

CURRICULUM VITAE

NAME:

Dr. VARADHI GOVINDA
Assistant Professor, Department of
Chemistry, Gayatri Vidya Parishad
College for Degree and PG Courses (A)
Rushikonda, Visakhapatnam.



To pursue academic/research faculty position in your esteemed institute/research group to expand my knowledge and improve skills in the field of chemistry that provides opportunities for advanced research and academic position.

ACADEMIC QUALIFICATIONS:

B.Sc. Study (2003 - 2006): Bachelor of Science, Andhra University,
Visakhapatnam, Andhra Pradesh, India.

M.Sc. Study (2007 - 2009): M. Sc Chemistry (Physical Chemistry), Sri Venkateswara
University, Tirupati, Andhra Pradesh, India.

Ph. D (2010 – 2014) Title: “Estimation of Thermophysical Properties of Mixtures
Containing Ionic Liquids with Organic Solvents” Sri
Venkateswara University, Tirupati, Andhra Pradesh, India.

QUALIFIED: Andhra Pradesh State Eligibility Test-2017 (APSET-2017)

EXPERIENCE:

RESEARCH:

May-2016 to April-2017 : Post-Doctoral Fellow, North-West University, Mafikeng
Campus, South Africa.

April-2014 to May-2016 : Post-Doctoral Fellow, Department of Chemistry, Central
University of Delhi, New Delhi, India.

June-2010 to April-2014 : As Doctoral Student and Meritorious Research Fellow, University Grants Commission Basic Scientific Research, Govt. of. India.

TEACHING:

February-2021 to till : Working as Assistant Professor, GVP College of Degree & PG Courses (A), Visakhapatnam, Andhra Pradesh, India.

September-2017 to June-2020: Worked as Assistant Professor, GIS, Gitam University, Visakhapatnam, Andhra Pradesh, India.

July-2010 to April-2012 : M. Sc Chemistry, Department of Chemistry, Sri Venkateswara University, Tirupati, India.

June-2009 to May-2010 : B. Sc Chemistry, Department of Chemistry, Sri Gayatri Degree College, Tirupati, India.

LIST OF PUBLICATIONS

1. R. Kishore, M. V. Premsagar, T. Prakash Raj, J. Kashanna, **V. Govinda**, G. Ravi, Design, Synthesis and cytotoxicity of new Coumarin-1,2,3-triazole derivatives: Evaluation of Anticancer Activity and Molecular Docking Studies, **Chemistry & Biodiversity**, Accepted, 2023, (ISSN: 1612-1880) (Impact Factor: 2.745)
2. Ch. Prasad, N. Madkhali, **V. Govinda**, H. Y. Choi, I. Bahadur, S. Sangaraju, Recent progress on the development of g-C₃N₄ based composite material and their photocatalytic application of CO₂ reductions, **Journal of Environmental Chemical Engineering**, 2023, 11 (3), 1-68. (ISSN: 2213-3437) (Impact Factor: 7.968)
3. A. Karteek Rao, **V. Govinda**, O. Baswanth, P. Uma Devi, Molecular Dynamics approach of piperine derivatives as potential targets for SARS-CoV-2 Main protease and spike protein, **Journal of Biomolecular Structure and Dynamics**, 2023, 1-11. (ISSN: 1538-0254) (Impact Factor: 5.235)
4. S. Karlapudi, **V. Govinda**, N. Koralkar, K. Siva Kumar, I. Bahadur, Intra and Intermolecular Interactions between 1-Alkanol and Benzonitrile: Computational and Thermodynamic study, **Journal of Chemical & Engineering Data**, 2023, xxxx, xxx, xxx-xxx. (ISSN: 0021-9568) (Impact Factor: 3.119)

