


CURRICULUM VITAE

❖ Personal Data

Name	: Dr. Deepak Ekka	 <i>Deepak Ekka</i>
Designation	: <i>Assistant Professor</i>	
Department	: <i>Department of Chemistry</i>	
Affiliation	: <i>Cooch Behar Panchanan Barma University</i>	
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❖ Address to Communication

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West Bengal, INDIA

❖ Field of the Research

- ✓ Synthesis, Characterization of Ionic Liquids
- ✓ Study of Thermodynamic, Physicochemical, Thermophysical properties and Prominent Applications of Synthesized Ionic Liquids and Amino acids
- ✓ Application of synthesized Ionic liquids in inclusion complexes for industries and medicinal composition, and new type of dye sensitizer

❖ Research Interests

- Thermophysical studies on ionic liquids, amino acids and biologically active molecules
- Mixed solution systems with special reference to catanionic based ionic liquids
- Surfactant-ionic liquid composites
- Characterization solution systems, whether it can form micelles, vesicles, gels etc. or not.
- Synthesis and characterization of new moisture-stable lewis-acidic ionic liquids, amino acids based ionic liquids, (where amino acids act as a cationic or anionic part of the synthesized ionic liquid), and hetero-atomic (phosphorous, sulphur, arsenic based) ionic liquids.
- Host-guest inclusion complex of ionic liquids, amino acids and macro molecules insight into the oligosaccharide and cyclodextrins.

❖ Research Experience

April 2017 to : Working as Co-guide with Prof. M.N. Roy at *Department of Chemistry, University of North Bengal, Collaboration with Durban University of Technology, Durban-4000, South Africa*

Sep 2016 to May 2017	: PDF at <i>Department of Chemistry, University of North Bengal,</i> Collaboration with <i>Durban University of Technology, Durban-4000,</i> <i>South Africa</i>
Mar 9, 2016 to Aug 2016	: PostDoc at <i>Department of Chemistry, Durban University of Technology,</i> <i>Durban-4000, South Africa.</i>
Feb, 2016	: PhD Awarded from <i>University of North Bengal</i>
Feb–Mar 8, 2016	: Senior Research Scholar at <i>Lab No.-105, Department of Chemistry,</i> <i>University of North Bengal, Darjeeling, West Bengal, India.</i>
July 2010 to Nov 2015	: PhD as a Junior Research Fellowship with Professor M. N. Roy, in the field of “IONIC LIQUIDS AND AMINO ACIDS, SOLUTION THERMODYNAMICS,” in Department of Chemistry, University of North Bengal, INDIA

❖ Academic Profile

- **Assistant Professor in Chemistry (31st Oct, 2017 to till date)**
Department of Chemistry, Cooch Behar Panchanan Barma University,
Vivekananda Street, Cooch Behar, Pin-736101, WB, India
- **Assistant Professor in Chemistry (31st May, 2017 to 30th Oct 2017)**
Department of Chemistry, Siliguri College, Siliguri, Pin-734001, WB, India.
- **PhD.; Awarded in the field of Ionic liquids and Amino Acids**
Department of Chemistry, University of North Bengal, Darjeeling, WB, India.
Thesis Title: *Thermophysical studies on ionic liquids and amino acids in some liquid systems.*
Supervisor: Dr. Mahendra Nath Roy, Professor of Physical Chemistry,
Department of Chemistry, University of North Bengal, India.
- **Assistant Teacher in Chemistry (22nd September 2008 to 30th May 2017)**
Sri Nara Singha Vidyapith, NBU Campus, Siliguri, India
- **M. Sc. in Chemistry in 2010**
Department of Chemistry, University of North Bengal, Darjeeling, West Bengal,
India.
Special in Physical Chemistry
- **B. Sc. in Chemistry (Honours) in 2007**
Siliguri College, University of North Bengal, Darjeeling, West Bengal, India.
Combination With: Mathematics and Physics

List of Publications

1. **Deepak Ekka**, Mahendra Nath Roy, Conductance, a Contrivance To Explore Ion Association and Solvation Behavior of an Ionic Liquid Tetrabutylphosphonium Tetrafluoroborate in Acetonitrile, Tetrahydrofuran, 1,3-Dioxolane, and Their Binaries, *The Journal of Physical Chemistry B*, **2012**, 116, 11687–11694. **(ACS Publication), IF: 3.607, ISSN NO. 1520-6106(print), 1520-5207(web),**
2. **Deepak Ekka**, Mahendra Nath Roy, Molecular interactions of α -amino acids insight into aqueous β -cyclodextrin systems, *Amino Acids* **2013**, 45, 755–777. **(Springer Publication), IF: 3.653, ISSN NO. 0939-4451(print), 1438-2199(web)**

