

# ARUP KUMAR GHOSH

Associate Professor (W.B.E.S.) & Head

Department of Chemistry

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**Specialization:** Physical Chemistry

## Major Interest Areas:

Polymer Nanocomposites based on Graphene and Mixed Metal Oxides. Flame Retardant Polymer, Modified Carbon Black, Nanocomposites with Conducting Polymers etc.

## Academic Credentials:

- Associate Professor & Head (WBES) (Feb.2020 - Till date), P.R.Thakur Government College, N-24 PGS, WB
- Ph.D. (1993- 1997) Indian Institute of Technology, Kharagpur, India
- Post M.Sc. Diploma in Bio-Physical Chemistry(1992-1993) Saha Institute of Nuclear Physics, Kolkata, India
- M.Sc. (1990-1992): Jadavpur University, Kolkata, India
- B.Sc.(1987-1990): Jadavpur University, Kolkata, India

## Teaching Experience

- Associate Professor & Head (WBES) (Feb.2020 - Till date), P.R.Thakur Government College, N-24 PGS, WB
- Associate Professor & Head (WBES) (Aug.2013 –Jan-2020) : Durgapur Govt. College, Durgapur, W.B.
- Associate Professor and Reader (WBES) (March 2007- Aug.2013) : Presidency University (erstwhile Presidency College), Kolkata
- Sr. Lecturer (WBES), ( Nov.2002 – March 2007): Jalpaiguri Govt. Engg. College, Jalpaiguri, W.B.
- Sr. Lecturer & Lecturer (recommended by WBCSC) ( Nov.1997-Nov.2002): Ramananda College,(Burdwan University)
- Guest Lecturer , Department of Chemistry ( 1998-2004) : Vidyasagar University, Midnapur

## Courses taken:

- Properties of gases and liquids,
- Transport phenomena,
- Colloid chemistry,
- Electro chemistry,
- Surface chemistry,
- Electrical properties of molecules,
- Macromolecules (Polymers) and Plastic technology
- Chemistry of advanced materials,
- Mössbauer spectroscopy,
- Nano Science & Technology etc.

### Research Interest:

- Photocatalytic Degradation of Organic Dye by Nanoparticles.
- Development of thermally Stable Flame Retardant Ternary Nanocomposites Based on
- Graphene and Linear Double Hydroxide (LDH)
- Flame Retardant and Antioxidant Polymer Additives from Renewable Plant Product (RPM).
- Nanocomposites Based on Nanodimensional Mixed Metal Oxides and Graphene and
- Conducting Polymers for Super capacitor applications.
- Graphene Based Thermally Stable Flame Retardant Polymer Nanocomposites.
- Development of Modified Carbon Black for Rubber Reinforcement

### Research Grants Received:

- 1998-2000 UGC (MRP) (0.3 Lakh)
- 2009-2011 UGC (MRP) (1.63 Lakh)
- 2010- 2014 CSIR (New Delhi) (9.00 Lakh)
- 2015-2017 UGC (MRP) (3.00 Lakh)

### Research Experience:

- ***During Ph.D. (1993 - 1997 )***
- **Place of work:** Materials Science Centre, IIT- Kharagpur.
- Area of work: Development of Polymer Additives in general and Modified Carbon Black as Additive in particular.
- ***Research After Ph.D. (1997 - Continuing)***
- **Place of work:** Durgapur Govt. College (PG), Presidency University, Jalpaiguri Govt. Engg. College, R.N. College, Bishnupur (Burdwan University) and Materials Science Centre, IIT- Kharagpur.
- Area of work
- Photocatalytic Degradation of Organic Dye by Nanoparticles.
- Development of thermally Stable Flame Retardant Ternary Nanocomposites Based on
- Graphene and Linear Double Hydroxide (LDH)
- Flame Retardant and Antioxidant Polymer Additives from Renewable Plant Product (RPM).
- Nanocomposites Based on Nanodimensional Mixed Metal Oxides and Graphene and
- Conducting Polymers for Super capacitor applications.
- Graphene Based Thermally Stable Flame Retardant Polymer Nanocomposites.
- ***Collaboration*** Saha Institute of Nuclear Physics, Kolkata,

