


Name of the Teaching Staff	Dr. V. MADHU			
Designation	Associate Professor			
Department	Department of Applied Chemistry			
School	School of Sciences, Media and Management			
Date of Joining the Institution	14 th June, 2012			
Qualification with Specialization	UG	PG	Ph.D.	
	First Class	First Class	NA	
Value Additions				
Research Expertise	<ul style="list-style-type: none"> - Optoelectronic Materials - Catalysis/Green Chemistry - Electron Transfer studies - Supramolecular Chemistry - Organic-Inorganic Hybrid Functional materials - Forensic Chemistry and Applications 			
Subjects Teaching	Under Graduate		Post Graduate	
	<ul style="list-style-type: none"> • Applied Chemistry • Engineering Chemistry • Applied Chemistry-Laboratory • Instrumental Techniques in Chemistry • Inorganic Chemistry for Forensic Science • Environmental Studies • Chemistry for Computer Science and Engineering • Fundamentals of Forensic Science • Forensic Chemistry Lab • Inorganic Chemistry Laboratory • Forensic Science Laboratory 		<ul style="list-style-type: none"> • Analytical Chemistry • Inorganic Chemistry • Main group Chemistry • Molecular spectroscopy • Physical Chemistry- Laboratory • Principles of Molecular Spectroscopy • Spectroscopic Methods for Structural Elucidation • Coordination Chemistry of Transition Elements • Chemistry of Non-Transition Elements 	
Total Experience in Years	Teaching		Industry	Research
	11 Years		6 months	19 Years
Papers Published	National	1	International	33
Papers Presented in Conference	National	14	International	5
Conferences / Symposiums / Seminars / Workshops Participated	National	40	International	10
FDP / STTP / MDP / Summer / Winter School attended	<ol style="list-style-type: none"> 1. Five day <i>Mission 10X Faculty Empowerment Workshop</i>” organized by Wipro Technologies on “High Impact teaching skills”, July 12 – 16, 2011 2. Two days <i>Mission10X Advanced Workshop</i> organized by Wipro Technologies, 2011 3. Faculty Induction Programme held at Karunya University, Coimbatore during June 14 – 20, 2012. 4. Faculty Pedagogy Programme held at Karunya University, Coimbatore during June 22 – 28, 2012 5. Short Term Course on <i>“Current Scenario in Nano & Functional Materials (Nano-FM 2017)”</i> which held at Department of Chemical Engineering, Coimbatore Institute of Technology, Coimbatore, Tamil Nadu, India during March 1-7, 2017. 6. Five day online FDP on Outcome Based Education - A Paradigm Shift, June 4 - 11, 			

	2020 organized by IQAC, Christ College of Science and Management, Malur, Karnataka.			
M.Phil. / Ph.D. Guide ship	Field		University	
	1. Chemistry 2. Forensic Science		Karunya Institute of Technology and Sciences (Deemed to be University)	
Ph.D. Projects Guided	Ph.D.s	1	Project at Master's Level	12
Professional Memberships	<ul style="list-style-type: none"> • Annual member in American Chemical Society Since 2009 • Annual member in Israel Chemical Society Since 2009 • Life member in National Environmental Science Academy Since 2010 • Life member in Materials research society of India Since 2016 • Life member in Luminescence Society of India Since 2016 • Life member in Chemical Research Society of India Since 2016 			
Consultancy Activities	<ul style="list-style-type: none"> • NMR, Mass and IR spectral analysis • UV-Vis-NIR absorption spectral analysis • Single crystal X-ray structure analysis 			
Awards & Honours	<ul style="list-style-type: none"> • IUCr Bursary Award-2017 • Achiever Award 2017 by Karunya university • UGC research award 2014-16 • Achiever Award 2013 by Karunya university • DST Fast track for Young Scientist • Best Poster Award-International Conference On Biological Inorganic Chemistry-2013 • Postdoctoral Research Fellowship, Weizmann Institute of Science, Israel (2007). • Senior Research Fellowship (SRF) in Chemistry, Council of Scientific and Industrial Research (CSIR), Government of India, (2005). • Junior Research Fellowship (JRF) Chemistry, Council of Scientific and Industrial Research (CSIR), Government of India, (2003). • Qualified Joint CSIR-UGC-JRF-NET conducted by Council of Scientific and Industrial Research (CSIR), Government of India, (2003). • Graduate Aptitude Test in Engineering (GATE 2002), Government of India. • Graduate Aptitude Test in Engineering (GATE 2001), Government of India. 			
Grants Fetched	<ol style="list-style-type: none"> 1. Project Title: <i>“Extending π-Conjugation of Metal Bis-dithiolene with Organic Backbones: NIR Absorbing Hybrid Materials for Optoelectronic Applications” (2017-2020)</i>; Funding Agency: DST-SERB, Govt. of India, New Delhi Rs. 38, 28, 760/- (Completed) 2. Project Title: <i>Investigation of new bimetallic catalysts for O₂ and CO₂ activation with enchanting catalytic properties: Green Chemistry Approach (2012-2015)</i>; Funding Agency: DST-SERB, Govt. of India, New Delhi Rs. 25,30,000 (Completed) 3. Project Title: <i>Design of Binuclear haem and Non-haem Based Transition Metal Catalysts: Synthesis, Characterization and Oxidation Catalysis through Dioxygen Activation (2014-16)</i>; Funding Agency: UGC, Govt. of India, New Delhi (UGC research award) Rs. 17,745,19 (Completed) 4. Science Academies' Lecture Workshop On <i>Recent Advances in Chemical Sciences (RACS-15)</i>, February 18th & 19th, 2015, held at Karunya Institute of Technology and Sciences (Deemed to be University); <u>Funding Agency:</u> National Science Academies (IASc, INSA and NASI), Rs. 1, 40, 500/- 			

