


## STANDARD TEMPLATE OF FACULTY PROFILE FOR UPLOADING OF UNIVERSITY WEBSITE

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Subjects Taught	<ul style="list-style-type: none"> <li>• Ph.D. Teaching Program of IUAC: Energy loss of MeV ions in solids (Module 1.1)</li> <li>• M.Tech. Nanoscience &amp; Technology: Elements of physics (NST101), Nanodevices &amp; nanosensors (NST106), Elements of material science &amp; properties of nanomaterials (NST107), Carbon nanotubes &amp; it's functionalization (NST209) &amp; Laboratory (NST151, NST152)</li> <li>• M.Tech. Engineering Physics: Ion beam technology (BAEP711): Accelerators, Ion sources, Beam optics, Vacuum, Cryogenics, Applications of ion beam in materials science</li> <li>• B.Tech. (Biotechnology, Chemical Technology, Biochemical engineering, Computer Science and Engineering, Information Technology, Electronics and Communications Engineering): Foundation courses in Physics: Quantum Mechanics, Statistical Physics, Relativity, Optics, Band Theory of Solids, Electromagnetism (BA111, BA137, BA138, BA110, BA116) &amp; Laboratory (BA153, BA156, BA185, BA186, BS113)</li> </ul>					
Areas of Interest/Specialization	Nanoscience & Nanotechnology; Plasmonics, Photocatalysis, Catalysis, Gas Sensing, Optical Sensing, Biosensing, SERS, Antimicrobials, Ion beam technology, Water Purification					

Experience (in years)	Total	21
	Industry	
	Teaching	15
	Research	21
Educational Qualifications	UG	B.Sc. (Physics (Honours)) from <i>Utkal University, Bhubaneswar</i>
	PG	M.Sc. (Physics) from <i>Utkal University, Bhubaneswar</i>
	Doctorate	Ph.D. (Physics) from <a href="#"><i>Institute of Physics (IOP), Bhubaneswar</i></a>
	Any other	<ul style="list-style-type: none"> <li>• Postdoctoral Research Associate from <a href="#"><i>Inter University Accelerator Centre (IUAC), New Delhi</i></a></li> <li>• Brain Korea Visiting Scientist in <i>SAINT, Suwon, South Korea</i></li> <li>• Postdoctoral Visiting Fellow, CSNSM, Orsay, France</li> <li>• Diploma in Advanced Physics from <i>Institute of Physics (IOP), Bhubaneswar</i></li> </ul>
Research Publications in Journals (last 5 years)	<ol style="list-style-type: none"> <li>1) Shipra Choudhary, Kavita Sahu, Aditi Bisht, Biswarup Satpati and <b>Satyabrata Mohapatra</b>, Rapid synthesis of ZnO nanowires and nanoplates with highly enhanced photocatalytic performance, <b><i>Applied Surface Science</i></b> 541, 148484 (2021). (Impact Factor: 6.707)</li> <li>2) Shipra Choudhary, Dilruba Hasina, Mahesh Saini, Mukesh Ranjan and <b>Satyabrata Mohapatra</b>, Facile synthesis, morphological, structural, photocatalytic and optical properties of ZnFe<sub>2</sub>O<sub>4</sub>-ZnO hybrid nanostructures, <b><i>Journal of Alloys and Compounds</i></b> (2021) DOI: 10.1016/j.jallcom.2021.162723 (Impact Factor: 5.316)</li> <li>3) Jamilur R. Ansari, Neelam Singh, Shadab Anwar, <b>Satyabrata Mohapatra</b>, Anindya Datta, Silver nanoparticles decorated two dimensional MoS<sub>2</sub> nanosheets for enhanced photocatalytic activity, <b><i>Colloids Surfaces A: Engineering</i></b> (2021) DOI: 10.1016/j.colsurfa.2021.128102 (Impact Factor: 4.539)</li> <li>4) Rohit Kumar, Anita Sudhaik, Aftab Aslam Parwaz Khan, Pankaj Raizada, Abdullah M Asiri, <b>Satyabrata Mohapatra</b>, Sourbh Thakur, Vijay Kumar Thakur, Pardeep Singh, Current status on designing of dual Z-scheme photocatalysts for energy and environmental applications, <b><i>Journal of Industrial and Engineering Chemistry</i></b> (2021) DOI: 10.1016/j.jiec.2021.11.008 (Impact Factor: 6.064)</li> <li>5) Kavita Sahu, Aditi Bisht, Alapan Dutta, Tapobrata Som and</li> </ol>	

**Satyabrata Mohapatra**, Fabrication of Au-Cu<sub>2</sub>O-CuO nanocomposite thin films by RF magnetron sputtering for photocatalytic and catalytic applications, **Surfaces and Interfaces** 26, 101436 (2021). (Impact Factor: 4.837)

