

Curriculum Vitae

Dr. SANDHIYA LAKSHMANAN

Senior Scientist

CSIR-National Institute of Science Communication and Policy Research (erstwhile NISTADS)

Dr. K. S. Krishnan Marg, Pusa, New Delhi - 110012

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Research Experience

Senior Scientist (June 2022 – Till Date): Working on vehicular emission mitigation pathways, atmospheric chemistry, clean fuels, design of low GWP refrigerants and also on analytical introspection of environmental policies.

Scientist (June 2019 – June 2022): Working on application of Molecular Quantum Mechanics to atmospheric and combustion chemical problems, design of low GWP refrigerants and also on analytical introspection of environmental policies.

Research Assistant Professor (May 2017 – May 2019) in the group of **Prof. Bill Hase, Department of Chemistry and Biochemistry, Texas Tech University, Texas, USA**. Worked in the field of Chemical Dynamics of Reactions important in Combustion and of Combustion in Supercritical Fluids.

Post Doctorate Fellow (August 2014 – May 2017) in the group of **Prof. Hendrik Zipse, Department of Chemistry, LMU, Munich, Germany** in the field of oxidation chemistry using high level theoretical approaches.

Ph. D. (October 2009 – July 2014)

Title of the Thesis: Theoretical Studies on the Mechanism and Kinetics of Atmospheric Reactions.

Research Supervisor: **Dr. K. Senthilkumar, Department of Physics, Bharathiar University, Coimbatore, Tamil Nadu, India.**

Master Project (November 2008 – May 2009)

Project title : “Theoretical Studies on Dimers of Barbituric Acid” under the guidance of **Dr. K. Senthilkumar, Department of Physics, Bharathiar University, Coimbatore, Tamil Nadu, India.**

Summer Project (May 2008 – July 2008)

Project title : “Physics of HII Regions around Bright Stars” under the guidance of **Dr. R. Srianand, IUCAA, Pune, India.**

Educational Qualifications:

Degree	University/Board	Year of Passing	Main Subjects	% of marks	Remarks
Ph. D.	Bharathiar University	January-2015	Physics		Highly Commended
M.Sc.	Bharathiar University	May-2009	Physics	84	I Class with distinction
B.Sc.	Bharathiar University	May-2007	Physics	94	I Class with distinction
H.S.C.	Higher Secondary Education –Tamil Nadu.	March-2004	Mathematics, Sciences	90	I Class with distinction
S.S.L.C.	High School Education- Tamil Nadu	April-2002	Mathematics, Sciences and Social Sciences	96	I Class with distinction

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Academic Distinctions and Awards

- Selected as Member of the prestigious [Indian National Young Academy of Science \(INAYAS\)](#) (2024).
- [Outstanding Women Scientist Award \(2023\)](#) was awarded by Society of Biotic and Environmental Research for outstanding contributions in Atmospheric Chemistry.
- [Excellence in Teaching \(2018\)](#) awarded by Texas Tech University, USA
- [Global Scholarship Award \(2017-2019\)](#) awarded by Texas Tech University, USA
- [INSPIRE Fellowship \(2011-2014\)](#) was awarded by the Department of Science and Technology (DST), India for having secured first rank in M.Sc. Degree Examination.
- [University Research Fellowship \(2010\)](#) was awarded by Bharathiar University, Coimbatore.
- [Gold medal](#) was awarded by Bharathiar University for having secured First Rank in M.Sc. Degree Examination (2009).
- [Dr. Marimuthu Endowment](#) prize was awarded by Bharathiar University for having secured First Rank in M.Sc. Degree Examination (2009).
- Won [best poster and oral presentation](#) prize in Modeling Chemical & Biological (Re)activity (MCBR-5) held at CLRI, Chennai during 18-21 of February 2019.
- Won [First Prize](#) in oral presentation in 'Workshop and Conference on Monte Carlo Simulation' jointly organized by Madurai Kamaraj University and University of Hyderabad' during 9-13 of August 2010.
- [University Rank Holder](#) both in UG (2007) and PG (2009), Bharathiar University, Coimbatore, Tamil Nadu, India.
- [Summer Research Fellowship](#) was awarded by the Indian Academy of Sciences during May to July 2008 (Worked as a Summer Research Fellow in the project entitled, "Physics of HII Regions Around Bright Stars") at Inter-University Centre for Astronomy and Astrophysics, Pune, India).
- [Kamarajar Arakattalai Scholarship](#) for meritorious students was awarded by Bharathiar University during 2005-2006.
- [Certificate of Merit](#) was awarded by Nilgiris District Higher Education Department for having scored 100/100 marks in Mathematics and Science in SSLC Board Examination in 2002.

