STAFF PROFILE

1) Name : **Dr. P. KALAIVANI**

2) Designation : Assistant Professor in Chemistry

3) Department : Chemistry

4) Qualification : M.Sc., M.Phil., Ph.D.,

5) Experience : **Teaching**: 6 Years **Research**:13 Years

6) Area of Specialization (s) : Inorganic/ Coordination chemistry

7) E-mail :kalaivani19@gmail.com

8) Academic Qualifications : M.Sc., M.Phil.,Ph.D.,

9) Additional Qualifications :

Diploma/ Vocational/ Certification	Area of Spealization	Institution/ University/ Agency Name	Year
Post Doctoral Research Associate	Inorganic Chemistry	Bharathiar University	16.11. 2011 – 31.05.2014

11) Projects

Completed

Project Title	Agency	Amount	Duration
Ruthenium sandwich complexes with N,S donor ligands: DNA/ Protein binding, DNA cleavage, Antioxidant activity and Cytotoxicity	Department of Science and Technology Science and Society Division (DST SERB),Government of India, New Delhi.	Rs. 24,26,000/-	3 years (2015-2018)

12) Research Guidance

Programme	No. of Scholars	
	Completed	Pursuing
Ph. D.	-	4
M. Phil.	1	-

13) Research Publications

International

1. MathiyazhaganSindhu, **Palaniappan Kalaivani** and Rathinasabapathi Prabhakaran, "New organoruthenium metallates containing ferrocene carboxalidine thiosemicarbazones and their nucleic acid/albumin binding and *in vitro* cytotoxicity" *Applied Organometallic Chemistry* (2020), Vol. 34, Page No 1-20.
2. **P. Kalaivani,** H. Puschmann, MV. Kaveri, T. Suresh and R. Prabhakaran, "One-pot synthesis of new water-soluble binuclear octahedral Ni(II) and mononuclear Ru(II) carbonyl complexes containing 2,6 pyridine dicarboxylic acid,*Journal of Chemical Sciences* (2019),Vol.131,Page No.81.
3. C. Elamathi, R. J. Butcher, A. Mohan kumar, P. Sundararaj, A. Madan kumar, **P. Kalaivani** , R. Prabhakaran, "A quinoline-based probe for effective and selective sensing of aspartic acid in aqueous medium: *in vitro* and *in vivo* live cell imaging" *Inorganic Chemistry Frontiers* (2019), Vol.6, Page No 3237-3244.
4. A.Mohankumar, G.Devagi, G.Shanmugam, S.Nivitha, P.Sundararaj, F.Dallemer, **P.Kalaivani**, R.Prabhakaran, "Organoruthenium(II) complexes attenuate stress in *Caenorhabditiselegans* through regulating antioxidant machinery" *Eur. J. Med. chem.* (2019), Vol. 168, Page No 123-133.
5. G.Devagi, A. Mohankumar, G. Shanmugam, S. Nivitha, F.Dallemer, **P.Kalaivani**, P. Sundararaj. R. Prabhakaran. "Organoruthenium(II) Complexes Ameliorates Oxidative Stress and Impedes the Age Associated Deterioration in *Caenorhabditiselegans*through JNK-1/DAF-16 Signalling" *Nature Scientific Reports* (2018), Vol. 8, Page No 7688.
6. G.Devagi, F.Dallemer, **P.Kalaivani** and R.Prabhakaran "Organometallicruthenium(II) complexes containing NS donor Schiff bases: Synthesis, structure, electrochemistry, DNA/BSAbinding, DNA cleavage, radical scavenging and antibacterial activities" *Journal of Organometallic Chemistry* (2018), Vol.854, Page No.1-14,
7. G. Devagi, F. Reyhaneh, F. Dallemer, R. Jayakumar, **P. Kalaivani** and R. Prabhakaran, "Morphological and in vitro evaluation of programmed cell death in MCF-7 cells by new organoruthenium complexes" , *New J. Chem*. (2017), Vol. 41, Page No 8620-8636,
8. P. Naveen, Ruchi Jain, **P. Kalaivani**, R. Shankar, F. Dallemer and R. Prabhakaran "Unpredicted formation of Cu(II) complexes containing 2-thiophen2-ylmethyl-1H-benzoimidazole and their most promising invitro cytotoxicity in MCF-7 and HeLa cell lines over cis-platin" *New J. Chem*.(2017) Vol. 41, Page No . 8885-8898.
9. G.Kalaiarasi, Ruchi Jain, A.Shanmugapriya, H.Puschman, **P.Kalaivani** and R.Prabhakaran. New Binuclear Ni(II) metallates as potent antiproliferative agents against MCF-7 and HeLa cells. *InorganicaChimicaActa*. (2017), Vol. 462. Page No.174 – 187.
10. G.Devagi, G. Shanmugam, A. Mohankumar, P. Sundararaj, F.Dallemer, **P.Kalaivani**, and R.Prabhakaran "Caenorhabditiselegans as a model for exploring the efficacy of synthesized organo ruthenium complexes for aging and Alzheimers disease a neurodegenerative disorder: A systematic approach". *Journal of organometallic chemistry* (2017), Vol. 838. Page No.12 – 23.

