

Academic Profile

Dr. Arup Kanti Kole

Assistant Professor, Department of Physics

Durgapur Women's College

Mahatma Gandhi Road, City Centre

Durgapur, West Bengal 713209

E-mail: arupkole@gmail.com



Education:

- **Ph. D (Science, Physics)**, National Institute of Technology Durgapur, West Bengal, India. (Awarded in 2015)
- **Thesis Title:** *Studies on synthesis, photoluminescence and nonlinear optical properties of ZnS nanostructures.*
- **Qualified NET (Physical Sciences) in December-2005.**
- **Master of Science (Physics)**, The University of Burdwan, Burdwan, West Bengal, India (2004).
- **Bachelor of Science (Hon's in Physics)**, Kamarpukur Sree Ramkrishna Sarada Vidyamahapitha, Kamarpukur, Hooghly, West Bengal (2002).
- **Qualified GATE** in 2005 with all India Rank 516.

Academic Experience:

- 12th April, 2017-Present, Assistant Professor, Dept. Of Physics, Durgapur Women's College, Durgapur, West Bengal 713209.
- 12th December 2014-11th April 2017, Assistant Professor, Dept. of Physics, School of Applied Sciences, KIIT University, Bhubaneswar, Odisha-751024.
- November 2011- November 2014, Senior Research Fellow (MHRD, Govt. of India sponsored), Dept. of Physics, National Institute of Technology Durgapur, West Bengal in the research laboratory of Prof. P. Kumbhakar.
- November 2009- October 2011, Junior Research Fellow (MHRD, Govt. of India sponsored), Dept. of Physics, National Institute of Technology Durgapur, West Bengal in the research laboratory of Prof. P. Kumbhakar.
- March 2005-November 2009, Lecturer, Dept. of Physics, Mallabhum Institute of Technology (Affiliated to WBUT), Bishnupur, Bankura, West Bengal, India.

Research Area & Fields of Interest:

Linear and Nonlinear Optical Properties of Nanomaterials; Optoelectronic Materials and Solar Cells, Application of Nanomaterials in Dye Degradation and Waste Water Treatment, Sensors

List of Publications (2010-2017) along-with Citations

Author/co-author: *Dr. Arup Kanti Kole*

Source: www.scholar.google.com

A. Publications in Referred Journals:

Sl. No.	Author	Title	Name of the Journal	Volume	Page	Year	Citations	Impact Factor
1	S Patra, D Verma, A.K Kole , CS Tiwary, D Kundu, S Chaudhuri, P. Kumbhakar	Optical, structural properties and antibacterial activities of uncapped and HMT capped ZnO nanoparticles	Materials Today Communications	12	133-145	2017		Yet to receive
2	S. Biswas, C. S.Tiwary, S. Vinod, A. K. Kole , U. Chatterjee, P. Kumbhakar, P. M Ajayan	Nonlinear Optical and Temperature Dependent Photoluminescence in hBN-GO Heterostructure 2D Material	Journal of Physical Chemistry C	121	8060–8069	2017		4.509
3	T. Vimal, S. Pandey, D.P. Singh, S.K. Gupta, K. Agrahari, P. Kumbhakar, A. K. Kole , R. Manohar	ZnS quantum dot induced phase transitional changes and enhanced ferroelectric mesophase in QDs/FLC composites	Journal of Physics and Chemistry of Solids	100	134-142	2017		2.048
4	A. Pramanik, A. K. Kole , R. N. Krishnaraj, S. Biswas, C. S. Tiwary, P. Varalakshmi, S. K. Rai, B. A. Kumar, P. Kumbhakar	In-vivo Bioimaging Using Highly Fluorescent Carbon Nanoparticles Synthesized from Broth Constituent.	Journal of Fluorescence	26	1541-1548	2016	1	1.601
5	A. K. Kole , S. Biswas, C. S. Tiwary, P. Kumbhakar	A facile synthesis of graphene oxide-ZnS/ZnO nanocomposites and observations of thermal quenching of visible photoluminescence emission and nonlinear optical properties	Journal of Luminescence	179	211-21	2016	1	2.693
6	D.P. Singh, A. Daoudi, S.K. Gupta, S. Pandey, T. Vimal, R. Manohar, A. K. Kole , P. Kumbhakar, A. Kumar	Mn ²⁺ doped ZnS quantum dots in ferroelectric liquid crystal matrix: Analysis of new relaxation phenomenon, faster	Journal of Applied Physics	119	094101	2016	-	2.101