### List of Publications:

1. **Arup K. Ghosh**, *Int. J. Plastic Technology (Springer ) (DOI) 10.1007/s 12588-015-9113-4 (2015)* June 2015, Volume 19, [Issue 1](#), pp 19–29
2. Debabrata Nandi, **Arup K. Ghosh**, Amitabha De, and Uday Chand Ghosh, *Applied Surface Science (Elsevier)* 293, ([dx.doi.org/10.1016/j.apsusc.2013.12.106](https://doi.org/10.1016/j.apsusc.2013.12.106), 90 (2014)

3. Debabrata Nandi, **Arup K. Ghosh**, Amitabha De, Pintu Sen and Uday Chand Ghosh, *J. Materials Science (Springer)* DOI 10.1007/s10853-013-7760-4 (2013)
4. Debabrata Nandi, Tina Basu, Sushanta Debnath, **Arup K. Ghosh**, Amitabha De, and Uday Chand Ghosh, *J. Chemicals and Engineering Data (ACS)* dx.doi.org/10.1021/je 40052571 (2013)
5. D. Nandi, K. Gupta, **A. K. Ghosh**, A. De, N. R. Ray and U. C. Ghosh, *Chemical Engineering Journal* 220, 107 (2013)
6. D. Nandi, A. Talukdar, U.C. Ghosh, A.De, S. Bhunia and **A. K. Ghosh**, *J. Polym. Mater.* **29**, 401 (2012)
7. D. Nandi, K. Gupta, **A. K. Ghosh**, A. De, S. Banerjee and U. C. Ghosh, *J. Nanoparticle Research* **14**, 1272 (2012)
8. D. Nandi, **A. K. Ghosh**, A. De, P. Sen, K. Gupta, A. Duttachoudhury and U. C. Ghosh, *Materials Research Bulletin*, **47**, 2095 (2012)
9. **Arup K. Ghosh**, *J. Polym. Mater.*, **25**, 491 (2008)
10. S. N. Ghosh, **A. K. Ghosh**, B. Adhikari and S. Maiti, *Int. J. Polymeric Mater.*, **48**, 79 (2000)
11. B. Adhikari, **A.K. Ghosh** and S. Maiti, *J. Polym. Mater.*, **17**, 101 (2000)
12. **A. K. Ghosh** and B. Adhikari, *Kautsch. Gummi Kunstst*, **52**, 681 (1999)
13. D. De, **A. K. Ghosh**, and B. Adhikari, *Polymer Recycling*, **4**, 151 (1999)
14. B. C. Bag, **A. K. Ghosh**, B. Adhikari and S. Maiti, *Polym. Degrad. & Stability*. **61**, 303(1998)
15. **A. K. Ghosh**, D. De and B. Adhikari, *Kautsch. Gummi Kunstst*. **51**, 500 (1998)
16. **A. K. Ghosh**, S. Maiti, G.S. Ray, S. K. Mustafi and B. Adhikari, *J. Appl. Polym. Sci.* **66**, 683 (1997)
17. **Arup Kumar Ghosh**, Sukumar Maiti and Basudam Adhikari, *Ind. J. Chem. Tech.* **4**, 135 (1997)
18. **Arup Kumar Ghosh**, Sukumar Maiti and Basudam Adhikari, 'Modified Carbon Black as a Reinforcing Filler for SBR. *Rubber Chem. Review* (Reprinted) (1996)
19. **Arup Kumar Ghosh**, Basudam Adhikari and Sukumar Maiti, *J. Polym. Mater.* **12**, 285 (1995)

#### Newspapers/Magazine: 01 :

**Arup Kumar Ghosh** 'Mahakash gabeshana Bishayak Alochona Chakra' in '**BANKURA DARSHAN**', No-09 on 7 th January 2000

#### List of Books/Book Chapters:

- If any Nil

#### Patents (if any):

- If any Nil

#### List of Honours/Awards:

- Received National Scholarship (Govt. of India)
- Qualified NET , GATE and obtained Research Associate ship ( RA) from CSIR, New Delhi etc.

