

## CURRICULUM VITAE

**Name and Address:**

**SUBHRAJYOTI DEY**

C/O Subir Kumar Dey

Aravindanagar Complex,

P.O. Alipurduar Court, Pin 736122

**Date of Birth**

20<sup>th</sup> July, 1987

**Contacts**

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- **Present Position** Assistant Professor, Department of Physics,  
Swami Vivekananda University, Barrackpore, West Bengal
  - **Highest Qualification** Ph. D. in Science from Jadavpur University in 2017
  - **Area of Specialization** Condensed Matter Physics
  - **Research Highlight** **International Journal Publication – 20**  
**Total Citation – 701**  
**h-Index – 16**  
**i10-Index - 16**
  - **Broad Area of Research** Experimental Condensed Matter Physics

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**Academic Achievements**

Ranked within the top 20 in West Bengal of Madhyamik 2003

Ranked 1<sup>st</sup> in Jalpaiguri District in Higher Secondary Exam. 2005

Ranked 3<sup>rd</sup> in M. Sc. Physics from Jadavpur University in 2010

Qualified GATE – 2011 Examination

Received CSIR Senior Research Fellowship in 2015

➤ **Detail of Educational Qualification:**

Examination /Degree	Year	Subject	Board/ University	Division	Marks (%)
Madhyamik (Secondary)	2003	Beng, Eng, Hist, Geo, Ph. Sc., L. Sc., Math	W. B. B. S. E	1 <sup>st</sup>	94.5
Higher Secondary	2005	Beng, Eng, Math, Phys, Chem, Bio	W. B. C. H. S. E	1 <sup>st</sup>	93.1
B. Sc. (Honors)	2008	Physics (Hons) Chem, Math (Subsidiary)	Jadavpur University	1 <sup>st</sup>	76.6
M. Sc.	2010	Physics	Jadavpur University	1 <sup>st</sup>	80.8
Ph. D.	2017	Physics (Science)	Jadavpur University	-	-

➤ **Detail of Ph. D.:**

Title of Research	Name of Institute	Year of Degree
Investigation of structural, magnetic and hyperfine properties of nanosized Ni-Zn and Co-Zn ferrite systems.	Jadavpur University	2017

➤ **Ph. D. Course Work:** Passed in 2013 with 10 SGPA from Physics Department, JU.

➤ **Teaching Experience:**

Previous Position Held	Organization	Duration of Work
Assistant Professor	Department of Physics, Swami Vivekananda Institute of Science & Technology, Dakshin Gobindapur, Kolkata 145	05/08/2017 – 03/11/2023
Assistant Professor	Department of Physics, Swami Vivekananda University, Barrackpur, West Bengal 700 121	03/11/2023 – Till Now

## ➤ List of Publication:

### Journal Publications:

[1] Structural, microstructural, magnetic and hyperfine characterization of nanosized  $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$  synthesized by high energy ball-milling method by **S. Dey**, S.K. Dey, B. Ghosh, V.R. Reddy, S. Kumar, *Materials Chemistry and Physics* 138, 833(2013). [Elsevier, Impact Factor: 4.3, DOI: 10.1016/j.matchemphys.2012.12.067]

[2] Role of inhomogeneous cation distribution in magnetic enhancement of nanosized  $\text{Ni}_{0.35}\text{Zn}_{0.65}\text{Fe}_2\text{O}_4$ : A structural, magnetic and hyperfine study by **S. Dey**, S.K. Dey, B. Ghosh, P. Dasgupta, A. Poddar, V.R. Reddy, S. Kumar, *Journal of Applied Physics* 114, 093901 (2013). [American Institute of Physics, Impact Factor: 2.7, DOI: 10.1063/1.4819809]

[3] Superparamagnetic behavior of nanosized  $\text{Co}_{0.2}\text{Zn}_{0.8}\text{Fe}_2\text{O}_4$  synthesized by a flow rate controlled chemical coprecipitation method by **S. Dey**, S. K. Dey, S. Majumder, A. Poddar, P. Dasgupta, S. Banerjee, S. Kumar, *Physica B*, 448, 247 (2014). [Elsevier, Impact Factor: 2.8, DOI: 10.1016/j.physb.2014.03.073]

[4] Overcoming inherent magnetic instability, preventing spin canting and magnetic coding in an assembly of ferrimagnetic nanoparticles by **S. Dey**, S. K. Dey, K. Bagani, S. Majumder, A. Roychowdhury, S. Banerjee, V. R. Reddy, D. Das, and S. Kumar, *Applied Physics Letters* 105, 063110 (2014). [American Institute of Physics, Impact Factor: 3.5, DOI: 10.1063/1.4893028]