Research Interest

- Dynamics and Kinetics of atmospheric chemical reactions
- Quantum Chemical Modelling of Molecules and Materials
- Plastic Pollution Mitigation Strategies
- Simulations of Sustainable cooling Alternatives
- Oxidation and Multiphase chemistry of organic aerosols in the atmosphere
- Emission Inventory of Key Pollution Emitting Sectors
- Decarbonized/Green Hydrogen
- Carbon-Capture Utilization and Storage (CCUS)
- Environmental Policy Analysis

No. of Ph. D. students: 4 ongoing

No. of HR Generated (Through Projects and Internships): 13

Projects Completed and Ongoing

Title of Project	Funding Agencies	Status	Budget Handled
Implementation strategies and challenges BS-VI emission norms in India: an analytical introspection	CSIR (P1)	Completed (April 2021- March 2022)	5,40,500.00
Random Inspection/Verification of Annual Inventory on Hazardous Waste Management submitted by various Hazardous waste generating and handling units	CPCB (Co-PI)	Completed (November 2021 – March 2022)	2,00,000.00

State wise Synthesis of Transport Emissions in India– Effectiveness of Bharat Stage Emission Standards (BSES) in Mitigating Emissions	CSIR (P1)	Completed (April 2022 – March 2023)	8,36,000.00
Mitigation Potential for Hydrofluorocarbons (HFCs) towards Global Warming – An Assessment of their Environmental Acceptability as per Kigali Amendment.	CSIR (P1)	Completed (April 2022 – March 2023)	13,22,000.00
Quantification of Non-Exhaust Emissions from Road Transport to Address the Overlooked Environmental Policy Challenge	CSIR (P1)	Completed (April 2023 – March 2024)	14,32,000.00
Simulations of Low Global Warming Potential Refrigerants in Compliance with Kigali Amendment to Montreal Protocol	CSIR (P1)	Completed (April 2023 – March 2024)	15,92,000.00
Updating Emission Inventory of Greenhouse Gases and Other Air Pollutants from Key Emitting Sectors in Delhi	CSIR (P1)	Completed (April 2024 – March 2025)	16,96,800.00
Building an Emission Inventory for Road Transport Sector in India with an Assessment of Climate, Air Quality and Health implications of Bharat Stage Emission standards.	ICSSR (P1)	Ongoing (April 2024 – March 2026)	15,00,000.00
Development of mid-temperature range thermoelectric devices for green energy generation.	ASEAN-INDIA Collaborative research project (Co-PI)	Ongoing (June 2024 – May 2026)	29,46,000.00