11. C.Umadevi, **P. Kalaivani,** H. Puschmann, S. Murugan, P.S. Mohan and R.Prabhakaran,"Substitutional impact on biological activity of new water soluble Ni (II) complexes: Preparation, spectral characterization, X-ray crystallography, DNA/protein binding, antibacterial activity and *in vitro* cytotoxicity". Journal of photochemistry & photobiology, B: Biology (2017). Vol. 167, Page No.45 – 57, ISSN 1011 – 1344.
12. R. Prabhakaran, **P. Kalaivani**, K.Senthilkumar and K.Natarajan. "Synthesis, structural characterisation, DNA/protein binding and invitro cytotoxicity of three structurally different organo ruthenium metallates from single pot". *Journal of Organometallic Chemistry* (2016),Vol. 825–826, 15, Page No.83–99.
13. G.Kalaiarasi, C.Umadevi, A Shanmugapriya, **P.Kalaivani**, F.Dallemer and R.Prabhakaran. "DNA(CT), protein(BSA) binding studies, anti-oxidant and cytotoxicity studies of new binuclear Ni(II) complexes containing 4(N)-substituted thiosemicarbazones". *InorganicaChimicaActa*(2016), Vol.453. Page No.547 – 558, ISSN: 0020 – 1693.
14. A.Shanmugapriya, G.Kalaiarasi, **P.Kalaivani**, F.Dallemer and R.Prabhakaran. "CT-DNA/BSA protein binding and antioxidant studies of new binuclear Pd(II) complexes and their structural Characterisation". *InorganicaChimicaActa*(2016), Vol.449. Page No.107 – 118**.**
15. ThangavelSathiyaKamatchi, **PalaniappanKalaivani,** Frank R. Fronczek, Karuppannan Natarajan and RathinasabapathiPrabhakaran. Impact of chelation on anticancer activities of organometallic ruthenium(II) complexes containing 2,5-di(1H-pyrazol-1-yl)-1,4-benzoquinone: synthesis, structure, DNA/protein binding, antioxidant activity and cytotoxicity", *RSC Advances* (2016), Vol.6, Page No.46531-46547**.**
16. **P. Kalaivani,**C. Umadevi, R. Prabhakaran, F. Dallemer and P.S. Mohan "New palladium metallacycles containing 4(N,N′)-diethylaminosalicylaldehyde-4(*N*)-thiosemicarbazones: Synthesis, spectral, structural and DNA/protein binding studies" *InorganicaChimicaActa*(2015), Vol. 438, Page No.264–276**.**
17. **P. Kalaivani**, R. Prabhakaran, F. Dallemer and K. Natarajan, "Photophysical properties and *in vitro* cytotoxicity studies of new Ru(II) carbonyl complexes and mixed geometrical Ru(II)-Ni(II) complex in HS-DNA/BSA protein and human lung (A549) and liver (Hep G2) cells", *RSC Advances,* (2014), Vol.4, Page No.51850-51864.
18. **P. Kalaivani,** S. Saranya, P. Poornima, R. Prabhakaran, F. Dallemer V. Vijaya Padma, K. Natarajan, "Biological evaluation of new Nickel (II) metallates: Synthesis, DNA/protein binding and mitochondrial mediated apoptosis in human lung cancer cells (A549) via ROS hyper generation and depletion of cellular antioxidant pool", *Eur. J. Med. chem.*,(2014),82, Page No 584-599.

19. T. SathiyaKamatchi, **P. Kalaivani**, P. Poornima, V. Vijaya Padma, F.R. Fronczek, K. Natarajan, New organometallic Ru(II) complexes containing chelidonic acid (4-oxo-4*H*-pyran-2,6-dicarboxylic acid): Synthesis, structure and in-vitro biological activity, *RSC Advances,*(2014),Vol.4, Page No.2004–2022.