[5] Magnetic, X-ray and Mössbauer studies on magnetite/maghemite core-shell nanostructures fabricated through an aqueous route by S. J. Iyengar, M. Joy, C. K. Ghosh, **S. Dey**, R. K. Kotnala and S. Ghosh, *RSC Advances* 4, 64919 (2014). [Royal Society of Chemistry, Impact Factor: 3.9, DOI: 10.1039/C4RA11283K]

[6] A comparative study on the structural, optical and magnetic properties of  $\text{Fe}_3\text{O}_4$  and  $\text{Fe}_3\text{O}_4@\text{SiO}_2$  core-shell microspheres along with an assessment of their potentiality as electrochemical double layer capacitors by S. Majumder, **S. Dey**, K. Bagani, S. K. Dey, S. Banerjee and S. Kumar, *Dalton Transactions* 44, 7190 (2015). [Royal Society of Chemistry, Impact Factor: 3.5, DOI: 10.1039/C4DT02551B]

[7] Stable room temperature magnetic ordering and excellent catalytic activity of mechanically activated high surface area nanosized  $\text{Ni}_{0.45}\text{Zn}_{0.55}\text{Fe}_2\text{O}_4$  by **S. Dey**, R. Gomez,

R.Mondal, S. K. Dey, P. Dasgupta, A. Poddar, V. R. Reddy, A. Bhaumik and S. Kumar, *RSC Advances* 5, 78508 (2015). [**Royal Society of Chemistry, Impact Factor: 3.9**, DOI: 10.1039/C5RA14773E]

[8] Tuning magnetization, blocking temperature, cation distribution of nanosized  $\text{Co}_{0.2}\text{Zn}_{0.8}\text{Fe}_2\text{O}_4$  by mechanical activation by S. Dey, R. Mondal, S. K. Dey, S. Majumder, P. Dasgupta, A. Poddar, V. R. Reddy and S. Kumar, *Journal of Applied Physics* 118, 103905 (2015). [**American Institute of Physics, Impact Factor: 2.7**, DOI: 10.1063/1.4930801]

[9] Synthesis, X-ray Rietveld analysis, infrared and Mössbauer spectroscopy of  $\text{R}_2\text{FeSbO}_7$  ( $\text{R}^{3+}=\text{Y, Dy, Gd, Bi}$ ) pyrochlore solid solution by Y. M. Jana, P. Halder, A. Ali Biswas, A. Roychowdhury, D. Das, S. Dey and S. Kumar, *Journal of Alloys and Compounds* 656, 226 (2016). [**Elsevier, Impact Factor: 5.8**, DOI: 10.1016/j.jallcom.2015.09.194]

[10] Albumin matrix assisted wet chemical synthesis of nanocrystalline  $\text{MFe}_2\text{O}_4$  ( $\text{M}=\text{Cu, Co and Zn}$ ) ferrites for visible light driven degradation of methylene blue by hydrogen peroxide by M. Saha, S. Mukherjee, S. Kumar, S. Dey and A. Gayen, *RSC Advances* 6, 58125 (2016). [**Royal Society of Chemistry, Impact Factor: 3.9**, DOI: 10.1039/C6RA04825K]

[11] A highly sensitive non-enzymatic hydrogen peroxide and hydrazine electrochemical sensor based on 3D micro-snowflake architectures of  $\alpha\text{-Fe}_2\text{O}_3$  by S. Majumder, B. Saha, S. Dey, R. Mondal, S. Kumar and S. Banerjee, *RSC Advances* 6, 59907 (2016). [**Royal Society of Chemistry, Impact Factor: 3.9**, DOI: 10.1039/C6RA10470C]

[12] Nanocrystalline CopperNickelZinc Ferrite: Efficient Sensing Materials for Ethanol and Acetone at Room Temperature by C. Mukherjee, R. Mondal, S. Dey, S. Kumar and J. Das, *IEEE Sensors Journal* 17, 2662 (2017). [**IEEE, Impact Factor: 4.3**, DOI: 10.1109/JSEN.2017.2684838]

[13] Study on magnetic and hyperfine properties of mechanically milled  $\text{Ni}_{0.4}\text{Zn}_{0.6}\text{Fe}_2\text{O}_4$  nanoparticles by R. Mondal, S. Dey, S. Majumder, A. Poddar, P. Dasgupta and S. Kumar, *Journal of Magnetism and Magnetic Materials* 135, 448 (2018). [**Elsevier, Impact Factor: 2.5**, DOI: 10.1016/j.jmmm.2017.07.031]

[14] Influence of high energy ball milling on structural parameters, cation distribution and magnetic enhancement of nanosized  $\text{Co}_{0.3}\text{Zn}_{0.7}\text{Fe}_2\text{O}_4$  by R.Mondal, S. Dey, K. Sarkar, P.