Publications

1. **Sandhiya, L.,** Manonmani, G., Senthilkumar, K. (2025): Atmospheric Fate and Emissions of Hydrofluoroether-356pcf3 in Indian Scenario. ACS Earth Space. Chem. 2025, 9, 2260–2271
2. **Sandhiya, L.,** Aggarwal, R., Upadhayay, A. (2025): Stimulation of ethanol-blending and emission standards to combat vehicular pollution in India. Environmental Development, 55, 101219.
3. Toshiba, S. V., **Sandhiya, L.,** Senthilkumar, K. (2025): OH Radical-Initiated Oxidation of 1-Dimethylamino-2-Nitroethylene: A Theoretical Study. ChemistrySelect, 10, e202401821, 1-13.
4. Bhavadharini, A., **Sandhiya, L.,** Senthilkumar, K. (2024): Unraveling the Autoxidation Mechanisms of Limonene, α -Pinene, and β -Pinene: A Computational Study with Reactivity Prediction Models. Journal of Physical Chemistry A, 128, 49, 10609–10619.
5. Niranjnathurthi, L., **Sandhiya, L.,** Lee, W. (2024): Multifunctional Characteristics of One-dimensional Bimetallic Oxyhydroxide Nanorods Coupled Polyaniline Interface Accelerated Water and Urea Electrolysis. Journal of Materials Chemistry A, 12, 30743-30756.
6. **Sandhiya, L.,** Bhati, M. (2024): Unravelling the atmospheric and climate implications of hydrogen leakage. International Journal of Hydrogen Energy, 53, 807-815.
7. **Sandhiya, L.,** Maurya, V. K., A. Kumar, M. Bhati (2023): Mitigation potential of banned hydrofluorocarbons (HFCs) towards global warming – An assessment of Kigali Amendment in the Indian scenario. Journal of Cleaner Production, 428, 139315.
8. Manonmani, G., **Sandhiya, L.,** Senthilkumar, K. (2023): Reaction of Criegee Intermediates with SO₂—A Possible Route for Sulfurous Acid Formation in the Atmosphere. ACS Earth and Space Chemistry, 7, 1890-1904.
9. **Sandhiya, L.,** Aggarwal, R., Senthilkumar, K., Upadhayay, A. (2023): The Association of Air Quality and the Complex Atmospheric Oxidation Chemistry in the Dispersion and Deposition of SARS-CoV-2

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Aerosol Ladens. Environmental Science Advances, 2, 1540-1553.

