

## **Profile Page**



Name : Dr Uma Shanker

Designation : Associate Professor

Department : Chemistry

Qualification : Ph D (Indian Institute of Technology Roorkee, Roorkee)  
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### **Research Interests :**

Green Synthesis of various types of nanomaterials such as transition metal oxides, complexes etc.

Synthesis of Nano-Composites of various types metal-metal based or metal -polymer based Photochemical properties of nanomaterials,

Size and shape-dependent properties of nanoscale materials,

Applications of Nanomaterials in fabrication of device for waste-water treatment

Nano-catalysis

Fabrication of novel materials for degradation of new and emerging persistent organic pollutants

### **Other Profile Links :**

#### **Google Scholar Link :**

Dr Uma Shanker [Click Here](#)Google scholar profile [Click Here](#)

#### **Personal Web Link :**

Dr Uma Shanker [Click Here](#)

### **Journal Publications :**

Year	Journal	Publication
2023	Water and Environment Journal , <a href="https://doi.org/10.1111/wej.12847">https://doi.org/10.1111/wej.12847</a> (2023)	Efficient photocatalytic degradation of bisphenol A by green synthesized CuO decorated nickel hexacyanoferrate nanocomposite
2023	Micro and Nano Engineering: <a href="https://doi.org/10.1016/j.mne.2022.100170">https://doi.org/10.1016/j.mne.2022.100170</a>	Green biosynthesized zinc-based nanocomposite for efficient removal of emerging contaminants

2023	Inorganic Chemistry Communications Volume 147, January 2023, 110246	Green synthesized zinc derived nanocomposites with enhanced photocatalytic activity: An updated review on structural modification, scientific assessment and environmental applications
2023	Chemistryselect, <a href="https://doi.org/10.1002/slct.202203540">https://doi.org/10.1002/slct.202203540</a>	Chicken Egg Shell Waste Derived Calcium Oxide Based Nanohybrid For Rapid Removal of Heavy Metal Ions from Water: Green Synthesis, Kinetics and Reusability
2023	Chemistryselect, 10.1002/slct.202300270.	Green Synthesis of a Biochar-Based Iron Oxide Catalyst for Efficient Degradation of Pesticides: Kinetics and Photoactivity
2022	International Journal of Environmental Science and Technology <a href="https://doi.org/10.1007/s13762-022-04255-z">https://doi.org/10.1007/s13762-022-04255-z</a>	Efficient visible light photocatalytic organic colorants elimination performance induced by biosynthesized titanium dioxide coupled cadmium sulfide nanostructures
2022	Journal of Environmental Chemical Engineering Volume 10, Issue 3, June 2022, 107452	An integrated hybrid nanoplatform with polymer coating: Zinc based green nanocomposites with improved photoactivity under sunlight irradiation
2022	Chemosphere Volume 290, March 2022, 133307:	Keshu, Uma Shanker, Efficient removal of plastic additives by sunlight active titanium dioxide decorated Cd–Mg ferrite nanocomposite: Green synthesis, kinetics and photoactivity
2022	Journal of Environmental Management, 321, (2022) 115998	Keshu, Meenu, Mika Sillanpaa, Uma Shanker, An updated review on environmental occurrence, scientific assessment and removal of brominated flame retardants by engineered nanomaterials, Journal of environmental management
2022	Nanotechnology for Environmental Engineering, DOI : 10.1007/s41204-022-00283-9 (2022).	Uma Shanker, Efficient cleanup of emerging contaminants by green biosynthesized Z-scheme-type Bi <sub>2</sub> O <sub>3</sub> @CdS nanocomposite with improved photoactivity,
2021	Journal of Environmental Management 300 (2021) 113777	Efficient degradation of organic pollutants by novel titanium dioxide coupled bismuth oxide nanocomposite: Green synthesis, kinetics and photoactivity
2021	Journal of Environmental Chemical Engineering Volume 9, Issue 6, December 2021, 106763: if: 5.9	An updated review on synthetic approaches of green nanomaterials and their application for removal of water pollutants: Current challenges, assessment and future perspectives
2021	Environmental Science and Pollution Research 28, 61760–61780 (2021). Springer: IF: 4.3	Sunlight-induced photocatalytic degradation of organic pollutants by biosynthesized hetrometallic oxides nanoparticles
2021	Journal of Environmental Chemical Engineering Volume 9, Issue 2, April 2021, 105073, Impact factor: 5.9	Uma Shanker, Green synthesis, kinetics and photoactivity of novel nickel oxide-decorated zinc hexacyanocobaltate catalyst for efficient removal of toxic Cr(VI)
2021	Journal of Colloid and Interface Science Volume 584, 15 February 2021, Pages 67-79 (Elsevier Publications; IF: 7.489 Q1)	Synergistic effects of zinc oxide coupled copper hexacyanoferrate nanocomposite: Robust visible-light driven dye degradation
2021	Journal of Colloid and Interface Science Volume 601, November 2021, Pages 689-703 Impact factor: 7.489 (Q1)	Manviri Rani, Jyoti Yadav, Keshu, UmaShanker, Green synthesis of sunlight responsive zinc oxide coupled cadmium sulfide nanostructures for efficient photodegradation of pesticides
2021	Journal of Environmental Chemical Engineering Volume 9, Issue 6, December 2021, 106763	An updated review on synthetic approaches of green nanomaterials and their application for removal of water pollutants: Current challenges, assessment and future perspectives

