




## Faculty Details proforma for DU Web-site

Title	Dr	First Name	<b>Rakesh Kumar</b>	Last Name	<b>Sharma</b>	Photograph
Designation	<b>Assistant Professor</b>					
Address	<b>Department of Chemistry, University of Delhi, Delhi 110007</b>					
Phone No Office						
Residence Mobile	<b>+919310050453</b>					
Email	<b>sharmark101@yahoo.com</b>					
Web-Page	<b><a href="http://www.du.ac.in/du/uploads/Faculty%20Profiles/2017/Chemistry/Nov2016_chem_Rakesh%20.pdf">http://www.du.ac.in/du/uploads/Faculty%20Profiles/2017/Chemistry/Nov2016_chem_Rakesh%20.pdf</a></b>					
<b>Educational Qualifications</b>						
Degree	Institution				Year	
Ph.D (chemistry)	<b>Department of Chemistry, University of Delhi, Delhi</b>				<b>2005</b>	
M.Phil. (Chemistry)	<b>Department of Chemistry, University of Delhi, Delhi</b>				<b>1999</b>	
M.Sc (Physical Chemistry)	<b>Department of Chemistry, Jamia Millia Islamia</b>				<b>1997</b>	
B.Sc (G)	<b>Ramjas College, University of Delhi</b>				<b>1995</b>	
B.Ed (Teaching)	<b>Department of Education (CIE) University of Delhi</b>				<b>1998</b>	
<b>Career Profile</b>						
<ul style="list-style-type: none"> <li>▪ Assistant Professor (Physical Chemistry)-Department of Chemistry, University of Delhi, since Sept 2007</li> <li>▪ Lecturer (Chemistry)- Ramjas College, University of Delhi, from July 2005 to Sept 2007.</li> </ul>						
<b>Administrative Assignments</b>						
<p>Dy. Superintendent M.Sc. Chemistry Exam Member of Science faculty, University of Delhi</p> <p>Member of board of research studies, University of Delhi</p> <p>Member of Committee of course in both Undergraduate and post graduate courses Chemistry Department of Delhi University May 2008- April 2010</p> <p>Member Departmental Research committee (DRC) from May 2008-April 2010</p> <p>Convener (Physical Chemistry Section) of Department of Chemistry May 2009-April 2010</p> <p>Member of Academic standard Committee (Ramjas College) July 2006-May 2007</p> <p>Special invitee: one day meeting of teachers of various colleges for syllabus revise</p> <p>Special invitee: one day meeting of teachers of various colleges for syllabus revise</p> <p>Member IR committee, Department of Chemistry, University of Delhi</p> <p>Member Safety committee, Department of Chemistry, University of Delhi</p>						

Observer undergraduate admission for SC/ST in Delhi University  
 Observer in the recruitment of assistant professor (reserved for visually challenged) in the department of Political sciences in Jesus & Merry college Delhi University  
 Organising committee member in various conferences  
 Expert in the promotion of Lab staff in various colleges of university of Delhi,  
 External examiner for practical and project evaluation for One year programme in nanotechnology in Maitrey college Delhi University and AMITY University

**Areas of Interest / Specialization**

Synthesis, Characterization and applications of metal/ceramic/ polymeric nanoparticles

**Subjects Taught**

Statistical mechanics, thermodynamics, kinetics and macromolecules, Chemical thermodynamics, Advanced Chemical Kinetics  
 Practicals : M.Sc (P) & M.Sc(F)

**Time table of the subjects taught during the current semester**

S.No.	Subject	Days	Time	Classroom
<b>Click here to enter text.</b>	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.