- Obtained the **Best Paper Award** in 14<sup>th</sup> West Bengal State Science and Technology Congress-2007 in Technology Division at **Jadavpur University**, Kolkata
- Obtained the **Best Paper Award** in 15<sup>th</sup> West Bengal State Science and Technology Congress-2008 in Technology Division at **Bengal Engineering and Science University (BESU)**, Shibpur, Howrah
- Obtained the **Second Best Paper Award** in National Conference on Nanotechnology: Materials and Applications (NCoN: M & A) at School of Materials Science and nanotechnology, **Jadavpur University**, 16-17 June, 2016
- Guided (jointly) one **Ph.D. Scholar** and also guided **14 M.Sc. Project** thesis (2009-2019)
- Delivered lectures as Resource Person at Institute of Engineers, North Bengal, Chapter (2006), B.S.College, Canning, 24 PGS (2009).
- Participated Short Term Course at I.I.T. Guwahati (2005) and NITTR, Chandigarh (2006)
- Organized Seminars as a Member of PSMPAF POLY-2011 at Jadavpur University (2011) and POLY-2012 at North Bengal University and SIT, Siliguri (2012), W.B.

#### Membership in scientific bodies:

- Member of Indian Association for the Cultivation of Science,
- Founder Member of Professor Sukumar Maiti Polymer Award Foundation (PSMPAF)
- Ex-Member of Materials Research Society of India (MRSI).

#### Editor/or Editorial Board Member/Reviewer:

- Reviewer of ‘ **J. Polymer Materials** ‘ (an International Journal, MDH, Publication. New Delhi)

#### Lecture Presentations/ Conference Proceedings:

1. **A. K. Ghosh**, S. Maiti and B. Adhikari. *Proceedings in 17<sup>th</sup> Rubber Conference of Indian Rubber Manufacturer Association*, 13, 14 December, 1995, Madras, India.
2. **A. K. Ghosh** and B. Adhikari, *Proceedings of National Seminar on Recent Advances in Polymers*, 6,7 Feb., 1995, Indore, India.
3. **A. K. Ghosh** and B. Adhikari, *Proceedings of Annual General Meeting of Materials Research Society of India*, I.I.T. Kharagpur, 8-10 Feb., 1995.
4. **A. K. Ghosh** and B. Adhikari, *Proceedings of Annual General Meeting of Materials Research Society of India*, I.I.Sc. Bangalore, 1-3 Feb., 1996.
5. **A. K. Ghosh** and B. Adhikari, *Proceedings of National Symposium on Advanced Polymer Technology*. Cochin, India, 8-9 Feb., 1996.
6. B. Adhikari and **A. K. Ghosh**, *Proceedings of All India Seminar on Recent Advances in Synthesis and Manufacturing Process of Plastics, Rubbers and Fibres*, 13, 14 March, 1997, Indore, India.
7. **A. K. Ghosh**, S.N. Ghosh B. Adhikari and S. Maiti, *Proceedings of IUPAC International Symposium on Advances in Polymer Science and Technology (Macro '98)*, January 5-9, 1998, Madras, India.
8. **A. K. Ghosh**, B. Adhikari and S. Maiti, *Proceedings of IUPAC International Symposium on Advances in Polymer Science and Technology (Macro '98)*, January 5-9, 1998, Madras, India.
9. **A. K. Ghosh** and B. Adhikari, *Proceedings of National Seminar on Polymer Research in Academy, Industry and R&D Organization*, 26-27 June, 1998, Calcutta, India.
10. **A. K. Ghosh**. *Proceedings of Annual General Meeting of Materials Research Society of India*, at IICT & DMRL, Hyderabad, 7-9 February, 2002.