- 6) Shipra Choudhary, Aditi Bisht and **Satyabrata Mohapatra**, Microwave-assisted synthesis of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/ZnFe<sub>2</sub>O<sub>4</sub>/ZnO ternary hybrid nanostructures as highly efficient photocatalysts, **Ceramics International** 47, 3833-3841 (2021). (Impact Factor: 4.527)
- 7) Kavita Sahu, Biswarup Satpati and **Satyabrata Mohapatra**, Facile fabrication of CuO nanosheets for photocatalytic applications, **Applied Physics A** 127, 361 (2021). (Impact Factor: 2.584)
- 8) Shipra Choudhary, Aditi Bisht, Manas Kumar Dalai and **Satyabrata Mohapatra**, Facile synthesis, morphological, structural, photocatalytic and optical properties of ZnFe<sub>2</sub>O<sub>4</sub> nanostructures, **Journal of Materials Science: Materials in Electronics** 32, 27429-27440 (2021). (Impact Factor: 2.478)
- 9) Kavita Sahu, Saif A. Khan, A. Pandey and **Satyabrata Mohapatra**, Thermal evolution of morphological, optical, and photocatalytic properties of Au-Cu<sub>2</sub>O-CuO nanocomposite thin film, **Journal of Materials Science: Materials in Electronics** 32, 24058-24068 (2021). (Impact Factor: 2.478)
- 10) Shipra Choudhary, Aditi Bisht, Biswarup Satpati and **Satyabrata Mohapatra**, Effects of Ce doping on structural, optical and photocatalytic properties of ZnO nanospindles, **Applied Physics A** 127, 909 (2021) (Impact Factor: 2.584)
- 11) Kavita Sahu, Aditi Bisht, Akhilesh Pandey, Alapan Dutta, Saif A. Khan, Rahul Singhal, Tapobrata Som and **Satyabrata Mohapatra**, RF magnetron sputtered Ag-Cu<sub>2</sub>O-CuO nanocomposite thin films with enhanced photocatalytic and catalytic activities, **Applied Surface Science** 517, 146169 (2020). (Impact Factor: 6.707)
- 12) Neha Bhardwaj, Biswarup Satpati and **Satyabrata Mohapatra**, Plasmon-enhanced photoluminescence from SnO<sub>2</sub> nanostructures decorated with Au nanoparticles, **Applied Surface Science** 504, 144381 (2020). (Impact Factor: 6.707)
- 13) Shipra Choudhary, Kavita Sahu, Aditi Bisht, Rahul Singhal and **Satyabrata Mohapatra**, Template-free and surfactant-free synthesis of CeO<sub>2</sub> nanodiscs with enhanced photocatalytic activity, **Applied Surface Science** 503, 144102 (2020). (Impact Factor: 6.707)
- 14) Kavita Sahu, Biswarup Satpati and **Satyabrata Mohapatra**, Facile fabrication of CuO spindles for photocatalytic applications, **Ceramics International** 46, 24407-24412 (2020). (Impact Factor: 4.527)

- 15) Kavita Sahu, Aditi Bisht, Saif A. Khan, Indra Sulania, Rahul Singhal, Akhilesh Pandey and **Satyabrata Mohapatra**, Thickness dependent optical, structural, morphological, photocatalytic and catalytic properties of radio frequency magnetron sputtered nanostructured Cu<sub>2</sub>O-CuO thin films, **Ceramics International** 46, 14902-14912 (2020). (Impact Factor: 4.527)
- 16) Kavita Sahu, Shipra Choudhary and **Satyabrata Mohapatra**, Fabrication of Au-CuO hybrid plasmonic nanostructured thin films with enhanced photocatalytic activity, **Materials Research Bulletin** 123, 110707 (2020). (Impact Factor: 4.641)
- 17) Kavita Sahu, Aditi Bisht, Sini Kuriakose and **Satyabrata Mohapatra**, Two-dimensional CuO-ZnO nanohybrids with enhanced photocatalytic performance for removal of pollutants, **Journal of Physics and Chemistry of Solids** 137, 109223 (2020). (Impact Factor: 3.995)
- 18) **Satyabrata Mohapatra**, Jaspal Singh, Biswarup Satpati, Facile synthesis, structural, optical and photocatalytic properties of mesoporous Ag<sub>2</sub>O/TiO<sub>2</sub> nanoheterojunctions, **Journal of Physics and Chemistry of Solids** 138, 109305 (2020). (Impact Factor: 3.995)
- 19) Kavita Sahu, Biswarup Satpati, Rahul Singhal and **Satyabrata Mohapatra**, Enhanced catalytic activity of CuO/Cu<sub>2</sub>O hybrid nanowires for reduction of 4-nitrophenol in water, **Journal of Physics and Chemistry of Solids** 136, 109143 (2020). (Impact Factor: 3.995)
- 20) Jaspal Singh, Kavita Sahu, Shipra Choudhary, Aditi Bisht and **Satyabrata Mohapatra**, Thermal annealing induced cave in and formation of nanoscale pits in Ag-TiO<sub>2</sub> plasmonic nanocomposite thin film, **Ceramics International** 46, 3275-3281 (2020). (Impact Factor: 4.527)
- 21) Kavita Sahu, Aditi Bisht, Saif A. Khan, Akhilesh Pandey and **Satyabrata Mohapatra**, Engineering of morphological, optical, structural, photocatalytic and catalytic properties of nanostructured CuO thin films fabricated by reactive DC magnetron sputtering, **Ceramics International** 46, 7499-7509 (2020). (Impact Factor: 4.527)
- 22) Kavita Sahu, Rahul Singhal and **Satyabrata Mohapatra**, Morphology controlled CuO nanostructures for efficient catalytic reduction of 4-nitrophenol, **Catalysis Letters** 150, 471-481 (2020). (Impact Factor: 3.186)
- 23) Harsimrat Kaur, Monika Sharma, Ramkrishna Ghosh, **Satyabrata Mohapatra**, Bijoy Kuanr, Magnetic bipolar transistor based on ZnO/NiO/Si heterostructure using pulsed laser deposition, **AIP Advances** 10, 015119 (2020). (Impact Factor: 1.62)
- 24) Meenal Gupta, Anusree Das, **Satyabrata Mohapatra**,