	5. <i>First International Conference on Frontiers in Chemical Sciences (ICFCS-2020)</i> , Held at Department of Chemistry, Karunya Institute of Technology and Sciences, Coimbatore during 4-5 th March 2020. <u>Funding Agency: DST-SERB, Govt. of India, New Delhi Rs. 1, 00, 000/-</u>
Interaction with Professional Institutions	Weizmann Institute of Science, Israel Temple University, USA Indian Institute of Science, University of Hyderabad, National Chemical Laboratory-Pune IITs, IISERs
Educational Details with Institute / University Name	B.Sc. – Govt. Arts College, Krishnagiri (University of Madras) M.Sc. – School of Chemistry, University of Madras, Guindy Campus, Chennai-600025 Ph.D. - School of Chemistry, University of Hyderabad, Hyderabad
Experience	<p>2007 – 2010 Postdoctoral Research Fellow (With Prof. Ronny Neumann) Department of Organic Chemistry, Weizmann Institute of Science, 76100 Rehovot, Israel.</p> <p>2010 –2012 Assistant Professor Department of Chemistry, Jayam College of Engineering and Technology, Nallanur, Dharmapuri-636 813 Tamil Nadu, India</p> <p>2012 –2021 Assistant Professor Department of Applied Chemistry, Karunya Institute of Technology and Sciences (Deemed to be University), Coimbatore-641114</p> <p>2021 –Present Date Associate Professor Department of Applied Chemistry, Karunya Institute of Technology and Sciences (Deemed to be University), Coimbatore-641114</p>
Contact Details	Room No. SHF-215 Department of Applied Chemistry School of Science, Arts, Media and Management Karunya Institute of Technology and Sciences (Deemed to be University), Coimbatore, Tamilnadu India - 641 114 Mobile: 9600691317 E-mail: madhu@karunya.edu vmadhu1@gmail.com Google Scholar link: https://scholar.google.co.in/citations?user=ppUfEDMAAAAJ&hl=en

Papers Published

1. P. Gayathri, K. Kanagajothi, P. Nag, N. Anand, V. S. Reddy, D. Moon, S. P. Anthony and **V. Madhu***, Symmetrical and unsymmetrical thiazole based ES IPT derivatives: Highly selective fluorescence sensing of Cu²⁺ and structure controlled reversible mechanofluorochromism, *CrystEngComm*, **2021** (DOI: 10.1039/D1CE00927C).
2. P. Nagarasu, A. Kundu, V. Thiruvankatam, P. Raghavaiah, S. P. Anthony and **V. Madhu***, Investigating structure-fluorescence properties of imidazole fused tetraphenylethylene AIEgens: Reversible

