

Profile of the Teacher



1. Personal Details

Name in Full:	Dr. Dilip H. Dagade
Designation:	Asst. Professor in Physical Chemistry
Email:	dhd_chem@unishivaji.ac.in ; dilipdagade@yahoo.com
Address for Correspondence:	Department of Chemistry, Shivaji University, Kolhapur – 416004 (India)
Permanent Address:	A/P Tulshi, Tal-Madha, Dist-Solapur, Maharashtra – 413302 (India)
Education	
Graduation (B.Sc.)	Shivaji University, Kolhapur, 1996 (D.B.F. Dayanand College of Arts and Science, Solapur, Maharashtra – 413 002)
Post-Graduation (M.Sc.)	Department of Chemistry, Shivaji University, Kolhapur, 1998
Ph.D.	Department of Chemistry, Shivaji University, Kolhapur, 2004
URLs	http://www.researcherid.com/rid/A-6844-2014 http://orcid.org/0000-0003-2517-5360 http://www.unishivaji.ac.in/dptchem/

2. Academic Details:

Examination	University	Month & Year of Passing	Principle Subject
Bachelor's Degree (B.Sc.)	Shivaji University	May 1996	Chemistry
Master's Degree (M.Sc.)	Shivaji University	May 1998	Physical Chemistry
NET	UGC-CSIR	Feb 2001	Chemical Sciences
Ph.D.*	Shivaji University	Oct 2004	Chemistry

***Title of Ph.D. Thesis:**

“Studies of Thermodynamic and Transport Properties of 18-Crown-6 in Aqueous, Non-aqueous and Aqueous Electrolytic Solutions”

3. Research Specialization

Physical Chemistry: Thermodynamics, Molecular Simulation, NIR Spectroscopy

Research Interest: The non-covalent interactions like van der Waals forces, H-bonding, hydrophobic hydration, columbic interactions etc are individually as well as collectively responsible for the conformations of biological macromolecules which decides the structure and functioning of biopolymers such as proteins, enzymes, nucleic acids, carbohydrates. The molecular level understanding of various molecular and ionic interactions as mentioned above in aqueous solutions is fundamental to understand the natural life governing process with the help of which better service to the mankind can be provided. Our current research work is focussed on the design and development of bio-ionic liquids (liquid salts which contains one or both of its ions of biological origin) and its study in aqueous solutions of proteins, enzymes and other biological macromolecules as well as in aqueous solutions containing drug molecules using thermodynamic, spectroscopic and molecular dynamic simulation tools to understand the natural osmolyte effects and to use them in medicinal chemistry for drug formulations. We have designed and developed such ionic liquids which can also be used as templates for synthesis of oligonucleotides and anti-cancer drugs, as a tuneable lasers in optical science, fluorescence probes for molecular recognition, etc. The current research is aimed to understand the usefulness of bio-ionic liquids in protein purification, stability and crystallization phenomena from the technological point of view and understanding the protein denaturation, protein refolding, protein-ionic liquid bindings, and osmolyte effects from academic point of view.

4. Teaching Experience

- **UG:** Nil
- **PG:** 18 years (M.Sc. Physical Chemistry at Department of Chemistry, Shivaji University, Kolhapur [Aug 1999 onward])

5. Research Guidance

- M.Phil. 1 (Awarded)
- Ph.D. 7 (3 awarded; 4 working)

Sr No	Name of Research student	Title of Thesis	Degree (M.Phil./Ph.D.)	Year of award
1	Miss Poonam S. Shetke	Thermodynamic studies of amino acids in aqueous solutions containing ionic liquids	M.Phil.	2012
2	Miss Kavita R. Madkar	Thermodynamic studies of amino acid ionic liquids in aqueous solutions	Ph.D.	2014
3	Mr. Sandeep P. Shinde	Thermodynamic studies of molecular interactions in aqueous solutions containing ionic liquids and polyethylene glycols	Ph.D.	2015
4	Miss Seema S. Barge	Thermodynamic and near infrared spectral studies of hydration of ionic liquids in aqueous solutions	Ph.D.	2016
5	Mr. Shrikant S. Musale	Thermodynamic and dielectric studies of molecular interactions in aqueous solutions containing bio-ionic liquids	Ph.D.	Working
6	Mr. Bhingare	Studies of thermodynamic properties of amino acids and peptides in aqueous ionic liquid solutions	Ph.D.	Working
7	Mr. Kunal Patil	Thermodynamic and near-infrared spectral studies of molecular interactions of peptides and proteins in aqueous bio-ionic liquids	Ph.D.	Working
8	Miss Rajashree J. Gavhane	Studies of biomolecular interactions in aqueous bio-ionic liquids	Ph.D.	Working

