



Dilbag Singh
Assistant Professor

Contact Details:	VPO & Tehsil - Khundian, Distt- Kangra (HP)-176030
Academic Qualification:	Ph.D.
Positions Held:	Dr. D.S. Kothari Fellow, HPU Shimla-171005 Assistant Professor, Mharaja Agrasen University, Solan
Specialisation:	Material Science
Research Interest:	Nanotechnology and Environment
Publications:	Annexure-I
Research Projects Completed/Ongoing:	Nil
MPhil Supervised:	Nil
PhD Supervised:	Nil
PhD Supervising:	1
Participation in Seminars/Conferences:	Annexure-II
Membership of Learned Societies/ Professional Bodies:	Nil
Awards & Honours Received:	<i>Awarded with JRF & SRF CSIR-UGC</i> <i>Qualified Graduate Aptitude Test in Engineering 2005 (Score 85.71%)</i> <i>Awarded with Dr. D.S. Kothari Post Doctoral Fellowship</i>

Annexure-I

- (1) D.S. Gill, A. Kumari, R. Gupta, **D.S. Rana**, J.K. Puri, S.P. Jauhar, "Preferential solvation of some copper(I), silver(I) and sodium(I) salts in acetonitrile + n-butyronitrile and acetonitrile + N,N-dimethylacetamide mixtures". *Journal of Molecular Liquids*. 133, 7–10, 2007. **(I.F.= 2.5)**
- (2) **D.S. Rana**, D.S. Gill and R. Gupta, "Solvation Behaviour of some Copper(I), Silver(I) and Tetraalkylammonium Salts in Actonitrile + Adiponitrile Mixtures". *Z. Phys. Chem.* 222, 1039–1047, 2008. **(I.F.= 1.17)**
- (3) **D.S. Rana** and D.S. Gill, "Preparation of Some Novel Copper(I) Complexes and their Molar Conductances in Organic Solvents". *Z. Naturforsch.* 64a, 269–272 2009. **(I.F.= 1.36)**
- (4) D.S. Gill, **D.S. Rana** and S.P. Jauhar, "Compressibility Studies of Some Copper(I), Silver(I), and Tetrabutylammonium Salts in Acetonitrile + Adiponitrile Binary Mixtures". *J. Chem. Eng. Data*. 55, 2066–2071, 2010. **(I.F.= 2.04)**
- (5) **D.S. Rana**, D.S. Gill and S.P. Jauhar, "Transport Studies of Some 1 : 1 Copper(I) Perchlorate Complexes in Acetonitrile-Dimethylsulphoxide Mixtures". *Z. Phys. Chem.* 225, 69–77, 2011. **(I.F.= 1.17)**
- (6) **D.S. Rana**, D.S. Gill and R. Gupta, "Isentropic Compressibility Studies of Some Salts in Acetonitrile+N,N-Dimethylacetamide Mixtures at 298K". *Z. Phys. Chem.* 225,1–6, 2011. **(I.F.= 1.17)**
- (7) **D.S. Rana**, D.S. Gill, R. Singh, J. Wagler and E. Kroke. "Preparation, characterization, X-ray structure determination and solution properties of some novel copper(I) bisulfate and sulfate salts and their stable derivatives". *Z. Naturforsch.* 66b, 1042-1048, 2011. **(I.F.= 0.816)**
- (8) **D.S. Rana**, D.S. Gill and M.S. Chauhan, "A comparative nuclear magnetic resonance study of the solvation of CuClO_4 in binary mixtures of acetonitrile with pyridine and picolines at 298 K". *Z. Naturforsch.* 67a, 303 – 307, 2012. **(I.F.= 1.36)**
- (9) S. Chauha, **D.S. Rana**, Akash, K. Rana and A. Umar, "Temperature-Dependant Volumetric and Compressibility Studies of Drug-Surfactant Interactions in Dimethylsulfoxide (DMSO) Solutions". *Advance Science Letter*. 5, 178-181, 2012. **(I.F.= 1.25)**
- (10) M.S. Chauhan, Rajni, S. Chauhan, **D.S. Rana** and A. Umar, "Effects of Temperature on