- mechanofluorochromism and polymer matrix controlled fluorescence tuning, *CrystEngComm*, **2021**, 23, 5403 – 5410.
- J. Rana, P. Nagarasu, M. Subaramanian, A. Mondal, **V. Madhu,*** and Ekambaram Balaraman, Manganese-Catalyzed C(α)-Alkylation of Oxindoles with Secondary 2 Alcohols via Borrowing Hydrogen, *Organometallics* **2021**, 40, 6, 627–634.
 - J. Pitchaimani, S. T. R. J. Rajkumar, S. M. Mahalingam, S. P. Anthony, D. Moon, **V. Madhu,*** Coordination diversity in transition metal complexes with 4-aminoantipyrene tethered bis(imino)pyridine ligand: structures, superoxide dismutase and anticancer properties, *J. Coord. Chem.*, **2020**, 73, 3174-3185.
 - V. Madhu**, S. Mani, Enhanced microwave and photocatalytic decomposition of synthetic lignin wastewater by TiO₂ nanoparticles coated on activated carbon, *Materials Today: Proceedings*, **2020**, (DOI: 10.1016/j.matpr.2020.08.771)
 - P. Nagarasu, A. Kundu, J. Pitchaimani, S.P. Anthony, D. Moon and **V. Madhu,*** Structure controlled solvatochromism and halochromic fluorescence switching of 2,2'-bipyridine based donor-acceptor derivatives, *New J. Chem.*, **2020**, 44, 14421-14428.
 - V. Madhu***, A. K. Kanakati and S. K. Das, Serendipitous isolation of triazinone based air stable organic radical: synthesis, crystal structure and computation, *New J. Chem.*, **2020**, 44, 10781-10785.
 - J. Pitchaimani, A. Kundu, S. P. Anthony, D. Moon, and **V. Madhu*** Assessing the Facile Synthetic Route for Direct Access of Perylenediimide Single Crystals at High-yield via In-situ Crystallization, *ChemistrySelect*, **2020**, 5, 2070 –2074.
 - J. Pitchaimani, S. Karthikeyan, N. Lakshminarasimhan, S. P. Anthony, D. Moon and **V. Madhu***, Reversible Thermochromism of Nickel(II) Complexes and Single- Crystal-to-Single-Crystal Transformation, *ACS Omega* **2019**, 4, 13756-13761.
 - J. Pitchaimani, N. Gunasekaran, S. P. Anthony, D. Moon and **V. Madhu***, Hydrogenation of nitroaromatics to anilines catalyzed by air stable arene ruthenium(II)-NNN pincer complexes, *Appl. Organomet. Chem.*, **2019**, 33, e4689.
 - S. P. Midya, J. Rana, J. Pitchaimani, A. Nandakumar, **V. Madhu*** and E. Balaraman, Ni-catalyzed α -alkylation of unactivated amides and esters with alcohols via hydrogen auto-transfer strategy, *ChemSusChem.*, **2018**, 11, 3911-3916.
 - S. P. Midya, J. Pitchaimani, V. G. Landge, **V. Madhu*** and E. Balaraman, Direct access to N-alkylated amines and imines via acceptorless dehydrogenative coupling catalyzed by a cobalt(II)-NNN pincer complex, *Catal. Sci. Technol.*, **2018**, 8, 3469-3473.
 - S. Sowmiya, V. V. Kumar, J. Pitchaimani, **V. Madhu***, R. Thiagarajan, N. Sai Subramanian, S. P. Anthony, Self-assembly of water soluble perylene tetracarboxylic acid with metal cations: Selective fluorescence sensing of Cu²⁺ and Pb²⁺ ions in paper strips, zebrafish and yeast, *J. of Luminescence*, **2018**, 203,42-49.
 - V. G. Landge, J. Pitchaimani, S. P. Midya, M. Subaramanian, **V. Madhu*** and E. Balaraman, Phosphine-free cobalt pincer complex catalyzed Z-selective semi-hydrogenation of unbiased alkynes, *Catal. Sci. Technol.*, **2018**, 8, 428-433.
 - A. M Khenkin, **V. Madhu**, L. JW Shimon, M. A Cranswick, J. EMN Klein, L. Que, R. Neumann, Hydrogen-Atom Transfer Oxidation with H₂O₂ Catalyzed by [Fe^{II} (1, 2-bis (2, 2'-bipyridyl-6-yl) ethane (H₂O)₂)]²⁺: Likely Involvement of a (μ -Hydroxo)(μ -1, 2-peroxo) diiron (III) Intermediate, *Israel J. Chem.*, **2017**, 57, 990–998.
 - J. Pitchaimani, A. Kundu, S. Karthick, S. P. Anthony, D. Moon and **V. Madhu**, A Crab Claw Shaped Molecular Receptor for Selective Recognition of Picric Acid: Supramolecular Self-Assembly Mediated

Aggregation Induced Emission and Colorimetric Change, *CrystEngComm*, 2017, **19**, 3557-3561.