- Dipankar Das and Anindya Datta, Surfactant based synthesis and magnetic studies of cobalt ferrite, ***Applied Physics A*** 126, 660 (2020). (Impact Factor: 2.584)
- 25) Kavita Sahu, Akhilesh Pandey and **Satyabrata Mohapatra**, Cu-CuO and Cu-CuO-ZnO hybrid nanostructures as photocatalysts and catalysts for efficient removal of pollutants, ***Applied Physics A*** 126, 889 (2020). (Impact Factor: 2.584)
- 26) Meenal Gupta, Anusree Das, Dipankar Das, **Satyabrata Mohapatra**, Anindya Datta, Chemical synthesis of rare earth (La, Gd) doped cobalt ferrite and a comparative analysis of their magnetic properties, ***Journal of Nanoscience and Nanotechnology*** 20, 5239-5245 (2020). (Impact Factor: 1.354)
- 27) Kavita Sahu, Biswarup Satpati and **Satyabrata Mohapatra**, Facile synthesis and phase-dependent catalytic activity of cabbage-type copper oxide nanostructures for highly efficient reduction of 4-nitrophenol, ***Catalysis Letters*** 149, 2519-2527 (2019). (Impact Factor: 2.911)
- 28) Jaspal Singh, Kavita Sahu, Biswarup Satpati, Jyoti Shah, R. K. Kotnala, **Satyabrata Mohapatra**, Facile synthesis, structural and optical properties of Au-TiO<sub>2</sub> plasmonic nanohybrids for photocatalytic applications, ***Journal of Physics and Chemistry of Solids*** 135, 190100 (2019). (Impact Factor: 3.442)
- 29) Kavita Sahu, Jaspal Singh and **Satyabrata Mohapatra**, Catalytic reduction of 4-nitrophenol and photocatalytic degradation of organic pollutants in water by copper oxide nanosheets, ***Optical Materials*** 93, 58-69 (2019). (Impact Factor: 2.779)
- 30) Kavita Sahu, Jaspal Singh, and **Satyabrata Mohapatra**, Photocatalytic and catalytic removal of toxic pollutants from water using CuO nanosheets, ***Journal of Materials Science: Materials in Electronics*** 30, 6088-6099 (2019). (Impact Factor: 2.22).
- 31) Bandita Mohapatra, Deepak Kumar, Nimisha Sharma and **Satyabrata Mohapatra**, Morphological, plasmonic and enhanced antibacterial properties of Ag nanoparticles prepared using *Zingiber officinale* extract, ***Journal of Physics and Chemistry of Solids*** 126, 257-266 (2019). (Impact Factor: 3.442)
- 32) Jaspal Singh, Kavita Sahu, Ranveer Singh, T. Som, R. K. Kotnala and **Satyabrata Mohapatra**, Thermal annealing induced strong photoluminescence enhancement in Ag-TiO<sub>2</sub> plasmonic nanocomposite thin films, ***Journal of Alloys and Compounds*** 786, 750-757 (2019). (Impact Factor: 4.65)
- 33) Jaspal Singh, Kavita Sahu and **Satyabrata Mohapatra**, Ion beam engineering of morphological, structural, optical and

- photocatalytic properties of Ag-TiO<sub>2</sub>-PVA nanocomposite thin film, **Ceramics International** 45, 7976-7983 (2019). (Impact Factor: 3.83)
- 34) Jaspal Singh, Kavita Sahu and **Satyabrata Mohapatra**, Thermal annealing induced evolution of morphological, structural, optical and photocatalytic properties of Ag-TiO<sub>2</sub> nanocomposite thin films, **Journal of Physics and Chemistry of Solids** 129, 317-323 (2019). (Impact Factor: 3.442)
- 35) Kavita Sahu, Shipra Choudhary, Saif A. Khan, Akhilesh Pandey and **Satyabrata Mohapatra**, Thermal evolution of morphological, structural, optical and photocatalytic properties of CuO thin films, **Nano-Structures & Nano-Objects** 17, 92-102 (2019).
- 36) J. R. Ansari, N. Singh, **Satyabrata Mohapatra**, R. Ahmad, N. R. Saha, D. Chattopadhyay, M. Mukherjee, A. Datta, Enhanced near infrared luminescence in Ag@Ag<sub>2</sub>S core-shell nanoparticles, **Applied Surface Science** 463, 573-580 (2019). (Impact Factor: 6.182)
- 37) Jaspal Singh, Nishant Tripathi and **Satyabrata Mohapatra**, Synthesis of Ag-TiO<sub>2</sub> hybrid nanostructures with enhanced photocatalytic activity by a facile wet chemical method, **Nano-Structures & Nano-Objects** 18, 100266 (2019).
- 38) Jaspal Singh, Kavita Sahu, Biswarup Satpati, **Satyabrata Mohapatra**, Facile synthesis, structural, optical and photocatalytic properties of anatase/ rutile mixed phase TiO<sub>2</sub> ball-like sub-micron structures, **Optik** 188, 270-276 (2019). (Impact Factor: 2.187)
- 39) Shipra Choudhary, Aditi Bisht and **Satyabrata Mohapatra**, Facile synthesis, morphological, structural, photocatalytic and optical properties of CoFe<sub>2</sub>O<sub>4</sub> nanostructures, **SN Applied Sciences** 1, 1613 (2019).
- 40) Kavita Sahu, Shipra Choudhary, Jaspal Singh, Sini Kuriakose, Rahul Singhal and **Satyabrata Mohapatra**, Facile wet chemical synthesis of ZnO nanosheets: effects of counter ions on the morphological, structural, optical and photocatalytic properties, **Ceramics International** 44, 23094-23101 (2018). (Impact Factor: 3.83)
- 41) Kavita Sahu, Sini Kuriakose, Jaspal Singh, Biswarup Satpati and **Satyabrata Mohapatra**, Facile synthesis of ZnO nanoplates and nanoparticle aggregates for highly efficient photocatalytic degradation of organic dyes, **Journal of Physics and Chemistry of Solids** 121, 186-195 (2018). (Impact Factor: 3.442)
- 42) Jaspal Singh, Saif A. Khan, J. Shah, R. K. Kotnala and **Satyabrata Mohapatra**, Nanostructured TiO<sub>2</sub> thin films prepared by RF magnetron sputtering for photocatalytic applications, **Applied Surface Science** 422, 953-961 (2017).