- Micellar Properties of Sodium Dodecyl Sulfate in Aqueous Solutions of Some Amino Acids (Glycine, Alanine, Valine and Leucine)". *Advanced Science Letters*. 7, 43-51(9), 2012. **(I.F.= 1.25)**
- (11) Kiran, **D.S. Rana** and S. Chauhan, "A Thermodynamic Study of 1,4-Dioxane Across Cellulose Acetate Membrane Under Different Conditions". *Fluid Phase Equilibria*. 322–323, 148–158, 2012. **(I.F.= 2.24)**
- (12) S. Chauhan, Seema, **D.S. Rana**, Rajni, M. S. Chauhan and A. Umar, "Volumetric and Compressibility Studies of Salt Induced Hydrophobic Interactions in Pre–Micellar Region of Sodium Dodecyl Sulfate". *Advanced Science, Engineering and Medicine*. 4, 81–84, 2012. **(I.F.= 0.54)**
- (13) S. Chauhan, Kundan, **D.S.Rana** and G.Kumar, "Volumetric and conductance studies of cetyltrimethyl ammonium bromide in aqueous glycine". *J. Sol. Chem*. 42(3), 634-656, 2013. **(I.F.= 1.12)**
- (14) S. Chauhan, K. Sharma, **D.S. Rana** and G.Kumar, "Conductance, Apparent Molar Volume and Compressibility Studies of Cetyltrimethylammonium bromide in Aqueous Solution of Leucine". *J. Mol. Liq.* 175, 103-110, 2012. **(I.F.= 2.5)**
- (15) S. Chauhan, Kuldeep and **D.S. Rana**, "Acoustical and Volumetric Studies of Proline in Ethanolic Solutions of Lecithin at Different Temperatures". *Advanced Science, Engineering and Medicine*. 5, 991–997, 2013. **(I.F.= 0.54)**
- (16) S. Chauhan, M.S. Chauhan, P. Sharma, **D.S. Rana** and A. Umar, "Physico – Chemical Studies of Oppositely Charged Protein – Surfactant System in Aqueous Solutions: Sodium Dodecyl Sulfate (SDS) – Lysozyme". *Fluid Phase Equilibria*. 337, 39-46, 2013. **(I.F.= 2.24)**
- (17) S. Chauhan, M.S. Chauhan P. Sharma and **D.S. Rana**, "Study of Micellization Behaviour of Cetyltrimethyl ammonium bromide in Aqueous Solutions of Lysozyme at Different Temperatures". *J. Mol. Liq.* 187, 1-6, 2013. **(I.F.= 2.5)**
- (18) M. S. Chauhan, P.Sharma. R. Kumar, Ahmad Umar, S. Chauhan and **D.S. Rana**, "Applications of ZnO Nanoflowers as Antimicrobial Agents for Escherichia coli and Enzyme-Free Glucose Sensor". *Journal of Biomedical Nanotechnology*. 9(10), 1794-1802, 2013. **(I.F.= 5.52)**
- (19) S. Chauhan, D. Kaushal, M.S. Chauhan and D.S. Rana. "A Physicochemical Study of SDS in aqueous solution of Furosemide: Effect of DMSO on surfactant- Furosemide interaction".*Fluid Phase Equilibria*. 355, 123-129, 2013. **(I.F.= 2.24)**
- (20) Facile growth and characterization of □- Fe₂O₃ nanoparticles for photocatalytic

- degradation of methyl orange, *Journal of Nanoscience and Nanotechnology*, 14(8), 6153-6157, 2014. **(I.F.= 1.15)**
- (21) D. Kaushal, D.S. Rana, S. Chauhan, "Effect of Furosemide on denaturation of lysozyme in the presence of ionic surfactant at different temperatures". *Fluid Phase Equilibria*. 360, 239–247, 2013. **(I.F.= 2.24)**
- (22) D. Kaushal, D.S. Rana, M.S. Chauhan, A. Umar, S. Chauhan. "The effect of sodium dodecyl sulphate on Furosemide — A cardiovascular drug in water–methanol at different temperature, *Journal of Molecular Liquids*". 188, 237–244, 2013. **(I.F.=2.5)**
- (23) D. Kaushal, D.S. Rana, S. Chauhan. "Volumetric and Compressibility Studies of some 1:1 electrolytes in the presence of Furosemide using Transport properties", *Z. Phys. Chem.* 228, 99-113, 2014. **(I.F.= 1.12)**
- (24) R. Kumar, D. Rana, A. Umar, P. Sharma, S. Chauhan, M.S. Chauhan, "Iron-Doped ZnO Nanoparticles as Potential Scaffold for Hydrazine Chemical Sensor", *Sensor Letters* 12 (8), 1273-1278, 2014. **(I.F.= 0.5)**
- (25) R. Kumar, M.S. Chauhan, G.N. Dar, S.G. Ansari, J. Wilson, A. Umar, "ZnO Nanoparticles: Efficient Material for the Detection of Hazardous Chemical" *Sensor Letters* 12 (9), 1393-1398, 2014. **(I.F.= 0.5)**
- (26) R. Kumar, D. Rana, A. Umar, P. Sharma, S. Chauhan, M.S. Chauhan, "Ag-doped ZnO nanoellipsoids: Potential scaffold for photocatalytic and sensing applications", *Talanta* 137, 204-213, 2015. **(I.F.= 3.5)**
- (27) D. Kaushal, D.S. Rana, S. Chauhan and V.K. Syal, "Micellar solubilization of Furosemide — Influence of cetyltrimethylammonium bromide in water–methanol mixture", *J. Mol. Liq.*, 211, 761–766, 2015. **(I.F.= 2.5)**
- (28) S. Chauhan, K. Kumar, D.S. Rana, R. Kumar, M.S. Chauhan, "A Comparative Study on the Aggregation and Thermodynamic Properties of Anionic Sodium dodecylsulphate and Cationic Cetyltrimethylammonium bromide in Aqueous Medium: Effect of Co-solvent N-methylacetamide", *Journal of Surfactant and Detergent*. 1-8, 2015. **(I.F.= 0.56)**
- (29) D. Kaushal, D.S. Rana, S. Chauhan, "To Study the Effect of Furosemide on Micellar Behaviour of Ionic Surfactants - A Physicochemical Approach", *Indian Journal of Chemical Thermodynamics*, In Press. **(I.F.= 0.56)**
- (30) P. Sharma, D.S. Rana, R. Kumar, M.S. Chauhan, S. Chauhan and A. Umar Selective Fluorescence Detection of Cyanide Ions, Efficient Photocatalytic and Antimicrobial Properties of Cadmium Oxide Nanodiscs. *Talanta* (Accepted). **(I.F.= 3.56)**