6. Research Publications

1. Seema S. Barge and **Dilip H Dagade**, "Density and Near-Infrared Spectral Study of Hydration and Ionic Interactions in Aqueous Solutions of Triethylammonium Acetate" 2017 (Communicated)
2. Sandeep P. Shinde and **Dilip H. Dagade**, "Volumetric Studies of interactions of Polyethylene Glycols and Amino Acid Ionic Liquids in aqueous solutions at 298.15 K and 0.1MPa" 2017 (Communicated)
3. **Dilip H. Dagade** and Seema S. Barge, "Hydrogen Bonding in Liquid Water and in the Hydration Shell of Salts" *ChemPhysChem*, **2016**, *17*, 902-912.
4. Sandeep P. Shinde and **Dilip H. Dagade**, "Osmotic and Activity Coefficients for Binary Aqueous Solutions of 1-Butyl-3-methylimidazolium Based Amino Acid Ionic Liquids at 298.15 K and at 0.1 MPa" *J. Chem. Eng. Data*, **2015**, *60*, 635-642.

5. **Dilip H. Dagade**, Sandeep P. Shinde, Kavita R. Madkar and Seema S. Barge, "Density and sound speed study of hydration of 1-butyl-3-methylimidazolium based amino acid ionic liquids in aqueous solutions" *J. Chem. Thermodyn.* **2014**, *79*, 192–204.
6. V. R. Shaikh, S.S. Terdale, A. Ahamad, G. R. Gupta, **D. H. Dagade**, D. G. Hundiwale and K. J. Patil, "Thermodynamic Studies of Aqueous Solutions of 2,2,2-Cryptand at 298.15 K: Enthalpy-Entropy Compensation, Partial Entropies and Complexation with K⁺ ions" *J. Phys. Chem. B* **2013**, *117*, 16249-16259.
7. **Dagade, D.H.**, Madkar, K.R., Shinde, S.P., Barge, S.S., Correction to "Thermodynamic Studies of Ionic Hydration and Interactions for Amino Acid Ionic Liquids in Aqueous Solutions at 298.15 K" *J. Phys. Chem. B* **2013**, *117*, 9584–9584.
8. Sopan K. Kushare, Vasim R. Shaikh, Santosh S. Terdale, **Dilip H. Dagade**, Rahul R. Kolhapurkar, Kesharsingh J. Patil, "Thermodynamics of aqueous polyethylene-glycol (PEG) solutions at 298.15 K: Activity, activity coefficients and application of molecular theories" *J. Mol. Liq.*, **2013**, *187*, 129-136.
9. **Dagade, D.H.**, Madkar, K.R., Shinde, S.P., Barge, S.S., "Thermodynamic Studies of Ionic Hydration and Interactions for Amino Acid Ionic Liquids in Aqueous Solutions at 298.15 K" *J. Phys. Chem. B*, **2013**, *117*, 1031–1043.
10. Shaikh, V.R., **Dagade, D.H.**, Terdale, S.S., Hundiwale, D.G., Patil, K.J., "Activity and activity coefficient studies of aqueous binary solutions of procaine, lidocaine, and tetracaine hydrochloride at 298.15 K" *J. Chem. Eng. Data*, **2012**, *57*, 3114-3122.
11. Vasim R. Shaikh , **Dilip H. Dagade**, Dilip G. Hundiwale, Kesharsingh J. Patil, "Volumetric studies of aqueous solutions of local anesthetic drug compounds [hydrochlorides of procaine (PC HCl), lidocaine (LC HCl) and tetracaine (TC HCl)] at 298.15 K" *J. Mol. Liq.*, **2011**, *164*, 239–242.
12. Deepti N. Kurhe, **Dilip H. Dagade**, Jyoti P. Jadhav, Sanjay P. Govindwar, and Kesharsingh J. Patil, "Thermodynamic studies of amino acid-denaturant interactions in aqueous solutions at 298.15 K" *J. Solution Chem.*, **2011**, *40*, 1596-1617.
13. Kedar A. Undale, YoonKook Park, Kyungmoon Part, **Dilip H. Dagade**, Dattaprasad M. Pore, "A Revisit to the Hantzsch Reaction: Unexpected Formation of Tetrahydrobenzo[b]pyrans beyond Polyhydroquinolines" *Synlett*, **2011**, 791-796.
14. Deepti N. Kurhe, **Dilip H. Dagade**, Jyoti P. Jadhav, Sanjay P. Govindwar, and Kesharsingh J. Patil, "Studies of Enthalpy-Entropy Compensation, Partial