**Research Guidance**

List against each head (If applicable)

- Supervision of awarded Doctoral Thesis **03**  
 Dr. Nikesh Gupta  
 Dr. Shruti Srivastava  
 Dr. Henam Premananda Singh
- Supervision of Doctoral Thesis, under progress **06**  
 Sandeep Sharma  
 Shailja Kumar  
 Virender Kumar Meena  
 Shivani Singh  
 Annu Sharma  
 Anita Yadav

**Publications Profile**

- Shailja Kumar, Virendra Kumar Meena, Puja Panwar Hazari, Rakesh Kumar Sharma\* 2017 PEG coated and doxorubicin loaded multimodal Gadolinium oxide nanoparticles for simultaneous drug delivery and imaging application. International Journal of Pharmaceutics. 142–150, (I.F 3.64) <http://www.sciencedirect.com/science/article/pii/S0378517317304398>
- Nikesh Gupta, Chetna Gupta, Sandeep Sharma, Brijesh Rathi, Rakesh Kumar Sharma and H. B. Bohidar, 2016 Magnetic iron oxide nanoparticles encapsulating horseradish peroxidase (HRP): synthesis, characterization and carrier for the generation of free radicals for potential

- applications in cancer therapy. RSC Advances 110460 – 111631,(IF 3.108) <http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra24586b#!divAbstract>
- 3 Sandeep Sharma, Nitish Panchal, Surinder Kumar Sharma, Rakesh Kumar Sharma, Phool Kumar Patanjali, 2016 Kinetic Study of Hydrolysis of Chlorpyrifos Using Gallic Acid Coated Silver Nanoparticles. Advanced Science Engineering and Medicine 941-946, <http://www.ingentaconnect.com/contentone/asp/ asem/2016/00000008/00000012/art00003>
- 4 Shailja Kumar, Virendra Kumar Meena, Puja Panwar Hazari\*, Rakesh Kumar Sharma\* 2016 FITC-Dextran entrapped and silica coated gadolinium oxide nanoparticles for synchronous optical and magnetic resonance imaging applications. International Journal of Pharmaceutics, 506,242–252(I.F 3.64)<http://www.sciencedirect.com/science/article/pii/S0378517316302496>
- 5 Nikesh gupta, Chetna gupta, Sandeep sharma, Rakesh Kumar sharma\* , H.B. Bohidar\*2015 Comparitive study of antibacterial activity of standard antibiotic with silver nanoparticles synthesized using ocimum tenuiflorum and garcinia mangostana leaves. Chem. Biol. Lett. 2(2),41-44. <http://pubs.iscience.in/journal/index.php/cbl/article/view/356>
- 6 Henam Premananda Singh, Sarbjeet Singh Gujral, Surinder Kumar Sharma, Rakesh Kumar Sharma\* 2015 Tannic acid: A natural source to tailor nano crystalline silver particles of different morphologies as antibacterial agent. Adv. Mater. Lett. 6(12), 1043-1049 (I.F. 1.46) <http://amlett.com/articles/details/753/>
- 7 Shailja Kumar, Henam Premananda Singh, Rakesh Kumar Sharma\* 2015 Facile Synthesis of gold nanocatalyst for redox reaction between potassium ferricyanide and sodium thiosulphate— An electron relay effect. Advanced Science, Engineering and Medicine, 7, 1–8, <http://www.ingentaconnect.com/content/asp/ asem/2015/00000007/00000009/art00008?token=004014d83b6d67232d45232b4224316a38574779287d703568263c7bd4cca36e>
- 8 Henam Premananda Singha , Susmita Mitra\*b and Rakesh Kumar Sharma\*a , 2014 Surface modified silica nanoparticles for synchronous magnetic resonance imaging and drug delivery applications. RSC Adv. 4, 61028–61035 (IF 3.108)<http://pubs.rsc.org/en/content/articlelanding/2014/ra/c4ra06367h#!divAbstract>
- 9 Henam Premananda Singh, Nikesh Gupta, Rakesh Kumar Sharma\*, 2014 Ethnopharmacological Damdei plant extract assisted synthesis of copper nanoparticles and evaluation in non-enzymatic kinetics of o-dianisidine oxidation. J. Biomed. Ther. Sci. 1(1), 34-40 <http://www.pubs.iscience.in/journal/index.php/jbts/article/view/214>
- 10 Henam Premananda Singh, Sandeep Sharma, Surinder Kumar Sharma\* Rakesh Kumar Sharma\*, 2014 Biogenic synthesis of metal nanocatalysts using Mimosa pudica leaves for efficient reduction of aromatic nitrocompounds. RSC Adv., 2014, 4, 37816–37825 (IF 3.108)<http://pubs.rsc.org/en/content/authorreprints>
- 11 Henam Premananda Singh, Nikesh Gupta, Rakesh Kumar Sharma\*, 2013 Hollow Silica Nanoparticles As Support For Catalase Enzyme Immobilization. Catalysis Letters: 143, 12, 1304-1311 (IF 2.799) <http://link.springer.com/article/10.1007%2Fs10562-013-1080-9>
- 12 Henam Premananda Singh, Nikesh Gupta, Surinder Kumar Sharma\* Rakesh Kumar Sharma\*, 2013. Synthesis of bimetallic Pt-Cu nanoparticles and their application in the reduction of Rhodamine B Colloids and Surfaces A: Physicochem. Eng. Aspects 416, 43–50. (IF 2.714) <http://www.sciencedirect.com/science/article/pii/S0927775712006693>
- 13 Anil Kumar Nain\*, Monika Lather, Rakesh Kumar Sharma, 2013. Study of solute– solute and solute–solvent interactions of l-methionine in aqueous-sucrose solutions at different temperatures. J. Chem. Thermodynamics 58, 101–109. (IF 2.726) <http://www.sciencedirect.com/science/article/pii/S0021961412004065>