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- 43) Jaspal Singh, Kavita Sahu, A. Pandey, Mohit Kumar, Tapas Ghosh, B. Satpati, T. Som, S. Varma, D. K. Avasthi and **Satyabrata Mohapatra**, Atom beam sputtered Ag-TiO<sub>2</sub> nanocomposite thin films for photocatalytic applications, ***Applied Surface Science*** 411, 347-354 (2017). (Impact Factor: 6.182)
- 44) Sini Kuriakose, Kavita Sahu, Saif A. Khan, A. Tripathi, D. K. Avasthi and **Satyabrata Mohapatra**, Facile synthesis of Au-ZnO plasmonic nanohybrids for highly efficient photocatalytic degradation of methylene blue, ***Optical Materials*** 64, 47-52 (2017). (Impact Factor: 2.779)
- 45) Jaspal Singh, Kavita Sahu, Sini Kuriakose, Nishant Tripathi, D. K. Avasthi and **Satyabrata Mohapatra**, Synthesis of nanostructured TiO<sub>2</sub> thin films with highly enhanced photocatalytic activity by atom beam sputtering, ***Advanced Materials Letters*** 8, 107-113 (2017). (Impact Factor: 1.46)
- 46) Jaspal Singh, Biswarup Satpati and **Satyabrata Mohapatra**, Structural, optical and plasmonic properties of Ag-TiO<sub>2</sub> hybrid plasmonic nanostructures with enhanced photocatalytic activity, ***Plasmonics*** 12, 877-888 (2017). (Impact Factor: 2.366)
- 47) **Satyabrata Mohapatra**, Enhanced gettering of gold at end-of-range defects in high energy ion implanted silicon, ***Advanced Materials Letters*** 8, 999-1003 (2017). (Impact Factor: 1.46)
- 48) **Satyabrata Mohapatra**, Plasmonic properties of Ag nanoparticles embedded in GeO<sub>2</sub>-SiO<sub>2</sub> matrix by atom beam sputtering, ***Physical Chemistry Chemical Physics*** 18, 3878-3883 (2016). (Impact Factor: 4.449)
- 49) Neha Bhardwaj, Akhilesh Pandey, Biswarup Satpati, Monika Tomar, Vinay Gupta and **Satyabrata Mohapatra**, Enhanced CO gas sensing properties of Cu doped SnO<sub>2</sub> nanostructures prepared by a facile wet chemical method, ***Physical Chemistry Chemical Physics*** 18, 18846-18854 (2016). (Impact Factor: 4.449)
- 50) Neha Bhardwaj, Akhilesh Pandey, D. K. Avasthi and **Satyabrata Mohapatra**, Ion beam engineering of morphological, structural and optical properties of Au/SnO<sub>2</sub> hybrid nanostructured thin films, ***Journal of Alloys and Compounds*** 680, 155-162 (2016). (Impact Factor: 4.65)
- 51) Neha Bhardwaj, Akhilesh Pandey and **Satyabrata Mohapatra**, Effects of MeV heavy ion irradiation on structural, morphological and optical properties of nanostructured SnO<sub>2</sub> thin films prepared by thermal evaporation, ***Journal of Alloys and Compounds*** 656, 647-653 (2016). (Impact Factor: 4.65)

- 52) Renu Kumari, P. K. Kulriya, V. Grover, R. Shukla, K. Saravanan, **S. Mohapatra**, A. K. Tyagi, D. K. Avasthi, Radiation stability of  $Gd_2Zr_2O_7$ : effect of stoichiometry and structure, **Ceramics International** 42, 103-109 (2016). (Impact Factor: 3.83)
- 53) Neha Bhardwaj and **Satyabrata Mohapatra**, Structural, optical and gas sensing properties of Ag-SnO<sub>2</sub> plasmonic nanocomposite thin films, **Ceramics International** 42, 17237-17242 (2016). (Impact Factor: 3.83)
- 54) P. A. Karaseov, V. S. Protopopova, K. V. Karabeshkin, E. N. Shubina, M. V. Mishin, J. Koskinen, **S. Mohapatra**, A. Tripathi, D. K. Avasthi, A. I. Titov, Swift heavy ion irradiation of metal containing tetrahedral amorphous carbon films, **Nucl. Instr. and Meth. B** 379, 162-166 (2016). (Impact Factor: 1.27)
- 55) Sini Kuriakose, Biswarup Satpati and **Satyabrata Mohapatra**, Highly efficient photocatalytic degradation of organic dyes by Cu doped ZnO nanostructures, **Physical Chemistry Chemical Physics** 17 (2015) 25172-25181. (Impact Factor: 4.493)
- 56) Sini Kuriakose, Biswarup Satpati and **Satyabrata Mohapatra**, Effects of solvent on structural, optical and photocatalytic properties of ZnO nanostructures, **Advanced Materials Letters** 6, 1104-1110 (2015). (Impact Factor: 1.9)
- 57) Jaspal Singh and **Satyabrata Mohapatra**, Thermal evolution of structural, optical and photocatalytic properties of TiO<sub>2</sub> nanostructures, **Advanced Materials Letters** 6, 924-929 (2015). (Impact Factor: 1.9)
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- 59) Sini Kuriakose, D. K. Avasthi, **Satyabrata Mohapatra**, Effects of swift heavy ion irradiation on the structural, optical and photocatalytic properties of ZnO-CuO nanocomposites prepared by carbothermal evaporation method, **Beilstein Journal of Nanotechnology** 6, 928-937 (2015). (Impact Factor: 2.778)
- 60) Neha Bhardwaj and **Satyabrata Mohapatra**, Ion beam induced evolution of surface morphology and optical properties of SnO<sub>2</sub>-ZnO nanocomposite thin films, **Ceramics International** 41, 8614-8622 (2015). (Impact Factor: 3.83)
- 61) Bandita Mohapatra, Sini Kuriakose and **Satyabrata Mohapatra**, Rapid green synthesis of silver nanoparticles and nanorods using *Piper nigrum* extract, **Journal of Alloys and Compounds** 637, 119-126 (2015). (Impact Factor: 4.65)