		optical response, and concentration dependent quenching in photoluminescence						
7	S. Biswas, A. K. Kole, C. S. Tiwary, P. Kumbhakar	Enhanced nonlinear optical properties of graphene oxide–silver nanocomposites measured by Z-scan technique	RSC Advances	6	10319-10325	2016	1	3.289
8	C. S. Tiwary, D. Vishnu, A. K. Kole, J. Brahmanandam, D. R. Mahapatra, P. Kumbhakar, K. Chattopadhyay	Stabilization of the high-temperature and high-pressure cubic phase of ZnO by temperature-controlled milling	Journal of Materials Science	51	126-137	2016	3	2.302
9	P. Kumbhakar, A. K. Kole, C. S. Tiwary, S. Biswas, S. Vinod, J. Taha-Tijerina, U. Chatterjee, P. M. Ajayan	Nonlinear Optical Properties and Temperature-Dependent UV–Vis Absorption and Photoluminescence Emission in 2D Hexagonal Boron Nitride Nanosheets	Advanced Optical Materials	3	828-835	2015	11	5.190
10	D. Verma, A. K. Kole, P. Kumbhakar	Red shift of the band-edge photoluminescence emission and effects of annealing and capping agent on structural and optical properties of ZnO nanoparticles	Journal of Alloys and Compounds	625	122-130	2015	15	3.014
11	S. Biswas, A. K. Kole, P. Kumbhakar	Observation of two-photon induced three-photon absorption in chemically synthesized silver nanostructures	Chemical Physics Letters	629	70-75	2015		1.860
12	S. Biswas, A. K. Kole, C.S. Tiwary, P. Kumbhakar	Observation of Size-Dependent Electron–Phonon Scattering and Temperature-Dependent Photoluminescence Quenching in Triangular-Shaped Silver Nanoparticles	Plasmonics	11	593-600	2015		2.146
13	A. K. Kole, C.S. Tiwary, P. Kumbhakar	Morphology controlled synthesis of wurtzite ZnS nanostructures through simple hydrothermal method and observation of white light emission from ZnO obtained by annealing	Journal of Materials Chemistry C	2	4338-4346	2014	17	5.066

				the synthesized ZnS nanostructures						
14	A. K. Kole, P. Kumbhakar, U. Chatterjee	P. U.	Observations on nonlinear optical properties of ZnS nanosheet, ZnS–ZnO composite nanosheet and porous ZnO nanostructures dispersed in aqueous medium	Chemical Physics Letters	591	93-98	2014	5	1.860	
15	A. K. Kole, P. Kumbhakar, T. Ganguly	P. T.	Observations of unusual temperature dependent photoluminescence anti-quenching in two-dimensional nanosheets of ZnS/ZnO composites and polarization dependent photoluminescence enhancement in fungi-like ZnO nanostructures	Journal of Applied Physics	115	224306	2014	4	2.101	
16	A.K. Kole, C. S. Tiwary, P. Kumbhakar	C. S.	Effect of thermal annealing on dual photoluminescence emission characteristics of chemically synthesized uncapped Mn ²⁺ doped ZnS quantum dots	Journal of Luminescence	155	359-367	2014	3	2.693	
17	A. K. Kole, S. Gupta, P. Kumbhakar, P. C. Ramamurthy	S. Gupta, P. C.	Nonlinear optical second harmonic generation in ZnS quantum dots and observation on optical properties of ZnS/PMMA nanocomposites	Optics Communications	313	231-237	2014	12	1.480	
18	S. Biswas, A. K. Kole, R. Sarkar, P. Kumbhakar	P.	Synthesis of anisotropic nanostructures of silver for its possible applications in glucose and temperature sensing	Materials Research Express	1	045043	2014	3	0.968	
19	A. K. Kole, C.S. Tiwary, P. Kumbhakar	C.S.	Ethylenediamine assisted synthesis of wurtzite zinc sulphide nanosheets and porous zinc oxide nanostructures: near white light photoluminescence emission and photocatalytic activity under visible light irradiation	CrystEngComm	15	5515-5525	2013	33	3.849	

