




University Faculty Details Page on DU Web-site

Title	Prof./Dr./Mr./Ms.	First Name	Raj	Last Name	Sharma	Photograph
Designation		Associate Professor				
Department		Chemistry				
Address (Campus)		University of Delhi, Delhi 110007				
(Residence)		West Patel Nagar, New Delhi 110008				
Phone No (Campus)						
(Residence)						
Mobile		9910308822				
Fax						
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; <i>International union of crystallography IUCr. (2001)</i> 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>
2019	<i>Enhanced Electrochemical Performance of Anion-Intercalated Lanthanum Molybdenum Oxide Pseudocapacitor Electrode</i>	Electrochimica Acta 296, (2019) 120-129	A K Tomar, R B Marichi, G Singh, R.K Sharma
2019	<i>Highly Oxygen Deficient, Bimodal Mesoporous Silica Based Supercapacitor with Enhanced Charge Storage Characteristics</i>	Electrochemical Acta 297(2019) 705-714	A. Joshi, S. Lawani, G.. Singh, R.K. Sharma
2019	<i>Layered Nanoblades of Iron Cobaltite for High Performance Asymmetric Supercapacitors</i>	Applied Surface Science 476 (2019) 1025-1034	S. Lalwani, M. Munjal, G.Singh, R. K.Sharma,
2019	<i>Performance enhancement of supercapacitor negative electrode based on loofah sponge derived oxygen rich carbon through encapsulation of MoO₃ nanoflowers</i>	Sustainable Energy & Fuels, 2019, 3, 1248 - 1257	R.K. Sharma, A. Joshi, V. Sahu, G. Singh
2019	<i>Charge Storage Characteristics of Mesoporous Strontium Titanate Perovskite Aqueous as Well as Flexible Solid-State Supercapacitor Cell</i>	Journal of Power Sources 426 (2019) 223-232	A. K. Tomar, G. Singh, R. K. Sharma
2018	<i>Fabrication of Mo-Doped Strontium Cobaltite Perovskite Hybrid Supercapacitor Cell with High Energy Density and Excellent Cycling Life</i>	ChemSusChem 2018, 11, 1–9	A. K. Tomar, G. Singh, R. K. Sharma
2018	<i>Graphene oxide nanoribbon immobilized Gold nanoparticles based electrochemical DNA biosensor for detection of Mycobacterium tuberculosis</i>	J. Mater. Chem. B, 2018, 6, 5181-51	N. Mogha, V. Sahu, R.j K. Sharma, D. T. Masram
2018	<i>Edge enriched cobalt ferrite nanorods for symmetric/asymmetric charge storage</i>	Electrochimica Acta Vol 283 (2018) 708-717	S. Lalwani, R. B. Marichi, G Singh, R. K. Sharma
2018	<i>MnO₂ Nanoparticles Embedded Polypyrrole Nanotubes for Supercapacitor Electrodes</i>	Green Chemistry in Environmental Sustainability and Chemical Education 201-208 (2018)	T. Singh, G Singh and R K Sharma
2018	<i>Highly pseudocapacitive nio nanoflakes through surfactant-free facile microwave-assisted route,</i>	ACS Appl. Energy Mater., 2018, 1 (4), pp 1540–1548	S. Goel, A. Tomar, G. Singh and R. K. Sharma
2018	<i>Multifunctional, self-activating oxygen rich holey carbon monolith derived from agarose biopolymer,</i>	ACS Sustainable Chem. Eng., 2 (10), pp 8747–8755	V. Sahu, R. B. Mariachi G. Singh and R. K. Sharma
2017	<i>Enhanced ferromagnetism in edge enriched holey/lacey reduced graphene oxide nanoribbons</i>	Materials & Design, 132 (2017) 295-301	V. Sahu, V.K. Maurya, G. Singh, S. Patnaik, R.K. Sharma
2017	<i>Hierarchical polyaniline spikes over vegetable oil derived carbon aerogel for solid-state symmetric/asymmetric supercapacitor</i>	Electrochimica Acta 240, (2017)146-154	V Sahu, R.B. Marichi, G. Singh, R.K. Sharma
2017	<i>Graphene nanoribbons @ vanadium oxide nanostrips for supercapacitive energy storage.</i>	Electrochimica Acta 230, (2017) 255-264	V Sahu, S. Goel, R.K. Sharma, G. Singh.,
2016	<i>Anti-corrosive properties of 2, 3-dihydroxyquinoxaline on mild steel corrosion in sulphuric acid</i>	IJCT Vol.24(2)2017	K Kansal, R Chopra, R Kumar, B Yadav, RK Sharma, G Singh
2016	<i>In situ immobilized, magnetite nanoplatelets over holey graphene nanoribbons for high performance solid state supercapacitor</i>	Electrochimica Acta 224(2017)517–526	S.Lalwani, V. Sahu, R. B. Marichi, G. Singh, R.K. Sharma