Dasgupta and S. Kumar, *Materials Research Bulletin* 160, 102 (2018). [Elsevier, Impact Factor: 5.3, DOI: 10.1016/j.materresbull.2018.02.016]

[15] Presence of mixed magnetic phase in mechanically milled nanosized  $\text{Co}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ : A study on structural, magnetic and hyperfine properties by K. Sarkar, R.Mondal, S. Dey, S. Majumder and S. Kumar, *Journal of Magnetism and Magnetic Materials* 487, 165303 (2019) [Elsevier, Impact Factor: 2.5, DOI: 10.1016/j.jmmm.2019.165303]

[16] Magnetic, Pseudocapacitive, and  $\text{H}_2\text{O}_2$ -Electrosensing Properties of Self-Assembled Superparamagnetic  $\text{Co}_{0.3}\text{Zn}_{0.7}\text{Fe}_2\text{O}_4$  with Enhanced Saturation Magnetization by R.Mondal, K. Sarkar, S. Dey, D. Majumdar, S. K. Bhattacharya, P. Sen and S. Kumar, *ACS Omega* 4, 12632 (2019) [American Chemical Society, Impact Factor: 4.0, DOI: 10.1021/acsomega.9b01362]

[17] Cation vacancy and magnetic properties of  $\text{ZnFe}_2\text{O}_4$  microspheres by K. Sarkar, R.Mondal, S. Dey and S. Kumar, *Physica B* 583, 412015 (2020) [Elsevier, Impact Factor: 2.8, DOI: 10.1016/j.physb.2020.412015]

[18] Influences of crystal structure, microstructure and adsorbed  $\text{CO}_2$  on dielectric properties of  $\text{Ba}_2\text{YbSbO}_6\text{-BaCO}_3$  formed by mechanical activation of  $\text{Ba}_2\text{YbSbO}_6$  by A. Barua, S. K. Dey, S. Dey and S. Kumar, *Physica B* 649, 414449 (2023) [Elsevier, Impact Factor: 2.8, DOI: 10.1016/j.physb.2022.414449]

[19] Influences of morphology, cation distribution and surface spin canting on magnetic and hyperfine properties of mechanically activated and subsequently heat treated nanosized  $\text{Co}_{0.8}\text{Zn}_{0.2}\text{Fe}_2\text{O}_4$  exhibiting excellent catalytic activity by K. Sarkar, M. Dutta, R. Mondal, S. Dey, S. Majumder, N. Sepay, U.C. Halder and S. Kumar, *Materials Today Communications*, 39, 108953 (2024). [Elsevier, Impact Factor: 3.7, DOI: 10.1016/j.mtcomm.2024.108953]

[20] ‘Entanglement Transition’ in a frustrated 4-spin plaquette system with multi spin interactions by V. S. Gomes, A. Tribedi, S. Dey, Accepted in *Molecular Physics* [Taylor & Francis, Impact Factor: 1.937]

[21] Behaviour of one-site entanglement and reduced fidelity in an anisotropic spin-2 chain by V. S. Gomes, A. Tribedi, S. Dey, Communicated to *Physica Scripta* [IOP Publishing (UK), Impact Factor: 2.6]

### **Publications in Conference Proceedings:**

- [1] Superparamagnetic behavior of nanosized  $\text{ZnFe}_2\text{O}_4$  by **S Dey**, R Mondal, S Majumder, P Dasgupta, A Poddar, S Banerjee, S Kumar, *Materials Today Proceedings* 5, 9855 (2018) [Elsevier, DOI: 10.1016/j.matpr.2017.10.177]
- [2] Study on photocatalytic activity of nanosized  $\text{Co}_{0.3}\text{Zn}_{0.7}\text{Fe}_2\text{O}_4$  synthesized by hydrothermal method by R Mondal, K Sarkar, **S Dey**, S Bhattacharjee, CK Ghosh, S Kumar, *AIP Conference Proceedings* 1942 (2018) 050072.
- [3] 3D dendritic  $\alpha\text{-Fe}_2\text{O}_3$  nano-architectures: Synthesis and its application on electrochemical non-enzymatic  $\text{H}_2\text{O}_2$  sensing by S. Majumder, B. Saha, **S. Dey**, K. Bagani, M. K. Roy, S. K.Jana, S. Kumar, and S. Banerjee, *AIP Conference Proceedings* **1665** (2015) 050117.
- [4] Magnetic enhancement and coding in mechanosynthesized  $\text{Ni}_{0.3}\text{Zn}_{0.7}\text{Fe}_2\text{O}_4$  nanoparticles by S. Majumder, **S. Dey**, P. Dasgupta, A. Poddar, S. Banerjee, and S. Kumar, *AIP Conference Proceedings* **1665** (2015) 130035.
- [5] Mechanical milling induced enhancement of magnetic and hyperfine properties of nanosized  $\text{Co}_{0.3}\text{Zn}_{0.7}\text{Fe}_2\text{O}_4$  by R. Mondal, **S. Dey**, S. Singha, P. Dasgupta, A. Poddar, and S. Kumar, *AIP Conference Proceedings* **1665** (2015) 050110.