20	A. K. Kole, C. S. Tiwary, P. Kumbhakar	Room temperature synthesis of Mn ²⁺ doped ZnS d-dots and observation of tunable dual emission: Effects of doping concentration, temperature, and ultraviolet light illumination	Journal of Applied Physics	113	114308	2013	19	2.101
21	S. Chakraborty, C. S. Tiwary, A. K. Kole, P. Kumbhakar, K. Chattopadhyay	A simple method of synthesis and optical properties of Mn doped ZnO nanocups	Materials Letters	91	379-382	2013	15	2.437
22	A. K. Kole, P. Kumbhakar, U. Chatterjee	Observation of nonlinear absorption and visible photoluminescence emission in chemically synthesized Cu ²⁺ doped ZnS nanoparticles	Applied Physics Letters	100	013103	2012	23	3.142
23	S. Chakraborty, A. K. Kole, P. Kumbhakar	Room temperature chemical synthesis of flower-like ZnO nanostructures	Materials Letters	67	362-364	2012	37	2.437
24	A. K. Kole, P. Kumbhakar	Cubic-to-hexagonal phase transition and optical properties of chemically synthesized ZnS nanocrystals	Results in Physics	2	150-155	2012	11	1.337
25	A. K. Kole, P. Kumbhakar	Effect of Manganese doping on the photoluminescence characteristics of chemically synthesized zinc sulphide nanoparticles	Applied Nanoscience	2	15-23	2012	17	-
26	A. K. Kole, R. Sarkar, P. Kumbhakar	Observation of Tunable Nonlinear Optical Properties and Quenching of Photoluminescence Emission in Cu ²⁺ doped ZnS Quantum dots	Nonlinear Optics, Quantum Optics: Concepts in Modern Physics	44	281-301	2012	-	-

B. Publications in Book (Book-Chapter):

Sl. No.	Title/Author	Year
01	Synthesis and Tunable Photoluminescence Emission in Ag Doped and Ag-Mn Co-doped ZnS Nanoparticles (Chapter in a Edited Book) P Kumbhakar, A. K. Kole, R Sarkar, Dekker Encyclopedia of Nanoscience and Nanotechnology, Third Edition, 4978–4988	2014

C. Conference Publications:

Sl. No.	Title/Author	Year
1	Influence of Co Doping on the Structural and Optical Properties of ZnO Nanostructures S Chakraborty, A. K. Kole , P Kumbhakar Advanced Nanomaterials and Nanotechnology, 249-259	2013
2	Observation of Nonlinear Optical Properties of Chemically Synthesized Cu ²⁺ Doped ZnS Nanoparticles A. K. Kole , P Kumbhakar Advanced Nanomaterials and Nanotechnology, 169-181	2013
3	Linear and nonlinear optical properties of colloidal Cu doped ZnS nanoparticles A. K. Kole , P Kumbhakar International Conference on Fiber Optics and Photonics (PHOTONICS-2012)	2012
4	Measurement of the Nonlinear Optical properties of Silver Nanoparticles and Graphene Oxide Nanocomposite International Conference on Fiber Optics and Photonics (PHOTONICS-2014)	2014

Awards Received:

1. *Received full financial assistance under International Travel Support Scheme for Young Scientists from SERB, DST, Govt. of India* for attending and presenting a paper in **International Conference on Materials for Advanced Technologies (ICMAT-2013)**, 30th June-5th July, 2013, Suntec, Singapore.
2. *Received best poster presentation award* in 25th DAE-BRNS National Laser Symposium (NLS-25) held at KIIT University, Bhubaneswar, India during December 20-23, 2016.
3. Received 1st prize in poster presentation award in ‘**Short Term Course on Fundamentals of Photonics and Optoelectronics**’ (FuPO-2014), 14th May-18th May, 2014, Dept. of Physics, National Institute of Technology, Durgapur, India.
4. Received 3rd best poster presentation award in **National Seminar on Advanced Functional Materials (NSAFM-2013)**, 24th January, 2013, CSIR-CMERI, Durgapur.
5. Received 3rd best poster presentation award in ‘**Short Term Course on Introduction to Photonics and Applications**’ (InPhAs-2013) 29th July-02 August 2013, Dept. of Physics, National Institute of Technology, Durgapur, India.

