



**Name : ARSHI RASTOGI**

**Designation :** Assistant Professor

**Name of Department :** Chemistry

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### **EDUCATIONAL DETAILS**

**Ph.D.** (Electroanalytical Chemistry), University of Roorkee (Presently IIT Roorkee), 1999.

**M.Phil.** (Industrial Methods of Chemical Analysis) – University of Roorkee (Presently IIT Roorkee), 1995, 1<sup>st</sup> Division.

**M.Sc.** (Chemistry) specialization in Physical Chemistry – Meerut College, Ch. Charan Singh university, 1994, 1<sup>st</sup> Division.

**B.Sc.** (Chemistry, Zoology, Botany) – Meerut college, Meerut University, 1992, 1<sup>st</sup> Division.

### **ADDITIONAL COURSES**

“General Course on Intellectual property”(Online) World Intellectual property Organization (WIPO) Worldwide Academy, Geneva, Switzerland, 2007.

### **FIELD OF RESEARCH INTEREST**

Waste Management, Environmental Chemistry, Electroanalytical Chemistry

### **RESEARCH EXPERIENCE/FELLOWSHIPS HELD**

**More than twenty four** years research experience

**Senior Research Fellowship** (CSIR, Delhi) – Chemistry Department, University of Roorkee, 1997-1999.

**Extended Senior Research Fellowship** (CSIR, Delhi) – Dr. B.R. Ambedkar Centre for Biomedical Research, Delhi University, Delhi, 1999-2000.

**Research Associate** (CSIR, Delhi) – Biotechnology Department, IIT Roorkee, 2000-2005.

**TEACHING EXPERIENCE:** Eleven years teaching experience. Worked as

- **Part-time temporary Lecturer** – Department of Chemistry, K.L. D.A.V (P G) College, Roorkee, Uttarakhand– 1995-1997.

- **Assistant Professor** – Department of Chemistry, D.B.S. (P.G.) College, Dehradun, Uttarakhand, 1 Aug. 2008 – 21Sept. 2009.

- **Assistant Professor** – Department of Chemistry, K.L.D.A.V (P.G.) College, Roorkee, Uttarakhand– 22 Sept. 2009 to present date.

## RESEARCH PROJECTS

- Worked as P.I. on a **Major research project** cost **Rs. 14.50 lacs**, titled “Development of low cost adsorbents for the removal of toxic metal ions from water using algal biomass” in Chemistry Department, I.I.T. Roorkee under Women Scientists Scheme, DST, Delhi from Oct. 2006 to July 2008.
- Worked as P.I. on a U.G.C., New Delhi funded **Minor research project** cost Rs. 2.0 lacs, titled “To develop locally available cyanobacteria as the low cost adsorbent for the remediation of cadmium and nickel from industrial wastewaters” in K.L.D.A.V (P.G.) College, Roorkee from 16<sup>th</sup> Feb. 2012 to 15<sup>th</sup> August 2013.

## PROFESSIONAL MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Life Member, Indian Society for Electro analytical Chemistry (ISEAC)

Life Member, Indian National Science Congress Association.

Life Member, Indian Chemical Society.

## DOCTOR OF PHILOSOPHY (PH.D) THESIS SUPERVISED/SUPERVISING

One research scholar Surabhi Sagar, Registration no: SC- 14221, submitted her thesis in March 2019.

## RESEARCH PAPERS

**25 Papers** in International Peer Reviewed Journals with high Impact Factors

(Indian Journals - 8 Foreign Journals – 17)

**Citations: 3423, h-index 12, i10-index 12 (Google scholar 2016)**

### Papers Presented in Conferences:

**14 Papers** presented at various National and International Conferences.

## LIST OF PUBLICATIONS

(In international peer reviewed journals)

1. “Evaluation of equilibrium isotherms and kinetic parameters for the adsorption of methyl orange dye onto blue green algal biomass” Surabhi Sagar and **Arshi Rastogi**, *Asian journal of Chemistry*, 31(7)1405-1638 (2019).
2. “A comparative investigation on biosorption performances of non-viable *Vaucheria* sp. and *Chara* sp. for a hazardous basic dye – methylene blue” Surabhi Sagar and **Arshi Rastogi**, *Journal of Applicable chemistry*, 8(1) 335-350 (2019).