3. ***Deepak Ekka***, Mahendra Nath Roy, Quantitative and qualitative analysis of ionic solvation of individual ions of imidazolium based ionic liquids in significant solution systems by conductance and FT-IR spectroscopy, *RSC Advances*, **2014**, *4*, 19831-19845. **(RSC Publication), IF: 3.84, ISSN NO. 2046-2069(print)**
4. ***Deepak Ekka***, Subhadeep Saha, Milan Chandra Roy, Mahendra Nath Roy, Host-guest inclusion complexes of α and β -cyclodextrins with α -amino acids, *RSC Advances*, **2014**, *4*, 42383-42390. **(RSC Publication), IF: 3.84, ISSN NO. 2046-2069(print)**
5. ***Deepak Ekka***, Mahendra Nath Roy, Studies on ionic solvation behavior of ionic liquid (tetrabutylphosphonium tetrafluoroborate) in some liquid media by volumetric, viscometric, and acoustic measurements, *Ionics*, **2014**, *20*, 495-505. **(Springer Publication), IF: 1.754, ISSN NO. 2046-2069(print)**
6. Mahendra Nath Roy, Subhadeep Saha, Siti Barman, ***Deepak Ekka***, Host-guest inclusion complexes of RNA nucleoside insight into the aqueous cyclodextrins explored by physicochemical and spectroscopic contrivances, *RSC Advances*, **2016**, *6*, 8881-8891. **(RSC Publication), IF: 3.289, ISSN NO. 2046-2069(print)**
7. Mahendra Nath Roy, ***Deepak Ekka***, Rajani Dewan, Ionic solvation of tetrabutylammonium hexafluorophosphate in pure nitromethane, 1,3-dioxolane and nitrobenzene: A comparative physicochemical Study, *Fluid Phase Equilibria*, **2012**, *314*, 113-120. **(Elsevier), IF: 2.379, ISSN NO. 2046-2069(print)**
8. Mahendra Nath Roy, Riju Chanda, Rajesh Kumar Das, ***Deepak Ekka***, Densities and Viscosities of Citric Acid in Aqueous Cetrimonium Bromide Solutions with Reference to the Manifestation of Solvation, *Journal of Chemical & Engineering Data*, **2011**, *56*, 3285-3290. **(ACS Publication), IF: 1.89, ISSN NO. 2046-2069(print)**
9. Mahendra Nath Roy, ***Deepak Ekka***, Rajani Dewan, Physico-Chemical Studies of Some Bio-active Solutes in Pure Methanoic Acid, *Acta Chimica Slovenica*, **2011**, *58*, 792-796. **(Slovenian Publication) IF: 1.328, ISSN NO. 2046-2069(print)**
10. Mahendra Nath Roy, ***Deepak Ekka***, Ishani Banik, Physics and chemistry of lithium halides in 1,3-dioxolane and its binary mixtures with acetonitrile probed by conductometric, volumetric, viscometric, refractometric and acoustic study, *Thermochimica Acta*, **2012**, *547*, 89-98. **(Elsevier Publication), IF: 1.989, ISSN NO. 2046-2069(print)**
11. Mahendra Nath Roy, Ishani Banik, ***Deepak Ekka***, Physics and chemistry of an ionic liquid in some industrially important solvent media probed by physicochemical techniques, *The Journal of Chemical Thermodynamics*, **2013**, *57*, 230-237. **(Elsevier Publication), IF: 2.47, ISSN NO. 2046-2069(print)**
12. Mahendra Nath Roy, Rajani Dewan, ***Deepak Ekka***, Ishani Banik, Probing molecular interactions of ionic liquid in industrially important solvents by means of conductometric and spectroscopic approach, *Thermochimica Acta* **2013**, *559*, 46-51. **(Elsevier Publication), IF: 2.105, ISSN NO. 2046-2069(print)**
13. Mahendra Nath Roy*, Palash Chakraborti, ***Deepak Ekka***, Exploration of Interactions between Bioactive solutes and Vitamine B9 in Aqueous Medium by Physicochemical Contrivances, *Molecular Physics*, **2014**, *112*, 2215-2226. **(Taylor & Francis Publication), IF: 1.72, ISSN NO. 2046-2069(print)**