10. **Sandhiya, L.**, Upadhayay, A., Kumar, N., Bhattacharya, S. (2023): Region-wise and state-wise synthesis of vehicular emissions in India and their mitigation due to vehicular emissions standards. Science of the Total Environment, 900, 165838.
11. Manonmani, G., **Sandhiya, L.**, Senthilkumar, K. (2023): Tailoring the mechanistic pathways and kinetics of OH-addition reaction of sulfoxaflo and its ecotoxicity assessment. Environmental Science and Pollution Research, 30, 50209-50224.
12. Gajbhiye, M. D., **Sandhiya, L.**, Kumar, N., Bhattacharya, S., Nishad. S. (2023): Effectiveness of India's Bharat Stage mitigation measures in reducing vehicular emissions. Transportation Research Part D: Transport and Environment, 115, 103603.
13. Gajbhiye, M. D., **Sandhiya, L.**, Aggarwal, R., Kumar, N., Bhattacharya, S. (2023): Evolution and mitigation of vehicular emissions due to India's Bharat Stage Emission Standards – A case study from Delhi. Environmental Development, 45, 100803.
14. Manonmani, G., **Sandhiya, L.**, Senthilkumar, K. (2022): A Computational Perspective on the Chemical Reaction of HFO-1234zc with the OH Radical in the Gas Phase and in the Presence of Mineral Dust. Journal of Physical Chemistry A, 126, 51, 9564-9576.
15. **Sandhiya, L.**, Niranjanmurthi, L. (2022): Autoxidation of Formaldehyde – A comparison of Reaction Channels. ACS Omega, 7, 6778-6786.
16. **Sandhiya, L.**, Zipse, H. (2022): Conformation-dependent antioxidant properties of β - carotene. Organic and Biomolecular Chemistry, 20, 152-162.
17. **Sandhiya, L.**, Hase, W. L., Smith, G. P. (2021): Mechanism and Kinetics for the Reaction of Methyl peroxy radical with O_2 . Physical Chemistry Chemical Physics, 23, 23508-23516.
18. Manonmani, G., **Sandhiya, L.**, Senthilkumar, K. (2021): Mechanism, Kinetics, and Ecotoxicity Assessment of $\bullet OH$ -Initiated Oxidation Reactions of Sulfoxaflo. Journal of Physical Chemistry A, 125, 46, 10052–10064.
19. **Sandhiya, L.**, Kim, H., Hase, W. L. (2021), Chemical dynamics simulations of energy transfer in CH_4 and N_2 collisions. RSC Advances, 11, 16173-16178.
20. **Sandhiya, L.**, Pratihari, S., Hase, W. L. (2021), Direct Dynamics Simulations of the $^3CH_2 + ^3O_2$ Reaction at High Temperature. Journal of Physical Chemistry A, 125, 621–627.
21. **Sandhiya, L.**, Senthilkumar, K. (2020): Unimolecular Decomposition of Acetyl Peroxy Radical: A Potential Source for Tropospheric Ketene, Physical Chemistry Chemical Physics, 22, 26819- 26827.
22. **Sandhiya, L.**, Jangra, H., Zipse, H. (2020): Molecule-Induced Radical Formation (MIRF) Reactions—A Reappraisal. Angewandte. Chemie. 59, 6318-6329.
23. Yao, Y., **Sandhiya, L.**, Pratihari, S., Hase, W. L. (2020): Direct Dynamics Simulations of the Unimolecular Decomposition of the Randomly Excited 1CH_2O_2 Criegee Intermediate. Comparison with $^3CH_2 + ^3O_2$ Reaction Dynamics. Journal of Physical Chemistry A, 124, 9, 1821–1828.
24. Manonmani, G., **Sandhiya, L.**, Senthilkumar, K. (2020): Hydrolysis of $HNSO_2$: A potential route for atmospheric production of H_2SO_4 and NH_3 . International Journal of Quantum Chemistry, 120, 11, e26182.
25. Manonmani, G., **Sandhiya, L.**, Senthilkumar, K. (2020): Mechanism and kinetics of diuron oxidation by hydroxyl radical addition reaction. Environmental Science and Pollution Research, 27(11):1-16
26. Manonmani, G., **Sandhiya, L.**, Senthilkumar, K. (2019): Mechanism and Kinetics of Diuron Oxidation Initiated by Hydroxyl Radical: Hydrogen and Chlorine Atom Abstraction Reactions. Journal of Physical Chemistry A, 123, 8954-8967.
27. **Sandhiya, L.**, Spada, R. F. K., Machado, F. B., Hase, W. L. (2019): Potential Energy Curves for Formation of the CH_2O_2 Criegee Intermediate on the $^3CH_2 + ^3O_2$ Singlet and Triplet Potential Energy Surfaces. Journal of Physical Chemistry A, 123, 41, 8968-8975.
28. **Sandhiya, L.**, Zipse, H. (2019): Radical-Pair Formation in Hydrocarbon (Auto)Oxidation. Chemistry