5. Ch. Prasad, N. Madkhali, S. G. Jeong, K. Malkappa, H. Y. Choi, **V. Govinda**, Recent advances in the hybridization of cellulose and semiconductors: Design, fabrication and emerging multidimensional applications: A review, **International Journal of Biological Macromolecules**, 2023, 223, 123551-123553. (ISSN: 0021-9568) (Impact Factor: 8.025)
6. K. M. Krishna, M. Rajesh, B. Ramesh, P. Suresh, J. Kashanna, **V. Govinda** and R. Kishore* An Analytical Method for Determination of Total Iron in Pharmaceuticalgrade Intravenous Iron Colloidal Complexes by Redox-Potentiometry, *Pharmaceutical Nanotechnology*, (ISSN: 2211-7385) DOI: [10.2174/2211738511666230507190224](https://doi.org/10.2174/2211738511666230507190224)
7. N. Madkhali, Ch. Prasad, K. Malkappa, H. Y. Choi, **V. Govinda**, I. Bahadur, R. A. Abumousa, Recent update on photocatalytic degradation of pollutants in waste water using TiO₂-based heterostructured materials, **Results in Engineering**, 2023, 17, 100920-100935. (ISSN: 2590-1230) (Impact Factor:4.08)
8. S. Karlapudi, Z. Liu, Q. Bi, **V. Govinda**, I. Bahadur, O. Baswanth, Ch. Prasad, Molecular interaction liquid mixtures containing o-cresol and 1-alkanols: Thermodynamics, FT-IR and Computational studies, *Journal of Molecular Liquids* 2020, 305, 112798-112814. (ISSN: 0167-7322) (Impact Factor: 6.165)
9. T. Chandraiah, S. Karlapudi, **V. Govinda**, N. Y. Sreedhar, I. Bahadur; Effect of alkyl group of 1-alkanol on molecular interactions of ethanoic acid mixtures: FT-IR spectroscopic and volumetric studies, *Journal of Molecular Liquids* 2018, 255, 354-363. (ISSN: 0167-7322) (Impact Factor: 6.165)
10. Ch. Prasad, K. Sreenivasulu, **V. Govinda**, S. Himageerish kumar, K. Deepa, T. Vasantha, N. V. V. Jyothi, P. Venkateswarlu; Biosynthesis of the Fe₃O₄ Nanoparticles Using Acacia Nilotica Leaf Extract and their Effect on Degradation of Congo Red Dye in Aqueous Solution, **Trends in Textile Engineering & Fashion Technol**, 2018, 1, 1-4. (ISSN: 2578-0271) (Impact Factor: 0.665)
11. M. Swetha Sandhya, **V. Govinda**, I. Bahadur, P. Venkateswarlu; Nature of the molecular interaction between 1-ethyl-3-methylimidazolium methylsulfate ionic liquid with higher chain alcohol through binary mixtures containing thermophysical properties, *Journal of Molecular Liquids* 2017, 240, 613-621. (ISSN: 0167-7322) (Impact Factor: 6.165)
12. Pannuru Kiran Kumar, **Varadhi Govinda**, Karlapudi Sreenuvasulua, Pannuru

- Venkatesu, Indra Bahadur, Eno E. Ebenso; A study of the molecular interactions between ammonium-based ionic liquids and *N,N*-dimethylacetamide, *Journal of Molecular Liquids* 2016, 223, 687-698. (ISSN: 0167-7322) (Impact Factor: 6.165)
13. **Varadhi Govinda**, Pannuru Venkatesu, Indra Bahadur; Molecular interactions between ammonium-based ionic liquids and molecular solvents: current progress and challenges, *Physical Chemistry Chemical Physics*, 2016, 18, 8278-8326. (ISSN: 1463-9076) (Impact Factor: 4.123)
14. **Varadhi Govinda**, T. Vasantha, Imran Khan, Pannuru Venkatesu; Effect of the alkyl chain length of the cation on the interactions between water and ammonium-based ionic liquids: Experimental and COSMO-RS studies, *Industrial & Engineering Chemistry Research* 2015, 54, 9013-9026. (ISSN: 0888-5885) (Impact Factor: 2.843)
15. M. Janardhanaiah, S. Gangadhar, **V. Govinda**, K. Sreenivasulu, P. Venkateswarlu; Effect of alkanol chain length on excess thermodynamic properties of *p*-cresol with 1-alkanol (C₃–C₈) at 298.15, 303.15, 308.15 and 313.15 K, *Journal of Molecular Liquids* 2015, 211, 169-177. (ISSN: 0167-7322) (Impact Factor: 6.165)
16. **Varadhi Govinda**, P. Venkatesu; A comprehensive experimental study to understand the Hofmeister series of anions of aqueous imidazolium-based ILs on glycine peptides, *Industrial & Engineering Chemistry Research* 2014, 53, 19628-19642. (ISSN: 0888-5885) (Impact Factor: 2.843)
17. K. Sreenivasulu, **V. Govinda**, P. Venkateswarlu, K. Sivakumar; Thermodynamic properties of non-electrolyte solutions, *Journal of Thermal Analysis and calorimetry* 2014, 115, 1805-1811. (ISSN: 1388-6150) (Impact Factor: 2.042)
18. **Varadhi Govinda**, Pankaj Attri, P. Venkatesu, P. Venkateswarlu; Study on thermodynamic properties of aprotic ionic liquids with DMSO; comparative thermophysical properties of two aprotic families of ionic liquids with DMSO, *Journal of Physical Chemistry B* 2013, 117, 12535-12548. (ISSN: 1520-6106) (Impact Factor: 3.177)
19. **Varadhi Govinda**, P. Madhusudhana Reddy, Pankaj Attri, P. Venkatesu, P. Venkateswarlu; Influence of anion on thermophysical properties of ionic liquids with polar solvent, *Journal of Chemical Thermodynamics* 2013, 58, 269-278. (ISSN: 0021-9614) (Impact Factor: 2.726)
20. **Varadhi Govinda**, P. Madhusudhana Reddy, Indra Bahadur, Pankaj Attri, P. Venkatesu, P. Venkateswarlu; Effect of anion variation on the thermophysical

