




University Faculty Details Page on DU Web-site

Title	Prof./Dr./Mr./Ms.	First Name	Raj	Last Name	Sharma	
Designation	Associate Professor					
Department	Chemistry					
Address	(Campus)	University of Delhi, Delhi 110007				
	(Residence)	West Patel Nagar, New Delhi 110008				
Phone No	(Campus)					
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Email	drrajksharma@yahoo.co.in, rajksharma@chemistry.du.ac.in					
Web-Page						
Education						
Subject	Institution		Year	Details		
Ph. D.	University of Delhi		2001	Thesis topic: Chemical and Electrochemical Growth of Chalcogenide semiconducting thin films for photovoltaics		
M. Sc.	C. C. S University, Meerut		1996	Physical Chemistry		
Career Profile						
Organisation / Institution		Designation	Duration	Role		
National Physical Laboratory, INDIA		Research Associate	2001-2003	Research and Development		
University of Massachusetts, Amherst, USA		Research Professor	2003-2005	Research and Development		
Yonsei University, Seoul Korea		Research Professor	2006-2008	Research and Development		
University of Central Florida		Research Scientist	2008-2010	Research and Development		
University of Delhi		Assistant Professor	2010-2015	Teaching and Research		
Research Interests / Specialization						
Electrochemical Materials Science: Energy Storage and Conversion Devices, Fuel Cells, Solar Cells, Electrochemical Supercapacitors, Semiconductors, Polymers, Surface and Solid-State Chemistry, Thin Film Electro-deposition, Nano materials						
Teaching Experience (Subjects/Courses Taught)						
Molecular Spectroscopy Physical Chemistry of Materials						
Honors & Awards						
Associate Professorship: ICREA- University of Rovira i Virgili, Spain (2008) Reputed Fellowship from Spain Government to work at a Spanish University for 10 years						
Young Scientist Award; International union of crystallography IUCr. (2001) Award from international union of crystallography						
Referee for ACS & Elsevier Science Journals Subject expert with ACS, Elsevier, RSC and several other scientific publishers						
Research Associateship by Council of Scientific and Industrial Research (Govt. of India)						

Publications (LAST FIVE YEARS)			
<u>Books / Monographs</u>			
<u>Year of Publication</u>	<u>Title</u>	<u>Publisher</u>	<u>Co-Author</u>
<u>In Indexed/ Peer Reviewed Journals</u>			
<u>Year of Publication</u>	<u>Title</u>	<u>Journal</u>	<u>Co-Author</u>
2018	Highly pseudocapacitive nio nanoflakes through surfactant-free facile microwave-assisted route,	ACS Appl. Energy Mater., 2018, 1 (4), pp 1540–1548	S. Goel, A. Tomar, G. Singh and R. K. Sharma
2017	Multifunctional, self-activating oxygen rich holey carbon monolith derived from agarose biopolymer,	ACS Sustainable Chem. Eng., 2 (10), pp 8747–8755	V. Sahu, R. B. Mariachi G. Singh and R. K. Sharma
2017	Enhanced ferromagnetism in edge enriched holey/lacey reduced graphene oxide nanoribbons	Materials & Design, 132 (2017) 295-301	V. Sahu, V.K. Maurya, G. Singh, S. Patnaik, R.K. Sharma
2017	Hierarchical polyaniline spikes over vegetable oil derived carbon aerogel for solid-state symmetric/asymmetric supercapacitor	Electrochimica Acta 240, (2017)146-154	V Sahu, R.B. Marichi, G. Singh, R.K. Sharma