- 14 Nikesh Gupta , Aanchal Panwar, Ravindra Kumar, Surinder Kumar Sharma, Rakesh Kumar Sharma\*, Veena Agrawal\*, 2013.Green Approach For Synthesis of Silver Nanoparticles and Their Antibacterial Activity Against Multi Drug Resistant Human Pathogens. Advanced science engineering and medicine (ASEM) 5, 355 361(7).  
<http://www.ingentaconnect.com/content/asp/ asem/2013/00000005/00000004/art00011?crawler=true>
- 15 Nikesh Gupta, Anju Shrivastava\*, Rakesh Kumar Sharma\*, 2012.Silica Nanoparticles Co-Encapsulating Gadolinium Oxide and Horse Radish Peroxidase for Imaging and Therapeutic Applications. International Journal of Nanomedicine 7, 5491– 5500. (IF 4.30)  
<http://www.dovepress.com/silica-nanoparticles-coencapsulatinggadolinium-oxide-and-horseradish--peer-reviewed-article-IJN>
- 16 Anil Kumar Nain\*, Renu Pal , Rakesh Kumar Sharma, 2012. Physicochemical study of solute–solute and solute–solvent interactions of l-histidine in water+sucrose solutions at different temperatures. Journal of Molecular Liquids 165,154–160. (IF 3.648)  
<http://www.sciencedirect.com/science/article/pii/S0167732211003758>
- 17 Nikesh Gupta, Henam Premananda Singh, Rakesh Kumar Sharma\*, 2011.Metal nanoparticles with high catalytic activity in the degradation of Methyl orange:An electron relay effect. J. Mol. Catalysis A: Chemical 335, 248–252. (IF 3.958)  
<http://www.sciencedirect.com/science/article/pii/S1381116910005212>
- 18 Gajadhar Bhakta, Rakesh Kumar Sharma, Nikesh Gupta, Simon Cool, Victor Nurcombe and Amarnath Maitra\*, 2011. Multifunctional silica nanoparticles with potentials of imaging and gene delivery. Nanomedicine NBM. 7, 472-479. (IF 5.671)  
[http://www.nanomedjournal.com/article/S1549-9634\(10\)00435-1/abstract](http://www.nanomedjournal.com/article/S1549-9634(10)00435-1/abstract)
- 19 Shruti Srivastava, Surender Kumar Sharma, Rakesh Kumar Sharma\*, 2011. Synthesis of Gold nanorods using highly concentrated Aerosol OT in hexane and its application as catalyst for the reduction of eosin. Colloids and Surfaces A:Physicochemical and Engineering Aspects 373, 61-65. (IF 2.714)  
<http://www.sciencedirect.com/science/article/pii/S0927775710005935>
- 20 Ritu Chauhan, Jitender Madan, Dinesh Kaushik, Satish Sardana, Ravi Shankar Pandey and Rakesh Kumar Sharma, 2011. Inclusion complex of colchicine in hydroxypropyl- $\beta$ - cyclodextrin tenders better solubility and improved pharmacokinetics. Pharmaceutical Development and Technology, 18, 313-322. (IF 1.86)  
<http://informahealthcare.com/doi/abs/10.3109/10837450.2011.591801?prevSearch=allfield%253A%2528Ritu%2BC Chauhan%2529&searchHistoryKey=>
- 21 Anil Kumar Nain\*, Monika Lather, Rakesh Kumar Sharma, 2011. Volumetric, ultrasonic and viscometric behavior of l-methionine in aqueous-glucosesolutions at different temperatures. Journal of Molecular Liquids, 159, 180–188. (IF 3.648)  
<http://www.sciencedirect.com/science/article/pii/S0167732211000250>
- 22 Anil Kumar Nain\*, Renu Pal; Rakesh Kumar Sharma, 2011. Volumetric, ultrasonic and viscometric behaviour of l-histidine in aqueous-glucose solutions at different temperatures. The Journal of Chemical Thermodynamics, 43, 603–612. (IF 2.726)  
<http://www.sciencedirect.com/science/article/pii/S0021961410003551>
- 23 Nikesh Gupta, Henam Premananda Singh, Rakesh Kumar Sharma\*, 2010. Single-Pot Synthesis: Plant mediated Gold nanoparticles catalyzed reduction of Methylene Blue in presence of Stannous chloride. Colloids and Surfaces A: Physicochemical and Engineering Aspects 367, 102-107. (IF 2.714)  
<http://www.sciencedirect.com/science/article/pii/S092777571000378X>
- 24 Anil Kumar Nain\*, Dinesh Chand, Rakesh Kumar Sharma, 2009. Evaluation of Kirkwood-