- Entropies, and Kirkwood-Buff Integrals for Aqueous Solutions of Glycine, L-Leucine, and Glycylglycine at 298.15 K" *J. Phys. Chem. B*, **2009**, *113*, 16612-16621.
15. Santosh Terdale, **Dilip Dagade** and Kesharsingh Patil, "Erratum: Activity Coefficient Studies in Ternary Aqueous Solutions at 298.15 K: H₂O + α -Cyclodextrin + Potassium Acetate and H₂O + 18-Crown-6 + Hydroquinone Systems" *J. Chem. Eng. Data*, , **2009**, *54*, 1956.
 16. Santosh Terdale, **Dilip Dagade** and Kesharsingh Patil, "Activity Coefficient Studies in Ternary Aqueous Solutions at 298.15 K: H₂O + α -Cyclodextrin + Potassium Acetate and H₂O + 18-Crown-6 + Hydroquinone Systems" *J. Chem. Eng. Data*, **2009**, *54*, 294-300.
 17. Ramesh L. Gardas, **Dilip H. Dagade**, João A. P. Coutinho, Kesharsingh J. Patil, "Thermodynamic Studies of Ionic Interactions in Aqueous Solutions of Imidazolium based Ionic Liquids [Emim][Br] and [Bmim][Cl]" *J. Phys. Chem. B*, **2008**, *112*, 3380-3389.
 18. Ramesh L. Gardas, **Dilip H. Dagade**, Santosh S. Terdale, João A. P. Coutinho, Kesharsingh J. Patil, "Acoustic and Volumetric Properties of Aqueous Solutions of Imidazolium Based Ionic Liquids at 298.15 K" *J. Chem. Thermodyn.*, **2008**, *40*, 695-701
 19. Santosh S. Terdale, **Dilip H. Dagade**, Kesharsingh J. Patil, "Activity and activity coefficient studies of aqueous binary and ternary solutions of 4-nitrophenol, sodium salt of 4-nitrophenol, hydroquinone and α -cyclodextrin at 298.15 K" *J. Mol. Liq.*, **2008**, *139*, 61-71.
 20. **Dilip H. Dagade**, Rajendra R. Kumbhar and Kesharsingh J. Patil, "Volumetric, Viscosity and Self-Diffusion Coefficient Studies of [18-Crown-6:M]A Complexed Species in Water at 298.15 K" *J. Solution Chem.*, **2008**, *37*, 265-282.
 21. Sopan K. Kushare, **Dilip H. Dagade**, Kesharsingh J. Patil, "Volumetric and Compressibility properties of Liquid water as a solute in Glycolic, Propylene carbonate and Tetramethyl urea solutions at 298.15K" *J. Chem. Thermodyn.*, **2008**, *40*, 78-83.
 22. Santosh S. Terdale, **Dilip H. Dagade**, and Kesharsingh J. Patil, "Thermodynamic Studies of Drug- α -Cyclodextrin (α -CD) Interactions in Water at 298.15 K: Promazine hydrochloride/ Chlorpromazine Hydrochloride- α -CD-H₂O Systems" *J. Phys. Chem. B*, **2007**, *111*, 13645-13652.
 23. **Dilip H. Dagade**, Sanjay D. Patil and Kesharsingh J. Patil, "Volumetric and Viscosity Studies of Potassium Salt of Penicillin-G in Aqueous Solutions at