- 62) Neha Bhardwaj and **Satyabrata Mohapatra**, Fabrication of SnO<sub>2</sub> three dimensional complex microcrystal chains by carbothermal reduction method, **Advanced Materials Letters** 6, 148-152 (2015). (Impact Factor: 1.9)
- 63) Sini Kuriakose, Biswarup Satpati and **Satyabrata Mohapatra**, Facile synthesis of Co doped ZnO nanodisks for highly efficient photocatalytic degradation of methyl orange, **Advanced Materials Letters** 6, 217-223 (2015). (Impact Factor: 1.9)
- 64) Bandita Mohapatra, Reena Kaintura, Jaspal Singh, Sini Kuriakose, and **Satyabrata Mohapatra**, Biosynthesis of high concentration, stable aqueous dispersions of silver nanoparticles using *Citrus limon* extract, **Advanced Materials Letters** 6, 228-234 (2015). (Impact Factor: 1.9)
- 65) H. Amekura, **S. Mohapatra**, U. B. Singh, S. A. Khan, P. Kulriya, N. Ishikawa, N. Okubo, and D. K. Avasthi, Shape elongation of Zn nanoparticles in silica irradiated with swift heavy ions of different species and energies: Scaling law and some insights on the elongation mechanism, **Nanotechnology** 25, 435301 (2014). (Impact Factor: 3.821)
- 66) Neha Bhardwaj, Sini Kuriakose, A. Pandey, R. C. Sharma, D. K. Avasthi and **Satyabrata Mohapatra**, Effects of MeV ion irradiation on structural and optical properties of SnO<sub>2</sub>-ZnO nanocomposites prepared by carbothermal evaporation, **Journal of Alloys and Compounds** 617, 734-739 (2014). (Impact Factor: 4.65)
- 67) Sini Kuriakose, Vandana Choudhary, Biswarup Satpati, **Satyabrata Mohapatra**, Facile synthesis of Ag-ZnO hybrid nanospindles for highly efficient photocatalytic degradation of methyl orange, **Physical Chemistry Chemical Physics** 16, 17560-17568 (2014). (Impact Factor: 4.493)
- 68) Sini Kuriakose, Biswarup Satpati, **Satyabrata Mohapatra**, Enhanced photocatalytic activity of Co doped ZnO nanodisks and nanorods prepared by a facile wet chemical method, **Physical Chemistry Chemical Physics** 16, 12741-12749 (2014). (Impact Factor: 4.493)
- 69) **S. Mohapatra**, Tunable surface plasmon resonance of silver nanoclusters in ion exchanged soda lime glass, **Journal of Alloys and Compounds** 598, 11-15 (2014). (Impact Factor: 4.65)
- 70) Sini Kuriakose, Vandana, B. Satpati and **S. Mohapatra**, Enhanced photocatalytic activity of Ag-ZnO hybrid plasmonic nanostructures prepared by a facile wet chemical method, **Beilstein Journal of Nanotechnology** 5, 639-650 (2014). (Impact Factor: 2.778)
- 71) Neha Bhardwaj, Sini Kuriakose and **S. Mohapatra**, Structural and optical properties of SnO<sub>2</sub> nanotowers and