11. **A. K. Ghosh.** *Proceedings of West Bengal State Science and Technology Congress* at Viswabharati University, 28 Feb-2<sup>nd</sup> March, 2002.
12. **A. K. Ghosh,** *Proceedings of International Seminar of Polymer and Rubber,* at Cochin University of Science and Technology, Cochin, Kerala, 12-14 February, 2003
13. **Arup Kumar Ghosh,** *Proceedings of 13<sup>th</sup> West Bengal State Science and Technology Congress* at Calcutta University, 28 Feb-1<sup>st</sup> March, 2006.
14. **A. K. Ghosh,** *Proceedings of 14<sup>th</sup> West Bengal State Science and Technology Congress* at Jadavpur University, 28 Feb-1<sup>st</sup> March, 2007 (**obtained the Best Paper Award**).
15. **Arup Kumar Ghosh,** *Proceedings of International Seminar on ‘Frontier in Polymer Science & Technology* at Guwahati, 1-3 November, 2007
16. **Arup Kumar Ghosh.** *Proceedings of 15<sup>th</sup> West Bengal State Science and Technology Congress* at Bengal Engg. & Sc. University, 28-29 February, 2008 (**obtained the Best Paper Award**).
17. **A. K. Ghosh,** *Proceedings of 18<sup>th</sup> West Bengal State Science and Technology Congress* at R. K. Mission Residential College, Narendrapur, 28-1<sup>st</sup> March, 2011.
18. **Arup Kumar Ghosh,** *Proceedings of National Seminar on ‘Current Trends in Polymer Science And Technology, POLY-2011’* at Jadavpur University, 28-29 January, 2011
19. Debabrata Nandi, **Arup Kumar Ghosh** and Uday Chand Ghosh, *Proceedings of 48<sup>th</sup> Annual Convention of Chemist & Celebration of the International Year of Chemistry* at University of Allahabad, 03-07 December, 2011
20. Debabrata Nandi, Sayan Bhattacharya, Kausik Gupta, Tina De, Indranil Saha, Amitava De, **Arup Kumar Ghosh** and Uday Chand Ghosh *Proceedings of India-Australia International Workshop on Nanotechnology in Materials and Energy Application’* at Jadavpur University, 29-31 December, 2011
21. **Arup Kumar Ghosh,** *Proceedings of National Seminar on ‘Current Trends in Polymer Science And Technology, POLY-2012’* at North Bengal University, 02-04 November, 2012
22. **Arup Kumar Ghosh,** *Proceedings of National Seminar on ‘Multifunctional Polymer Materials, POLY-2014’* at Biswabharati University, Shantiniketan, 14-15 February 2015
23. **Arup Kumar Ghosh,** *Proceedings of National Seminar on ‘Chemistry for Better Tomorrow Disarmament and Peaceful Uses of Chemistry,* at Sidho Kanho Bir ha University, Purulia-723104, West Bengal, 15 December 2015
24. **Arup Kumar Ghosh,** *Proceedings of National Conference on Recent Trend in Functional Materials in Relation to Nanomaterials and Nanotechnology (RTFMNN)* at St. Paul’s Cathedral Mission College, Kolkata-700009, 4-5 February 2016
25. **Arup Kumar Ghosh,** *Proceedings of 23<sup>rd</sup> West Bengal State Science and Technology Congress* at Presidency University, 28-29 February, 2016
26. **Arup Kumar Ghosh,** *Proceedings of National Symposium on Facets of Chemistry in Biology* at St. Xavier ‘s College (Autonomous), Kolkata, 22-23 February 2016
27. **Arup Kumar Ghosh,** *Proceedings of National Conference on Nanotechnology: Materials and Applications (NCoN: M & A)* at School of Materials Science and nanotechnology, Jadavpur University, 16-17 June, 2016 : (**obtained the Second Best Paper Award**)
28. **Arup Kumar Ghosh,** *Proceedings of 1<sup>st</sup> Regional Science & Technology Congress-2016 organized by WBDST and NITTR* at National Institute of Technical Teachers’ Training and Research, Kolkata, 13-14 November, 2016
29. **Arup Kumar Ghosh,** *Proceedings of International Symposium on Facets of Chemistry in Biology (FOCB-II)* at St. Xavier ‘s College, Kolkata, 12 January 2017