Seminar/Conferences Attended

A. International (08 nos.):

1. **International Conference on Materials for Advanced Technologies** (ICMAT-2013), 30th June-5th July, 2013, Materials Research Society, Suntec, Singapore. (Oral Presentation)
2. **International Conference on Advanced Nanomaterials and Nanotechnology** (ICANN-2011) 08-10 December, 2011, Indian Institute of Technology, Guwahati, India. (Oral Presentation)
3. **International Conference on Fibre Optics and Photonics 2010** (Photonics 2010) 11-15 December, 2010, Indian Institute of Technology, Guwahati, India (Poster Presentation).
4. **2nd International Conference on Nanotechnology and Biosensors** (ICNB-2) 28-29 December, 2011, Raghu Engineering College, Visakhapatnam, India. (Oral Presentation).
5. **International Conference on Fibre Optics and Photonics 2012** (Photonics 2012), 9-11th Dec, 2012, Indian Institute of Technology, Madras, India (Poster Presentation).
6. **India-Singapore Joint Physics Symposium** (ISJPS), 25-27th February, 2013, Indian Institute of Technology, Kharagpur, India (Poster Presentation).
7. **International Conference on Structural and Physical Properties of Solids** (SPPS-2013), 18-20 November, 2013, Dept. of Applied Physics, Indian School of Mines, Dhanbad (Poster Presentation).
8. **3rd International Conference on Advanced Nanomaterials and Nanotechnology** (ICANN-2013) 01-03 December, 2013, Indian Institute of Technology, Guwahati, India. (Oral Presentation).

B. National (04 nos.):

1. **National Seminar on Advanced Functional Materials** (NSAFM-2013), 24th January, 2013, CSIR-CMERI, Durgapur. (Awarded 3 prize in poster presentation).
 2. **First National Seminar on Recent Trends in Condensed Matter Physics including Laser application** (FNSCMPLA-2012), 6-7th March, 2012, Dept. of Physics, The University of Burdwan, Burdwan, West Bengal (Poster Presentation).
 3. **National Laser Symposium-21** (NLS-21), 6-9th February, 2013. Bhaba Atomic Research Centre, Mumbai, India (Poster Presentation).
 4. **National Conference on Technical Advances in Materials Science and Research** (NCTAMSR-2014), 13-15 February, 2014, School of Physics, Sambalpur University, Odisha, India (Oral Presentation).
-

Workshops/Short Term Courses Attended (06 nos.):

1. Attended ‘**Workshop on Recent Trends in Nanophotonics**,’ 30 September-01 October, 2011. Indian Institute of Technology, Delhi, India.
2. Attended ‘**Summer Workshop on Polymers: Properties, Characterization and Applications**,’ 16-20 July 2012. UGC Networking Resource Centre for Materials (UGC-NRCM), Department of Materials Engineering, Indian Institute of Science, Bangalore, India.
3. Attended ‘**Short Term Course on Introduction to Photonics and Applications**’ (InPhAs-2013) 29th July-02 August 2013, Dept. of Physics, National Institute of Technology, Durgapur, India.
4. Attended ‘**Short Term Course on Fundamentals of Photonics and Optoelectronics**’ (FuPO-2014), 14th May-18th May, 2014, Dept. of Physics, National Institute of Technology, Durgapur, India.
5. Attended **seven day workshop on Experimental Physics** organized by the Dept. of Natural Science, Humanities and Management, West Bengal University of Technology, Kolkata during 29th March to 4th April, 2007.
6. Attended 04 day workshop on **Phoenix Interface and Innovative Experiments** organized by West Bengal University of Technology during 6-9th March, 2008.

Previous Work experience:

Sl. No.	Positions Held	Name of the Institute	From	To	Pay Scale
01	Lecturer, Dept. of Physics	Mallabhum Institute of Technology, Bishnupur, Bankura, W.B	01.03.2005	15.11.2009	8000-275-13500
02	Assistant Professor, Dept. of Physics	KIIT University, Bhubaneswar	12.12.2014	11.04.2017	15600-39100 with G.P 6000