08)**

[19] Signature of Magnetoelectric Coupling of $xNiFe_2O_4$ - $(1-x)HoMnO_3$ (x = 0.1 and 0.3) Multiferroic Nanocomposites, S. K. Mandal, Rajesh Debnath , Swati Singh, A. Nath, **P. Dey**, and T. K. Nath, *Journal of Magnetism and Magnetic Materials,* **443**, 222–232 (2017).

(Impact Factor = 2.630)

[20] Room temperature magnetoelectric coupling of $0.4Zn_{0.3}Ni_{0.7}Fe_2O_4$ - $0.6PbZr_{0.52}Ti_{0.48}O_3$ multiferroic nanocomposite, S.Chakraborty, S. K. Mandal, Rajesh Debnath, Swati Singh, **P. Dey** and B.Saha, *Materials Today: Proceedings* **4**, 5663–5666 (2017).

[21] Magnetoelectric Coupling, Dielectric and Electrical Properties of $xLa_{0.7}Sr_{0.3}MnO_3$ – (1-x) $Pb(Zr_{0.58}Ti_{0.42})O_3$ (x = 0.05, 0.1) Multiferroic Nanocomposites, S. K. Mandal, Swati Singh, Rajesh Debnath, A. Nath and **P. Dey**, *Journal of Alloys and Compounds* **720**, 550-561 (2017). **(Impact Factor = 2.726).**

[22] Magnetoelectric coupling and dielectric study of $xNiFe_2O_4$ – $(1-x)ErMnO_3$ lead free multiferroic nanocomposites, Swati Singh, S. K. Mandal, and **P. Dey**, *AIP Conference Proceedings* **1832**, 050022 (2017).

[23] Magnetoelectric coupling of $xZn_{0.5}Co_{0.5}Fe_2O_4$ - (1-x) $PbZr_{0.58}Ti_{0.42}O_3$ (x = 0.3 and 0.4) nanocomposites, Sarit Chakraborty, S. K. Mandal, Swati Singh, **P. Dey**, and B. Saha, *AIP Conference Proceedings* **1832**, 050023 (2017).

[24] Magnetoelectric coupling and AC impedance studies of $0.5NiFe_2O_4$-$0.5PbZr_{0.58}Ti_{0.42}O_3$ nanocomposite, Rajesh Debnath, S. K. Mandal, Swati Singh, **P. Dey**, and A. Nath, *AIP Conference Proceedings* **1832**, 050028 (2017).

[25] Temperature and Frequency Dependence of AC Electrical Properties of Zn and Ni doped $CoFe_2O_4$ Nanocrystals, S. K. Mandal, Swati Singh, **P. Dey**, J. N. Roy, P. R. Mandal and T. K. Nath, *Philosophical Magazine*, **97**, 1628–1645 (2017). **(Impact Factor = 1.632)**

[26] Room Temperature Complex Impedance Study of $0.1NiFe_2O_4$-$0.9ErMnO_3$ Nanocomposite, Swati Singh, **P. Dey**, S. K. Mandal, *International Journal of Advanced Technology in Engineering and Science*, **3** 299 (2015).

[27] Frequency and Temperature Dependence of Dielectric and Electrical Properties of TFe_2O_4 (T=Ni, Zn, $Zn_{0.5}Ni_{0.5}$) Ferrite Nanocrystals, S. K. Mandal, Swati Singh, **P. Dey**, J. N. Roy, P. R. Mandal, T. K. Nath, *Journal of Alloys and Compounds*, **656**, 887-896 (2016). **(Impact Factor = 2.726).**

[28] Magnetically tunable alternating current electrical properties of x $La_{0.7}Sr_{0.3}MnO_3$–(1 −x) $ErMnO_3$ (x = 0.1, 0.3, and 0.5) multiferroic nanocomposite, Rajesh Debnath, **P. Dey**, Swati Singh, J. N. Roy, S. K. Mandal, and T. K. Nath, *J. Appl. Phys.* **118**, 044104 (2015). **(Impact Factor = 2.276).**

[29] Tunable dielectric constant with transition metal (TM) doping in $Zn_{1-x}(MnTM)_xO$ (TM = Co, Fe) nanocrystal, Swati Singh, **P. Dey**, J. N. Roy and S. K. Mandal, *Journal of Alloys and Compounds*, **642**, 15- 21 (2015). **(Impact Factor = 2.726)**

[30] Structural, electrical and dielectric properties of $La_{0.7}Sr_{0.3}MnO_3$-$ErMnO_3$ multiferroic composites by S. K. Mandal, **P. Dey** and T. K. Nath, *Materials Science and Engineering B*, **181** 70 (2014). **(Impact factor = 2)**

[31] AC and DC electrical transport studies of (Fe, Co) codoped ZnO nanoparticles by Sanjay Kumar Mandal, **Puja Dey** and Tapan Kumar Nath, *J. Vac. Sci. Technol. B* **32**(4), 041803 (2014). **(Impact Factor = 1.52)**