- Different Temperatures and at Ambient Pressure" *J. Chem. Eng. Data*, **2007**, 52, 2177-2181.
24. Rahul R. Kolhapurkar, **Dilip H. Dagade**, Kesharsingh J. Patil and Murlidhar V. Kaulgud, "Studies of electrical moment and thermodynamic properties of water in organic solvents at 298.15 K" *J. Mol. Liq.*, **2007**, 136, 169-176.
25. **Dilip H. Dagade**, Poonam K. Shetake and Kesharsingh J. Patil, "Thermodynamic Studies of Aqueous and CCl₄ Solutions of 15-Crown-5 at 298.15K: An Application of McMillan-Mayer and Kirkwood-Buff Theories of Solutions" *J. Phys. Chem. B*, **2007**, 111, 7610-7619.
26. **Dilip H. Dagade**, Rajendra R. Kumbhar, Sandip R. Sabale, Kesharsingh J. Patil, "Phase Diagram of Na₂S₂O₃.5H₂O + Ethanol + Water at Ambient Pressure and Temperature" *Fluid Phase Equilibria*, **2007**, 255, 110-114
27. S.K. Kushare, S.S. Terdale, **D.H. Dagade** and K.J. Patil "Compressibility and Volumetric Studies of Polyethylene-Glycols in Aqueous, Methanolic and Benzene Solutions at $T = 298.15K$ " *J. Chem. Thermodyn.*, **2007**, 39, 1125-1131.
28. R. R. Kumbhar, **D. H. Dagade**, S. S. Terdale and K. J. Patil "Thermodynamic Equilibrium Constant Studies on Aqueous Electrolytic (Alkaline Earth Chlorides) Solutions Containing 18-Crown-6 Ether at 298.15 K" *J. Solution Chem.*, **2007**, 36, 259 – 273
29. Preeti A. Tomar, Rahul R. Kolhapurkar, **Dilip H. Dagade**, Kesharsingh J. Patil "Equilibrium Constant Studies for Complexation between Ammonium Ions and 18-crown-6 in Aqueous Solutions at 298.15 K" *J. Solution Chem.*, **2007**, 36, 193 – 209
30. Rahul R. Kolhapurkar, Preeti K. Patil, **Dilip H. Dagade**, Kesharsingh J. Patil, "Studies of Thermodynamic Properties of Binary and Ternary Methanolic Solutions Containing KBr and 18-Crown-6 at 298.15 K" *J. Solution Chem.*, **2006**, 35, 1357 – 1376
31. Santosh S Terdale, **Dilip H Dagade** and Kesharsingh J Patil "Thermodynamic Studies of Molecular Interactions in Aqueous α -Cyclodextrin Solutions: Application of McMillan-Mayer and Kirkwood-Buff Theories" *J. Phys. Chem. B* **2006**, 110, 18583-18593
32. Sopan K. Kushare, Rahul R. Kolhapurkar, **Dilip H. Dagade**, Kesharsingh J. Patil, "Compressibility Studies of binary solutions involving water as a solute in non-aqueous solvents at $T = 298.15 K$ " *J. Chem. Eng. Data* **2006**, 51, 1617-1623
33. Rahul R. Kolhapurkar, Smita A. Jangam, **Dilip H. Dagade**, and Kesharsingh J. Patil, "Sound Speed and Density Measurement for Tetra-n-Butylammonium

