

CURRICULUM VITAE

1. Name: Dr. Rita Das



2. Designation: Professor of Chemistry

3. Qualification:

- Ph. D. (Chemistry): 1995 (Utkal University, Bhubaneswar)
Topic: Kinetics and Mechanism of Reversible Formation of Binuclear Complexes in solution
- M.Phil. (Chemistry): 1988 (Utkal University, Bhubaneswar)
- M. Sc. (Chemistry, Inorganic Special): 1986 (Utkal University, Bhubaneswar)

4. Email Id: rita.chem2010@gmail.com

5. Area of interest:

- Synthesis and reactivity of Transition Metal Complexes
- Water Pollution and abatement

6. Area of research:

- Synthesis and reactivity of Transition Metal Complexes
- Water Pollution and abatement

7. Teaching Area:

- UG: Inorganic, Physical
- PG: Inorganic, Spectroscopy

8. Total No. of Teaching Experience (Years):

- UG: 33 years
- PG: 21 years

9. Research Supervision

- Completed (M.Phil./Ph.D./D.Sc./D.Litt.)

Srl. No.	Name of the Student	Degree	University	Title of the Thesis	Date of Registration	Date of Submission	Date of Award of Degree
1.	Dr. P. S. Das Regd. No. Sc./Chem./ 03/Ph.D/ 2006/NOU	Ph.D.	North Orissa University	Geochemical Assessment, Impact and Abatement with Special Reference to Calcium in Ground Water of Mayurbhanj, Orissa			Awarded on 21.04.2014
2.	Dr. R. K. Behera Regd. No. Sc./Chem./ 04/ Ph.D/2007/NOU	Ph.D.	North Orissa University	Physicochemical characterisation and adsorption behaviour of some naturally occurring minerals of Orissa			Awarded on 11.11.2014

3.	Mr. Prankrushna Sahu Regd. No. Sc./Chem./22/Ph.D./2010/NOU	Ph.D.	North Orissa University	Studies on adsorptive properties of activated charcoal derived from hard and soft coking coal			Awarded on 14.03.2017
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- Ongoing (M.Phil./Ph.D./D.Sc./D.Litt.): Nil

Srl No.	Name of the Student	Degree	University	Title of the Thesis	Date of Registration

10. Publication Profile

a) Research Articles Published:

26. B. S. Mohanta, **R. Das*** and N. Das, Tungstophosphate intercalated ZnAl layered double hydroxides for adsorptive and visible light driven photocatalytic decolourisation of organic dyes, *Catalysis Research* (under Revision).
25. R. Das, N. Das, Photocatalytic Treatment of Wastewaters: A Greener Approach, *RDWU Bulletin of Science*, 1 (2018) 76-80.
24. B. S. Mohanta, **R. Das*** and N. Das, Synthesis, characterization and catalytic activity of tungstocobaltate-pillared ZnAl-layered double hydroxide, *Eur. Chem. Bull.*, 6 (2017) 415-420. **(IF- 0.25)**.
23. P. Sahoo, **R. Das**, N. Das, Adsorptive removal of phenol from aqueous solutions and coking wastewater by coke produced from hard and soft coking coals, *Desalination and Water Treatment*, (2017) 1-11. doi: 10.5004/dwt.2017.21309. **(IF-1.61)**
22. K. Rout, **R. Das*** and N. Das, Adsorption potential of goethite rich iron ore from Daitari mines towards removal of aqueous fluoride, *J. Env. Sci. Poll. Res.*, 2 (2016) 83-86. (ISSN: 2455-02720).
21. P. S. Das, **R. Das*** and N. N. Das, Geochemical assessment and impact of fluoride content in groundwater of selected area of Mayurbhanj district, Odisha, *Asian J. Chem.*, 28 (2016) 2475 – 2478. **(IF- 0.355)**.
20. S. Padhi, **Rita Das** and N. Das, Oxidative decolourisation of Congo red using water washed sea nodule residue, *NOU J. Sci. Technol.*, 3-4 (2016) 16-22. ISSN No. 2319-5142.
19. N. Dalai, **R. Das** and N. Das, Catalytic activity of bimetallic molybdate-(pentamine)cobalt(III) ion towards oxidative decolourisation of organic dye in aqueous medium, *Sambalpur University Journal of Science and Technology*, 27 (2015) 16 -20.
18. S.K. Giri, P. Sahoo, **R. Das** and N. Das, Coke/Fe₃O₄ nanoparticles composites: synthesis, characterization and adsorption behaviour towards organic dyes, *Desalination and Water Treatment*, (2015) 1-11. doi: 10.1080/19443994.2015.1085447 (IF-1.173) ISSN 1944-3994 **(IF-1.173)**.