14. Tanusree Ray, ***Deepak Ekka***, Milan Chandra Roy, Mahendra Nath Roy, Exploration of Host Guest Inclusion Complex of β -Cyclodextrin with an Ionic Liquid ([C₄mpy]Cl) in Aqueous Media by Physicochemical Approach, *Chemical Science Review and Letters*, **2015**, 4(14), 619-629. (**Aufau Periodicals Publication**), SJIF: 4.856, ISSN NO. 2046-2069(print)
15. ***Deepak Ekka***, Subhankar Choudhury, Mahendra Nath Roy, Extensive Study on Molecular Interactions of Three Essential Amino Acids Insight into H₂O+[bmpyrr]PF₆ Media, *Chemical Science Review and Letters*, **2015**, 4(16), 1034-1041. (**Aufau Periodicals Publication**), SJIF: 4.856, ISSN NO. 2046-2069(print)
16. ***Deepak Ekka***, Tanusree Ray, Kanak Roy, Mahendra Nath Roy, Exploration of Solvation Consequence of Ionic Liquid [Bu₄PCH₃SO₃] in Various Solvent Systems by Conductance and FTIR Study, *Journal of Chemical and Engineering Data*, **2016**, 61 (7), 2187-219. (**ACS Publication**), IF: 1.99, ISSN NO. 2046-2069(print)
17. Siti Barman, ***Deepak Ekka***, Subhadeep Saha, Mahendra Nath Roy, NMR, surface tension and conductance study to investigate host-guest inclusion complexes of three sequential ionic liquids with β -cyclodextrin in aqueous media, *Chemical Physics Letters*, **2016**, 658, 43-50. (**Elsevier Publication**), IF: 1.860, ISSN NO. 0009-2614(print)
18. Biraj Kumar Barman, ***Deepak Ekka***, Rajani Dewan, Mahendra Nath Roy, Investigation of diverse interactions of lithium hexafluoroarsenate prevailing in pure and mixed industrial solvents systems by physicochemical methodology, *Indian Journal of Advances in Chemical Science*, **2017**, 5(4) 285-294. (**Kros Publication**)
19. Raja Ghosh, ***Deepak Ekka***, Biplab Rajbanshi, Ananya Yasmin, Mahendra Nath Roy, Synthesis, characterization of 1-butyl-4-methylpyridinium laurylsulfate and its inclusion complex with β -cyclodextrin for enhanced applications. *Colloids and Surface Engineering Chemistry: A*, **2017**, (In Press, Published). (**Elsevier Publication**)
20. Mahendra Nath Roy, Subhankar Choudhury, ***Deepak Ekka***, Raja Ghosh, Gout Pain Caused by Uric Acid Molecule and Its Solution Caused by Citric Acid Molecule: A Physicochemical Investigation, *Indian Journal of Advances in Chemical Science*, **2017**, (Accepted for Publication). (**Kros Publication**)
21. ***Deepak Ekka***, Mahendra Nath Roy, Exploration of Triple-ion Structure of Tetrabutylphosphonium methanesulfonate in Methylamine Solution by Conductance Study and Evident from FTIR Spectroscopy, *Chemical Engineering Communications*, (Communicated). (**Taylor & Francis Publication**)
22. ***Deepak Ekka***, Palash Chakraborti, Milan Chandra Roy, Rajani Dewan and Mahendra Nath Roy, Physicochemical Assessment of Molecular Interactions of Some Amino Acids in Aqueous Vitamin-B3 Solutions, *Journal of Solution Chemistry* (Communicated) (**Springer Publication**)
23. Ncomeka Mgxadeni, ***Deepak Ekka***, Nirmala Deenadayalu, Thermodynamic properties of binaries of 1-butyl-3-methylimidazolium nitrate with pyridine, acetonitrile and thiophene at $T = (298.15 - 318.15)K$ and $p = 1$ bar, *Journal of Chemical Sciences*, (Communicated). (**Elsevier Publication**)

24. **Deepak Ekka**, Study of thermophysical properties of 1-Ethyl-3-methylimidazolium chloride-aluminum chloride in primary alcohols, *Journal of Chemical and Engineering Data*, (Communicated). (ACS Publication)