2017	Graphene nanoribbons @ vanadium oxide nanostrips for supercapacitive energy storage.	Electrochimica Acta 230, (2017) 255-264	V Sahu, S. Goel, R.K. Sharma, G. Singh.,
2017	Anti-corrosive properties of 2, 3-dihydroxyquinoxaline on mild steel corrosion in sulphuric acid		
2017	In situ immobilized, magnetite nanoplatelets over holey graphene nanoribbons for high performance solid state supercapacitor	<i>IJCT Vol.24(2)2017</i>	K Kansal, R Chopra, R Kumar, B Yadav, RK Sharma, G Singh
2016	Comment on the Comment on “Ultra high performance Supercapacitor from Lacey Reduced Graphene Oxide Nanoribbons	<i>Electrochimica Acta 224(2017)517–526</i>	S.Lalwani, V. Sahu, R. B. Marichi, G. Singh, R.K. Sharma
2016	CuO/Reduced Graphene Oxide Nanocomposite for High Performance Non-Enzymatic, Cost Effective Glucose Sensor	<i>ACS Applied Materials and Interface 8(2016) 26429–26430</i>	V.Sahu, S. Shekhar, R.K. Sharma, G. Singh
2016	Phytochemical and Proteomic Analysis of A High Altitude Medicinal Mushroom Cordyceps Sinensis	<i>Sensor Letters 14, 1–6, 2016</i>	V. Sahu, S.Grover, M.Sharma, A. Pandey, G. Singh and R. K. Sharma
2016	Turning hazardous diesel soot into high performance Carbon/MnO ₂ supercapacitive energy storage material	<i>Journal of Proteins & Proteomics 7(2016)187-197</i>	NK Sethy, VK Singh, S Sharma, R.K. Sharma, R Deswal, K Bhargava
2016	Biocompatible ZrO ₂ Reduced Graphene Oxide Immobilized Ache Biosensor For Chlorpyrifos Detection	<i>ACS Sustainable Chem. Eng., 2017, 5 (1), pp 450–459</i>	V. Sahu, M. Mishra, G. Gupta, G. Singh, and R. K. Sharma
2016	Polyaniline All Solid-State Pseudocapacitor: Role of Morphological Variations In Performance Evolution	<i>Materials & Design 111(2016)312–320</i> <i>Electrochimica Acta 196, 131-139, 2016</i>	N.K. Mogha, V. Sahu, M. Sharma, R. K. Sharma, D. T Masram
2016	Nickel-shell assisted growth of nickel-cobalt hydroxide nanofibres and their symmetric/asymmetric supercapacitive characteristics	<i>Journal of Power Sources 325, 2016, pp 762–771</i>	S. Grover, S. Goel, R.B. Marichi, V. Sahu, and G Singh
2016	Nitrogen-Doped Carbon Nanosheets For High-Performance Liquid As Well As Solid State Supercapacitor Cells	<i>RSC Advances 2016 6 (41), 35014-35023</i>	R. B. Marichi, V. Sahu, S. Lalwani, M. Mishra, G. Gupta, G Singh V. Sahu, S Grover, G. Singh, G. Singh
2015	Zinc Oxide Nanoring Embedded Lacey Graphene Nanoribbons In	<i>Nanoscale 2015, 7 (48),</i>	V. Sahu, S. Goel, G,

	Symmetric/Asymmetric Electrochemical Capacitive Energy Storage	20642-20651	Singh
2015	Asymmetric Supercapacitive Characteristics of Pani Embedded Holey Graphene Nanoribbons	ACS Sustainable Chem. Eng. 2015, 3 (7), pp 1460–1469	S. Grover, V. Sahu, S. Goel, G. Singh
2015	Co3O4@Reduced Graphene Oxide Nanoribbon for high performance Asymmetric Supercapacitor	Electrochimica Acta 169, 2015, 276–282	S. K. Ujjain, G. Singh
2015	Facile Preparation of Graphene Nanoribbon/Cobalt Coordination Polymer Nanohybrid For Non-Enzymatic H2O2 Sensing By Dual Transduction: Electrochemical And Fluorescence,	Journal of Materials Chemistry B 3 (38), 7614-7622 2015	S. K. Ujjain, P. Ahuja, R. K. Sharma
2015	Heavily nitrogen doped, graphene supercapacitor from silk cocoon	Electrochimica Acta 160 (2015) 244-253	V. Sahu, S Grover, B. Tulachan, M. Sharma, G Singh.