20. **P. Kalaivani**,R. Prabhakaran, F. Dallemer, E. Vaishnavi, P. Poornima, V. Vijaya Padma, R. Renganathan, K. Natarajan, "Synthesis, structural characterization,

DNA/protein binding and *in vitro* cytotoxicity of isomeric ruthenium carbonyl complexes", *Journal of Organo Metallic Chemistry,* (2014), Vol.762, Page No.67-80**.**

21. **P. Kalaivani**, C. Umadevi, R. Prabhakaran, F. Dallemer, P.S. Mohan, K. Natarajan, "New palladium(II) complexes of 3-methoxysalicylaldehyde-4(N)-substituted thiosemicarbazones: Synthesis, Spectroscopy, X-ray crystallography and DNA/Protein binding study", *Polyhedron*, (2014), Vol.80, Page No.97-105**.**
22. **P. Kalaivani**, R Prabhakaran, E. Vaishnavi, T. Rueffer, H. Lang, P. Poornima, R. Renganathan, V. Vijaya Padma and K. Natarajan "Synthesis, structure, DNA/Protein binding and *in vitro* cytotoxicity of new ruthenium metallates"*Inorganic Chemistry Frontiers* (2014), Vol.**1**, page 311-324.
23. **P. Kalaivani**, R. Prabhakaran, P. Poornima, R. Huang, H. Virginie, F. Dallemer, V. Vijaya Padma, K. Natarajan, "Synthesis and structural characterization of new ruthenium(II) complexes and investigation of their antiproliferative and metastatic effect against human lung cancer (A549) cells" *RSC Advances,* (2013)Vol 3, Page No 20363-20378.
24. R. Prabhakaran, **P. Kalaivani**, R. Huang, P. Poornima, S. Vinotha, V. Vijaya Padma, K. Natarajan, "Synthesis, DNA/protein binding and *in vitro* cytotoxic studies of new palladium metallothiosemicarbazones", *Bio. Org. Med. Chem.* (2013), Vol 21, Page No.6742-6752.
25. **P. Kalaivani**, R. Prabhakaran, M.V. Kaveri, R. Huang,R. J. Staples, K. Natarajan, "Synthesis, spectral, X-ray crystallography, electrochemistry, DNA/Protein binding and radical scavenging activity of new palladium(II) complexes containing triphenylarsine", *Inorg. Chim. Acta,* (2013), Vol 405, Page No.415-426.
26. R. Prabhakaran, **P. Kalaivani**, P. Poornima, R. Huang, V. Vijaya Padma, K. Natarajan, "DNA binding, Antioxidant, Cytotoxicity (MTT, Lactate dehydrogenase (LDH), NO) and Cellular uptake studies of structurally different nickel(II) thiosemicarbazone complexes: Synthesis and spectral, electrochemistry and X-ray crystallography", *J. Bio. Inorg. Chem*., (2013), Vol 18, Page No.233-247.
27. **P. Kalaivani**, R. Prabhakaran**,** P. Poornima, F. Dallemer, K. Vijayalakshmi, V. Vijaya Padma, K. Natarajan, "Versatile coordination behaviour of salicylaldehydethiosemicarbazone in ruthenium(II) carbonyl complexes: Synthesis, Spectral, X-ray, Electrochemistry, DNA binding, Cytotoxicity and Cellular uptake studies" *Organometallics,* (2012), Vol 31, Page No.8323 -8332.
28. R. Prabhakaran, **P. Kalaivani**, P. Poornima, F. Dallemer, G. Paramaguru, V. Vijaya Padma, R. Renganathan, R. Huang, K. Natarajan, "One pot synthesis of structurally different mono and dimeric Ni(II) thiosemicarbazone complexes and N- arylation on coordinated ligand: A comparative biological evaluation on DNA/Protein binding, Antioxidant, Cytotoxicity (MTT, Lactate dehydrogenase (LDH) and NO release) and Cellular uptake studies" *Dalton Trans*, (2012), Vol 41, Page No.9323-9336.
29. **P. Kalaivani**,R. Prabhakaran,E. Ramachandran,F. Dallemer,G. Paramaguru, R. Renganathan, P. Poornima,V. Vijaya PadmaK. Natarajan, "Influence of terminal substitution on structural, DNA, Protein binding, anticancer and antibacterial activities

of palladium(II) complexes containing 3-methoxy salicylaldehyde-4(N) substituted thiosemicarbazones" *Dalton Trans.* (2012), Vol41, Page No.2486-2499,**.**