Buff integrals for 2,2,4-trimethylpentane + aromatic hydrocarbon binary mixtures from ultrasonic speed and density data using inversion procedure and regular solution theory. J. Acoustical society of India, 36, 152-162.

25 Rakesh Kumar Sharma, Inderjit Roy and Amarnath Maitra\*, 2009. Glucose oxidase doped Silica nanoparticles shows significant enzymatic activity. J. Sci. Conf. Proc. 1, 48–53 <http://www.ingentaconnect.com/content/asp/jscp/2009/00000001/00000001/art00010?token=004818fc84e8c30b41333c4a2f7a3f6a532c2b464c7d7725704f6d4e22240bde264e410f>

26 Rakesh Kumar Sharma, Shraboni Das and Amarnath Maitra\*, 2005. Enzymes in the cavity of hollow silica nanoparticles. J. Colloid Interface Science 284, 358-361. (IF 4.233) <http://www.sciencedirect.com/science/article/pii/S0021979704010276>

27 Rakesh Kumar Sharma, Shraboni Das and Amarnath Maitra\*, 2004. Surface Modified ORMOSIL nanoparticles. J. Colloid Interface Science, 277, 342–346. (IF 4.233) <http://www.sciencedirect.com/science/article/pii/S0021979704003819>

28 Rakesh Kumar Sharma, Parvesh Sharma and Amarnath Maitra\*, 2003. Size dependent catalytic behavior of Platinum nanoparticles on the Hexacyanoferrate/thiosulfate redox reaction. J. Colloid Interface Science 265, 134- 140. (IF 4.233) <http://www.sciencedirect.com/science/article/pii/S0021979703004636>