- Bromide in Benzene and Carbon Tetrachloride Solutions at $T = 298.15 \text{ K}$ " *J. Chem. Thermodyn.* **2006**, *38*, 830 - 835
34. Rahul R. Kolhapurkar, **Dilip H. Dagade**, Rajesh B. Pawar, Kesharsingh J. Patil, "Compressibility Studies of Aqueous and CCl_4 Solutions of 18-crown-6 at 298.15 K" *J. Chem. Thermodyn.* **2006**, *38*, 105 - 112
35. **Dilip H Dagade**, Rahul R Kolhapurkar, Santosh S Terdale and Kesharsingh Patil, "Thermodynamics of Aqueous Solutions of 18-Crown-6 at 298.15K: Enthalpy and Entropy Effects" *J. Solution Chem.* **2005**, *34*, 415 - 426
36. **Dilip Dagade** and Kesharsingh Patil, "Thermodynamic studies for aqueous solutions involving 18-crown-6 and alkali bromides at 298.15 K" *Fluid Phase Equilibria* **2005**, *231*, 44 - 52
37. **Dilip H Dagade**, Rahul R Kolhapurkar & Kesharsingh J Patil, "Studies of osmotic coefficients and volumetric behaviour on aqueous solutions of β -cyclodextrin at 298.15 K" *Ind. J. Chem.* **2004**, *43A*, 2073-2080
38. **Dilip H. Dagade**, Kesharsingh J. Patil, "Studies of molecular interactions in aqueous and CCl_4 solutions involving 18-crown-6 by application of Kirkwood-Buff theory" *J. Chem. Thermodyn.* **2004**, *36*, 677-682
39. **Dilip Dagade**, Rajesh Pawar, and Kesharsingh Patil, "Viscosity Behavior of 18-Crown-6 in Aqueous and Carbon Tetrachloride Solutions at Different Temperatures and at Ambient Pressure" *J. Chem. Eng. Data* **2004**, *49*, 341 - 346.
40. **Dilip Dagade**, Kesharsingh Patil, "Studies of Activity Coefficients for Ternary Systems: Water + 18-Crown-6 + Alkali Chlorides at 298.15 K" *J. Solution Chem.*, **2003**, *32*, 951 - 966
41. K J Patil, P K Patil, R R Kolhapurkar & **D H Dagade**, "Study of dipole moment of 18-crown-6 in CCl_4 solutions at 298.15 K" *Ind. J. Pure Appl. Phys.* **2003**, *41*, 46-51
42. Kesharsingh Patil, Rajesh Pawar, and **Dilip Dagade**, "Studies of Osmotic and Activity Coefficients in Aqueous and CCl_4 Solutions of 18-Crown-6 at 25 °C" *J. Phys. Chem. A* **2002**, *106*, 9606 - 9611
43. K J Patil, A M Sargar & **D H Dagade**, "Osmotic and activity coefficient studies on the aqueous solutions of tetramethylurea at 298.15 K" *Ind. J. Chem. Sect. A*, **2002**, *41*, 1804-1811.

7. Papers Presented in Conferences

1. K. J. Patil, **D. H. Dagade** and R. B. Pawar, "Study of Viscosity of 18-Crown-6 in Aqueous and Carbon Tetrachloride Solutions at Different Temperatures" **38th Annual Convention of Chemists-2001**, Indian Chemical Society, Jodhpur (Rajasthan)
2. K. J. Patil and **D. H. Dagade**, "Osmotic and Activity Coefficient Studies of Alkali Halides in Aqueous 18-Crown-6 Solutions at 298.15 K" **39th Annual Convention of Chemists-2002**, Indian Chemical Society, Nagarjunanagar, Guntur (AP)
3. R. R. Kolhapurkar, **D. H. Dagade** and K. J. Patil, "Thermodynamic Investigation of Molecular Interactions in Aqueous Solutions of Enzymatic Model Compound β -Cyclodextrin at 298.15 K" **40th Annual Convention of Chemists-2003**, Indian Chemical Society, Jhansi
4. **D. H. Dagade** and K. J. Patil, "Studies of Molecular Interactions in Aqueous and CCl_4 Solutions Involving 18-Crown-6 by Application of Kirkwood-Buff Theory of Solutions" **40th Annual Convention of Chemists-2003**, Indian Chemical Society, Jhansi
5. R. R. Kolhapurkar, **D. H. Dagade**, R. B. Pawar and K. J. Patil, "Compressibility Studies of Aqueous and CCl_4 Solutions of 18-crown-6 at 298.15 K" **41st Annual Convention of Chemists-2004**, Indian Chemical Society, Delhi
6. S. S. Terdale, R. R. Kolhapurkar, **D. H. Dagade** and K. J. Patil, "Thermodynamics of aqueous 18-crown-6 Solutions at 298.15 K: Enthalpy and Entropy Effects" **41st Annual Convention of Chemists-2004**, Indian Chemical Society, Delhi
7. S. K. Kushare, S. S. Terdale, **D. H. Dagade** and K. J. Patil "Compressibility and Volumetric Studies of Polyethylene-Glycols in Aqueous and Methanolic Solutions at 298.15 K" **2nd National Conference on Thermodynamics of Chemical and Biological Systems (NCTCBS2-2006)**, The Indian Thermodynamic Society, Surat 30th October - 1st November 2006
8. R. R. Kumbhar, S. S. Terdale, **D. H. Dagade** and K.J.Patil, "Thermodynamic and Viscosity Studies of Crown Molecular Ions: $(18\text{C}6\text{Ag}^+) \text{NO}_3^-$ in Aqueous Solutions at 298.15 K" **2nd National Conference on Thermodynamics of Chemical and Biological Systems (NCTCBS2-2006)**, The Indian Thermodynamic Society, Surat 30th October - 1st November 2006
9. D. N. Kurhe, **D. H. Dagade**, J. P. Jadhav, S. P. Govindwar and K. J. Patil "Thermodynamic Studies of Protein-Solvent and Protein-Protein Interactions for Lysozyme in Aqueous and Perturbed Aqueous Solutions at 298.15 K" **3rd National Conference on Thermodynamics of Chemical and Biological Systems**