2020	Environmental Science and Pollution Research, DOI: 10.1007/s11356-020-10925-7 (Springer Publications; IF: 3.056))	Insight in to Sunlight driven rapid photocatalytic degradation of organic dyes by hexacyanoferrate based nanoparticles
2020	Environmental Nanotechnology, Monitoring & Management Volume 14, December 2020, 100325	Efficient degradation of nonylphenol and 2,4-dinitrophenol by sunlight responsive hexacyanocobaltates nanostructures
2020	International Journal of Biological Macromolecules Volume 161, 15 October 2020, Pages 457-469 (Elsevier Publications: 5.162))	Synergic effect of Guggul gum based hydrogel nanocomposite: An approach towards adsorption-photocatalysis of Magenta-O
2020	Journal of Drug Delivery Science and Technology Volume 56, Part A, April 2020, 101550 (Elsevier publications; IF. 2.69))	?-radiation induced synthesis of antibacterial silver nanocomposite scaffolds derived from natural gum Boswellia serrata
2020	Journal of Environmental Chemical Engineering 8 (2020) 103810 (Elsevier Publications; I. F. 5.9)	Metal oxide-chitosan based nanocomposites for efficient degradation of carcinogenic PAHs
2020	Environmental Technology & Innovation 19 (2020) 100792 (Elsevier Publications; IF: 3.356)	Efficient photocatalytic degradation of Bisphenol A by metal ferrites nanoparticles under sunlight
2020	Journal of Environmental Chemical Engineering Volume 8, Issue 4, August 2020, 104040 (Elsevier Publications; I. F. 4.3)	Sunlight Assisted Degradation of Toxic Phenols by Zinc Oxide Doped Prussian Blue Nanocomposite
2019	Handbook of Functionalized Nanomaterials, Elsevier Publications	Remediation of organic pollutants by potential functionalized nanomaterials
2019	Journal of Colloids and Interface Science (Elsevier, IF 6.321), 555 (2019) 676–688	Mineralization of carcinogenic anthracene and phenanthrene by sunlight active bimetallic oxides nanocomposites"
2019	Journal of Environmental Management (Elsevier Publications; SCI-Elsevier; I. F: 5.647),234, 345-356	One-pot green synthesis of polymeric nanocomposite: Biodegradation studies and application in sorption-degradation of organic pollutants
2019	Journal of Environmental Management 248 (2019) 109340; (Elsevier SCI, IF: 4.08)	Degradation of tricyclic polyaromatic hydrocarbons in water, soil and river sediment with a novel TiO <sub>2</sub> based heterogeneous nanocomposite
2019	Journal of Environmental Chemical Engineering 7(2019) 103153	Enhanced mineralization of bisphenol A and nonylphenol by Sunlight active nanocomposites
2019	Journal of Photochemistry and Photobiology A: Chemistry 381 (2019) 111861	Sunlight mediated improved photocatalytic degradation of carcinogenic benz[a]anthracene and benzo[a]pyrene by zinc oxide encapsulated hexacyanoferrate nanocomposite
2018	Journal of Environmental Chemical Engineering, 6,1512–1521, Elsevier Publications I F : 4.001	Effective Adsorption and Enhanced Degradation of Various Pesticides from Aqueous Solution by Prussian blue Nanorods
2018	Chemical Engineering Journal, 348, 754-764 (Elsevier Publications Impact factor: 6.216)	Enhanced photocatalytic degradation of chrysene by Fe <sub>2</sub> O <sub>3</sub> @ZnHCF nanocubes