2015	Cobalt Dithiocarbamate Coordination Polymeric Nanoparticles: Morphology Dependent Magnetic and Antimicrobial Properties	Journal of Nanoscience and Nanotechnology 15 (12), 9396-9406	S. Ujjain, P. Ahuja, R. Bhatia, M. Sharma, R. K. Sharma, G. Singh
2015	Graphene nanoribbon wrapped cobalt manganite nanocubes for high performance all-solid-state flexible supercapacitors	Journal of Materials Chemistry A 3 (18), 9925-9931	SK Ujjain, P Ahuja, RK Sharma
2015	High performance, all solid state, flexible supercapacitor based on ionic liquid functionalized graphene	Electrochimica Acta 157 (2015) 245–251	S.K. Ujjain, V. Sahu, G Singh
2015	Ultrahigh performance Supercapacitor from Lacey Reduced Graphene Oxide Nanoribbons	ACS Applied Materials and Interfaces , 7 (5), pp 3110–3116	V. Sahu, S. Shekhar, G Singh
2015	All solid state, high performance supercapacitor using Zinc Manganite embedded Graphene nanoribbons	Journal of Materials Chemistry 'A' 3, (2015) 4931-4937	G Singh, P. Ahuja
2014	Performance evaluation of asymmetric supercapacitor based on Cobalt Manganite modified Graphene nanoribbons	Electrochimica Acta 2014, 146, 429–436	P. Ahuja, V. Sahu, S. Ujjain, Gurmeet Singh
2014	Sensitive and Reliable Ascorbic Acid Sensing By Lanthanum Oxide/Reduced Graphene Oxide Nanocomposite	Applied biochemistry and biotechnology 174 (2014) 1010-1020	N.K. Mogha, V. Sahu, M. Sharma, D.T. Masram
2014	Sonochemically Synthesized Reduced Graphene Oxide Supported SnO2 Nanocomposite For Charge Storage	Advanced Science Letters 20, 1369-1373	V. Sahu, S. Lalwani, G. Singh
2014	Cerium oxide nanoparticles prevent apoptosis in primary cortical culture by stabilizing mitochondrial membrane potential	Free Radical Research 48(2014)784-93.	A. Arya, M Das, S K Singh, A Das, S K Ujjain, K. Bhargava
2014	Electricity from the silk cocoon membrane	Nature Scientific Reports 25;4:5434	B. Tulachan, S K Meena, R K Rai, K Bhargava, S B, A Kumar, N Sinha, S K Singh and M. Das
2014	Iron Pyrite, A Potential Photovoltaic Material, Increases Plant Biomass Upon Seed Pre-treatment	Materials Express 4 (2014), 23-31	G Srivastava, A Das, T.S Kusurkar, M Roy, SK Singh
2014	Graphene Oxide From Silk Cocoon: A Novel Magnetic Fluorophore For Multi-Photon Imaging	3 Biotech 4 (2014), 67-75	M Roy, T.S Kusurkar, S.K Maurya, S.K Singh, N Sethy
2014	Multiwalled carbon nanotube supported polypyrrole manganese oxide composite supercapacitor electrode: Role of manganese oxide dispersion in performance evolution	Electrochimica Acta 116 (2014)137-145	S.Grover, S.Shekhar, G. Singh
2014	Seed treatment with iron pyrite (FeS 2) nanoparticles increases the production of spinach	RSC Advances 4 (2014), 58495-58504	G Srivastava, CK Das, A

2014	Enhanced Supercapacitor Performance by Incorporating Nickel In Manganese Oxide	RSC Advances. 4 57192-57199	Das, SK Singh, M Roy, A Kumar
2014	A cyano-bridged copper(II)–copper(I) mixed-valence coordination polymer as a source of copper oxide nanoparticles with catalytic activity in C–N, C–O and C–S cross-coupling reactions	New Journal of Chemistry 38 (2014), 4267-4274	P. Ahuja, SK Ujjain, G. Singh
2014	Nanoceria based electrochemical sensor for hydrogen peroxide detection	Bio-interphases 9, 031011, 2014	M. Trivedi, SK Ujjain, G. Singh, A. Kumar, N.P. Rath