- (*NCTCBS-2008*); 16th and 17th October, Nagpur, organized by The Indian Thermodynamic Society
10. **D. H. Dagade**, S. R. Sabale, R. L. Gardas, J.A.P. Coutinho, and K. J. Patil, "Thermodynamic Investigation of Hydration and Ionic Interactions for Aqueous Solutions of Imidazolium-Based Ionic Liquids at 298.15 K" **3rd National Conference on Thermodynamics of Chemical and Biological Systems (NCTCBS-2008)**; 16th and 17th October, Nagpur, organized by The Indian Thermodynamic Society
 11. **D. H. Dagade**, B. S. Mohite, P. B. Shrirame and S. R. Sabale, "Phase Diagram of Na₂S₂O₃ + Tertiary Butanol + Water at Ambient Pressure and Temperature" **3rd National Conference on Thermodynamics of Chemical and Biological Systems (NCTCBS-2008)**; 16th and 17th October, Nagpur, organized by The Indian Thermodynamic Society
 12. R. R. Kumbhar P. B. Shrirame and **D. H. Dagade**, "Effect of Anions on Macrocyclization Binding Equilibria in Aqueous Solutions" **3rd National Conference on Thermodynamics of Chemical and Biological Systems (NCTCBS-2008)**; 16th and 17th October, Nagpur, organized by The Indian Thermodynamic Society
 13. **D. H. Dagade** and S. S. Barge, "Near-infrared spectral studies of hydration of triethylammonium acetate ionic liquid in aqueous solutions" **48th Annual Convention of Chemists and Celebration of the International Year of Chemistry - 2011**, 03rd to 07th December, Indian Chemical Society, Allahabad (U.P.)
 14. **D. H. Dagade** and K. R. Madkar, "Thermodynamic studies of ionic interaction in aqueous solutions of triethylammonium acetate (TEAA)" **48th Annual Convention of Chemists and Celebration of the International Year of Chemistry - 2011**, 03rd to 07th December, Indian Chemical Society, Allahabad (U.P.)
 15. **Dilip Dagade** and Seema Barge "Near-infrared spectral studies of hydration of imidazolium based ionic liquids in aqueous solutions" **CRSI Zonal Meet (Jointly Organized by Chemical Research Society of India and National Chemical Laboratory)**, 13 and 14 May 2011, NCL, Pune.
 16. **Dilip Dagade** and Kavita Madkar "Thermodynamic studies of ionic Interaction in aqueous solutions of amino acid ionic Liquid [Emim][Gly]" **CRSI Zonal Meet (Jointly Organized by Chemical Research Society of India and National Chemical Laboratory)**, 13 and 14 May 2011, NCL, Pune.
 17. **Dilip Dagade** and Sandeep Shinde "Studies of volumetric and compressibility properties of amino acid ionic liquids in aqueous solutions" **CRSI Zonal Meet**

(Jointly Organized by Chemical Research Society of India and National Chemical Laboratory), 13 and 14 May 2011, NCL, Pune.

