

## Kumaun University, Nainital Curriculum Vitae

Name : Dr Shah Raj Ali  
Designation : Professor  
Department : Chemistry  
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### Educational Qualification

Degree	University	Subjects	Year
B.Sc.	C.C.S. University Meerut	Zoology, Botany, Chemistry	1996
M.Sc.	I.I.T. Roorkee	Chemistry	1999
Ph.D.	I.I.T. Roorkee	Chemistry	2004

### Work Experience:

Position	Department	University/Organization	Year
Assistant Professor	Chemistry	Govt. Degree College, Narayan Nagar	2005-2009
Assistant Professor	Chemistry	Kumaun University, Nainital	2009 to Till date

### Administrative Responsibilities:

Position	Nature of responsibility	University/Organization	Year
NSS Programme Officer	NSS Activities	Govt. Degree College, Narayan Nagar	2005-2009
NSS Programme Officer	NSS Activities	Kumaun University, Nainital	2018 - 2022

## Research Interests

- To explore nanostructured metal hexacyanoferrates in catalytic oxidation of aromatic alcohol and in development of voltammetric Sensors.
- To explore nanostructured metal oxides for adsorption of pollutants.

## Publications (start from recent publications)

### a) Research Papers:

Authors name	Title of the paper	Vol. No, Page No		Year
Joshi P, Hussain N, <b>Ali S.R.</b> , Rishu, Bhardwaj V.K.	Fluorescence modulation of naphthalene containing salicyl hydrazide based receptor through aggregation induced emission enhancement (AIEE) approach: Dual detection of lanthanum and cyanide ion in semi- aqueous medium	36(4), 986-994	Journal of Biochemical and Chemical Luminescence	2021
<b>Ali S.R.</b> , Kalam A., Al- Sehemi A.G., Khan Z., Ansari S., Haider N. Kumar R.	Comparative adsorption of Pb <sup>2+</sup> on nanostructured iron-zirconium oxide with Fe to Zr molar ratio of 1:1 and 1:2: Thermodynamic and kinetic studies	46, 287-300	Arabian Journal for Science and Engineering	2021
<b>Ali S.R.</b> , Kalam A., Al- Sehemi A.G., Khan Z., Ansari S., Haider N. Kumar R.	Zirconium-ferrite nanoparticles as improved adsorbent for Co <sup>2+</sup> , Cu <sup>2+</sup> and Zn <sup>2+</sup> : Thermodynamic and kinetic studies	94, 2797-2809	Russian J. Physical Chemistry A,	2020
<b>Ali S.R.</b> , Kumar R., Kalam A., Al-Sehemi A.G., Arya M.C.	Effect of strontium doping on the band gap of CeO <sub>2</sub> nanoparticles synthesized using facile co-precipitation	44, 6295-6302	Arabian Journal for Science and Engineering	2019
<b>Ali S.R.</b> , Kumar R., Kadabinakatti S.K., Arya M.C.	Enhanced UV and visible light-driven photocatalytic degradation of tartrazine by nickel-doped cerium oxide nanoparticles	6, 022513	Material Research Express	2018
Joshi P, Hussain N, <b>Ali S.R.</b> , Rishu, Bhardwaj V.K.,	Enhanced activity of trinuclear Zn(II) complexes towards phosphate ester bond cleavage by introducing three-metal cooperativity	42, 2204-2215	New Journal of Chemistry: RSC	2018
<b>Ali S.R.</b> , Kumar R., Arya M.C.	Enhanced photocatalytic activity of manganese-doped cerium oxide nanoparticles under visible and UV irradiation	11, 2544-2550	Asian Journal of Chemistry	2018
Hussain N, Joshi P, <b>Ali S.R.</b> , Bhardwaj V.K.	Comparative structure activity relationship for heterogeneous phosphate-like catalytic activities of one-dimensional Cu(II) coordination polymers	6, 61528- 61535	R.S.C. Advances	2016
Chandra P., Kumar R., Arya M.C., Bhardwaj V.K., Joshi P., <b>Ali S.R.</b>	Nanocubic cadmium hexacyanoferrate catalyzed selective oxidation of benzyl alcohol: An eco-friendly protocol	3, 985-988	J. Chemical Engineering & Chemistry Research	2016