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- A European Journal, 25, 36, 8604-8611.
29. **Sandhiya, L.**, Pratihara, S., Hase, W. L. (2019): Direct Dynamics Simulations of the $\text{CH}_2 + \text{O}_2$ Reaction on the Ground and Excited State Singlet Surfaces. *Journal of Physical Chemistry A*, 123, 20, 4360-4369.
 30. Gnanaprakasam, M., **Sandhiya, L.**, Senthilkumar, K. (2019): Mechanism and kinetics of the oxidation of dimethyl carbonate by hydroxyl radical in the atmosphere. *Environmental Science and Pollution Research*, 26, 3357–3367.
 31. Gnanaprakasam, M., **Sandhiya, L.**, Senthilkumar, K. (2018): Theoretical Investigation on the Mechanism and Kinetics of Atmospheric Reaction of Methyl Dichloroacetate with Hydroxyl Radical. *Journal of Physical Chemistry A*, 122, 48, 9316-9325.
 32. Ponnusamy, S., **Sandhiya, L.**, Senthilkumar, K. (2018): Atmospheric Oxidation Mechanism and Kinetics of Hydrofluoroethers, CH_3OCF_3 , CH_3OCHF_2 , and $\text{CHF}_2\text{OCH}_2\text{CF}_3$, by OH Radical: A Theoretical Study. *Journal of Physical Chemistry A*, 122, 22, 4972-4982.
 33. **Sandhiya, L.**, Pratihara, S., Hase, W. L. (2018): Direct Dynamics Simulation of the Thermal $^3\text{CH}_2 + ^3\text{O}_2$ Reaction. Rate Constant and Product Branching Ratios. *Journal of Physical Chemistry A*, 122, 21, 4808-4818.
 34. Gnanaprakasam, M., **Sandhiya, L.**, Senthilkumar, K. (2018): Mechanism and kinetics of the reaction of methyl acetate with Cl atom – A theoretical study. *Computational and Theoretical Chemistry*, 1131, 40-50
 35. Ponnusamy, S., **Sandhiya, L.**, Senthilkumar, K. (2017): Reaction Mechanism and Kinetics of the Degradation of Terbacil initiated by OH radical - A Theoretical Study. *Chemical Physics*, 501, 110-120.
 36. **Sandhiya, L.**, Senthilkumar, K. (2017): Exploring the mechanisms for the radical induced damage of 6-thioguanine. *International Journal of Quantum Chemistry*, 118:e25544.
 37. Gnanaprakasam, M., **Sandhiya, L.**, Senthilkumar, K. (2017): A theoretical investigation on the mechanism and kinetics of the gas-phase reaction of naphthalene with OH radical. *Theoretical Chemistry Accounts*, 136:131.
 38. Ponnusamy, S., **Sandhiya, L.**, Senthilkumar, K. (2017): Atmospheric Oxidation Mechanism and Kinetics of 1, 3, 5-Trimethylbenzene Initiated by OH radical- A Theoretical Study. *New Journal of Chemistry*, 41, 10259-10271.
 39. Bhuvaneshwari, R., **Sandhiya, L.**, Senthilkumar, K. (2017): Theoretical Investigations on the Mechanism and Kinetics of OH Radical Initiated Reactions of Monochloroacetic Acid. *Journal of Physical Chemistry A*, 121, 32, 6028-6035.
 40. **Sandhiya, L.**, Zipse, H. (2017): O-O bond homolysis in hydrogen peroxide. *Journal of Computational Chemistry*, 38, 2186–2192.
 41. Ponnusamy, S., **Sandhiya, L.**, Senthilkumar, K. (2017): Mechanism and Kinetics of the Reaction of Nitrosamines with OH Radical: A Theoretical Study. *International Journal of Chemical Kinetics*, 49, 5, 339-353.
 42. **Sandhiya, L.**, Ponnusamy, S., Senthilkumar, K. (2016): Atmospheric oxidation mechanism of OH-initiated reactions of diethyl ether – The fate of 1-ethoxy radical. *RSC Advances*, 6, 81354-81363.
 43. Selvakumaran, N., **Sandhiya, L.**, Bhuvanesh, N., Senthilkumar, K., Karvembu, R. (2016): Structural diversity in aroylthiourea copper complexes – formation and biological evaluation of $[\text{Cu}(\text{I})(\mu\text{-S})\text{SCl}]_2$, cis- $\text{Cu}(\text{II})\text{S}_2\text{O}_2$, trans- $\text{Cu}(\text{II})\text{S}_2\text{O}_2$ and $\text{Cu}(\text{I})\text{S}_3$ cores. *New Journal of Chemistry*, 40, 5401- 5413.
 44. **Sandhiya, L.**, Zipse, H. (2015): Initiation chemistries in hydrocarbon (auto)oxidation. *Chemistry - A European Journal*, 21, 14060–14067
 45. **Sandhiya, L.**, Kolandaivel, P., Senthilkumar, K. (2014): Oxidation and nitration of tyrosine by ozone and nitrogen dioxide – reaction mechanisms, biological and atmospheric implications.