[32] Electron-Spin Motion as a New Tool to Investigate Ferromagnetic Film Systems: A Few Examples by A. Hallal, T. Berdot, **P. Dey**, L. Tati Bismaths, L. Joly, A. Bourzami, H. Bulou, F. Scheurer, F. Djeghloul, E. Urbain, D. Spor, J. Henk, M. Alouani, W. Weber, *Sensor Letters*, **11**, 1632 (2013). **(Impact Factor = 1.5)**

[33] Influence of lattice relaxation on the electron-spin motion in ferromagnetic films: Experiment and theory, T. Berdot, A. Hallala, **P. Dey**, L. Tati Bismathsa, L. Jolya, A. Bourzamib, H. Buloua, F. Scheurera, J. Henk, M. Alouania, W. Weber, Proc. of SPIE, **8100**, 81000Z-1 (2011).

[34] Effect of submonolayer MgO coverages on the electron-spin motion in Fe(001): Experiment and theory by T. Berdot, A. Hallal, L. Tati Bismaths, L. Joly, **P. Dey**, M. Alouani, J. Henk and W. Weber, *Phys. Rev. B* **82**, 172407 (2010). **(Impact Factor = 3.767)**

[35] Temperature dependence of phonon modes in nanocrystalline $La_{0.67}Ca_{0.33}MnO_3$ as observed by infrared spectroscopy by T. N. Sairam, **P. Dey** *et al.*, *J. Nanosci. Nanotechnol.* **9**, 5471 (2009). **(Impact Factor = 1.483)**

[36] Microstructural, magnetic, magneto-transport and complex impedance spectroscopy of $xLa_{0.7}Sr_{0.3}MnO_3$-(1-x)$ErMnO_3$ multiferroic ($0 \leq x \leq 1$) composites by **P. Dey**, T. K. Nath, S. K. Mandal and A. Das, *Int. J. Mod. Phys. B* **23**, 4889 (2009). **(Impact Factor = 0.8)**

[37] Magnetoimpedance, magnetoresistance, and magnetic properties of nanometric CMR manganites, T. K. Nath, P. Dutta, and **P. Dey**, *J. Appl. Phys.* **103**, 07F725 (2008).

(Impact Factor = 2.276)

[38] Enhanced grain surface effect on magnetic properties of nanometric $La_{0.7}Ca_{0.3}MnO_3$ manganite: Evidence of surface spin freezing of manganite nanoparticles by **P. Dey**, T. K. Nath, P. K. Manna and S. M. Yusuf, *J. Appl. Phys.* **104**, 103907 (2008). **(Impact Factor = 2.276)**

[39] Effect of nanometric grain size on room temperature magnetoimpedance, magnetoresistance and magnetic properties of $La_{0.7}Sr_{0.3}MnO_3$nanoparticles by P. Dutta, **P. Dey** and T. K. Nath, *J. Appl. Phys.* **102**, 073906 (2007). **(Impact Factor = 2.276)**

[40] Effect of disorder on magnetic ordering of $La_{0.5}Gd_{0.2}Sr_{0.3}MnO_3$ manganites by **P. Dey**, T. K. Nath and A. Banerjee, *J. Phys.: Condens. Matter*, **19**, 376204 (2007). **(Impact Factor = 2.332)**

[41] Effect of substrate-induced strain on transport and magnetic properties of epitaxial $La_{0.66}Sr_{0.33}MnO_3$ thin films by **P. Dey**, T. K. Nath and A. Taraphder, *Applied Physics Letters*, **91**, 012511 (2007). **(Impact Factor = 3.817)**

[42] Enhanced grain surface effect on magnetic properties of $La_{0.5}Gd_{0.2}Sr_{0.3}MnO_3$ nanoparticles: A comparison with bulk counterpart by **P. Dey**, T. K. Nath and A. Banerjee, *Applied Physics Letters*, **91**, 012504 (2007). **(Impact Factor = 3.817)**

[43] Room temperature ferroelectric and ferromagnetic properties of multiferroics $xLa_{0.7}Sr_{0.3}MnO_3$ – $(1-x)ErMnO_3$ (weight percent x = 0.1, 0.2) composites by **P. Dey**, T. K. Nath, M. L. NandaGoswami and T. K. Kundu, *Applied Physics Letters*, **90**, 162510 (2007). **(Impact Factor = 3.817)**

[44] Tunable room temperature low-field spin polarized tunneling magnetoresistance of $La_{0.7}Sr_{0.3}MnO_3$nanoparticles by **P. Dey** and T. K. Nath, *Applied Physics Letters*, **89**, 163102 (2006). **(Impact Factor = 3.817)**

[45] Effect of grain size modulation on the magneto- and electronic-transport properties of $La_{0.7}Ca_{0.3}MnO_3$nanoparticles: The role of spin-polarized tunneling at the enhanced grain surface by **P. Dey** and T. K. Nath, *Physical Review B*, **73**, 214425 (2006). **(Impact Factor = 3.767)**

[46] Enhanced grain surface effect on the temperature dependent behavior of spin-polarized tunneling magnetoresistance of nanometric manganites by **P. Dey** and T. K. Nath, *Applied Physics Letters*, **87**, 162501 (2005). **(Impact Factor = 3.817)**