➤ **Seminar and symposium attended:**

<b>Name of the seminar/ symposium/ workshop</b>	<b>Venue and Date</b>
India-Australia International Workshop on Nanotechnology in Materials and Energy Application (IAWNT 2011)	Jadavpur University, Kolkata 29 <sup>th</sup> – 31 <sup>st</sup> December, 2011
National School cum Workshop on Magnetic Phase Transitions and Transformations during	Jadavpur University, Kolkata 3 <sup>rd</sup> – 9 <sup>th</sup> August, 2011
National Conference on Sustainable Development through Innovative Research in Science and Technology	Jadavpur University, Kolkata 28 <sup>th</sup> – 29 <sup>th</sup> September, 2012
1 <sup>st</sup> International Workshop on Nanomaterials (IWON): Engineering Photon and Phonon Transport	Jadavpur University, Kolkata 14 <sup>th</sup> – 15 <sup>th</sup> December, 2012
International Conference on Magnetic Materials and Applications (MagMa-2013)	Indian Institute of Technology, Guwahati, Assam 5 <sup>th</sup> – 7 <sup>th</sup> December, 2013
Indian Workshop and Symposium on Modelling, Experimentation and Simulation on Complex Systems (MESCoS 2015)	Haldia Institute of Technology, Haldia, West Bengal 5 <sup>th</sup> – 7 <sup>th</sup> August, 2015
National Conference on Nanotechnology: Materials and Applications (NCoN:M&A)	Jadavpur University, Kolkata 16 <sup>th</sup> – 17 <sup>th</sup> June, 2016
International Conference on Functional Nanomaterials (IC-FNM 2016)	Indian Institute of Engineering Science and Technology (IEST), Shibpur, India 28 <sup>th</sup> – 29 <sup>th</sup> September, 2016.
Fourth International Symposium on Semiconductor Materials and Devices (ISSMD 4)	Jadavpur University, Kolkata 8 <sup>th</sup> – 10 <sup>th</sup> March, 2017
DAE Solid State Physics Symposium 2017	BARC, Mumbai 26 <sup>th</sup> – 30 <sup>th</sup> December, 2017
National Conference on Environmental Radiation: Impact on Society and its Implications (ERISI 2019)	Jadavpur University, Kolkata 15 <sup>th</sup> -16 <sup>th</sup> November, 2019

➤ **FDP and workshops attended:**

12-week Course on Foundation of Classical Electrodynamics	SWAYAM-NPTEL July – October 2022
3 Day National Workshop on Pedagogy and Syllabus Designing Towards Outcome Based Teaching - Learning	SVU 4 <sup>th</sup> – 6 <sup>th</sup> May, 2023
5 Day FDP on Teaching Pedagogy and Research Methodology in Contemporary Times: Effective Process and Tools	SVIST, Kolkata 24 <sup>th</sup> – 29 <sup>th</sup> March, 2023
3 Day FDP on Gamification	SVIST, Kolkata 11 <sup>th</sup> – 13 <sup>th</sup> April, 2023

➤ **Name and Contact Details of Reference:**

Name	Position	Institutional Affiliation	Address and Contact
Dr. Sanjay Kumar	Professor	Jadavpur University	Department of Physics Jadavpur University Kolkata 700 032 Mobile No.9831115427
Dr. Debasish Biswas	Professor	Jadavpur University	Department of Physics Jadavpur University Kolkata 700 032 Mobile No.9038957600
Dr. Argha Deb	Professor	Jadavpur University	Department of Physics Jadavpur University Kolkata 700 032 Mobile No.9433426531

**I hereby declare that the information furnished above is true to the best of my knowledge.**

**(Subhrajyoti Dey)**