3. "Adsorptive elimination of an acidic dye from synthetic waste water using yellow green algae along with equilibrium data modelling", Surabhi Sagar and **Arshi Rastogi**, *Asian Journal of Research in Chemistry*, 11(5), 778-785,(2018).
4. "Biosorption of Methylene Blue from aqueous solutions by using blue green algae *Oscillatoria* sp. Kinetic and equilibrium studies" Surabhi Sagar and **Arshi Rastogi**, *Journal of Applicable Chemistry*, 6(3), 374-384 (2017).
5. "Biosorption of toxic copper ions from aqueous solutions using treated *Oedogonium* algae: An approach towards green chemistry" **Arshi Rastogi**, in *proceedings of the national workshop, Green Chemistry Practices in Teaching, Research & Industry*, held on March 30, (2016), p 66-71.
6. "Adsorptive removal of Alizarin Red –S from aqueous solutions by using cobalt and copper ferricyanides" Nitin Sharma, Tanveer Alam, **Arshi Rastogi** and Hina Tarannum, *Journal of Applicable Chemistry*, 4(3), 871- 882, (2015).
7. "Pesticides removal from waste water by activated carbon prepared from waste rubber tire" V.K. Gupta, Bina Gupta, **Arshi Rastogi**, Shilpi Agarwal, Arunima Nayak, *Water Research*, 45, 4047-4055 (2011).
8. "A comparative investigation on adsorption performances of mesoporous activated carbon prepared from waste rubber tire and activated carbon for a hazardous azo dye – Acid blue 113" V.K. Gupta, Bina Gupta, **Arshi Rastogi**, Shilpi Agarwal, Arunima Nayak, *Journal of Hazardous materials*, 186, 891- 901(2011).
9. "Biosorption of nickel onto treated alga (*Oedogonium hatei*) : Application of isotherms and kinetic models" Vinod K. Gupta, **Arshi Rastogi**, Arunima Nayak, *J. Colloids and Interface Science*, 342, 533-539 (2010).
10. "Adsorption studies on the removal of hexavalent chromium from aqueous solutions using a low cost fertilizer industry waste material " Vinod K. Gupta, **Arshi Rastogi**, Arunima Nayak, *J. Colloids and Interface Science*, 342, 135-141 (2010).
11. "Biosorption of hexavalent chromium by raw and acid-treated green alga *Oedogonium hatei* from aqueous solutions" V.K.Gupta and **Arshi Rastogi**, *Journal of Hazardous materials*, 163, 396-402 (2009).
12. "Biosorption of lead(II) from aqueous solutions by non-living algal biomass *Oedogonium* sp. and *Nostoc* sp. – a comparative study, V.K.Gupta and **Arshi Rastogi**, *Colloids and Surfaces B: Biointerfaces* 64, 170-178 (2008).
13. "Sorption and desorption studies of chromium (VI) from nonviable cyanobacterium *Nostoc muscorum* biomass, V.K.Gupta and **Arshi Rastogi**, *Journal of Hazardous materials*, 154, 347-354 (2008).
14. "Equilibrium and kinetic modeling of cadmium(II) biosorption by non-living algal biomass *Oedogonium* sp. from aqueous phase, V.K.Gupta and **Arshi Rastogi**, *Journal of Hazardous materials*, 153, 759-766 (2008).