- properties of triethylammonium based protic ionic liquids with polar solvent, *Thermochimica Acta* 2013, 556, 75-88. (ISSN: 0040-6031) (Impact Factor: 2.236)
21. L. Venkatramana, K. Sivakumar, **V. Govinda**, K. Dayananda Reddy; Study on solution properties of some industrially important solvents with an aromatic alcohol, *Journal of Molecular Liquids* 2013, 186, 163-170. (ISSN: 0167-7322) (Impact Factor: 6.165)
 22. A. Chowdappa, C. Narasimha Rao, S. Ramanaiah, R. Umapathi, **V. Govinda**, K. Siva Kumar and P. Venkateswarlu, Molecular interactions in non-electrolyte binary liquid mixtures of cyclohexanol with 2-nitrotoluene and 3-nitrotoluene at four different temperatures, *Journal of Chemical and Pharmaceutical Research* 2013, 5, 15-18. (ISSN: 0975-7384) Impact Factor: 0.75)
 23. **Varadhi Govinda**, Pankaj Attri, P. Venkatesu, P. Venkateswarlu; Temperature effect on the molecular interactions between two ammonium ionic liquids and dimethylsulfoxide, *Journal of Molecular Liquids* 2011, 164, 218-225. (ISSN: 0167-7322) (Impact Factor: 6.165)
 24. **Varadhi Govinda**, Pankaj Attri, P. Venkatesu, P. Venkateswarlu; Thermophysical properties of dimethylsulfoxide with ionic liquids at various temperatures, *Fluid Phase Equilibria* 2011, 304, 35-43. (ISSN: 0378-3812) Impact Factor: 2.473)
 25. R. Kishore Kumar, S. Venkateswarlu, K. Vijaya Kumar Reddy, P. Tulasamma, **V. Govinda**, N. V. V. Jyothi, P. Venkateswarlu, Arsenic (III) determination by spectrophotometry coupled with pre-concentration technique in water samples, *Journal of Chemical and Pharmaceutical Research* 2011, 3, 626-634. (ISSN: 0975-7384) Impact Factor: 0.75)
 26. P. Tulasamma, **V. Govinda**, P. Venkateswarlu; Spectrophotometric determination of ornidazole in pure and pharmaceutical formulations, *International journal of Pharmaceutical science and Research* 2011, 2, 44-48. (ISSN: 0975-8232) (Impact Factor: 0.59)

AWARDS

1. **Best Research Paper Presentation Award Received from Dr. B.R. Ambedkar National Institute of Technology, International Conference on Chemical**

Constellation Charminar (C³-2012), Department of Chemistry, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, India, 10-12th September, 2012.

2. **Best Research Paper Presentation Award Received from Sri Venkateswara University, 7th National Conference on Thermodynamics of Chemical, Biological and Environmental Processes (TCBEP-2012)**, Department of Chemistry, Sri Venkateswara University, Tirupati, India, 10-12th December, 2012.