2018	Handbook of Environmental Materials Management SPRINGER 2018; DOI : 10.1007/s11356-018-1346-2	Significance of nanomaterials in environmental management: Degradation of pesticides
2018	Handbook on "Green adsorbents for pollutant removal" BOOK BY SPRINGER NATURE	Remediation of Polycyclic Aromatic Hydrocarbons by Nanomaterials
2018	Colloids and Surfaces A: Physicochemical and Engineering Aspects, 553, 546-561 Elsevier Publications, I F: 2.829	Photocatalytic degradation of toxic phenols from water using bimetallic metal oxide nanostructures
2018	Environmental Science and Pollution Research, DOI: 10.1007/s11356-018-2214-9: Springer Publications, I F. 2.8	Promoting sun light-induced photocatalytic degradation of toxic phenols by efficient and stable double metal cyanide nanocubes
2018	Journal of Colloid and Interface Science, 530, 16–28, Elsevier Publications, I. F. 5.091	Insight in to the degradation of toxic bisphenol A by zinc hexacyanoferrate encapsulated with zinc oxide: High photocatalytic performance
2018	Reactive and Functional Polymers 131 (2018) 107–122; IF: 2.975 Elsevier	RSM-CCD optimized In-air synthesis of photocatalytic nanocomposite: Application in removal-degradation of toxic brilliant blue
2018	Materials Chemistry and Physics 219 (2018) 129–141	A facile strategy to synthesize a novel and green nanocomposite based on gum Salai guggal - Investigation of antimicrobial activity
2018	Cellulose ; <a href="https://doi.org/10.1007/s10570-018-2140-5">https://doi.org/10.1007/s10570-018-2140-5</a> .	Microwave assisted in situ synthesis of gum Salai guggal based silver nanocomposites- investigation of anti-bacterial properties
2018	Colloids and Surfaces A: Physicochemical and Engineering Aspects (SCI-Elsevier) 559, 136–147	Sun-light driven rapid photocatalytic degradation of methylene blue by poly(methyl methacrylate)/metal oxide nanocomposites
2018	Environmental Nanotechnology, Monitoring & Management, 10, 36-50	Metal hexacyanoferrates nanoparticles mediated degradation of carcinogenic aromatic amines
2018	Environmental Science and Pollution Research (2018) 25:10878–10893, Springer Publications, I F. 2.8	Removal of Chlorpyrifos, Thaimethoxam and Tebuconazole from Water Using Green Synthesized Metal Hexacyanoferrates Nanoparticles
2017	Environmental Chemistry Letters 15:623–642 (Springer publications)	Uma Shanker, Vidhisha Jassal and Manviri Rani, “Degradation of hazardous organic dyes in water by nanomaterials
2017	Journal of Environmental Management , 2017, 204, 337-348. Elsevier Publications	Uma Shanker, Vidhisha Jassal, Manviri rani, Degradation of toxic PAHs in water and soil using potassium zinc hexacyanoferrate nanocubes.
2017	Journal of Environmental Chemical Engineering 5(6): 5298-5311(2017). Elsevier Publications	Uma Shanker and Manviri Rani Removal of carcinogenic aromatic amines by metal hexacyanoferrates nanocubes synthesized via green process.
2017	Journal of Environmental Chemical Engineering 5 (2017) 2730–2739: Elsevier Publications	Uma Shanker, Manviri Rani and Amit K Chaurasia “Catalytic potential of laccase immobilized on transition metal oxides nanomaterials: Degradation of alizarin red S dye”