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- 72) Udai B. Singh, D. C. Agarwal, S. A. Khan, **S. Mohapatra**, H. Amekura, D. P. Datta, Ajay Kumar, R. K. Choudhury, T. K. Chan, T. Osipowicz, D. K. Avasthi, Synthesis of embedded Au nanostructures by ion irradiation: influence of ion induced viscous flow and sputtering, **Beilstein Journal of Nanotechnology** 5, 105-110 (2014). (Impact Factor: 2.778)
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- 74) **S. Mohapatra**, Ejection of Au and Si nanocrystals from Au implanted Si(100) by MeV heavy ion irradiation, **Applied Surface Science** 283, 128-133 (2013). (Impact Factor: 6.182)
- 75) Sini Kuriakose, Neha Bhardwaj, Jaspal Singh, Biswarup Satpati and **S. Mohapatra**, Structural, optical and photocatalytic properties of flower-like ZnO nanostructures prepared by a facile wet chemical method, **Beilstein Journal of Nanotechnology** 4, 763-770 (2013). (Impact Factor: 2.778)
- 76) Y. K. Mishra, R. Adelung, G. Kumar, M. Elbahri, **S. Mohapatra**, R. Singhal, A. Tripathi, D. K. Avasthi, Formation of self-organized silver nanocup-type structures and their plasmonic absorption, **Plasmonics** 8, 811-815 (2013). (Impact Factor: 3.526)
- 77) **S. Mohapatra**, Y. K. Mishra, J. Ghatak, and D. K. Avasthi, *In-situ* TEM observation of electron irradiation induced shape transition of elongated gold nanoparticles embedded in silica, **Advanced Materials Letters** 4, 444-448 (2013). (Impact Factor: 1.93)
- 78) **S. Mohapatra**, Y. K. Mishra, A. M. Warriar, Reji Philip, S. Sahoo, A. K. Arora, D. K. Avasthi, Plasmonic, low frequency Raman and non-linear optical limiting studies in copper-silica nanocomposites, **Plasmonics** 7, 25-31 (2012). (Impact Factor: 3.526)
- 79) Y. K. Mishra, V. S. K. Chakravadhanula, V. Hrkac, S. Jebril, D. C. Agarwal, **S. Mohapatra**, D. K. Avasthi, L. Kienle, R. Adelung, Crystal growth behaviours in Au-ZnO nanocomposite under different annealing environments and photoswitchability, **Journal of Applied Physics** 112, 064308 (2012). (Impact Factor: 2.21)
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Papers Published in Conference Proceedings (last 5 years)	None			
Books Authored/Book Volume Chapters	<p><b>Books:</b></p> <ul style="list-style-type: none"> <li>• Editor of book “<i>Noble metal-metal oxide hybrid nanoparticles: fundamentals and applications</i>” (2018) under Micro and Nano Technologies Books: Advanced Nanomaterials Series, ISBN: 9780128141342 (Elsevier)</li> </ul> <p><b>Book Chapter:</b></p> <ul style="list-style-type: none"> <li>• <b>S. Mohapatra</b>, D. Kabiraj and D. K. Avasthi, Synthesis of nanocomposites thin films by atom beam co-sputtering, <i>Synthesis and Engineering of Nanostructures by Energetic Ions</i> (Nova publishers, Editors: Devesh Kumar Avasthi and J. C. Pivin) (2011)</li> </ul>			
No. of Conferences	National	Attended		Organized
		17		
	International	15		2
Research Guidance	Awarded	PG	M. Phil	Doctorate
		63		04
	Undergoing			04
Research Projects	Completed	14 research projects funded by DST, UGC, IUAC and DAE-BRNS		
	Undergoing	01 research project funded by IUAC		
Awards & Distinctions	<ul style="list-style-type: none"> <li>• Included in <b>World's Top 2% Scientists in Applied Physics</b> with Global Rank # 1397 and All India Rank # 29 by <i>Stanford University, USA</i> (2020)</li> <li>• Included in <b>World's Top 2% Scientists in Applied Physics</b> with Global Rank # 2086 and All India Rank # 49 by <i>Stanford University, USA</i> (2021)</li> <li>• <b>Member of The National Academy of Sciences, India</b> (2019)</li> <li>• <b>Top 10% Highly Cited Authors in Royal Society of Chemistry</b> physical portfolio of journals</li> <li>• <b>Editor</b> of International Journal <b>NANO</b> (2021)</li> <li>• <b>Associate Editor</b>, <i>Nanocatalysis</i> specialty section of “<i>Frontiers in Nanotechnology</i>” (2021)</li> <li>• <b>Faculty Achievement Award</b>, GGS Indraprastha University (2021)</li> <li>• <b>Section Editor</b>, <i>Current Nano-Toxicity and Prevention</i> (2019)</li> </ul>			

	<ul style="list-style-type: none"> <li>• Editorial Board Member, <i>Biomedical Nanotechnology</i> specialty section of <i>Frontiers in Nanotechnology</i> (2019)</li> <li>• Editorial Board Member, <i>Recent Patents on Nanotechnology</i> (2019)</li> <li>• Editorial Board Member, <i>General Chemistry</i> (2019)</li> <li>• <b>Faculty Achievement Award</b>, GGS Indraprastha University (2016)</li> <li>• <b>Best Researcher in Science Award</b>, GGS Indraprastha University (2014)</li> <li>• DST Young Scientist Award (2008)</li> <li>• Council of Scientific and Industrial Research Fellowship (2000)</li> <li>• CSIR-UGC National Eligibility Test Lectureship (1999)</li> <li>• Best Post-Graduate Student Award for M.Sc. in Physics (1999)</li> </ul>
Administrative Assignments Handled	<ul style="list-style-type: none"> <li>• Coordinator of International Affairs, USBAS, GGS Indraprastha University, New Delhi</li> <li>• Coordinator of NAAC, USBAS, GGS Indraprastha University, New Delhi</li> <li>• Coordinator of National Institutional Ranking Framework (NIRF), USBAS, GGS Indraprastha University, New Delhi</li> <li>• Teacher In-charge, Nanoscience and Technology Laboratory, GGS Indraprastha University</li> <li>• In-charge, Technology Resource Centre, GGS Indraprastha University (2008-2012)</li> <li>• In-charge, Advanced Physics Laboratory, GGS Indraprastha University (2013-2014)</li> <li>• Co-coordinator, M.Tech. Engineering Physics, GGS Indraprastha University (2009-2011)</li> <li>• Member of Board of Studies, School Research Committee, Purchase committee, Admission Committee and Library Committee of USBAS, GGS Indraprastha University</li> <li>• Member, Area Advisory Board of Amity Institute of Nanotechnology, Noida</li> </ul>
Association with Professional Bodies	<ul style="list-style-type: none"> <li>• Life Member of Society for Materials Chemistry, India</li> </ul>
Any other Achievements	<ul style="list-style-type: none"> <li>• Dr. Mohapatra obtained his Ph.D. from <a href="#">Institute of Physics (IOP), Bhubaneswar</a> during which he extensively worked on ion beam engineering of plasmonic nanostructures and metal gettering in silicon.</li> <li>• He worked at <a href="#">Inter University Accelerator Centre (IUAC), New Delhi</a> as <i>Postdoctoral Research Associate</i> where he worked extensively on plasmonics and explored various optical and biomedical applications of plasmonic nanostructures and nanocomposites.</li> </ul>