30. E. Ramachandran, **P. Kalaivani**, R. Prabhakaran, N.P. Rath, S. Brinda, P. Poornima, V. Vijaya Padma K. Natarajan, "Synthesis, X- ray crystal structure, DNA binding, antioxidant and cytotoxicitystudiesof Ni(II) and Pd(II) thiosemicarbazone complexes",*Metallomics,* (2012), Vol 4, Page No.218-227.
31. **P. Kalaivani**, R. Prabhakaran**,** F. Dallemer, P. Poornima, E. Vaishnavi, E. Ramachandran, V. Vijaya Padma, R. Renganathan K. Natarajan, "DNA, Protein binding, Cytotoxicity (Cellular uptake, Lactate dehydrogenase (LDH)release, NO scavenging activity) and antibacterial activities of new palladium(II) complexes containing (N,N')-diethylaminosalicylaldehyde-4(N)thiosemicarbazones:Effect of substitution on enhanced activity" *Metallomics,* (2012), Vol 4, Page No.101-113**.**
32. E. Ramachandran, **P. Kalaivani**, R. Prabhakaran, M. Zeller, T.R. Wagner, K. Natarajan, "Synthesis, characterization, crystal structure and DNA binding studies of Pd(II) complex containing thiosemicarbazone and PPh_3/$AsPh_3$"*Inorg. Chim. Acta*, (2012), Vol 385, Page No.94-99.
33. E. Ramachandran, S.P. Thomas, P. Poornima, **P. Kalaivani**, R. Prabhakaran, V. Vijaya Padma K. Natarajan, "Evaluation of DNA binding, antioxidant and cytotoxic activity of mononuclear Co(III) complexes of 2-oxo-1,2-dihydrobenzo[h]quinoline-3-carbaldehyde thiosemicarbazones" *Eur. J. Med. Chem*, (2012), Vol 50, Page No.405-415**.**
34. R. Prabhakaran, **P. Kalaivani**, S.V.Renukadevi, R. Huang, R. Karvembu, K. Senthilkumar, K. Natarajan, "Copper ion mediated selective cleavage of C-S bond in ferrocenylthiosemicarbazoneforming mixed geometrical $[(PPh_3)Cu(\mu_2\text{-}S)_2Cu(PPh_3)_2]$ having Cu_2S_2 core: Towardsa new avenue in copper–sulfur chemistry"*Inorg. Chem*, (2012), Vol 51, Page No 3525-3532.
35. R. Prabhakaran, **P. Kalaivani**, R. Jayakumar, M. Zeller, A.D. Hunter, S.V. Renukadevi, E. Ramachandran, K. Natarajan, "Synthesis, Structure and biological evaluation of bis salicyladehyde-4(N)-ethylthiosemicarbazone ruthenium (III) triphenylphosphine"*Metallomics,* (2011), Vol 3, Page No 42-48.
36. S. Priyarega, **P. Kalaivani,** R. Prabhakaran, T. Hashimoto, A. Endo, K. Natarajan, "Nickel(II) complexes containing thiosemicarbazone and triphenylphosphine:Synthesis, spectroscopy, crystallography and catalytic activity" *J. Mol. Struct*. (2011), Vol 1002, Page No 58-62.
37. R. Prabhakaran, **P. Kalaivani**, R. Huang, M. Sieger, W. Kaim, P. Viswanathamurthi, F. Dallemer, K. Natarajan," Can geometry control the coordination behaviour of 2-hydroxy-1-naphthaldehyde- 4(N)-phenylthiosemicarbazone? A study towards its origin" *Inorg. Chim. Acta,* (2011), Vol 376, Page No 317-324.
38. R. Prabhakaran,R. Sivasamy, J. Angayarkanni, R. Huang, **P. Kalaivani**, R. Karvembu, F. Dallmer, K. Natarajan, "Topoisomerase II inhibition activity of new square planar Ni(II) complexes containing N-substituted thiosemicarbazones: Synthesis, spectroscopy, X-ray, crystallography and electrochemical characterization",*Inorg. Chim. Acta*, (2011), Vol 374, Page No 647-653.

39. R. Prabhakaran, S. Anantharaman, M. Thilagavathi, M.V. Kaveri, **P. Kalaivani**, R. Karvembu, N. Dharmaraj, H. Bertagnolli, K. Natarajan, "Preparation, spectroscopy, EXAFS, Electrochemistry and pharmacology of new ruthenium(II) carbonyl complexes containing ferrocenylthiosemicarbazoneandtriphenylphosphine/ arsine" *Spectro. Chimi. Acta*, (2011), 78, 844-853.
40. **P. Kalaivani**, T. Anbuselvi, M. Natesan, D. Jayaperumal and J.H. Prasanth, "Performance of 'CHAP' as Vapour Phase Corrosion inhibitor for Metals" *Corrosion and Materials*, (2006), Vol**31**, S-1.