Journal of Physical Chemistry B, 118, 3479-3490.

46. Ponnusamy, S., **Sandhiya**, L., Senthilkumar, K. (2014): Mechanism and kinetics of the atmospheric degradation of perfluoropolymethylisopropyl ether by OH radical: A theoretical study. Structural Chemistry, 25, 1773-1783.
47. **Sandhiya**, L., Senthilkumar, K. (2014): A theoretical probe on the non-covalent interactions of sulfadoxine drug with pi- acceptors. Journal of Molecular Structure, 1074, 157-167.
48. **Sandhiya**, L., Senthilkumar, K. (2014): Reaction mechanism and kinetics of the degradation of bromoxynil initiated by OH radical. RSC Advances, 4, 7749-7759.
49. **Sandhiya**, L., Kolandaivel, P., Senthilkumar, K. (2013): Depletion of atmospheric ozone by nitrogen dioxide – A bifurcated reaction pathway. Theoretical Chemistry Accounts, 132:1382.
50. **Sandhiya**, L., Kolandaivel, P., Senthilkumar, K. (2013): Mechanism and kinetics of the atmospheric oxidative degradation of dimethylphenol isomers initiated by OH radical. Journal of Physical Chemistry A, 117, 4611-4626.
51. **Sandhiya**, L., Kolandaivel, P., Senthilkumar, K. (2012): Theoretical studies on the reaction mechanism and kinetics of the atmospheric reactions of 1,4-thioxane with OH radical. Structural Chemistry, 23, 1475-1488.
52. **Sandhiya**, L., Kolandaivel, P., Senthilkumar, K. (2012): Reaction mechanism and kinetics of the atmospheric oxidation of 1,4-thioxane by NO₃ – A theoretical study. Canadian Journal of Chemistry, 90:4, 384– 394.
53. **Sandhiya**, L., Kolandaivel, P., Senthilkumar, K. (2012): Mechanism and kinetics of the reaction of 1,4-thioxane with O₃ in the atmosphere – A theoretical study. Chemical Physics Letters, 525–526, 153–159.

Book Chapter (Invited):

1. Theoretical studies on mechanism and kinetics of atmospheric chemical reactions in Reaction Rate Constant Computations: Theories and Applications, Edited by Keli Han and Tianshu Chu

L. Sandhiya and K. Senthilkumar

RSC Publishing (2013) ISBN: 9781849736503

<http://pubs.rsc.org/en/content/ebook/978-1-84973-650-3#!divbookcontent>

2. Performance of DFT on open shell species – Case studies from atmospheric chemical reactions in Density Functional Theory: Fundamental Theory, Key Methods and Applications

L. Sandhiya and K. Senthilkumar

Elsevier Publishing (2025) Paperback ISBN: 9780443189777, eBook ISBN: 9780443189784

<https://shop.elsevier.com/books/density-functional-theory/kuznetsov/978-0-443-18977-7>

Conference Proceedings:

1. **L. Sandhiya**, P. Kolandaivel, K. Senthilkumar (2011) Reaction Mechanism and Kinetics of the Atmospheric Reactions of 2, 3-Dimethylphenol with OH Radical, Journal of International Academy of Physics Sciences, 15.