- (31) D. Kaushal, D.S. Rana, S. Chauhan, "Furosemide - Cetyltrimethylammonium bromide Interactions in Aqueous Dimethyl sulfoxide Solutions: Physico-Chemical Studies" J. Mol. Liq (Accepted). **(I.F.= 2.5)**
- (32) P. Sharma, D.S. Rana, R. Kumar, M.S. Chauhan and A. Umar, "Facile growth, of CdS nanoparticles characterization and its photocatalytic and antimicrobial applications" Ceramic International, In Press. **(I.F.= 2.6)**
- (33) P. Sharma, D.S. Rana, R. Kumar, M.S. Chauhan and A. Umar, "Synthesis, Characterization and sensing application of iron oxide nanoparticles against hydroquinone" Sci Adv Mater. 7, 2747-2754 (2015). **(I.F.= 2.7)**
- (34) P. Sharma, D.S. Rana, K. Kumar, R. Kumar, S.Chauhan, M.S. Chauhan and A. Umar, "Synthesis, Characterization and photocatalytic application of iron oxide nanocubes" Journal of Nanoscience and nanotechnology. (Accepted). **(I.F.= 1.7)**

ANNEXURE-II

1. 1st Annual National Conference on Science Emerging Scenario and Future Challenges Organised by Him Science Congress Association Himachal Pradesh in Shoolni University from 8-10 March, 2013.
2. 7th National conference on Thermodynamics of Chemical, Biological and Environmental Processes Organised by Sri Venkateswara University, Trupati from 10-12 December, 2012.
3. National Seminar on Experimental and Computational Techniques in Material Science Organised by Department of Physics Himachal Pradesh University, Shimla from 31st March to 2nd April, 2012.
4. National seminar on frontiers in polymer science organized by Department of Chemistry, H.P. University, Shimla in 18-19 November, 2011.
5. National conference on emerging trends in chemistry-biology interface held in Department of Chemistry, Kumaun University, Nainital in 3-5 November, 2011.
6. National symposium on chemistry innovation for human well being held in Department of Chemistry, H.P. University, Shimla in 21-22 October, 2011.
7. National conference on recent trends in materials sciences, organized by Department of Physics, Jaypee University, Solan in 8-10 October, 2011.

8. National workshop cum seminar on advances in electron microscopy & allied fields held in Department of Physics & Chemistry, Shoolini University, Solan in 23-29 September, 2011.
9. Ram Chand Paul, International Symposium from 2011 held at Department of Chemistry, Panjab University, Chandigarh.
10. International conference on recent trends in Chemistry held in AMU, Aligarh in 2011
11. The National Academy of Science, India, held at Calcutta University, Kolkata, from December 14-16, 2009.
12. National Symposium on RADCS-2008, organized by Department of chemistry, D.A.V. College, Abohar.
13. Chandigarh Science Congress, from 2007- 2010 organized by Department of chemistry, Panjab University, Chandigarh
14. Ram Chand Paul, National Symposium from 2005-2010 held at Department of Chemistry, Panjab University, Chandigarh.