National

1. Dr.Poornimaparamasivan and **Dr.Kalaivani Palaniappan,** "A pedagogy model for improving the quality of honours project in biomedical sciences", NAAC sponsored National Seminar on Quality Sustenance and Enhancement: Prospects for attaining Global standard, ISBN: 978-93-5391-892-7, Page No.38-45,2020
2. M. Sindhuand **P. Kalaivani, "**Effective teaching strategies in United Kingdom" NAAC sponsored National Seminar on Quality Sustenance and Enhancement: Prospects for attaining Global standard, ISBN: 978-93-5391-892-7, Page No:29-34, 2020

14) Other Publications

1. **P. Kalaivani**, Sindhu. M and R. Prabhakaran published research article entitled "New hetero binuclear Ru(II)/Fe(II) Cyclopentadienyl complexes containing formilferrocene-4(N)-substituted thiosemicarbazones: Synthesis spectral characterization and DNA binding studies" ,Proceedings of *Nirmala Annual Research Congress* NARC'17 published by Internal Quality assurance cell, Nirmala College for Women, Coimbatore, ISBN No. 978-93-5279-759-2yj6, Page No.18,2017
2. M. Sindhu,**P. Kalaivani, "**Synthesis, Spectral Characterization and Binding Studies of NewCopper(II) Complexes of 4-Methoxysalicylaldehyde-4(*N*)- Substituted Thiosemicarbazone"Proceedings of *Nirmala Annual Research Congress* NARC'18 published by Internal Quality assurance cell, Nirmala College for Women, Coimbatore, ISBN No. 978-93-5321-859-1, Page No.195,2018
3. **M. Sindhu**and **P. Kalaivani, "**Synthesis, Spectral characterization and binding interactions of Ru(III)/Fe(II) Cyclopentadienyl complexes containing acetylferrocene-4-(*N*)-substituted thiosemicarbazones", Proceedings of *Nirmala Annual Research Congress* NARC'19 published by Internal Quality assurance cell, Nirmala College for Women, Coimbatore,ISBN-978-93-5391-196-6, Page No:355-359,2019
4. **P. Anusha, M. Sindhu**and **P. Kalaivani, "**Cation Sensing of Schiff Base using absorbance and fluorescent method", Proceedings of *Nirmala Annual Research Congress* NARC'19 published by Internal Quality assurance cell, Nirmala College for Women, Coimbatore,,ISBN-978-93-5391-196-6, Page No:424-427,2019
5. **M.J. Archana, M. Sindhu**and **P. Kalaivani**, "Synthesis, Characterization and Sensing behavior of Schiff Base", Proceedings of *Nirmala Annual Research Congress* NARC'19 published by Internal Quality assurance cell, Nirmala College for Women, Coimbatore,ISBN-978-93-5391-196-6, Page No:428-431,2019

6. **S. Nikarika, M. Sindhu**and **P. Kalaivani, "**Selective detection of cu^{2+} ion by using Schiff base derived from 2-hydroxy-4*(N, N')*diethylaminobenzaldehyde", Proceedings of *Nirmala Annual Research Congress* NARC'19 published by Internal Quality assurance cell, Nirmala College for Women, Coimbatore, ISBN-978-93-5391-196-6, Page No:432-435,2019

17) Presentations in Conference /Symposium

International

1. Preparation and structural characterization of unusual ruthenium(II) 2-hydroxy-1-naphthaldehyde-4(N)-ethylthiosemicarbazone complexes: Presented in **International conference** on coordination & organometallic chemistry (ICCOC-2009) , Department Of chemistry, Bharathiar University, Coimbatore held on 19th and 20th March (2009).
2. Synthesis, Spectroscopy, X- ray crystallography and electrochemistry of Ni(II) and Pd(II) thiosemicarbazone complexes: Presented in **International Conference** on Coordination & Organometallic Chemistry (ICCOC-2009), , Department Of chemistry, Bharathiar University, Coimbatore held on 19th and 20th March (2009).
3. Versatile coordination behaviour of salicylaldehyde-4(N)-ethylthiosemicarbazone: Synthesis, spectroscopy, X- ray crystallography and electrochemistry of Ni(II) and Pd(II) complexes: Presented in **International conference** on coordination & organometallic Chemistry (ICCOC-2009) held on 19 and 20 March (2009), Department Of chemistry, Bharathiar University, Coimbatore held on 19th and 20th March (2009).
4. New Hetero Binuclear Ru(II)/Fe(II) Cyclopentadienyl complexes of Formylferrocene-4(*N*)-substituted Thiosemicarbazones: Synthesis, Spectral characterization, DNA/BSA Binding and Anticancer Studies, Presented in **International Conference** on "Advances in New Materials"Department of Inorganic Chemistry, University of Madras, Chennai on 8,9.6.2018.
5. Cationic Sensing of 8-methyltetrazole[1,5-a] Quinoline-4(*N*)-phenylsemicarbazone using Absorbance and Fluorescence methods, Presented in One day International Seminar on Comtemporary Horizons in Chemical Science (CHCS-2020), Department Of chemistry,Nirmala College for Women on 10.2.2020
6. Synthesis, Spectral Characterization, Electrochemistry and DNA binding studies of New Ni(II) and Cu(II) complexes containing 3-acetylcoumarin-4(*N*)-phenylthiosemicarbazone, Presented in One day International Seminar on Comtemporary Horizons in Chemical Science (CHCS-2020), Department Of chemistry,Nirmala College for Women on 10.2.2020