17. R.K. Behera and **R. Das**, Adsorptive removal of phosphorus(V) and chromium(VI) oxyanions using thermally treated titanium rich bauxite: Effect of Heat Treatment, *Desalination and Water Treatment*, 00 (2015) 00 (IF-1.173) ISSN 1944-3994.
16. R.K. Behera, P.S. Das, **R. Das*** and N.N. Das, Physico-Chemical characterization and sorption behaviours of deposited scale from hard water, *Indian J. Chem. Technol.* 20 (2013) 95-100. (IF-0.682).
15. R.K. Behera, P.S. Das and **R. Das***, Physicochemical characterization and adsorption behaviour siliceous soil towards aqueous phosphate, *Asian J. Chem.*, 25 (2013) 2962-2964. (IF-0.355).
14. N.N. Das and **R. Das**, Synthesis, characterisation and activation of quaternary layered double hydroxides for one pot synthesis of methyl isobutyl ketone, *React. Mech. Kinet. Catal.*, 99 (2010) 397. (IF – 1.032).
13. N.N. Das and **R. Das**, Insertion of chromium(III) ascorbate complex into layered double hydroxide through reduction of intercalated chromate by ascorbic acid, *Appl. Clay Sci.*, 42 (2008) 90-94. (IF – 4.10).
12. S. Dash, A. Dash, G.S. Brahma, **R. Das** and P. Mohantray, Kinetics and mechanism of complex formation between Ga(III) and *trans*-(Hmalonato)*bis*(ethylenediamine) cobalt(III) ion in aqueous medium, *J. Indian Chem. Soc.*, 84 (2007) 983-986. (IF – 0.384).
11. S. Dash, **R. Das**, P. Mohanty and N. N. Das, Synthesis, characterisation and substitution reaction of *trans*-(diaqua)(N,N-ethylene-*bis*-salicylaldiamine) chromium(III) ion, *Indian J. Chem.*, 45A (2006) 2406. (IF-0.575).
10. N.N. Das, P. Pattanaik and **R. Das**, Defluoridation of drinking water using activated titanium rich bauxite, *J. Colloid Interface Sci.*, 292 (2005) 1. (IF- 4.023).
9. A. Dash, P. Mohantray and **R. Das**, Kinetics and mechanism of complex formation between *O*-bonded pentaammine(valinato/prolinato)cobalt(III) ion and Ni(II) in aqueous medium, *Polish J. Chem.*, 78 (2004) 987. (IF – 0.410).
8. **R. Das** and N.N. Das, Synthesis, characterisation and dissociation of some mixed valent binuclear complexes, *Polyhedron*, 16 (1997) 2135. (IF – 2.047).
7. N.N. Das and **R. Das**, Complexation of cobalt(II) with histidinato(pentammine) cobalt(III) in aqueous medium. A kinetic and equilibrium study, *Transition Met. Chem.*, 21 (1996) 238. (IF – 1.402).
6. **R. Das**, N.N. Das, A.C. Dash, A. Roy and S.K. Sarkar, Kinetic and mechanism of anation of ($\alpha\beta S$) hydroxo(tetraethylenepentamine)cobalt(III) by thiosulphate, the base hydrolysis of (*S*-bonded)thiosulphato-(tetraethylenepentamine)cobalt(III) and photochemistry of *O*- and *S*-bonded thiosulphato complexes, *Transition Met. Chem.*, 21 (1996) 90. (IF – 1.402).
5. **R. Das**, N. N. Das and A. C. Dash, Kinetics and mechanism of complex formation of some bivalent and trivalent metal ions with nitrilotriacetato(pentammine)cobalt(III) in aqueous medium, *J. Chem. Soc. Dalton Trans.*, (1995) 3627. (IF-4.097).
4. N.N. Das and **R. Das**, Interaction of bivalent transition metal ions with iminodiacetato(pentammine/tetrammine)cobalt(III) ions. A comparative study, *Transition Met. Chem.*, 20 (1995) 463. (IF – 1.402).
3. **Rita Das**, Kinetics and mechanism, of complex formation between *cis*-(ammine) (3-NO₂ salicylato)*bis*(ethylenediamine)cobalt(III) ion with aluminium(III) in aqueous solution, *Indian J. Chem.*, 32A (1993) 619. (IF-0.575).