- Dr. Mohapatra has established *Multifunctional Nanomaterials Group* and is currently heading the *Multifunctional Nanomaterials Laboratory*.
- His research is focused on the development of multifunctional hybrid nanostructures, 2D materials and metal oxide semiconductor based hybrid plasmonic nanostructures and nanocomposites and their ion beam engineering for applications in Photocatalysis, Catalysis, Optical Sensing, Gas Sensing, SERS, Biosensing, Antimicrobials and Water Purification.
- Dr. Mohapatra is a **Member of the National Academy of Sciences, India**.
- His excellent research credentials are reflected by his more than **120** peer-reviewed papers in international journals, **one** paper in national journal, **one** edited book and **one** book chapter and **100** conference papers.
- Dr. Mohapatra has been recently included in the **World's Top 2% Scientists in Applied Physics** with Global Rank # 1397 and All India Rank # 29 in 2020 and with Global Rank # 2086 and All India Rank # 49 in 2021 by Stanford University, USA.
- Dr. Mohapatra has **h index** of **33** with **3500+** Citations and is included among the **Top 10% Highly Cited Authors of Royal Society of Chemistry** among Physical portfolio of journals.
- He has been working as a reviewer for over **90** international journals from Royal Society of Chemistry, American Chemical Society, American Institute of Physics, Springer and Elsevier.
- Dr. Mohapatra has more than **21** years of research experience in synthesis and ion beam engineering of nanostructured materials and plasmonic nanocomposites, defect engineering for Si device processing and nanotechnology.
- He has **15** years of experience in teaching various M.Tech. & B.Tech. programs of GGS Indraprastha University, New Delhi and Ph.D Training Program of IUAC, New Delhi and has special interest in developing and teaching Nanoscience & Nanotechnology and Ion Beam Technology Curriculum.
- He has completed **14** research projects funded by DST, UGC, IUAC and DAE-BRNS and has **one** ongoing research project funded by IUAC, New Delhi.
- He has active international collaborations with Univ. of Kiel, Germany, NIMS, Japan and St-Petersburg State Polytechnical University, Russia.
- He has guided **4** Ph.D. Thesis, **63** M.Tech. Thesis and currently **4** Ph.D. research scholars, **one** DST INSPIRE Fellow, **one** DST WOS-A Women Scientist and one CSIR Research Associate are working under his supervision.



**Editorial Activities:**

- **Editor** of the International Journal **NANO** (2021)
- **Associate Editor**, *Nanocatalysis* specialty section of “**Frontiers in Nanotechnology**” (2021)
- Editorial Board Member of “*Recent Patents on Nanotechnology*” (2019)
- Editorial Board Member of Biomedical Nanotechnology specialty section of “*Frontiers in Nanotechnology*” (2019)
- **Section Editor** of *Current Nano-Toxicity and Prevention* (2019)
- Editorial Board Member of *General Chemistry* (2019)
- **Lead Guest Editor** for Special Issue on “*Plasmonics and Surface Enhanced Raman Scattering of Nanostructures and Nanocomposites*” in *Journal of Spectroscopy* (Hindawi).
- **Editor** of book “*Noble metal-metal oxide hybrid nanoparticles: fundamentals and applications*” (2018) under Micro and Nano Technologies Books: Advanced Nanomaterials Series, ISBN: 9780128141342 (Elsevier)

**Service to Scientific Community:**

- Reviewer for over 90 international journals including ACS Sustainable Chemistry & Engineering, Journal of Materials Chemistry A, Journal of Materials Chemistry C, ACS Applied Materials & Interfaces, ACS Applied Nanomaterials, Inorganic Chemistry, Physical Chemistry Chemical Physics, CrystEngComm, New Journal of Chemistry, RSC Advances, Applied Catalysis B, Applied Catalysis A, Sensors & Actuators B: Chemical, Nanotechnology, Chemistry Select, Scientific Reports, ChemComm, Plasmonics, Nanoscale Research Letters, Solid State Communications, Surface Science, Applied Surface Science, Journal of Applied Physics, Materials Letters, PLOS ONE, Chemical Physics Letters, Journal of Materials Science, Ceramics International, Thin Solid Films, Journal of Physics D: Applied Physics, Journal of Nanoscience and Nanotechnology, Colloids and Surfaces A, Materials Research Bulletin, Materials Chemistry and Physics, Materials Science and Engineering B, Nuclear Instruments and Methods B, Vacuum, Ionics, Optik, Journal of Materials Research, Journal of Luminescence, Journal of Saudi Journal of Chemistry, Environmental Science and Pollution Research, Journal of Physics and Chemistry of Solids, Applied Physics A and Journal of

Advanced Ceramics.

- **Convener**, *Indraprastha International Conclave on Nanoscience and Technology* (IICNST 2010) from November 16-17, 2010 at GGS Indraprastha University, New Delhi.

**Expert Lectures, Invited Lectures and Invited Talks:**

1. Multifunctional hybrid nanostructures and plasmonic nanocomposites for photocatalytic, catalytic and gas sensing applications, 32<sup>nd</sup> Annual General Meeting of MRSI and the 3<sup>rd</sup> Indian Materials Conclave from December 20-23, 2021 organized by IIT Madras (*Invited Talk*)
2. Ion beam engineering of nanostructured metal oxide thin films and plasmonic nano hybrids for enhanced gas sensing, Online School-cum-Workshop on *Ion Beams in Sensor Development* (IBSD-2021) from September 7-8, 2021 at IUAC, New Delhi (*Invited Talk*)
3. Multifunctional hybrid nanostructures and nanocomposites for water purification, Webinar “भौतिकी यात्रा”- *A Travel for scientific young minds, from May 21-29, 2020* organized by Department of Physics, Saurashtra University, Rajkot, Department of Science & Technology, Government of Gujarat (DST), Gujarat Council on Science & Technology (GUJCOST) & Essencetech (*Invited Lecture*)
4. Multifunctional hybrid nanostructures and plasmonic nanocomposites for photocatalytic and catalytic applications, *International conference on “Nanomaterials for energy, environment and sustainability”* (ICNEES-2019) from December 20-22, 2019 at Siksha 'O' Anusandhan, Bhubaneswar, India (*Invited Talk*).
5. Ion beam engineering of multifunctional hybrid nanostructures and plasmonic nanocomposites for photocatalytic applications, *4<sup>th</sup> International Conference on Nanostructuring by Ion Beams* (ICNIB 2017) from October 11-13, 2017 at Devi Ahilya Vishwavidyaalya (DAVV), Indore, India (*Invited Talk*).
6. Ion beam engineering of multifunctional hybrid plasmonic nanostructures, *Faculty Development Program on Functional Nanomaterials: Emerging Trends and Applications* from June 20-22, 2017 at Amity Institute of Nanotechnology, Noida, India (*Invited Talk*).
7. Ion beam engineering of multifunctional hybrid nanostructures, *National Workshop on Advanced Hybrid Material Processing Technology* (AHMPT-2017) from February 9-10, 2017 at Amity School of Engineering & Technology, New Delhi, India (*Invited Talk*).