Arya M.C., Joshi P., Kumar R., <b>Ali S.R.</b> , Kadabinakatti S.K.	Removal of Methylene Blue from Its Aqueous Solution using Bark of Pinus roxburghii as an Adsorbent	3, 975-979	J. Chemical Engineering & Chemistry Research	
<b>Ali S.R.</b> , Chandra P., Arya M.C., Khanum S., Joshi P., Kumar R.	Nanostructured manganese hexacyanidocobaltate as heterogeneous catalyst for solvent-free oxidation of benzyl alcohol	3, 20-26	J. Advance Catalysis Science & Technology	2016
Latwal M, Chandra P., <b>Ali S.R.</b>	Synthesis of nanostructured copper hexacyanidoferrate and its application in voltammetric detection of salbutamol	44(9), 1127-1134	J. Applied Electrochemistry	2014
<b>Ali S.R.</b> , Chandra P., Latwal M, Jain S.K, Bansal V.K.	Growth of cadmium hexacyanido-ferrate(III) nanocubes and Its application in voltammetric determination of morphine	84, 1355-1361	Bull. Chemical Society Japan	2011
<b>Ali S.R.</b> , Chandra P., Latwal M., Jain S.K, Bansal V.K.	Synthesis of nickel hexacyanoferrates nanoparticles and their potential as heterogeneous catalyst for solvent-free oxidation of benzyl alcohol	32(12), 1844-1849	Chines Journal of Catalysis	2011
<b>Ali S.R.</b> , Bansal V.K, Khan A.A., Jain S.K., Ansari M.A.	Growth of zinc hexacyanoferrate nanocubes and their potential as heterogeneous catalyst for solvent-free oxidation of benzyl alcohol	303, 60-64	J. Molecular Catalysis: A Chemical	2009
<b>Ali S.R.</b> , Kamaluddin	The interaction of nucleotides with metal hexacyanocobaltates: A possible role in chemical evolution	37, 225-234	Origin Life Evolution Biosphere	2007
<b>Ali S.R.</b> , Kamaluddin	The interaction of aromatic amino acid with metal hexacyanochromates: Possible role in chemical evolution and origin of life	79, 1541-1546	Bull. Chemical Society Japan	2006
<b>Ali S.R.</b> , Kamaluddin	The interaction of ribonucleotides with metal hexacyanochromates and the relevance to chemical evolution	77, 1681-1686	Bull. Chemical Society Japan	2004
<b>Ali S.R.</b> , Alam T., Kamaluddin	Interaction of tryptophan and phenylalanine with metal ferrocyanides and relevance in chemical evolution	4, 420-426	Astrobiology	2004
<b>Ali S.R.</b> , Ahmad J., Kamaluddin	Interaction of ribose nucleotides with metal ferrocyanides and its relevance in chemical evolution	236, 165-169	Colloids and Surfaces	2004
Alam T., Tarannum H., <b>Ali S.R.</b> , Kamaluddin	Adsorption and oxidation of aniline and anisidine by chromium ferrocyanide	245, 251-256	J. Colloid and Interface Science	2002

b) Patents (start from recent publications): Nil

Authors name	Title of the patent	Patent no (Granted or filed)	Year
N/A	N/A	N/A	N/A

c) Books (start from recent publications): Nil

Authors name	Title of the book	Publisher	ISBN	Year
N/A	N/A	N/A	N/A	N/A

d) Book chapters (start from recent publications)

Authors name	Title of the book	Publisher	ISBN	Year
Ali S. R., Chandra P., Joshi P	Nanostructured copper hexacyanidoferrate-CNT composite based sensor for paracetamol: A green technology	Excel India Publishers, New Delhi	978-93-85777-90-5	2016
Ali S. R., Chandra P., Latwal M.	Nanocubic cadmium hexacyanidoferrate-CNT composite based voltammetric sensor for paracetamol: <i>A Green Technology</i>	Durga Ma Prakashan, Haldwani, Nainital	978-81-9205-095-9	2015
Ali S. R.	Nickel hexacyanoferrate nanoparticles catalyzed oxidation of phenol: <i>A Green Approach</i>	Durga Ma Prakashan, Haldwani, Nainital	978-81-9205-095-9	2015
Ali S. R., Chandra P., Latwal M.	Nanostructured zinc hexacyanidocobaltate catalyzed oxidation of phenol: <i>A Possible Pharmaceutical Application</i>	Radha Publications, New Delhi	978-81-7487-947-9	2015
Ali S. R.	Growth of manganese hexacyanoferrate nanocubes and subsequent application in voltammetric determination of paracetamol drug	Radha Publications, New Delhi	978-81-7487-947-9	2015
Kamaluddin, Ali S.R.	Study on copper chromicyanide as prebiotic catalyst	Kluwer Academic Publishers, Netherlands	978-01-3408-908-9	2004