2. A.C. Dash, R. K. Nanda and **R. Das**, Kinetics and mechanism of complex formation between histidinato(pentammine)cobalt(III) and Ni(II) in aqueous solution, *Indian J. Chem.*, **30A** (1991) 1001. (IF-0.575).
 1. A.C. Dash, R. K. Nanda and **R. Das**, Kinetics of reversible complexation of iron(III) by *trans-bis*(imidazole)*bis*-(dimethylglyoximate)cobalt(III), *Indian J. Chem.*, **30A** (1991) 617. (IF-0.575).
- b) Books Chapters Published: Nil
- c) Books Published: Nil
- d) Articles Published in Newspapers/Magazines: Nil

11. Research Projects

Type (major/minor)	Name of the funding agency	Funds provided (in Rs. in lakhs)	Title of the project	Month and year of receiving grant	Duration of the project	Completed/ongoing (Date of Completion/expecting completion)
Major	DST, GOI	9.72	Oxidative degradation of some organic pollutants using polyoxometallate intercalated layered double hydroxide Project Leader	June 2007	3 years	Completed
Minor	UGC	0.60	Physicochemical characterisation and adsorption behaviour of some naturally occurring minerals of Orissa Project Leader	March 2008	2 years	Completed

11. Paper presented in Conferences/Seminars

38. Participated and presented a paper at the 36th Annual Conference of Orissa Chemical Society held on 18-19 December 2022 at the Department of Chemistry, Utkal University, Bhubaneswar
37. Participated in the National seminar on "Recent Advances in Materials Chemistry (RAMC- 2021)" held at P.G. Department of Chemistry, Utkal University, Bhubaneswar during 8-9 March, 2021
36. Participated in 35th Annual conference of Orissa Chemical Society and National Seminar on Frontiers in Chemical Sciences (FCS-2021) held on 18-19 December, 2021 at Mharaja Sriram Chandra Bhanja Deo University, Baripada
35. Participated in the National seminar on "Recent Advances in Materials Chemistry (RAMC-2021)" held at P.G. Department of Chemistry, Utkal University, Bhubaneswar during 8-9 March, 2021.

34. Participated in the National virtual conference on "OCS-Industry Interface Meet 2020" organised by Orissa Chemical Society & Mining Mineral Metals & Materials Society on 26-27 December, 2020
33. Participated in the National Seminar on Treatment and Utilisation of Industrial/Mining waste for sustainable environment (TUIMW-2020) at Synergy Institute of Engineering & Technology, Dhenkanal on February 24, 2020.
32. Rita Das and B. S. Mohanta, Photocatalytic activity of mixed oxides derived from ZnAlTi-ternary layered double hydroxides (LDHs), presented in 33rd Annual Conference of Orissa Chemical Society at VSSUT, Sambalpur during December 24-25, 2019.
31. Rita Das, B. S. Mohanta, N. Das, Photocatalytic degradation of phenol using Mn-substituted ZnAl-layered double hydroxides (LDHs), Presented at National Conference on Advances in Materials Chemistry and Applications (AMCA – 2019) held in the Department of Chemistry, Utkal University, Bhubaneswar during February 23-24, 2019
30. **R. Das**, Participated in the Annual Conference of Orissa Chemical Society held at NIST, Berhampur during December 23-24, 2018.
29. **R. Das** and N. Das, Removal of fluoride from aqueous solutions by mixed oxides derived from aluminium rich layered double hydroxide, Presented at National Seminar on 'Recent Trends in Chemical Sciences' held on 8th April, 2017 at Department of Chemistry, North Orissa University, Baripada
28. B.S. Mohanta and R. Das, Photocatalytic activity of mixed metal oxides derived from ZnNiAl/ZnNiAlZr layered double hydroxides, Presented at Int. conference on Recent Advances in Materials Chemistry (RAMC 2017) held at Department of Chemistry, Utkal University during 24-26 February, 2017.
27. **R. Das**, Participated in 30th Annual Conference of Orissa Chemical Society held Department of Chemistry, School of Applied Sciences, KIIT University during 24-25 Dec., 2016.
26. **R. Das**, Participated in two day workshop on Sustainability Action, Learning and Teaching (SALT) held at Xavier Institute of Management, Bhubaneswar during 27-28 May, 2016.
25. **R. Das**, 29th Annual Conference of Orissa Chemical Society and National conference on Recent Advance on Materials Science for sustainable energy & environment, (participated) held at Indira Gandhi Institute of Technology, Sarang during 24-25 Dec., 2015.
24. **R. Das**, Participated in two day training Programme on Geospatial Technologies (DST sponsored) at RD Women's University during 7-8 May, 2015.
23. **R. Das**, Participated in National workshop on Development of Nanomaterials for Energy, Environment and Sustainability held at ITER, SOA University during 2-3 May, 2015.
22. **R. Das** and N. Das, *Catalytic activity of tungstocobaltate-pillared layered double hydroxide*, National Seminar on Modern Chemical Approaches on Organic synthesis, drug design & development at Department of Chemistry, Khalikote (A) College, Berhampur, 8-9 Nov, 2014.
21. R.K. Behera and **R. Das**, *Removal of aqueous fluoride using iron ore tailings*, Presented in National Seminar on Materials Chemistry and Catalysis (MCC-V), held at P.G. Department of Chemistry North Orissa University, Baripada during March 24, 2013 .
19. B.S. Mohanta, **R. Das** and N.N. Das, *Oxidative decolourisation of methyl orange catalysed by tungstocobaltate intercalated ZnAl-layered double hydroxide*, 26th Annual conference of OCS & National seminar on Chemistry in Technology, held at Department of Chemistry, Ravenshaw University during 8-9 December, 2012