8. Ion beam engineering of multifunctional hybrid nanostructures and plasmonic nanocomposites for diverse applications, *International Conference on Ion Beams in Materials Engineering and Characterization (IBMEC2016)* from September 28 - October 1, 2016 at IUAC, New Delhi, India (*Invited Talk*).
9. Ion beam engineering of multifunctional hybrid nanostructures and plasmonic nanocomposites, *Workshop on Future Directions in Ion Beams in Materials Engineering and Characterizations* on December 30, 2015 at Inter University Accelerator Centre, New Delhi, India (*Invited Talk*).
10. Ion beam engineering of multifunctional hybrid nanostructures and plasmonic nanocomposites, *Workshop on the Use of Low Energy Ion Beams* from November 7 - 9, 2015 at Institute of Physics, Bhubaneswar, India (*Invited Talk*).
11. Ion beam engineering of nanocomposites for photocatalytic applications, *18<sup>th</sup> International Conference on Radiation Effects in Insulators (REI-18)* from October 26-31, 2015 at Jaipur, India (*Invited Talk*).
12. First DST-SERC School on "*Ion Interaction with Matter*" from March 2-21, 2015 at Department of Physics, Saurashtra University, Rajkot, Gujarat, India (4 *Expert Lectures*).
13. Ion beam engineering of plasmonic nanocomposites for diverse applications, *National Symposium on Innovations in Composites for General Purpose to High end Applications (NSICHA 2015)* from February 17-18, 2015 at GGSIP University, Delhi (*Invited Talk*).
14. Ion beam engineering of plasmonic nanocomposites, *International Conference on Swift Heavy Ions in Materials Engineering and Characterization (SHIMEC 2014)* from October 14-17, 2014 at NIPGR, New Delhi, India (*Invited Talk*).
15. Synthesis and ion beam engineering of hybrid nanostructures and plasmonic nanocomposites, Institute of Physics (IOP), Bhubaneswar 30<sup>th</sup> September 2014 at IOP, Bhubaneswar, India (*Invited Talk*).
16. Ion beam engineering of plasmonic nanocomposites for optical applications, *International Conference on Swift Heavy Ions in Materials Engineering and Characterization (SHIMEC 2012)* from October 9-12, 2012 at IUAC, New Delhi (*Invited Talk*).
17. Synthesis and ion beam engineering of plasmonic nanocomposites, *Nanostructuring by Ion beams (NIB 2011)* from October 17-19, 2011 at University of

Allahabad, Allahabad, India (*Invited Talk*).

18. Nanoelectronic devices, University of Rajasthan, February 19-20, 2011 at Jaipur, India (*Invited Lecture*).
19. Resonant tunneling devices, University of Rajasthan Jaipur, February 19-20, 2011 at Jaipur, India (*Invited Lecture*).
20. Synthesis and ion beam engineering of plasmonic nanocomposites, *Indraprastha International Conclave on Nanoscience and Technology* (IICNST 2010) from November 16-17, 2010 at GGS Indraprastha University, New Delhi, India.
21. Synthesis and ion beam engineering of plasmonic nanocomposites, Indian Institute of Technology (IIT) Kanpur on August 26, 2010 at IIT Kanpur, India (*Invited Talk*).
22. Synthesis of tunable surface plasmonic nanocomposites for SERS and biomedical applications, *Indo-Russian workshop on Nanotechnology and Laser induced plasma (IRNANO-2009)* from November 24-26, 2009 at Delhi University, Delhi (*Invited Talk*).
23. Synthesis of nanocomposites thin films by atom beam co-sputtering, *Indo-French conference on Nanostructuring by ion beam* from February 26 to March 1, 2009 at Bhubaneswar, India.
24. Anomalous diffusion and Trans- $R_p$  gettering of implanted gold in silicon, *18<sup>th</sup> International Conference on Ion Beam Analysis (IBA2007)* September 23-28, 2007 at Hyderabad, India.
25. Study of ion implantation induced defect-impurity interactions in silicon, *SKKU Advanced Institute of Nanotechnology (SAINT), February 2007* at Suwon, South Korea.
26. Ion beam synthesis of plasmonic nanocomposites, *SKKU Advanced Institute of Nanotechnology (SAINT), February 2007* at Suwon, South Korea.
27. Anomalous diffusion of implanted Au in Silicon, *SKKU Advanced Institute of Nanotechnology (SAINT), February 2007* at Suwon, South Korea.
28. Synthesis of metal-silica nanocomposites by atom beam sputtering, *SKKU Advanced Institute of Nanotechnology (SAINT), February 2007*, Suwon, South Korea.
29. Gettering of Au at MeV C implantation induced defects in Si, *Young Scientists Colloquium, Materials Research Society of India*, July 8, 2005 at Kolkata, India.
30. Diffusion and trapping of gold by MeV ion implantation induced defects in silicon, *Young Physicists Colloquium*,

	<i>Indian Physical Society, September 2004 at Kolkata, India.</i>
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