e) Conference Publications/Proceedings (start from recent publications): Nil

Authors name	Title of the paper	Conference name	Year
N/A	N/A	N/A	N/A

### Projects:

Title of the project	Funding agency	Amount (Rs)	Year
1 Syntheses, characterization and catalytic activities of nano-sized double metal cyanide complexes.	UCOST Dehradun	7.37	2007 to 2010
Electrocatalytic potential of nanoscaled metal hexacyanomethylates-carbon nanotube composite and its application in voltammetric determination of salbutamol, paracetamol, morphine and codeine drugs.	CSIR, New Delhi	12.0	2009 to 2012
Syntheses, characterization, catalytic and antimicrobial activities of metal hexacyanocobaltate nanoparticles.	UGC, New Delhi	9.45	2009 to 2012



Green catalytic behaviour of nanoscaled metal hexacyanocobaltate for oxidation of cumene and cyclohexene.	UCOST Dehradun	4.8	2012 to 2015
Removal of heavy metals from their aqueous solution using activated bark of <i>Pinus roxburghii</i> as an adsorbent.	KU, Nainital	1.01 Lakh	2016 to 2017
Interaction of amino acids with nanostructured metal oxide and relevance to prebiotic syntheses	KU, Nainital	2.00 Lakh	Ongoing

#### Teaching details:

Name of the course/paper	Department	University	Year
B.Sc., I, II, III Year:- Inorganic, Organic, Physical Chemistry	Chemistry	Govt. Degree College Narayan Nagar (Kumaun University, Nainital)	2005-2009
B.Sc.-I Year- Physical Chemistry M.Sc.-I, II Year- Physical Chemistry	Chemistry	Kumaun University, Nainital	2009-2012
B.Sc.-I Year- Physical Chemistry M.Sc.-I, II Year- Physical Chemistry	Chemistry	Kumaun University, Nainital	2013 till yearly system
B.Sc.-V, VI Sem- Physical Chemistry M.Sc.-I, II, IV Sem- Physical Chemistry M.Sc.-III Sem- Interdisciplinary topics in Chemistry	Chemistry	Kumaun University, Nainital	From Semester System to date

#### Professional Memberships:

Organization	Position	Year
Indian Science Congress Association, Kolkata (No: L-12176)	Life Member	2012
Indian Council of Chemists, Agra (LF/756)	Life Member	2004
Indian Chemistry Teachers Association, Mumbai (LM No: 984)	Life Member	2012
Indian Chemical Society, Kolkata (No: F/7477 (LM))	Life Member	2012

#### Honours and Awards:

Award	Awarding Organization	Year
Best Paper Award	Bundelkhand Institute of Engineering & Technology, Jhansi	2016
ISCA Best Poster Award	Indian Science Congress Association, Kolkata	2014

Best Poster Presentation Award	Gurukula Kangri Vishvavidyala, Haridwar	2012
Young Scientist Award	UCOST Dehradun	2011
Best Oral Paper Presentation Award	Government P.G. College Pithoragarh	2009
Dr. K.S. Korgaunkar Award	Indian Biophysical Society	2002

### Conference Presentations:

Title of presentation	Conference name	Name of the institution	Year
Zirconium ferrite nanoparticles as efficient adsorbent for Co(II)	8th Conference of ISCA (Haridwar Chapter)	Kumaun University, Nainital	2017
Electrocatalytic potential of nanocubic cadmium hexacyanidoferrate-carbon nanotubes composite modified electrode for oxidation of paracetamol	19 <sup>th</sup> International Conference on "International Academy of Physical Sciences	Kumaun University, Nainital	2016
Nanostructured copper hexacyanoferrate-CNT composite based sensor for paracetamol: A green technology	International Conference on "Biomedical Engineering and Supportive Technologies	Bundelkhand Institute of Engineering & Technology, Jhansi	2016
Digital technology in learning of nanoscience	workshop on "Role of digital technology in e-learning and societal Development	HIMWATS, Champawat	2016
Nanostructured zinc hexacyanidocobaltate catalyzed oxidation of cumene: A green protocol	National Conference on Climate Change, Environmental Hazards & Biodiversity Conservation	Sahu Jain College, Nazibabad	2016
Nanostructured zinc hexacyanidocobaltate catalyzed oxidation of benzyl alcohol	Science & Technology for Indigenous Development in India	G.K.V. Haridwar	2015
Solar energy storage nanomaterials for human development	workshop on "International year of light & light technology	HIMWATS, Champawat	2015
Nanocubic cadmium hexacyanoferrate catalyzed selective oxidation of benzyl alcohol: <i>An eco-friendly protocol</i>	Environmental Conservation & Clean India Programme	Kumaun University, Nainital	2014
Infrared spectroscopic tool for determination of reaction mechanism of nickel hexacyanidoferrate nanoparticles catalyzed oxidation of benzyl alcohol	National Conference on "AMRS-SHD-2014	Osmania University, Hyderabad	2014
Synthesis and characterization of nanostructured copper hexacyanidoferrate and its application in	101th Indian Science Congress	University of Jammu, Jammu	2014