18. P.S. Das and **R. Das**, *Fluoride contamination in ground waters of Bangriposhi block of Mayurbhanj District, Orissa, India*, held at the MCC – IV, National Seminar on Materials Chemistry and Catalysis, 4th March, 2012, held at Department of Chemistry, North Orissa University, Baripada.
17. R.K. Behera, S.K. Najrul, **R. Das** and N.N. Das, *Oxidative decolourisation of congo-red using Manganese Wad*, Presented in National Seminar on Materials Chemistry and Catalysis (MCC-IV), held at P.G. Department of Chemistry North Orissa University, Baripada on 4th March 2012.
16. **R. Das**, P.S. Das and B. Nayak, *Geochemical assessment of hardness of ground water in and around Baripada, Mayurbhanj*, Presented at Silver Jubilee Annual Conference of Orissa Chemical Society & National Conference on “Molecule” held during December 24-26, 2011 at Sambalpur University, Sambalpur.
15. **R. Das**, B.S. Mohanta and R. Sahu, *Synthesis, characterization and photocatalytic activity of tungstophosphate-pillared layered double hydroxide (LDH)*, Presented at Silver Jubilee Annual Conference of Orissa Chemical Society & National Conference on “Molecule” held during December 24-26, 2011 at Sambalpur University, Sambalpur.
14. S.K. Giri, **R. Das**, N.N. Das and G.C. Pradhan, *Synthesis and characterization of magnetite nanoparticles coated activated charcoal as nano-adsorbent for removal of dyes from aqueous solution*, International Workshop on Functional Materials, (IWMF-2011) held at NIST, Berhampur during 20-22 December, 2011.
13. R.K. Behera, P.S. Das and **R. Das**, *Adsorptive removal of aqueous phosphate using silicious soil*, Presented in National Seminar on Recent trends in Materials Chemistry, held at Betnoti College, Betnoti, Mayurbhanj, Orissa, during November 29-30 (2011).
12. R.K. Behera, P.S. Das and **R. Das**, *Adsorptive removal of aqueous phosphate using a silica rich natural adsorbent*, 24th Annual conference of Orissa Chemical Society held at Apex Institute, Bhubaneswar during 25-26 December, 2010.
11. Prankrushna Sahoo and **Rita Das**, *Removal of aqueous Cr(VI) by activated carbon derived from mixture of hard and soft coking coal*, 24th Annual conference of Orissa Chemical Society held at Apex Institute, Bhubaneswar during 25-26 December, 2010.
10. Prankrushna Sahoo and **Rita Das**, *Adsorptive removal of phenol from its aqueous solution by activated carbon derived from mixture of hard and soft coking coal*, National Seminar on Materials Chemistry and catalysis, (MCC-II), April 3-4, 2010, held at Department of Chemistry, North Orissa University, Baripada.
9. **R. Das** and N. Das, *Synthesis, characterization of tungstocobaltate-pillared layered double hydroxide*, National Seminar on Materials Chemistry and catalysis, (MCC-II), April 3-4, 2010, held at Department of Chemistry, North Orissa University, Baripada.
8. N.N. Das and **R. Das**, *Synthesis, characterisation and adsorptive properties of hydrotalcite like compounds derived from titanium rich bauxite*, National Conference on Advances in Physical and Theoretical Chemistry (Aptchem-2009) held at Department of Chemistry, University of Calicut during 19-20 March, 2009.
7. P.S. Das and **R. Das**, *Assessment of ground water quality of Mayurbhanj, Orissa with special reference to calcium and magnesium*, National Seminar on Materials Chemistry and catalysis, Dec 27-28, 2008 held at Department of Chemistry, North Orissa University, Baripada.
6. R.K. Behera, **R. Das** and P.K. Satapathy, *Adsorptive removal of phosphate using polymetallic sea nodule leached residue*, National Seminar on Materials Chemistry and