CONFERENCES & SEMINARS ATTENDED:

1. Faculty development program on **Research Methodology**, Department of Chemistry, Kamla Nehru Vidyalaya, Nagpur, Andhra Pradesh, held from 24th to 29th June 2023.
2. One Day International Webinar on **Recent Trends in Chemical Sciences (RTCS-2022)**, Department of Chemistry, Dr. V.S. Krishna Govt. Degree and PG College (A), Visakhapatnam, on 18th November, 2022.
3. **Green Chemistry Applications in Process Development**, Department of Chemistry, K.L. University, Vijayawada, Andhra Pradesh, held on 11th November, 2022.
4. High-End Workshop on **“A Wide Gamut of Spectroscopic Techniques in Chemistry” under the ABHYAAS Scheme A SERB Initiative KARYASHALA** organized by Department of Sciences and Humanities, by VFSTR Deemed to be University during 20th- 26th July 2022.
5. National one-week **Faculty Development Programme on ICT Tools for Effective Teaching Learning**, Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur, 23rd to 28th May, 2022.
6. **Virtual International One-Week Faculty Development Programme on Research Methodology**, Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur, 2nd May, 2022-7th May, 2022.
7. **National Level Virtual Seminar on Emerging Trends and Research Methodologies in Material Science for the Sustainable Future**, Department of Basic Sciences and Humanities on 27th February, 2022.
8. **International E-Conference on Sustainable and Futuristic Materials (SFM-2021)** Department of Chemistry, Department of Chemistry, Kamla Nehru

Mahavidyalaya, Nagpur, 29th -30th November, 2021.

9. **National Webinar on “Recent Advances in Drug Development for Mankind” (RADDM-2021)**, Department of Chemistry, GITAM Institute of Science, GITAM (Deemed to be University), Visakhapatnam on 11th August, 2021.
10. **XRD for Research and Orthogonal Data Analysis Workshop 2021**, Malvern Panalytical & IIT Jammu, India, 6-7th July, 2021.
11. **National Webinar on Environment and Sustainable Development (An Understanding of Sustainable development Goals and its relevance for India)**, Department of Chemistry, Acharya Nagarjuna University and Environmental Club of Lakireddy Bali Reddy College of Engineering, on 24th June, 2021.
12. **International E-Conference on Advances in Chemical Research 2021 (ACR-2021)** Department of Chemistry, Gitam to be deemed university, Visakhapatnam, India, 19-20th April, 2021.
13. **National Conference on Current Trends in Chemical and Pharmaceutical Sciences (CTCPS-2017)**, Department of Chemistry, Sri Venkateswara University, Tirupati, India, 1st December, 2017.
14. **17th CRSI National Symposium in Chemistry**, Department of Chemistry, CSRI-National Chemical Laboratory, Pune, India, 6th-8th February, India.
15. **10th National Conference on Thermodynamics of Pharmaceutical, Chemical and Biological Systems**, Department of Chemistry, Panjab University, Chandigarh, India, 20th-21st November, 2015.
16. **10th Mid-Year Chemical Research Society of India (CSRI) Symposium in Chemistry**, Department of Chemistry, National Institute of Technology, Tiruchirappalli India, 23rd-25th July, 2015.
17. **52nd Annual Convention of Chemists-2015**, Department of Chemistry, JECRC University, Jaipur, Rajasthan, India, 28th-30th December, 2015.
18. **51st Annual Convention of Chemists-2014**, Department of Chemistry, Kurukshetra University, Kurukshetra, Harayana, India, 9th-12th December, 2014.
19. **9th National Conference on Thermodynamics of Chemical, Biological and Environmental and Non-Conventional Energy Systems (TCBNES-2014)**, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar, Gujarat, 17-18th October, 2014.