18. **Dagade, D.H.**, Shinde, S.P., Madkar, K.R., Barge, S.S. "Thermodynamic studies of ionic interactions in aqueous solutions of 1-butyl-3-methylimidazolium alanine ionic liquid" in **7th National Conference on Thermodynamics of Chemical, Biological and Environmental Process** TCBEF-2012 organized by **The Indian Thermodynamic Society, December 10-12, 2012**, Shri Venkateswara University, Tirupati, A.P.
19. **Dagade, D.H.**, Madkar, K.R., Barge, S.S. "Effect of alkyl chain length on thermodynamic properties of amino acid ionic liquids in aqueous solutions at 298.15 K" in **7th National Conference on Thermodynamics of Chemical, Biological and Environmental Process** TCBEF-2012 organized by **The Indian Thermodynamic Society, December 10-12, 2012**, Shri Venkateswara University, Tirupati, A.P.
20. Sandeep P. Shinde and Dilip H. Dagade "Thermodynamic studies of ionic interactions of AAILs in aqueous solutions at 298.15 K" **50th Annual Convention of Chemists, Dec 04-07, 2013** from **Indian Chemical Society** held at Panjab University, Chandigarh – 160 014.
21. Sandeep P. Shinde and Dilip H. Dagade "Molar volumes of transfer of AAILs from water to aqueous solutions containing ~ 0.2 mol.kg⁻¹ of PEG 400, 600 and 1000 at 298.15 K" **National Seminar on "Recent Trends in Organometallic Chemistry" 20th and 21st Dec. 2013** organized by **Department of Chemistry, Rajashri Chhatrapati Shahu College, Kolhapur.**

8. Research Projects

- a. **Title:** "Studies of Molecular interactions of Peptides and Proteins in Aqueous Bio-ionic Liquids"
Funding Agency: Science and Engineering Research Board (SERB), New Delhi
Amount Sanctioned: ₹ 27,20,000/-
Period: July 2012 to July 2015 (3 yrs)
- b. **Title:** "Thermodynamic and molecular dynamic simulation study of interactions of biomolecules with bio-ionic liquids in aqueous solutions"
Funding Agency: University Grant Commission (UGC), New Delhi
Amount Sanctioned: ₹ 14,40,800/-
Period: July 2012 to July 2015 (3 yrs)

9. Membership and Other Charge

- Member, American Chemical Society, USA
- Life member of Indian Thermodynamic Society
- Worked as a Chairman: M.Sc. Physical Chemistry Examinations (Theory and Practical)
- BOS Sub-Committee member for M.Sc. Physical Chemistry Syllabus Revisions
- Member of Admission Committee
- Worked as Course Coordinator for M.Phil./Ph.D. bridge course
- Worked as Additional Rector, Boys Hostel
- Worked as Chairman for Science Exhibition Competition in the event of celebration of “International Year of Chemistry” and “National Science Day”

10. Honors / Rewards

- **Prof. Santi R. Palit Young Scientists Award, 2003 (Indian Chemical Society)**
- **Best Poster Presentation Prize** for the paper entitled “Near-infrared spectral studies of hydration of imidazolium based ionic liquids in aqueous solutions” **1st CRSI Zonal Meeting**, National Chemical Laboratory, Pune 13 - 14 May 2011 **organized by Chemical Research Society of India.**
- **Best Paper Presentation Award** for the paper entitled “Thermodynamic studies of ionic interactions in aqueous solutions of 1-butyl-3-methylimidazolium alanine ionic liquid” in **7th National Conference on Thermodynamics of Chemical, Biological and Environmental Process** **TCBEP-2012** organized by **The Indian Thermodynamic Society** at Shri Venkateswara University, Tirupati, A.P. during December 10-12, 2012
- Reviewer for many international journals.