catalysis, Dec 27-28, 2008 held at Department of Chemistry, North Orissa University, Baripada.

5. **R. Das** and N.N. Das, Synthesis, characterization and photocatalytic activity of tunstophosphate pillared ZnAl-Layered double hydroxide, National Seminar on Materials Chemistry and catalysis, Dec 27-28, 2008 held at Department of Chemistry, North Orissa University, Baripada.
4. N.N. Das and **R. Das**, *Oxidative cleavage of DNA by trans-(diaqua)(N,N-ethylene-bis-salicylamide) chromium(III) ion*, National Seminar on Recent Trends in Chemical Sciences, Feb. 9-11, 2008, Department of Chemistry, Sambalpur University, Sambalpur.
3. N.N. Das and **R. Das**, *Synthesis and activation of Pd/Cu containing layered double hydroxides for one-step synthesis of methyl isobutyl ketone (MIBK) from acetone and hydrogen*, 44th Annual Convention of Chemists, M.G. Institute of Applied Sciences, Jaipur, Dec. 23-27 (2007) p. 168.
2. **R. Das**, Attended the Seminar on 'Environmental protection: The role of Science & Technology' & 9th Regional Conference of Orissa Chemical Society, Seemanta Engineering College, Orissa, on 17th Sept., 2006.
1. **R. Das** and N.N. Das, *One-pot synthesis of methyl isobutyl ketone (MIBK) from acetone over bimetallic layered double hydroxide based catalysts* at 19th Annual Conference of Orissa Chemical Society, Sambalpur University, Sambalpur, Dec. 23-24 (2005) p. 14.

12. Invited Lectures/Special Lectures/Resource persons or presentation at Conferences/ Workshops

1. **R. Das**, "Fluoride pollution and mitigation", Invited talk delivered at National Seminar on 'Environmental Pollution and its Management (EPIM 2017)' held at Department of Chemistry, A.S. College, Tirtol during 26-27 March, 2017.
2. **R. Das**, *Oxidative degradation of organic dyes using oxo/polyoxo-metallate intercalated layered double hydroxides*, **Invited talk delivered** at National Seminar on 'Advances in Special Materials (NSASM-2013)' held at Hi-Tech Engineering College, Bhubaneswar, Khurda during 9-10 November, 2013.

13. Awards and Distinctions

- **ACT Best Women Teacher Award for 2020** by Association of Chemistry Teachers, India
- **INSA visiting Fellow, 2010-11** to carry out research work at Department of Chemistry, Indian Institute of Technology, Madras from 12.05.10 – 11.07.10.
- **Secured First Position**, in order of merit, among all successful candidates at the **Annual M. Phil (Chemistry) Examination** of Utkal University in 1988.
- **University Gold Medal** for the year 1986 for securing **First Position in First Class** in M.Sc. (Chemistry) Examination of Utkal University.
- **Mayurbhanj District Best Graduate Gold Medal** for securing highest marks (in Mayurbhanj District) in B. Sc. Examinations of all subjects in 1984.
- **Secured First Position**, in order of merit at **Annual B.Sc. (Hons.) Examinations** (Chemistry) of Utkal University in 1984.

14. Association with Professional Bodies

- Patron and Life Members of Orissa Chemical Society (OCS)