15. "Biosorption of lead from aqueous solutions by green algae *Spirogyra species*: Kinetics and Equilibrium studies" V.K.Gupta and **Arshi Rastogi**, *Journal of Hazardous materials*, 152(1), 407-414 (2008).
16. "Biosorption of copper(II) from aqueous solutions by *Spirogyra species*" V.K.Gupta, **Arshi Rastogi**, V.K. Saini and Neraj Jain, *Journal of Colloid and Interface Science*, 296, 59-63 (2006).
17. "Phospholipase C sensitive GPI anchored proteins of Goat sperm : possible role in sperm protection", Tarun E Hutchinson, **Arshi Rastogi**, Rajendra Prasad and Ben M.J. Pereira, *Animal Reproduction Science*, 88, 271-286 (2005).
18. "N-Acetyl  $\beta$ -D Glucosaminidase is not attached to human sperm membranes through the Glycosyl Phosphatidylinositol (GPI)- Anchor", Tarun E. Hutchinson, Kshama Dwivedi, **Arshi Rastogi**, Rajendra Prasad and Ben M.J.Pereira, *Asian J. Andrology*, March 4(1), 27-33 (2002).
19. "Electrochemical oxidation of 6-mercaptopurine riboside at stationary pyrolytic graphite electrode", Rajendra N. Goyal, **Arshi Rastogi** and Aditi Sangal, *New Journal of Chemistry*, 25, p.545-550 (2001).
20. "Oxidation Chemistry of 3,7-dimethylxanthine - a central behavioural stimulant at solid electrodes", Rajendra N. Goyal and **Arshi Rastogi**, *Croatia Chemica Acta*, 73(2), 495-509 (2000).
21. "Linear sweep voltammetry of 9- $\beta$ -D- ribofuranosyluric acid 5'-monophosphate in aqueous and micellar media", Rajendra N. Goyal and **Arshi Rastogi**, *J. Colloids and Surfaces A: Physicochem. Eng. Aspects*, 160, 261-268 (1999).
22. "Electrochemical and peroxidase catalysed oxidation of 9- $\beta$ -D-ribofuranosyluric acid 5'-monophosphate", Rajendra N. Goyal and **Arshi Rastogi**, *J. Chem. Soc. Perkin Trans. 2*, 2423-2429 (1997).
23. "Process Development for the removal of Zinc and Cadmium from waste water using activated slag developed from blast furnace waste material", V.K. Gupta, **Arshi Rastogi**, M.K. Dwivedi and Dinesh Mohan, *Separation, Science and Technology*, 32(17), 2883-2912 (1997).
24. "Effect of N<sub>3</sub> and N<sub>7</sub> methylation on the electrochemical and enzymic oxidations of uric acid at solid electrodes", Rajendra N. Goyal and **Arshi Rastogi**, *Bulletin of Electrochemistry*, 13(10-11), 421-427 (1997).
25. "Differential pulse voltammetric investigation of uric acid in aqueous and micelle systems", Rajendra N. Goyal, Shakeel Ahmad and **Arshi Rastogi**, *Indian Journal of Chemistry*, Vol. 36A, 283-289 (1997).

#### **Scientific conference presentations**

1. "Optimization and regeneration study for the removal of an acid dye from synthetic waste water" **Arshi Rastogi** , research paper presented in International conference on advanced materials, energy and environmental sustainability (ICAMEES-2018), organized by UPES, Dehradun (Uttarakhand) from 14-15 Dec. 2018.
2. "Biosorption of toxic heavy metal by a locally available blue green alga : A promising Green approach" **Arshi Rastogi** , research paper presented in International conference on new horizons in green chemistry and technology, organized by Uttarakhand University, Dehradun (Uttarakhand) from 27-28 Nov. 2018.
3. "Biosorptive removal of toxic heavy metal ion from aqueous solutions using a locally available cyanobacterium as a low cost adsorbent" **Arshi Rastogi** , research paper presented in 6<sup>th</sup> National Conference organized by Department of Chemistry, Arya P.G. College, Panipat, Haryana, India on April 1, 2017.
4. "Heavy metal bioremoval potential of a locally available cyanobacterium : An approach towards green chemistry" **Arshi Rastogi**, Poster presentation in National Conference organized by Uttarakhand College Applied and Life Sciences, Uttarakhand University, Dehradun from Feb. 27-28, 2017 and won first prize.
5. "Biosorption of toxic copper ions from aqueous solutions using treated *Oedogonium* Algae: An approach towards green chemistry" **Arshi Rastogi**, Poster presentation in National Workshop on Mar.30, 2016, organised by Department of Chemistry, Govt. P.G. College, Rishikesh.
6. "Removal of toxic hexavalent chromium from aqueous solutions using nonviable cyanobacterium as a low cost adsorbent" **Arshi Rastogi**, Poster presentation in 7<sup>th</sup> Uttarakhand State Science and Technology Congress, 21-23 Nov.2012 organized by Graphic Era University, Dehradun.
7. "Removal of toxic Ni(II)metal ion from aqueous solutions using algal biomass as a low cost adsorbent" **Arshi Rastogi**, Poster presentation in National Conference On Environmental Conservation, Sustainable Natural Resource Management, 1-2 May 2011, Department of Chemistry, D.B.S. Post Graduate College, Dehradun.
8. "Lead biosorption from hazardous aqueous streams using blue green algal biomass" **Arshi Rastogi** , research paper presented in 5<sup>th</sup> Uttarakhand State Science and Technology Congress, November 10-11, 2010, organised by Doon University, Uttarakhand.
9. "Sorption of lead by various freshwater algal biomasses : IR spectroscopic, kinetics and thermodynamic studies" **Arshi Rastogi** and V.K.Gupta, poster paper presentation in 4<sup>th</sup> National Symposium on Recent Trends in Instrumental Methods of Chemical Analysis, 29-31<sup>st</sup> Oct. 2010, Department of Chemistry, Indian Institute of Technology, Roorkee, India.