7. Synthesis, spectral characterization and their biologicalevaluation of new organoruthenium (II) complexes, Presented in**International conference** on Innovation in chemical sciences-2019, Department Of chemistry, Kongunadu arts and science college on19.2.2019

8. Cyclopentadienyl ruthenium complexes of ferrocenyl ligands: synthesis, Spectral characterization and their biological evaluation, presented **International conference** Frontier areas in chemical technologies-2019, Alagappa university on25, 26-7-2019

9. Development of new mixed hybrid organoruthenium derived biocomposites of Bovine serum albumin, Presented in International virtual Conference on Renewable Energy Science and Technology (ICREST-2020), Department of Energy Science, Alagappa university on 28,29.09.2020

National

1. One pot synthesis of three unusual ruthenium(II) carbonyl complexes containing 2-hydroxy-1-naphthaldehyde-4(N)-methylthiosemicarbazone: Towards a new avenue in thiosemicarbazonechemistry,presented in National conference on recent trends in coordination and organometallic chemistry (NCCOC-2008) , Sri Ramakrishna Mission Vidyalaya college of Arts and Science, Coimbatore held on 17th and 18th July (2008).
2. Multiple coordination behaviour of salicylaldehyde – 4(N)- methyl thiosemicarbazone in ruthenium(II) carbonyl complexes: One tub synthesis and characterization Presented in Recent advances in Inorganic and nano Chemistry, Madurai Kamaraj University, Maduraiheld on March 29th and 30th (2010)

3. Preparation, spectral and X-ray crystallographic characterisation of Ni(II) thiosemicarbazone complexes and their electrochemical reduction to Ni(I): Presented in Recent advances in Inorganic and nano Chemistry, Madurai Kamaraj University, Madurai
   held on March 29th and 30th (2010)
4. Synthesis, structural characterization, DNA/protein binding and anti microbial studies of new binuclear Pd(II) complexes containing diphenylphosphino methane, presented in national level 10th Mid Year CRSI Symposium in Chemistry, CRSI (Chemical Research Society of India), National Institute of Technology, Tiruchirappalli held on 23th -25th July (2015)
5. DNA/Protein binding, anti oxidant and anti-bacterial studies of new binuclear nickel(II) complexes containing ONS Schiff base, presented in national level 10th Mid Year CRSI Symposium in Chemistry, CRSI (Chemical Research Society of India), National Institute of Technology, Tiruchirappalli held on 23th -25th July (2015)
6. Synthesis, structural and DNA/protein binding studies of new organo-ruthenium metallates, presented in national level 10th Mid Year CRSI Symposium in Chemistry, CRSI (Chemical Research Society of India), National Institute of Technology, Tiruchirappalli held on 23th -25th July (2015)
7. Synthesis, spectral, X-Ray Crystallographic, DNA And Protein Binding Studies on new organoruthenium(II) complexes containing schiff base ligands,presented in State Level

seminar on " Emerging Trends in Frontiers of Metal Organic Chemistry",Nirmala college for Women, Coimbatore held on February 18th (2016)