2017	Journal of Environmental Chemical Engineering 5(4): 4108-4120(2017): Elsevier Publications	Green synthesis of iron hexacyanoferrate nanoparticles: Potential candidate for the degradation of toxic PAHs, Uma Shanker, Vidhisha Jassal, Manviri rani,
2017	Journal of Environmental Management 190: 208-222: Elsevier Publications	Recent strategies for removal and degradation of persistent & toxic organochlorine pesticides using nanoparticles
2017	International Journal of Environmental Science and Technology <a href="https://doi.org/10.1007/s13762-017-1512-y">https://doi.org/10.1007/s13762-017-1512-y</a> (Springer publications)	Degradation of traditional and new emerging pesticides in water by nanomaterials: Recent trends and future recommendations
2016	R Sc Advances,6, 94989-94999 (2016). (Royal Society of Chemistry publications)	Catalytic removal of organic colorants from water using some transition metal oxides nanoparticles synthesized under sunlight
2016	Iranian Polymer Journal, 25, 787-797 (2016)(Springer publications)	B. S. Kaith, Sukriti, Jitender Sharma, Tajinder Kaur, Surbhi Sethi, Uma Shanker, Vidhisha Jassal “Microwave-assisted green synthesis of hybrid nanocomposite: removal of Malachite green from waste water”
2016	International Journal of Engineering Sciences 9(4):168-173 (2016)	Green synthesis of copper chromatenanoparticles: Catalytic oxidation of phenol. Manviri Rani and Uma Shanker,
2016	International Journal of Engineering Sciences 9(4):162-167 (2016).	Uma Shanker, Vidhisha Jassal and Manviri Rani, “Aegle marmelos mediated green synthesis of iron hexacyanocobaltate nanoparticles: Solid support-cum catalyst for the oxidation of 2,4- dinitrophenol
2016	International Journal of Environmental Analytical Chemistry 96(9):801-835, (2016) Taylor and Francis publications	Towards green synthesis of nanoparticles: From bio-assisted sources to benign solvents. A review
2016	Journal of the Chinese Advanced Materials Society, 4, 249-2689 (2016):Elsevier Publications	Fabrication of green device for efficient capture of toxic methylene blue from industrial effluent based on K <sub>2</sub> Zn <sub>3</sub> [Fe(CN) <sub>6</sub> ] <sub>2</sub> •9H <sub>2</sub> O nanoparticles reinforced Gum xanthan-Psyllium hydrogel nanocomposite
2016	Material Today Proceedings 3(6): 1872-1884 (2016) Elsevier publications	Green Synthesis of Some Iron Oxide Nanoparticles and Their Application in Oxidation of 2-Amino, 3-Amino and 4-Aminopyridines
2016	Applied Physics A, 122, 271-280, (2016): Springer Publications	Sapindus mukorossi mediated green synthesis of some manganese oxide nanoparticles-Interaction with aromatic amines
2016	Scientifica, 2016, 1-13 (2016): Hindawai publications	Aegle marmelos mediated green synthesis of different nano-structured metal hexacyanoferrates: Activity against photodegradation of harmful organic dyes
2015	Chemical Sciences Journal, 6(3), 1-7 (2015): Omics publications	Ramappa VR, Dev P, Shankar S and Shanker U “Analysis of Chemical Compounds in Different Mulberry and Non Mulberry Silkworm Pupae Powder by FTIR and EDX”
2015	R Sc Advances, 5, 26141-26149 (2015)	Green synthesis of potassium zinc hexacyanoferrate nanocubes and its potential application in photocatalytic degradation of organic dyes
2015	Journal of Environmental Analytical Chemistry 2:128	Synthesis, Characterization and applications of nano-structured Metal hexacyanoferrates - a review
2014	The Scientific word of Journal, 2014 (2014)1-14	Arsenic contamination of ground water: a review of sources, prevalence, health risks and strategies for mitigation
2013	Origin of Life and Evolution of Biosphere 43:207–220(2013).: Springer publications	Interaction of Aromatic Amines with Iron Oxides: Implications for Chemical Evolution

2012	Origin of Life and Evolution of Biosphere 42:31–45(2012).	Uma Shanker, Brij Bhushan, G. Bhattacharjee and Kamaluddin “Oligomerization of Glycine and Alanine Catalyzed by Iron Oxides: Implications for Prebiotic Chemistry”.
2011	Origin of Life and Evolution of Biosphere 41(5) 469-482 (2011)	Brij Bhushan, Uma Shanker, G. Bhattacharjee and Kamaluddin, “Adsorption of Ribose Nucleotide on Manganese Oxides with Varied Mn/O ratio: Implications for Chemical Evolution”. Origin of Life and Evolution of Biosphere 41(5) 469-482 (2011)
2011	Astrobiology, 11 (3) 225-233 (2011)	Formation of Nucleobases from Formamide in Presence of Iron Oxides: Implication in Chemical Evolution and Origin of Life
	Microwave assisted in situ synthesis of gum Salai guggal based silver nanocomposites- investigation of anti-bacterial properties	Amit Kumar, Balbir Singh Kaith, Bhuvanesh Gupta, Uma Shanker, Satya Pal Lochab, Microwave assisted in situ synthesis of gum Salai guggal based silver nanocomposites- investigation of anti-bacterial properties