10. "Removal of toxic heavy metals from aqueous solutions using algal biomass (*Oedogonium hatei*) as a low cost adsorbent " **Arshi Rastogi** and V.K.Gupta, poster paper presentation in 3<sup>rd</sup> Uttarakhand State Science and Technology Congress-2008, November 10-11, 2008, organised by Indian Institute of Technology, Roorkee.

11. "Redox chemistry of a purine riboside in aqueous and micellar media", Rajendra N. Goyal and **Arshi Rastogi**, poster paper presentation in National symposium on advanced instrumental methods of analysis , 7–8 June, 2002, Department of Chemistry, D.A.V. (P.G.) College, Dehradun.

12. "Electrochemical investigations of a biologically important thiopurine riboside at pyrolytic graphite electrode" **Arshi Rastogi** and Rajendra N. Goyal, poster paper presentation in International Symposium on Trends in Medicinal Chemistry and Biocatalysis, 26-29 Jan., 2000 organised by Department of Chemistry, University of Delhi, Delhi.

13. "Oxidation chemistry of Theobromine at solid electrodes" Rajendra N. Goyal and **Arshi Rastogi**, Research paper presented in Thirty fourth Annual Convention of Chemists. 1997, 17-20 Dec, 1997, University of Delhi, Delhi, Organised by Indian Chemical Society, Calcutta.

14. "Cyclic voltammetric studies of 9-β-D- ribofuranosyluric acid 5'-monophosphate at solid electrodes" Rajendra N. Goyal and **Arshi Rastogi**, research paper presented in National Symposium on Recent Trends in Instrumental Methods of Chemical Analysis, 18-20 September 1997, Department of Chemistry, Indian Institute of Technology, Roorkee, India.

#### **Seminar/workshop attended**

1. Participated in National Seminar "Role of open university in Higher Education Potentials and Prospects" on Sept. 2016 held at Regional Office Uttarakhand Open University, B.S.M. P.G. College Roorkee, Haridwar.

2. Participated in "Workshop on Teachers Training Cum Motivation" on October 5, 2016 organized at CSIR- Central Building Research Institute, Roorkee

3. Participated in Academic Conference and National Seminar on New Education Policy: Issues and Concerns" held at Tulas Institute, Chakrata Road, Selaqui, Dehradun from 25-26 June, 2016.

4. Participated and Attended training workshop "Geospatial Education and Training Workshop on Management of Water Resources, Glaciers and climate change with special reference to Uttarakhand" held at NIH, Roorkee from 24-26 May, 2015.

5. Participated and attended training workshop "Geospatial Education and Training Workshop on Management of Water Resources Glaciers and climate change with special reference to Uttarakhand" held at NIH, Roorkee from 1-3 Nov. 2014.

- 6.** Participated in “Brain Storming Session on Assessment of Impact of flood on River Bank Filtration sites in Uttarakhand” held in NIH, Roorkee on 18 Oct. 2014.
- 7.** Participated in Regional Symposium on “Technovations for Inclusive Human Development” held in Gurukul Kangri Vishwavidyalaya, Haridwar on Oct. 12, 2014.
- 8.** Attended “Workshop on Biodiversity Concerns for Education for Sustainable Development Practitioners” on 21 Feb. 2013 in Dehradun on behalf of TERI and GIZ.
- 9.** Participated in two days International workshop on “Source, Treatment and distribution of drinking water” from 14-15 Sept., 2009 at Indian Council of Forestry Research and Education (ICFRE), Dehradun.
- 10.** Participated in the “National roving seminar on traditional knowledge” on 13-14 August, 2008 at Dehradun, organized by GOI and WIPO.
- 11.** Attended a national workshop titled “Developing a model for promoting Institute – Industry linkages for Intellectual property creation and management” on 24<sup>th</sup> Feb. 2007 organized by Intellectual property rights cell, I.I.T Roorkee, Roorkee, Uttarakhand, India.
- 12.** Participated in International workshop on Education and Capacity building in Biophysics : Needs of the Asian African Region , 24-25 February 2003, organized by the Department of Biotechnology, I.I.T.Roorkee, Roorkee.