❖ **Activities/Seminar attended**

Sl No.	Seminar/Symposium/ Convention Attended	Date	Organizer and Venue
1.	Science Academics' Workshop on Recent Developments on the Theoretical and Experimental Aspects of Advanced Materials "Host-guest inclusion complexes by physicochemical contrivances"	September 18-19, 2015	Organized by Department of Chemistry, University of North Bengal, Darjeeling-734013, West Bengal, INDIA
2.	International Seminar on Proceedings of The 5 th Asian Conference on Colloid and Interface Science Title: "Probing sustenance of molecular interfaces of some green solvents insight into industrially significant liquid arrangements"	November 20-23, 2013	Hosted by Asian Society for Colloid and Interface Science (ASCASS) and held and organized by Department of Chemistry, University of North Bengal, Darjeeling, West Bengal, India.
3.	National Seminar on Frontiers in Chemistry-2013 "Physicochemical investigation of some ionic liquids insight into different solvents by conductivity, refractivity FTIR spectroscopy"	February 28 th , 2013	Held at Department of Chemistry, University of North Bengal, Sponsored by University Grants Commission, New Delhi, and organized by Department of Chemistry, University of North Bengal, West Bengal, India.
4.	The Workshop on Intellectual Property and Innovation Management in Knowledge Era Ion Association and Solvation Behavior of an Ionic Liquid (Tetrabutylphosphonium Tetrafluoroborate) in Some Solvent Systems	12 th February, 2013	Held at University of North Bengal, Organized by National Research Development Corporation (NRDC), New Delhi, and University of North Bengal (NBU), Siliguri, West Bengal, India.
5.	15 th CRSI National Symposium in Chemistry Molecular Interactions of Ionic Liquid in Industrially Important Solvents Probed by Conductometric and Spectroscopic Contrivances	February 1-3, 2013	Organized by Department of Chemistry, Faculty of Science, Banaras Hindu University, Varanasi, Orissa, India.
6.	The Science Academies' Lecture Workshop on Modern Trends in Chemistry and Chemistry Education Solution Chemistry: A Ground of Study Applied to New-Fangled Battery Industry	November 22-23, 2012	Organized by the Department of Chemistry, University of North Bengal, Darjeeling-734-013, West Bengal, India.
7.	Science Academies' Lecture Workshop on Resent Trend in Chemistry Study of Solute-Solvent Interaction of Some Bio-active Solutes Prevailing in Aqueous Ascorbic Acid Solution	November 11-12, 2011	Organized by Department of Chemistry, University of North Bengal, Darjeeling, India.
8.	Chemical Research Society of India, Eastern Zonal meeting, 2011 And Celebration of the International Year of Chemistry 2011	July 22-24, 2011	Organized by University Grants Commission, New Delhi, and University of North Bengal at the

	INVESTIGATION ON ION-SOLVENT INTERACTIONS BY CONDUCTOMETRIC MEASUREMENT		Department of Chemistry, University of North Bengal, Darjeeling, WestBengal, India.
9.	13 th CRSI, National Symposium in Chemistry Investigation of some Lithium Salts in Industrially Important Solvent Systems	February 4-6, 2011,	Organized by National Institute of Science Education and Research (NISER) and KIIT University, Bhubaneswar, India..
10.	Trends In Surface Science and Related Areas (TSSRA) V	December 06, 2008	Hosted by the Department of Chemistry, University of North Bengal and organized by the Department of Chemistry, University of North Bengal in collaboration with Indian Society for Surface Science and Technology, Jadavpur University, Kolkata 700 032, India.
11.	One day Seminar on Recent Trends on Chemistry and Biology Interface Exploration of Ion Association and Solvation Behavior of Ionic Liquid [Bu₄P][BF₄] in Industrially Significant Solvents	August 28, 2015	Organized by Chemical Research Society of India, NBU-Local Chapter, Department of Chemistry, University of North Bengal, Darjeeling, INDIA

❖ Oral Presentation

Title of the Paper presented	Title of Conference / Seminar	Organized by
Gout pain in human body and its solution- A, Physicochemical study, OP(T)-6, page 21-22	National conference on recent trends in chemistry (RTC-2017), February 17-18, 2017	Jointly organized by Department of Chemistry, Sikkim Manipal Institute of Technology and Association of Chemistry Teachers, Wilson College, Mulbai

❖ Technical Skill

- **Practical experience** in Tensiometry (Ring detachment method), Conductometry, Viscometry (cone and plate rotoviscometer), Density meter, Refractometer, Ultrasonic Interferometer, Light Scattering (DLS), Differential Scanning Calorimetry (DSC), Fluorimetry, UV-Visible and FTIR Spectroscopy.
- **Computer skills.** Attended workshop on **Computing and Informatics**, conducted by University Science Instrumentation Centre, University of North Bengal.
- **Software used for research:** Microcal Origin, Chem Office, MsOffice, Adobe etc. and other web resources like SciFinder, Scholar Google etc.

❖ Language Known

The language having ability to fluently speaking, writing skill is English, Hindi (Indian National Language), Bengali (State language), Nepali (Local language), Rajbanshi (Local language)