[47] Effect of nanosize modulation of granular $La_{0.67}Sr_{0.33}MnO_3$ manganites on temperature dependent low field spin polarized tunneling magnetoresistance by **P. Dey**, T. K. Nath, Uday Kumar and P. K. Mukhopadhyay, *Journal of Applied Physics* **98**, 014306 (2005). **(Impact Factor = 2.276)**

[48] Strain modification of $La_{0.67}Sr_{0.33}MnO_3$ CMR thin films using structural transitions of ferroelectric (001) $BaTiO_3$ substrate, **P. Dey** and T. K. Nath, ***Indian J. Phys.* 78**(8), 833-836 (2004). **(Impact Factor = 0.988)**

Papers presented in International/National Level Conferences (Selected) :

[1] A Journey towards Spintronics to Optospintronics, 64th DAE Solid State Physics Symposium (DAE SSPS 2019) held at Indian Institute of Technology Jodhpur, Rajasthan during December 18-22, 2019

[1] I-V Characteristics of $0.3La_{0.7}Sr_{0.3}MnO_3$–$0.7ErMnO_3$ Multiferroic Nanocomposite: An Observation of Electrical Hysteresis, by Rajesh Debnath, **P. Dey**, J. N. Roy and S. K. Mandal, *International Conference on Emerging Trends of Engineering, Science, Management and its Applications* (ICETESMA-15), JNU, Delhi (2015).

[2]] Dielectric and Electrical Properties of Ni and Zn doped Fe_3O_4 nanoparticles, by Swati Singh, **P. Dey**, J. N. Roy and S. K. Mandal, *International Conference on Emerging Trends of Engineering, Science, Management and its Applications* (ICETESMA-15), JNU, Delhi (2015).

[3] Enhancement of capacitance in transition metal doped ZnO nanocrystals, by Swati Singh, **P. Dey**, J. N. Roy and S. K. Mandal, *Advance Trends in Engineering and Technology*" (ICATET-2014), Jaipur, Rajasthan, India.

[4] Temperature driven transition from Giant to Tunneling magneto-resistance in $Fe_3O_4/Alq_3/Co$ Spin Valve: Role of Verwey transition of Fe_3O_4, by **P. Dey**, R. Rawat, S. R. Potdar, R. J. Choudhary, A. Banerjee, 58th International Conference on Magnetism and Magnetic Materials ("MMM 2013"), Denver, Colorado, USA.

[5] Contrasting behaviour of bulk and nanoparticles of $La_{0.5}Gd_{0.2}Sr_{0.3}MnO_3$ manganite, by **P. Dey**, T. K. Nath and A. Banerjee, Proceedings of DAE Solid State Physics Symposium, page 261 (2006), Date :30th December, 2006; Department of Physics & Electronics, Barkatullah University, Bhopal.

[6] Technologically important granularity effect on Magnetoresistance and magneto impedance of nanocrystalline $La_{0.67}Sr_{0.33}MnO_3$ CMR manganites, by **P. Dey** and T. K. Nath, DAE Solid State Physics Symposium proceedings (BRNS-DAE), page no. 32, (2004).

Date :30th December, 2004; Guru Nanak Dev University, Amritsar.

[7] Synthesis, microstructural and electrical transport studies in granular nanosized $La_{0.67}Ca_{0.33}MnO_3$ CMR manganites, **P. Dey** and T. K. Nath, DAE Solid State Physics Symposium proceedings, page no. 179, vol. 46, (2003).

Date : 28th December, 2003; School of studies in Physics, Jiwaji University, Gwalior.

Sponsored Project :

[1]"*Fabrication of Hybrid Organic Molecular Semiconductor - Inorganic Ferromagnet based Organic Spin Valves for Molecular Spintronics Application*", funded by **DST, SERB, New Delhi, under Start-Up Research Grant Scheme**, Project No.- SB/FTP/PS-034/2014, **Sanctioned** Amount - 22.1 Lakhs.

Thesis Supervision

M. Sc. Thesis Supervision : 1. Three Completed (2014-16).

Ph. D. Thesis Supervision : 1. Four Ongoing

Collaborators :

International - *Centre National de la Recherche Scientifique* (CNRS), Strasbourg, France.

National - **(1)** *UGC-DAE Consortium For Scientific Research Indore.*

(2) *Bhabha Atomic Research Centre (BARC), Mumbai.*

(3) *Dept. of Physics & Meteorology, I. I. T. Kharagpur.*

(4) *Dept. of Physics, I. I. T. Guwahati.*

Awards & Fellowships:

Scholarship /Award	**Institute/Organization**	**Year**
Senior Research Fellowship	Council of Scientific and Industrial Research (C. S. I. R), India.	2007 - 2008
Post Doctoral Research Fellowship	Centre National de la Recherche Scientifique (CNRS), Strasbourg, France.	2008 - 2010
Post Doctoral Research Fellowship	UGC-DAE Consortium For Scientific Research, Indore, India	2012 - 2013