8. Synthesis, structural characterisation, DNA/protein binding and anti-oxidant studies of new binuclear nickel(II) complexes containing 1,3-bis(diphenylphosphino)propane and ONS donor Schiff bases,,presented in State Level seminar on " Emerging Trends in Frontiers of Metal Organic Chemistry",Nirmala college for Women, Coimbatore held on February 18th (2016)
9. Unpredicted formation of 2-thiophen-2-yl-1-thiophen-2-ylmethyl-1h-benzoimidazole copper(ii) complex: synthesis, spectral, structural characterization and biological studies,presented in State Level seminar on " Emerging Trends in Frontiers of Metal Organic Chemistry",Nirmala college for Women, Coimbatore held on February 18th (2016)
10. DNA, Protein binding, anti-microbial and antioxidant studies of new binuclear palladium(II) complexes containing ONS Schiff base and diphenylphosphinoethane spacer, presented in State Level seminar on " Emerging Trends in Frontiers of Metal Organic Chemistry",Nirmala college for Women, Coimbatore held on February 18th (2016)
11. New binuclear Ni(II) metallates and their synthesis, structural,characterization,DNA/ Protein binding, DNA cleavage, anti oxidant and anti bacterial studies, presented in National Conference on Emerging Biomaterials(NCEB-2016), Deparment of Nanoscience& Technology, BharathiarUniversity,Coimbatore
12. New organoruthenium(II)cyclopentadienyl complexes containing bisacetylferrocene-4(N)-sustitutedthiosemicarbazones: synthesis,spectral characterization and DNA/BSA binding studies",presented in National Conference on "Recent Trends in Chemistry,Departmentof Chemistry, SRMV College of Arts and Science, Coimbatore on 02.02.18
13. New Cu(II) complexes of 4-methoxysalicylaldehyde-4(*N*)substituted thiosemicarbazones: Synthesis, spectral characterization and DNA/protein binding studies,presented in National Seminar on "Innovations in Chemical sciences and Green Technology, Department of Chemistry, PSGR Krishnammal College for Women, Coimbatore on 6.09.2018 & 7.09.2018
14. Synthesis, Spectral Characterization and Calf Thymus-DNA Binding Studies of New Ni (II) and Cu (II) Semicarbazone Complexes,presented in National conference on Futuristic InricateStrataems in computational genomics CGEN-2019, Department of Bioinformatics, Nirmala College for women on, 24.01.2019.ISBN-987-93-5346-990-0
15. Synthesis, Spectral Characterization And DNA/BSA Binding Studies Of New Copper(II) Complexes Containing NO And NS Donor Ligands,presented in2nd National Conference on Recent trends and Advances in Green synthesis, Dept. Of Chemistry,SNS College of technology on25.1.2018
16. Synthesis, Spectral Characterization And Ct-DNABinding Studies Of New Ni (II) And Co(II) Semicarbazone Complexes, presented in 2nd National Conference on Recent trends

and Advances in Green synthesis, Dept. Of Chemistry,SNS College of technology on25.1.2018

17. Cyclopentadienyl complexes of acetylferrocene-4(*N*)-substituted thiosemicarbazones: Synthesis, spectral characterization and nucleic acid/serum albumin binding interaction,presented in National conference in Recent trends in chemistry-2019, Sri Ramakrishna mission vidyalaya College of arts and science on1, 2.02.2019
18. Synthesis, spectral characterization, electrochemistry and binding studies of new Copper(II) 3-acetyl-2[H]-chromen-2-one substituted thiosemicarbazone complexes, presented in National conference in Recent trends in chemistry-2019, Sri Ramakrishna mission vidyalaya College of arts and science on1, 2.02.2019
19. Synthesis of Ni(II) and Cu(II) 3-Acetylcoumarin thiosemicarbazone complexes and CT-DNA binding studies, presented in National conference in Recent trends in chemistry-2019, Sri Ramakrishna mission vidyalaya College of arts and science on1, 2.02.2019
20. Synthesis, spectral characterization and binding studies of new organoruthenium(III) complexes, presented in National seminar on New perspective in chemical sciences, PSGR Krishnammal College for Women on16, 17-9.2019
21. Selective detection of Cu^{2+} ion by using Schiff base derived from 2-hydroxy-4-(N,N') diethylaminobenzaldehyde,presented in National seminar on New perspective in chemical sciences, PSGR Krishnammal College for Women on16, 17-9.2019
22. New Ni(II) and Cu(II) metallates containing 3-Acetylcoumarin Schiff bases: Synthesis, spectral characterization, electrochemistry and DNA Binding studies'Presented in One day National Conference on 'Advances in Green Chemistry and its Applications (AGCE-2k20) Department of Chemistry, Sri Ramakrishna college of Arts and Science on30.1.2020

19) Participation in Seminar

1. Participated in National Seminar on Water Vision- 2004,P.S.G.R.Krishnammal College for Women, Coimbatore during October 6^{th} -8^{th} (2004)
2. Participated in National Seminar on Recent Advances in Chemistry, P.S.G.R.Krishnammal College for Women, Coimbatore held on December 16^{th} and 17^{th} (2005)
3. Participated in "National Seminar on Current Developments in Chemistry" Bharathiar University, Coimbatore held on January 18^{th} -19^{th} (2007)
4. International seminar on "Novel Approaches in chemistry and its Environmental Impacts (NACE'15)" KPR Institute of Engineering and Technology, Coimbatore on 26.09.2015
5. National Seminar on Crystallography – an Outreach Programme by IUCr-2017,Department of science and Humanities Karunya University, Coimbatore on 17.02.2017