### Conference Publications :

Year	Conference	Publication
2016	International Conference on” World congress of Engineering and Applications “at Hotel IBIS nana, Soi-4, Bangkok from 16-17 December, 2016.	Green synthesis of copper chromatenanoparticles: Catalytic oxidation of phenol
2016	National Symposium on Nano science and Nano technology 2016” at Centre For Nano Science and Engineering (CeNSE), IISc Bangalore from June 29-30, 2016	Green Synthesis of some managnese oxides nanoparticles and their application for degradation of aromatic amines
2016	Water quality management” at Department of Chemical Engg. Dr B R Ambedkar NIT Jalandhar from June 20-24, 2016.	Particippation
2016	Professor Ram Chand Paul National Symposium on Progressive Trends in Chemical Sciences at Panjab University, Chandigarh on 23 January 2016 (PP123).	Different nano-structured metal hexacyanoferrates synthesized via green route: Activity against photodegradation of harmful organic dyes” during
2015	National Symposium on “Professor Ram Chand Paul National Symposium on Innovations in Chemical Sciences held during 20-21, March 2015 at Punjab University Chandigarh (India) Abstract Book pp. 37	A Green Method for the Synthesis of some Nanostructured Metal Hexacyanoferrates and their activity against Photodegradation of Organic Dyes
2015	International Conference on “Advances in Pharmaceutical Nanotechnology and Nanomedicine’ to be held during 6-8, February 2015 at I.S.F. College of Pharmacy, Moga, Punjab (India).	Sapindus mukorossi mediated synthesis of some metal hexacyanoferrate nanoparticles and their activity against photodegradation of harmful organic dyes
2014	Recent Trends in Chemical & Environmental Sciences at Arni University, Kangra, Himachal Pradesh from 27 February 2014 to 28 Februray 2014(poster code pp-57).	Oxidation of Aromatic Amines catalysed by Manganese oxides”
2014	International Conference on Advanced Functional Materials (ICAFM-2014) at Thiruvananthapuram, being jointly organised by CSIR-NIIST, IIM Trivandrum from 19-21 February 2014, Poster code FC-78, pp 255.	Adsorption and Oxidation of Aromatic Amines by Iron Oxides: Implications for Prebotic Chemsitry”

2013	National Symposium for Materials Research Scholars, (MR-13), Dept. of Metallurgical Engineering and Materials Science, IITB, Mumbai, INDIA, 8-9 May 2013. Abstract Book pp. 177	Manganese oxides catalysed Oxidation of Aromatic Amines
2013	International Conference On Interdisciplinary Areas With Chemical Sciences (ICIACS-2013) at Dept of Chemistry, Panjab university Chandigarh, Punjab from 30 Oct, 2013 to -01 Nov, 2013 (poster code B-13, pp 181).	Iron oxides catalyzed oligomerization of glycine and alanine: Implications for prebiotic chemistry”
2013	6th National Conference on Recent Advances in Chemical and Environmental Sciences at Multani Mal Modi College, Patiala, from 13 Oct 2013 to 14 Oct, 2013.	Facile Synthesis of Novel Spirocyclic Seleno- $\beta$ -lactams”
2011	III International conference BIOSPHERE ORIGIN AND EVOLUTION, Rethymno, Crete, Greece, 14-20, Oct. 2011.	Formation of Nucleobases from Formamide in the Presence of Iron Oxides”, Abstract Book pp26,

### Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISS N No.	Year
Book chapter, printed and online	Removal pesticides by advanced techniques based on nanomaterials	Elsevier	Sudha Chaudhary, Meenu, Uma Shanker	978-0-323-90489-6	2022
Book chapter, printed and online	Bioremediation of pesticides from water and wastewater	Elsevier	Sudha Chaudhary, Manviri Rani, Uma Shanker	978-0-323-90893-1	2022
Book chapter, printed and online	Cu-based nanomaterials for production of novel agrochemicals	Elsevier	Keshu, Manviri Rani, Uma Shanker	978-0-12-823833-2	2022
Book chapter, printed and online	Green nanomaterials as photocatalysts: Current trends	Elsevier	Keshu, Uma Shanker, Manviri Rani	978-0-12-823296-5	2022
Book chapter, printed and online	Toxicity and safety assessment of green nanomaterials	Elsevier	Uma Shanker, Keshu, Manviri Rani	978-0-12-823296-5	2022
Book, printed and online	Liquid and Crystal Nanomaterials for Water Pollutants Remediation	Taylor & Francis	Uma Shanker Manviri Rani	ISBN: 978-0-367-54987-9 (hbk) ISBN: 978-0-367-54990-9 (pbk) ISBN: 978-1-003-09148-6 (ebk)	2022

Book, printed and online	Green Functionalized Nanomaterials for Environmental Applications	Elsevier	Uma Shanker, CM Hussain	ISBN 978-0-12-823137-1	2021
Book, printed and online	Green Nanomaterials for Industrial Applications	Elsevier	Uma Shanker Manviri Rani Chaudhery Hussain	9780128232965	2021
Book, printed and online	Green and Sustainable Nanotechnology	Springer nature	Uma Shanker, Manviri Rani Chaudhery Hussain	978-3-030-69023-6	2021
Book chapter, printed and online	Environmental, legal, health, and safety issues of green nanomaterials	Elsevier	Jyoti Yadav, Manviri Rani, Uma Shanker	978-0-12-823137-1	2021
Book chapter, printed and online	Green nanomaterials: An overview	Elsevier	Keshu, Uma Shanker	978-0-12-823137-1	2021
Book chapter, printed and online	Plant-meditated methods for synthesis of silver nanoparticles	Elsevier	Uma Shanker, Keshu	978-0-12-823575-1	2021
Book chapter, printed and online	Biogenic synthesis of zinc nanostructures: Characterization and mechanisms	Elsevier	Keshu, Uma Shanker	978-0-12-822836-4	2021
Book chapter, printed and online	Green synthesized Zn-based catalysts	Elsevier	Jyoti Yadav, Uma Shanker, Manviri Rani	978-0-12-822836-4	2021
Book chapter, printed and online	Environmental, Health, and Safety Issues of Liquid and Crystal Nanomaterials	Taylor & Francis	Keshu, Uma Shanker	978-0-367-54987-9	2021
Book chapter, printed and online	Eradication of Personal Care Products by Liquid and Crystal Nanomaterials	Taylor & Francis	Rachna, Uma Shanker	978-0-367-54987-9	2021
Book chapter, printed and online	Modern Applications and Current Status of Liquid and Crystal Nanomaterials in Environmental Industry	Taylor & Francis	Rachna, Uma Shanker	978-0-367-54987-9	2021



Chapter	Removal of Organic Dyes by Functionalized Nanomaterials	Green Chemistry for the Sustainable Development of Chemical Industry: Nanostructured Materials, Springer publications(SCI) Springer	Manviri Rani and Uma Shanker		2021
Chapter	Degradation of polycyclic aromatic hydrocarbons by functionalized nanomaterials	Water Pollution and Remediation Technology: Organic Pollutants, Springer publications(SCI)	Rachna, Manviri Rani and Uma Shanker	978-3-030-52394-7	2021
Chapter	Degradation of Pesticides Residue by Engineered Nanomaterials	Springer Nature	Manviri Rani, Uma Shanker	978-3-030-54718-9	2021
Chapter	Plastic degradation in environmental implications	Materials Research Forum, LLC, USA	Manviri Rani, Uma Shanker, Jyoti Yadav, Keshu, Meenu		2021
Chapter	Green synthesis of TiO <sub>2</sub> and its photocatalytic activity	Elsevier	Uma Shanker, Manviri Rani	0128190523	2020
Chapter	Environmental nanotechnology approaches for remediation of contaminants	Taylor and Francis	Uma Shanker, Manviri Rani	9780367273101-190035	2020
Chapter	Chapter 13 - Remediation of organic pollutants by potential functionalized nanomaterials	Elsevier	Uma Shanker, Manviri Rani	978-0-12-816787-8	2020
Chapter	Remediation of organic pollutants by potential functionalized nanomaterials	Elsevier	M. Rani, Uma Shanker	978-0-12-816787-8	2020
Chapter	Synthesis methodology of green composite for heavy metal Cr remediation from waste water	Lambert publishing, Mauritius	Uma Shanker, M Rani	978-620-0-45627-4	2019
Chapter	Green solvents in Chemical reactions	Springer, Cham	Manviri Rani and Uma Shanker	978-1-64490-022-2	2019
Chapter	Remediation of Polycyclic Aromatic Hydrocarbons Using Nanomaterials	Springer, Cham	Manviri Rani, Uma Shanker	978-3-319-92111-2	2018
Chapter	Advanced Treatment Technologies	Springer, Cham	Manviri Rani, Uma Shanker	978-3-319-58538-3	2018

## Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
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Co-Principal Investigator	Regular	?-radiation induced synthesis of super-absorbents and impact of swift heavy ions bombardment on the physico-chemical properties”	IUAC-New Delhi	01-01-2014	31-12-2017	1500000	Completed	
PI	R&D	Green Synthesis of some metal hexacyanometallates and their application in waste water treatment	TEQIP-II	01-06-15	30-06-2016	0.5 Lakh	Completed	

### Events Organized :

Category	Type	Title	Venue	From	To	Designation
Short Term Course	National	Frontiers in Chemical Sciences and Technology	Department of Chemistry Dr B R Ambedkar NIT-Jalandhar, December 08-14, 2014	08-12-2014	14-12-2014	Coordinator
Short-Term Course	National	Advanced Materials and their Characterization Techniques	Department of Chemistry Dr B R Ambedkar NIT-Jalandhar, June 01-07, 2015	01-06-2015	07-06-2015	Coordinator
Short term course	National	New directions in Chemical Sciences and Technology	Department of Chemistry Dr B R Ambedkar NIT-Jalandhar, December 08-12, 2015.	08-12-2015	12-12-2015	Co-Convenor
Workshop	National	Hands on workshop on X-ray diffraction Technique	Dr B R Ambedkar National Institute of Technology Jalandhar	16-11-2018	17-11-2018	Coordinator
Conference	International	International Conference on Chemical Constellation Cheminar-2019 (CCC-2019)	Department of Chemistry, Dr B R Ambedkar NIT Jalandhar	12-10-2019	13-10-2019	Organizing Secretary

## Professional Affiliations :

Designation	Organization
Life Memeber	HIM -SCIENCE Congress
Life Members	Association of Chemistry Teachers
Life member	American Chemical Society, United States of America

## PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Ms Shikha Sharma	Green nanomaterials for environmental remediation	Ongoing	2023	Prof B S Kaith
Rishabh	Generation of green nanomaterials foe environmental applications	Ongoing	2022	Prof B S Kaith
Ms Gurpreet Kaur	Engineered Nanomaterials for Environmental Remediation	Ongoing	2022	
Ms Rachna	Degradation of organic pollutants by zinc based nanomaterials	Awarded	2020	
Mr Priya	Synthesis of Novel Commiphora mukul-metal oxide nanocomposites: Evaluation for photocatalytic degradation of organic dyes	Awarded	2020	Professor B S Kaith
Mr Amit Kumar Sharma	Chemically crosslinked superabsorbents based on Salai guggal aqueous extract- templates for the synthesis of silver nanoparticles: Preparation, properties and applications	Awarded	2020	Professor B S Kaith
Ms Keshu	Nanotechnology	On going	2019	
Vidhisha Jassal	Green Synthesis of some nanosized metal hexcyanomettaltres and their applications	Awarded	2017	
Mr Vipin	Nanocomposites and their applications	Ongoing		

## PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Mr Bhushan Singh	Removal of anthracene using green synthesized magnetic mixed metal oxide chitosan nanocomposite	Awarded	2017	
Mr Sagar Arora	Removal of phenanthrene using mixed metal oxides nanoparticles	Awarded	2017	
Mr Praveen Kumar	Synthesis, Characterization of some nanosized metal oxides composites with PMMA and their applications	Awarded	2017	
Ms Surbhi Singh	Synthesis and characterization some polymer composite with MHCF-NPs	Awarded	2016	Prof B S Kaith
Ms Tajinder Kaur	Synthesis of potassium zinc hexacyanoferrate-nanoparticles reinforced hybrid gel composite: Removal of malachite green dye from waste water	Awarded	2016	Prof B S Kaith
Ms Jaspreet Kaur	Aegle Marmelos mediated green synthesis of some mixed metal oxidesand its application in oxidation of phenol	Awarded	2016	