voltammetric detection of salbutamol			
Nickel hexacyano-ferrate nanoparticles catalyzed oxidation of phenol: A green approach.	National seminar on environmental economics & social sustainability,	Govt. P.G. College, Dwarahat (Almora)	2014
Chemical Hazardous	Innovative Molecules for Sustainable Future	Thapar University, Patiala	2013
Chemical Toxicity: <i>Is KCN always toxic?</i>	Emerging Trends in Engineering & Science	G.K.V. Haridwar	2013
Nanotechnology: A general prospective	National Seminar on RTAMPS-2012	D.N. College Meerut	2012
Solvent-free oxidation of benzyl alcohol catalyzed by nanostructured zinc hexacyanidocobaltate: A green approach	International Conference on "GTER-2012	G.K.V. Haridwar	2012
Nickel hexacyanidoferrate as green catalyst for oxidation of phenol	International Conference on "ICLDBT-2011	S.V.P.U.A.&T. Meerut	2011
Manganese hexacyanidoferrate as heterogeneous catalyst for oxidation of phenol: A green approach	Innovation and Applications in Engineering & Applied Sciences	G.K.V. Haridwar	2011
Copper hexacyanoferrate nanoparticles as green catalyst for oxidation of phenol using H <sub>2</sub> O <sub>2</sub> as oxidant	National Conference on Green Chemistry: An Approach to meet the challenges of Sustainability	M.M.H. College Ghaziabad	2011
Growth of manganese hexacyanoferrate nanoparticles and their potential as green catalyst for solvent-free oxidation of benzyl alcohol	Recent advances in polymer nanocomposites	Zakir Husain College New Delhi	2011
Growth of manganese hexacyanoferrate nanocubes and subsequent application in voltammetric determination of paracetamol drug	International Conference on Nano Science & Technology	I.I.T. Bombay, Mumbai	2010
Copper hexacyanoferrate nanoparticles-CNT composite modified glassy carbon electrode for voltammetric determination of morphine in pharmaceutical and urine samples	Chemistry Biology Interface: Recent Trends	Govt. P.G. College Ranikhet	2010
Growth of cobalt hexacyanoferrate nanoparticles and their use as heterogeneous catalyst for solvent-free oxidation of benzyl alcohol: A green approach	Recent Trends in Chemical Research	Meerut College Meerut	2010
Growth of cadmium hexacyanoferrate nanocubes and their potential as	Seminar on transition to Knowledge Based Society	Govt. P.G. College Pithoragarh	2009

heterogeneous catalyst for solvent-free oxidation of benzyl alcohol: A green approach			
The possible role of cobalt(II) hexacyanocobaltate(III) in chemical evolution and origin of life	International Workshop on "Chemical Evolution and Origin of Life	I.I.T. Roorkee	2008
Interaction of metal ferrocyanides with ribose nucleotides and its relevance in chemical evolution	National Symposium on Space Science	M.G.U. Kottayam, February	2004
Studies on metal cyanogen complexes as prebiotic catalyst	International Workshop on "Capacity Building: Needs of Asian African Region	I.I.T. Roorkee	2003
Copper chromicyanide as prebiotic catalyst	22 <sup>th</sup> Annual Conference of Indian Council of Chemists	I.I.T. Roorkee	2003
Studies on copper chromicyanide as prebiotic catalyst	National Symposium on Biophysics	I.I.T. Roorkee	2003
Studies on metal cyanogen complexes as prebiotic catalyst	International Workshop on "Exo/Astrobiology	Austrian Academy of Science, Graz (Austria)	2002



Signature of the faculty member