20) Participation in Workshop/training

Workshop

1. Participated in "National Workshop on Advances in Coordination Chemistry",National Institute of Technology, Karnataka, during January 8th -10th (2009)
2. Two days Workshop on " Techniques in Animal Biotechnology", Department of Zoology, Nirmala college for Women, Coimbatore-18 on Sep 29th and 30th 2014
3. Workshop on "Hands on Training in Organic reaction monitoring: TLC, HPLC and IR, Department of Chemistry, Karunya University, Coimbatore on 01. 03.2016
4. Science Academies' Lecture Workshop **"**Advances in materials electrochemistry"PG and Research Department of Chemistry, Kongunadu Arts and Science College, Coimbatore on 22.07.2017
5. Workshop on "Outcome based education", IQAC, Nirmala College for Women,Coimbatore on 22.06.2018 & 23.06.2018
6. Workshop on "Outcome based Eductaion (OBE)", Nirmala College for Women,Coimbatore on 13.10.18

Training

1. Participated in "Hands on training on Instrumentation and Basic Techniques of biotechnology",NallamuthuGounderMahalingam College, Pollachi held on December 22 (2003).
2. Participated in "Instrumental methods of chemical Analysis", The South India Textile Research association (SITRA), Coimbatore during February 14-23 (2005).
3. Participated in a three days training programme on "Persionality development" , P.S.G.R. Krishnammal College for Women, Coimbatore during 2005-2006
4. Training programme on Medical Textiles, The South India Textile Research association (SITRA), Coimbatore-641 014 (2015)

5. Analytical Instrumentation techniques, Nirmala College for women, coimbatore-18 (2015)

6. InstrumentationTraining Programme, T.StanesPhytopharma Lab Pvt Ltd Trichy Road, Coimbatore.(2016)

21) Participation in Orientation Programme/ Induction Programme/ Short term Courses

1. Participated in Short term Course on "Photophysics of Organic Systems: Theory and Applications",Bharathiar University, Coimbatore,held on February 1th -4th (2006)
2. Participated in the "UGC-sponsored 116th Orientation Programme" conducted by the Human Resource Development Cenre, University, Coimbatore held from 10.05.2017 to 06.06.2017.
3. Participated in the "UGC-sponsored Refresher Course in Chemistry" conducted by the Human Resource Development Cenre, Bharathiar University, Coimbatore held from 04.07.2018 to 24.07.2018.
4. Participated in "Online Refresher Course in Chemistry for Higher Education" organized by MHRD, SWAYAM, UGC, Government of India.

22) Participation in Faculty Development Programme

1. Faculty Development programme on Environment audit of Infrastructure, Extension Activity and Institutional Social Responsibility, IQAC, Nirmala college for Women, Coimbatore on30.10.2015
2. FDP programme on statistical Analysis using SPSS, Department of Botany, Nirmala college for Women, Coimbatore on 14.12.2018

23) Conference/ Seminar/ Workshop Organized

- Advances In Chemistry - Seminar - 13th February 2015.
- Micro Analysis in Chemistry – Workshop under DBT STAR College Scheme. 19.01.2016
- Emerging Trends In Frontiers Of Metal Organic Chemistry - UGC Sponsored Seminar - 18.02.2016.
- Intercollegiate Students Meet – CHEMFLAIR' 16. 27.09.2016.
- Orientation Programme for UGC NET Exam In Chemistry – UGC Funded - 10.02.2017.
- Principles and Applications of Mass Spectrometry, Polarography and Nano Chemistry – UGC Funded Seminar – 12.02.2018.
- Chemistry for National Level Competitive Examination – Orientation Workshop – 29.10.2018.
- Tuning Academic Research for Potential Funding Opportunities – FDP - Funded Under the DBT Scheme – 19.01.2019.
- Sustainable Innovations And Empowerment In Chemistry – International Symposium – Video Conference - 18.12.2019.
- Intercollegiate Students Meet – CHEMFLAIR' 20. 21.01.2020
- Contemporary Horizons In Chemical Sciences (CHCS 2020) - International Seminar - 10.02.2020.

25) Member in Board of Study

NGM College, Pollachi

27) Membership in Professional Bodies

Name of Professional Body	Nature of Membership	Duration
Royal society of Chemistry	Honorary member	2013