#### Publications in the Last one year

1 Shailja Kumar, Virendra Kumar Meena, Puja Panwar Hazari, Rakesh Kumar Sharma\* 2017 PEG coated and doxorubicin loaded multimodal Gadolinium oxide nanoparticles for simultaneous drug delivery and imaging application. International Journal of Pharmaceutics. 142–150, <http://www.sciencedirect.com/science/article/pii/S0378517317304398>

2 Nikesh Gupta, Chetna Gupta, Sandeep Sharma, Brijesh Rathi, Rakesh Kumar Sharma and H. B. Bohidar, 2016 Magnetic iron oxide nanoparticles encapsulating horseradish peroxidase (HRP): synthesis, characterization and carrier for the generation of free radicals for potential applications in cancer therapy. RSC Advances 110460 – 111631, <http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra24586b#!divAbstract>

3 Sandeep Sharma, Nitish Panchal, Surinder Kumar Sharma, Rakesh Kumar Sharma, Phool Kumar Patanjali, 2016 Kinetic Study of Hydrolysis of Chlorpyrifos Using Gallic Acid Coated Silver Nanoparticles. Advanced Science Engineering and Medicine 941-946, <http://www.ingentaconnect.com/contentone/asp/ asem/2016/00000008/00000012/art00003>

4 Shailja Kumar, Virendra Kumar Meena, Puja Panwar Hazari\*, Rakesh Kumar Sharma\* 2016 FITC-Dextran entrapped and silica coated gadolinium oxide nanoparticles for synchronous optical and magnetic resonance imaging applications. International Journal of Pharmaceutics, 506,242–252 <http://www.sciencedirect.com/science/article/pii/S0378517316302496>

#### Conference Organization/ Presentations (in the last three years)

1 Curcumin loaded silver Nanoparticles: An effective anti HIV therapeutics? (Poster presentation) Department of Medicine Research day, University of Buffalo. (Hotel Millenium) Buffalo. USA 24<sup>th</sup> June 2017.

2 Multifunctional inorganic nanoparticles -Synthesis and biological applications (Invited Talk) in 10<sup>th</sup> International Conference on Nanomedicine and Nanotechnology in Health Care at Hotel Avani Atrium Bangkok, Thailand July 25 - 27, 2016.

<p>3 Nanomedicine: Some applications of inorganic nanoparticles (Invited Talk) in 3rd International conference on nanostructured materials and nanocomposite (ICNM 2015) at Hindustan college of Science and technology, Farah Mathura, UP India, December 12-14, 2015.</p> <p>4 Synthesis of some inorganic nanoparticles for therapeutic applications (Invited talk) in International conference on nanoscience and nanomaterials- MG University, Kottayam Kerala December. 19, 2014.</p>
<p><b>Research Projects (Major Grants/Research Collaboration)</b></p> <ul style="list-style-type: none"> <li>▪ Development of dye doped gadolinium oxide nanoparticles for bioimaging applications sponsored by Council of scientific and industrial research (CSIR)-(Completed)</li> <li>▪ Hollow silica nanoparticles entrapping enzyme for possible enzyme therapeutics and sensor applications' sponsored by University Grant commission (UGC) Government of India - (Completed)</li> </ul>
<p><b>Awards and Distinctions</b></p> <ul style="list-style-type: none"> <li>▪ <b>Raman post doctoral fellow ship to USA</b> from University Grant Commission (UGC), Government of India, October 1, 2016 –September 30, 2017.</li> <li>▪ <b>Senior Research Fellowship (SRF)</b> from The Department of Science and Technology, Government of India, New Delhi, India, January 2004 – March 2005.</li> <li>▪ <b>Junior Research Fellowship (JRF)</b> from The Department of Science and Technology, Government of India, New Delhi, India, January 2002 - January 2004</li> </ul>
<p><b>Association With Professional Bodies</b></p> <p>Life member of Nanoscienc and nanotechnology society,</p>
<p><b>Other Activities</b></p>