20. **National Conference on Recent Advances in Chemical Processes (NCRACP-2013)**, Department of Chemistry, Sri Venkateswara University, Tirupati, India, 29th December, 2013.
21. **National Seminar on Current Research Trends and Developments in Chemical Sciences (CRTDCS-2013)**, Department of Chemistry, P. V. K. N. Govt. College, Chittoor, India, 9-10th March, 2013.
22. **1st International Conference on Recent Advances in Chemical Sciences (ICRACS-2013)**, Department of Chemistry, Arya Post Graduate College, Panipat, India, 24-26th February, 2013.
23. **7th National Conference on Thermodynamics of Chemical, Biological and Environmental Processes (TCBEP-2012)**, Department of Chemistry, Sri Venkateswara University, Tirupati, India, 10-12th December, 2012.
24. **An International Conference on Chemical Constellation Cheminar (C³-2012)**, Department of Chemistry, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, India, 10-12th September, 2012.
25. **National Seminar on Energy Resources, Environmental Impacts and Industrial Waste Management (EEIWM-2012)**, Department of Environmental Sciences, Sri Venkateswara University, Tirupati, India, 27-28th February, 2012.
26. **National Seminar on Recent Research Trends in Chemical Sciences (RRTCS-2011)**, Department of Chemistry, Sri Venkateswara University, Tirupati, India, 23rd December, 2011.
27. **National Seminar on Current Trends & Developments in Organic Synthesis (CTDOS-2011)**, Department of Chemistry, Sri Venkateswara Arts College, TTD, Tirupati, India, 9th December, 2011.
28. **National Seminar on The Promise of Green Chemistry**, Department of Chemistry, Andhra Loyola College, Vijayawada, India, 16-17th November, 2011.
29. **6th National Conference on Thermodynamics of Chemical and Biological Systems (NCTCBS-2011)**, Department of Chemistry, M.D. University, Rohtak, India, 2-4th November, 2011.

30. **National Seminar on The Role of Chemistry in Monitoring the Environment (NSCME-2011)**, Department of Chemistry, Sri Venkateswara University, Tirupati, India, 31th October, 2011.
31. **1st International Symposium on Frontiers in Pharmaceutical Research and Nanotechnology (Nanopharma-2011)**, Clinfocus Research Pvt Ltd & Sri Padmavathi School of Pharmacy, Tirupati, India, 5-6th March, 2011.
32. **2nd International Seminar on Medicinal Plants and Herbal Products (ISMPHP-2010)**, Department of Botany, Sri Venkateswara University, Tirupati, India, 27-29th December, 2010.

RESEARCH INTERESTS:

- The study of bonding interactions (hydrogen bonding, ion-dipolar and van der Waals) of cations and anions of ILs and polar molecules/macromolecules in the mixtures through thermo-physical properties of ionic liquids and polar organic solvents.
- Analysis of the salt in and salt out interactions of molecules by the structures of solvents and ions mobility of ILs in the surfactant solution systems.
- Folding/unfolding study of proteins in the presence of biocompatible ionic liquids/osmolytes.
- Molecular Dynamics approach for heterocyclic compound derivatives as potential targets for SARS-CoV-2 Main protease.
- The developments of g-C₃N₄ based composite material and their photocatalytic application for CO₂ reduction and design the photocatalytic degradation of pollutants in waste water using TiO₂-based heterostructured materials.

PROFESSIONAL COMPETENCE:

- Development of new volumetric analysis as tools in step of binary liquid mixtures.
- Interpretation of the structure of hydrogen bond and dipole interactions between the organic solvents.
- Working knowledge of, Densitometer, Viscometer, Ultrasonic Interferometer, FT-IR spectroscope, Circular dichroism (CD), UV-Visible and Florescence spectrometry.

- Well know software techniques: Gaussian for DFT studies and GROMACS 2020.1 for Molecular Dynamics and Stimulations, PyMOL 2.2 for visualization and preparation of movie. Xmgrace and Matplotlib of python were used for plotting data.
- Capable of carrying independent and collaborative research.
- Profound efficiency in handling of hydroscopic, air sensitive solvents and reactions.
- Ability to write scientific report and manuscript for publication.
- Strong knowledge of chemistry software-MS Office, Excel, Origin, Chem Draw, Power Point.

ACADEMIC ACTIVITIES:

- Participated in various International & National seminars and presented the research results.
- Actively associated with the activities of the Chemical Society, Department of Chemistry, Sri Venkateswara University, Tirupati.
- Trained in taking practical and theory classes for post-graduation students of Chemistry in Department of Chemistry, Sri Venkateswara University, Tirupati.

Direct Link for Web of Science, Scopus, Google Scholar, Research gate and ORCID

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3. <https://scholar.google.com/citations?user=AYU1hzUAAAAJ&hl=en&authuser=2>
4. <https://www.researchgate.net/profile/Varadhi-Govind-2>
5. <https://orcid.org/0000-0003-3525-3844>