Ms Noorien Akhtar	Synthesis and Characterization of different metal hexacyanoferrates nanoparticles and their application in the degradation of tebuconazole pesticide	Awarded	2016	
Ms Gurpreet Kaur	Aegle Marmelos mediated green synthesis of various metal hexacyanocobaltate nanoparticles: Solid support-cum catalysts for the oxidation of phenol, 2,4 dinitrophenol and 3-aminophenol	Awarded	2016	
Ms Mannu Kaur	Synthesis and Characterization of some transition metal oxides nanoparticles: Oxidation of Benzyl alcohol to benzaldehyde	Awarded	2015	
Ms Mehak Gupta	Synthesis Characterization of some nanostructured metal hexacyanoferrates: Photocatalytic degradation of Alizarin red S dye	Awarded	2015	
Ms Sweta Singh	Synthesis and Characterization of Manganese oxides nanoparticles and their interaction with some aromatic amines	Awarded	2015	
Mr Amit Kumar	Laccase immobilization on nanoparticles: Removal of Alizarin Red S	Awarded	2015	Dr Neetu Divya
Ms Swati Singh	Synthetic and characterization of nanostructured metal hexacyanoferrates and their applications	Awarded	2014	
Pardeep Singh	Synthetic and Characterization of some nanosized manganese oxides and their applications	Awarded	2014	
Mr Gurinder Singh	Iron oxides catalyzed formation of nucleobases from formamide	Awarded	2013	

### Admin. Responsibilities :

Position Held	Organization	From	To
Warden Hostel no 7	Dr B R Ambedkar NIT Jalandhar	01-08-2012	01-01-2015
Warden Hostel no 1	Dr B R Ambedkar NIT Jalandhar	02-01-2015	14-01-2017
Senior Mess warden, Mega boys hostel	Dr B R Ambedkar NIT Jalandhar	15-03-2017	
Senior Warden	Mega Hostel Boys (Block A)	13-02-2018	14-12-2018
Senior Warden	Hostel no. 7, Dr B R Ambedkar NIT Jalandhar	15-12-2018	Till date
Warden Hostel no 7	Dr B R Ambedkar NIT Jalandhar	01-02-2019	20-04-2019
Coordinator and Principal Investigator XRD machine	IIC, NIT Jalandhar	01-09-2017	20-04-2019
Co-coordinator, DST_FIST Laboratory	Department of Chemistry, NIT Jalandhar	01-09-2017	20-04-2019
Coordinator and Principal Investigator XRD machine	IIC, NIT Jalandhar	01-09-2017	20-04-2019
Warden Boys Hostel 6	Dr B R Ambedkar National Institute of Technology Jalandhar, Punjab-INDIA		
Chairman	Equal opportunity and SC/ST/OBC/PwD cell		

### Award and Honours :

Title	Activity	Given by	Year
Featured among top 2% Scientists in the world	Based on citation, h-index; research work	Stanford University and Elsevier	2022
BEST TEACHER AWARD-2021	TEACHING AND RESEARCH	DIRECTOR AND CHAIRMAN SENATE	2021

Certificate of outstanding contribution in reviewing	As a Reviewer	Chemical Engineering Journal (Elsevier)	2018
Certificate of outstanding contribution in reviewing	As a Reviewer	Journal of Environmental Chemical Engineering Journal (Elsevier)	2018
Certificate of outstanding contribution in reviewing	As a Reviewer	Journal of Environmental Management	2018
Certificate of outstanding contribution in reviewing	As a Reviewer	American Chemical Society	2018
Certificate of outstanding contribution in reviewing	As a Reviewer	Royal Society of Chemistry	2018
Certificate of outstanding contribution in reviewing	As a Reviewer	Elsevier	2018
Highly cited author	Research article found top ten percent by citation	Royal Society of Chemistry	2018
Certificate of outstanding contribution in reviewing	As a Reviewer	Springer	2017
Best research paper award	World congress of Engineering and Applications “at Hotel IBIS nana, Soi-4, Bangkok	Asian Society for Research in Science and Engineering	2016
Best poster award	Professor Ram Chand Paul National Symposium on Progressive Trends in Chemical Sciences at Panjab University, Chandigarh on 23 January 2016 (PP123).	Panjab University, Chandigarh	2016