2016	<i>Comment on the Comment on "Ultra high performance Supercapacitor from Lacey Reduced Graphene Oxide Nanoribbons</i>	<i>ACS Applied Materials and Interface</i> 8(2016) 26429–26430	V.Sahu, S. Shekhar, R.K. Sharma, G. Singh
2016	<i>CuO/Reduced Graphene Oxide Nanocomposite for High Performance Non-Enzymatic, Cost Effective Glucose Sensor</i>	<i>Sensor Letters</i> 14, 1–6, 2016	V. Sahu, S. Grover, M. Sharma, A. Pandey, G. Singh and R. K. Sharma
2016	<i>Phytochemical and Proteomic Analysis of A High Altitude Medicinal Mushroom Cordyceps Sinensis</i>	<i>Journal of Proteins & Proteomics</i> 7(2016)187-197	NK Sethy, VK Singh, S Sharma, R.K. Sharma, R Deswal, K Bhargava
2017	<i>Turning hazardous diesel soot into high performance Carbon/MnO₂ supercapacitive energy storage material</i>	<i>ACS Sustainable Chem. Eng.</i> , 2017, 5 (1), pp 450–459	V. Sahu, M. Mishra, G. Gupta, G. Singh, and R. K. Sharma
2016	<i>Biocompatible ZrO₂ Reduced Graphene Oxide Immobilized Ache Biosensor For Chlorpyrifos Detection</i>	<i>Materials & Design</i> 111(2016)312–320	N.K. Mogha, V. Sahu, M. Sharma, R. K. Sharma, D. T Masram
2016	<i>Polyaniline All Solid-State Pseudocapacitor: Role of Morphological Variations In Performance Evolution</i>	<i>Electrochimica Acta</i> 196, 131-139, 2016	S. Grover, S. Goel, R.B. Marichi, V. Sahu, and G Singh
2016	<i>Nickel-shell assisted growth of nickel-cobalt hydroxide nanofibres and their symmetric/asymmetric supercapacitive characteristics</i>	<i>Journal of Power Sources</i> 325, 2016, pp 762–771	
2016	<i>Nitrogen-Doped Carbon Nanosheets For High-Performance Liquid As Well As Solid State Supercapacitor Cells</i>	RSC Advances 2016 6 (41), 35014-35023	R. B. Marichi, V. Sahu, S. Lalwani, M. Mishra, G. Gupta, G Singh
2015	<i>Zinc Oxide Nanoring Embedded Lacey Graphene Nanoribbons In Symmetric/Asymmetric Electrochemical Capacitive Energy Storage</i>	Nanoscale 2015, 7 (48), 20642-20651	V. Sahu, S Grover, G. Singh, G. Singh
2015	<i>Asymmetric Supercapacitive Characteristics of Pani Embedded Holey Graphene Nanoribbons</i>	ACS Sustainable Chem. Eng. 2015, 3 (7), pp 1460–1469	V. Sahu, S. Goel, G, Singh
2015	<i>Co3O4@Reduced Graphene Oxide Nanoribbon for high performance Asymmetric Supercapacitor</i>	Electrochimica Acta 169, 2015, 276–282	S. Grover, V. Sahu, S. Goel, G. Singh
2015	<i>Facile Preparation of Graphene Nanoribbon/Cobalt Coordination Polymer Nanohybrid For Non-Enzymatic H2O2 Sensing By Dual Transduction: Electrochemical And Fluorescence,</i>	Journal of Materials Chemistry B 3 (38), 7614-7622 2015	S. K. Ujjain, G. Singh
2015	<i>Heavily nitrogen doped, graphene supercapacitor from silk cocoon</i>	Electrochimica Acta 160 (2015) 244-253	S. K. Ujjain, P. Ahuja, R. K. Sharma
2015	<i>Cobalt Dithiocarbamate Coordination Polymeric Nanoparticles: Morphology Dependent Magnetic and Antimicrobial Properties</i>	Journal of Nanoscience and Nanotechnology 15 (12), 9396-9406	V. Sahu, S Grover, B. Tulachan, M. Sharma, G Singh.
2015	<i>Graphene nanoribbon wrapped cobalt manganite nanocubes for high performance all-solid-state flexible supercapacitors</i>	Journal of Materials Chemistry A 3 (18), 9925-9931	S. Ujjain, P. Ahuja, R. Bhatia, M. Sharma, R. K. Sharma, G. Singh
2015	<i>High performance, all solid state, flexible supercapacitor based on ionic liquid functionalized graphene</i>	Electrochimica Acta 157 (2015) 245–251	SK Ujjain, P Ahuja, RK Sharma
2015	<i>Ultrahigh performance Supercapacitor from Lacey Reduced Graphene Oxide Nanoribbons</i>	ACS Applied Materials and Interfaces , 7 (5), pp 3110–3116	S.K. Ujjain, V. Sahu, G Singh
2015	<i>All solid state, high performance supercapacitor using Zinc Manganite embedded Graphene nanoribbons</i>	Journal of Materials Chemistry 'A' 3, (2015) 4931-4937	V. Sahu, S. Shekhar, G Singh
2014	<i>Performance evaluation of asymmetric supercapacitor based on Cobalt Manganite modified Graphene nanoribbons</i>	Electrochimica Acta 2014, 146, 429–436	G Singh, P. Ahuja
			P. Ahuja, V. Sahu, S.