Institutional Publications:

1. Anurag Kanujia, Madhulika Bhati, **Sandhiya Lakshmanan**, Shiv Narayan Nishad, Sujit Bhattacharya (2022): Air pollution in India: A critical assessment and suggestive Pathways for clean air. CSIR-NIScPR Discussion paper series.
2. Sujit Bhattacharya, Vipin Kumar, Shiv Narayan Nishad, **Sandhiya Lakshmanan** (2022): Proceedings of the Workshop on Technology Readiness Level (TRL) and its applications for Technology Assessment organized by CSIR-NIScPR and DSIR on June 22, 2022.
3. Sujit Bhattacharya, **Sandhiya Lakshmanan**, Kasturi Mandal (2024): Policy Bulletin on “Aftertreatment Technologies in Automobile Sector: Opportunities for Home-Grown Technology
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Creation and Start-ups - A Policy Perspective” published by CSIR NIScPR

Invited Talks:

1. Delivered an invited talk in the Chemical Sciences Section at the “108th Indian Science Congress” held at RTM University, Nagpur from 3rd to 7th January 2023.
2. Delivered an invited talk on “[Modern Density Functional Theory for Electronic Structure Calculations of Molecules](#)” in PSGR Krishnammal College for Women on 17th March 2023.
3. Delivered invited lectures in the workshop on “[Electronic Structure Calculations for Molecules and Materials](#)” organized by Department of Physics, Bharathiar University, Coimbatore during 17th to 24th April 2023.
4. Delivered an invited talk in the [Webinar on Empowering Scientific Women: Chemistry in the World's Growing Potential](#) on the title, “Reaction Potential Energy Surfaces and Rate Theory”, organized by Dr. SSN Govt. College, Malankhand on 12th March 2024.
5. Delivered an invited talk on “[Research Paper Crafting](#)” in Skillify Workshop organized by Department of Biochemistry, IARI, New Delhi on 23rd March 2024.
6. Delivered an invited talk on “[Key Elements of Effective Research Paper Writing](#)” in the Faculty Development Program on Effective Research Paper Writing Strategies and High-Impact Journal Publication Techniques held from April 22nd to April 26th 2024 in online mode organized by Kongu Engineering College, Erode, Tamil Nadu.
7. Organized an [Environmental Science Awareness Camp](#) to Class 8th to 10th students of Kendriya Vidyalaya, Khichripur, Delhi on 8th May 2024 in association with INYAS.
8. Delivered an invited talk on “[Building skill in research paper writing and awareness about Indian Journals](#)” in the online short course on Agronomic Research for Food Security and Environmental Stewardship in Changing Scenario held from June 20th to June 29th organized by Indian Society of Agronomy.
9. Delivered an invited talk on “[Information on Indian Journals and Techniques for Crafting high quality research paper](#)” in the Two Week Online FDP on Mastering Research Paper and Proposal Writing held from August 19th to August 30th 2024 organized by SRM Institute of Science and Technology, Chennai.
10. Organized a “[Skill Set and Career Development Workshop](#)” to B.Sc. and M.Sc. Students of Dr. SSN Govt. College, Malankhand on 7th January 2025 in association with INYAS.
11. Delivered an invited talk on “[Contribution of Women in Scientific India](#)” in the One Day National Manthan on the occasion of International Women's Day organized by Dr. SSN Govt. College, Malankhand on 12th March 2025.
12. Served as a panelist in the panel discussion session on “[Open Horizons: Integrating Open Access, Open Data and Computational Innovation](#)” sponsored by CEFIPRA and organized on 5-6 March 2024.
13. Delivered invited lectures in the Workshop on “[From Data to Draft: Mastering Powerful manuscript writing](#)” organized by Assam Agricultural University, Jorhat, Assam on 29th and 30th August 2025.
14. Served as a panelist in the panel discussion session on “[Ensuring Responsible Open Access: Navigating Ethics, Integrity, and Best Practices](#)” at the INYAS Mid-year Meeting organized by VIT, Vellore on 17th – 19th September 2025.

Membership:

1. Member of Indian National Young Academy of Science (INYAS)
2. Member of Board of Studies, Department of Physics, Bharathiar University
3. Life Member of Society of Biotic and Environmental Research