2013	Morphology controlled synthesis of nanoporous Co ₃ O ₄ nanostructures and their charge storage characteristics in supercapacitors	ACS Applied Materials and Interfaces 2013, 5, 10665-10672	SK Ujjain, A. Das, G. Srivastava, P.Ahuja, M. Roy, A.Arya, Bhargava, N.Sethy, S.K. Singh, M Das
2013	Development and properties of surfactant-free water-dispersible Cu ₂ ZnSnS ₄ nanocrystals: a material for low-cost photovoltaics,	Chemphyschem 14, 2793–2799, 2013	K. Deori, S. Ujjain, S. Deka,
2013	Synthesis of hydrophilic carbon black for application in electrochemical electrodes; role of water in protonic conduction and maintaining the hydration level	RSC Advances 2013, 3 (12), 3917- 3924	P. Kush, S. K. Ujjain, N. C. Mehra, P.Jha, S. Deka,
2013	Enhanced magnetic properties of Sm and Mn co-doped BiFeO ₃ nanoparticles at room temperature	Materials Letters 02/2013; 93:341–344	V. Sahu, S.Shekhar, P.Ahuja, G. Gupta, S.K. Singh. G.Singh
			G.S. Arya, N.S.Negi
<u>Articles</u>			
<u>Conference Presentations</u> Above 20			
Total Publication Profile optional			
<u>Books Chapters</u>			
1.	Efficient, Sustainable and Clean Energy Storage in Supercapacitors using Biomass-derived Carbon Materials R.K Sharma, Gurmeet Singh, Ram Bhagat and V Sahu, Handbook of Ecomaterials (Springer)		
2.	MnO ₂ Nanoparticles Embedded Polypyrrole Nanotubes for Supercapacitor Electrodes Taruna Singh, Raj Kishore Sharma and Gurmeet Singh, Springer Nature 2018		
<u>In Indexed/ Peer Reviewed Journals</u> 70			
<u>Articles</u> 70			

Conference Presentations Above 20
Public Service / University Service / Consulting Activity
<ul style="list-style-type: none"> ○ Expert Member (Chemical Sciences) Board of Research Studies, ITM University Gwalior ○ Expert Member (Petrochemical Technology) Board of Research Studies, ITM University Gwalior ○ Convener, Physical Chemistry Section, Department of Chemistry, University of Delhi, 2012-2013 ○ Convener. M.Sc. Chemistry Admission Entrance Test 2015 ○ Secretary, Departmental Research Committee (DRC), Delhi University 2014-2015 ○ Convener TGA/DTA committee, Department of Chemistry, Univ. of Delhi 2012 ○ Member TGA/DTA committee, Department of Chemistry, Univ. of Delhi 2013 ○ Member TGA/DTA committee, Department of Chemistry, Univ. of Delhi 2014 ○ Store Bill committee, Department of Chemistry, Univ. of Delhi. 2012-14 ○ Member Store Purchase Committee, Department of Chemistry, Univ. of Delhi. 2016 ○ Convener, 1st Indo Italian workshop on Electrochemistry 2010 ○ Convener, 2nd Indo Italian workshop on Electrochemistry 2011 ○ Convener, 3rd Indo Italian workshop on Electrochemistry 2015 ○ Convener, International Conference on Materials Science and Technology ICMTech 2016
Professional Societies Memberships
Projects (Major Grants / Collaborations)
<ol style="list-style-type: none"> 1. Synthesis and Application of Highly Dispersed, Functionalized Multiwall Carbon Nanotube electrodes in a supercapacitor device, CSIR funded Completed 2. Metal oxide nano-composite electrodes for application in Supercapacitor Device, UGC Sponsored Completed 3. Synthesis and Characterization of Conducting Polymer based Nano-composite ... Novel Structures, DST Funded Completed
Other Details