			Ujjain, Gurmeet Singh
2014	<i>Sensitive and Reliable Ascorbic Acid Sensing By Lanthanum Oxide/Reduced Graphene Oxide Nanocomposite</i>	Applied biochemistry and biotechnology 174 (2014) 1010-1020	N.K. Mogha, V. Sahu, M. Sharma, D.T. Masram
2014	<i>Sonochemically Synthesized Reduced Graphene Oxide Supported SnO₂ Nanocomposite For Charge Storage</i>	Advanced Science Letters 20, 1369-1373	V. Sahu, S. Lalwani, G. Singh
2014	<i>Cerium oxide nanoparticles prevent apoptosis in primary cortical culture by stabilizing mitochondrial membrane potential</i>	Free Radical Research 48(2014)784-93.	A. Arya, M Das, S K Singh, A Das, S K Ujjain, K. Bhargava
2014	<i>Electricity from the silk cocoon membrane</i>	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	<i>Iron Pyrite, A Potential Photovoltaic Material, Increases Plant Biomass Upon Seed Pre-treatment</i>	Materials Express 4 (2014), 23-31	G Srivastava, A Das, T.S Kusurkar, M Roy, SK Singh
2014	<i>Graphene Oxide From Silk Cocoon: A Novel Magnetic Fluorophore For Multi-Photon Imaging</i>	3 Biotech 4 (2014), 67-75	M Roy, T.S Kusurkar, S.K Maurya, S.K Singh, N Sethy
2014	<i>Multiwalled carbon nanotube supported polypyrrole manganese oxide composite supercapacitor electrode: Role of manganese oxide dispersion in performance evolution</i>	Electrochimica Acta 116 (2014)137-145	S.Grover, S.Shekhar, G. Singh
2014	<i>Seed treatment with iron pyrite (FeS₂) nanoparticles increases the production of spinach</i>	RSC Advances 4 (2014), 58495-58504	G Srivastava, CK Das, A Das, SK Singh, M Roy, A Kumar
2014	<i>Enhanced Supercapacitor Performance by Incorporating Nickel In Manganese Oxide</i>	RSC Advances. 4 57192-57199	P. Ahuja, SK Ujjain, G. Singh
2014	<i>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</i>	New Journal of Chemistry 38 (2014), 4267-4274	M. Trivedi, SK Ujjain, G. Singh, A. Kumar, N P. Rath
2014	<i>Nanoceria based electrochemical sensor for hydrogen peroxide detection</i>	Bio-interphases 9, 031011, 2014	SK Ujjain, A. Das, G. Srivastava, P.Ahuja, M. Roy, A.Arya, Bhargava, N.Sethy, S.K. Singh, M Das
2013	<i>Morphology controlled synthesis of nanoporous Co₃O₄ nanostructures and their charge storage characteristics in supercapacitors</i>	ACS Applied Materials and Interfaces 2013, 5, 10665-10672	K. Deori, S. Ujjain, R.K Sharma, S. Deka,
2013	<i>Development and properties of surfactant-free water-dispersible Cu₂ZnSnS₄ nanocrystals: a material for low-cost photovoltaics,</i>	Chemphyschem 14, 2793-2799, 2013	P. Kush, S. K. Ujjain, N. C. Mehra, P.Jha, S. Deka,
2013	<i>Synthesis of hydrophilic carbon black for application in electrochemical electrodes; role of water in protonic conduction and maintaining the hydration level</i>	RSC Advances 2013, 3 (12), 3917- 3924	V. Sahu, S.Shekhar, P.Ahuja, G. Gupta, S.K. Singh. G.Singh
2013	<i>Enhanced magnetic properties of Sm and Mn co-doped BiFeO₃ nanoparticles at room temperature</i>	Materials Letters 02/2013; 93:341-344	G.S. Arya, N.S.Negi

<u>Conference Presentations</u> Above 25
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 3. Characterization Techniques for Herbal Products, (2018); Rakhee, Jigni Mishra, Raj Kishore Sharma and Kshipra Misra, DOI: 10.1016/B978-0-12-813999-8.00009-4, Management of High Altitude Pathophysiology
<u>In Indexed/ Peer Reviewed Journals</u> 95
<u>Conference Presentations</u> Above 25
<u>Public Service / University Service / Consulting Activity</u> <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
<u>Professional Societies Memberships</u>
<u>Projects (Major Grants / Collaborations)</u> <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 4. Physicochemical performance evolution by tuning the growth variables of holey graphene nanoribbon carbon soot derived aerogel based asymmetric supercapacitor. SERB Sponsored 2018
<u>Other Details</u>

(Signature of Faculty Member)

(Signature & Stamp
of Head of the Department)