17. I. K. Naik, R. Sarkar, **V. Madhu**, R. Bolligarla, R. Kishore and S. K. Das, An Organic Receptor Isolated in an Unusual Intermediate Conformation: Computation, Crystallography and Hirshfeld Surface Analysis, *J. Phys. Chem. A*, **2017**, *121*, 3274–3286.
18. P. S. Hariharan, J. Pitchaimani, **V. Madhu***, S. P. Anthony, A halochromic stimuli-responsive reversible fluorescence switching 3, 4, 9, 10-perylene tetracarboxylic acid dye for fabricating rewritable platform, *Optical Materials*, **2017**, 53–57.
19. A. Kundu, J. Pitchaimani, **V. Madhu***, P. Sakthivel, R. Ganesamoorthy and S. P. Anthony, Bay functionalized Perylenediimide with pyridine positional isomers: NIR absorption and selective colorimetric/fluorescent sensing of Fe³⁺ and Al³⁺ ions, *Journal of Fluorescence*, **2017**, *27*, 491–500.
20. J. Pitchaimani, M. R. Charan Raja, S. Sujatha, S. K. Mahapatra, D. Moon, S. P. Anthony and **V. Madhu***, Synthesis of Arene Ruthenium (II) Complexes with Chalcone, Aminoantipyrine and Aminopyrimidine Based Ligands and Preliminary Evaluation of Anti-leukemia Activity, *RSC Advances* **2016**, *6*, 90982–9099.
21. **V. Madhu**, R. Bolligarla, I. K. Naik, Raju Mekala and S. K. Das, A {Cu₄I₄} Cluster Supported on a Metal-dithiolate Complex Anion Causes its Conformational Change Leading to a Doubly-bridged Curved Coordination Polymer and its Reactivity, *Eur. J. Inorg. Chem.* **2016**, 4257–4264.
22. P. S. Hariharan, J. Pitchaimani, **V. Madhu***, S. Philip Anthony, Perylenediimide Based Fluorescent Dyes for Selective Sensing of Nitroaromatic Compounds: Selective Sensing in Aqueous Medium Across Wide pH Range, *Journal of Fluorescence*, **2016**, *26*, 395-401.
23. **V. Madhu**, S. Supriya, K. Ravada and S. K. Das, Mechanical motion in the solid state and molecular recognition: reversible cis-trans transformation of an organic receptor in a solid-liquid crystalline state reaction triggered by anion exchange, *CrystEngComm*, **2015**, *17*, 3219–3223.
24. **V. Madhu** and S. K. Das, Diverse Supramolecular Architectures Having Well-Defined Void Spaces Formed from a Pseudorotaxane Cation: Influential Role of Metal Dithiolate Coordination Complex Anions, *Cryst. Growth Des.* **2014**, *14*, 2343–2356.
25. **V. Madhu**, Y. Diskin-Posner, R. Neumann, Copper(I) Complexes of Bipyridine and Terpyridine with Fluorous Tails and the Formation of Crystalline Materials with Fluorous Layers, *Eur. J. Inorg. Chem.* **2011**, 1792–1796.
26. K. Livanov, **V. Madhu**, E. Balaraman, L. J. W. Shimon, Y. Diskin-Posner, R. Neumann, Photocatalytic Splitting of CS₂ to S₈ and a Carbon-Sulfur Polymer Catalyzed by a Bimetallic Ruthenium(II) Compound with a Tertiary Amine Binding Site: Toward Photocatalytic Splitting of CO₂? *Inorg. Chem.* **2011**, *50*, 11273-11275.
27. **V. Madhu** and S. K. Das, Neutral coordination polymers based on a metal–mono(dithiolene) complex: synthesis, crystal structure and supramolecular chemistry of [Zn(dmit)(4,4'-bpy)]_n, [Zn(dmit)(4,4'-bpe)]_n and [Zn(dmit)(bix)]_n (4,4'-bpy = 4,4'-bipyridine, 4,4'-bpe = *trans*-1,2-bis(4-pyridyl)ethene, bix = 1,4-bis(imidazole-1-ylmethyl)-benzene, *J. Chem. Soc. Dalton Trans.*, **2011**, *40*, 12901-12908.
28. **V. Madhu**, E. Balaraman, L. J. W. Shimon, Y. Diskin-Posner, G. Leitun, and R. Neumann, Structural Diversity in Manganese, Iron and Cobalt Complexes of the Ditopic 1,2-Bis(2,2'-bipyridyl-6-yl)ethyne Ligand and Observation of Epoxidation and Catalase Activity of Manganese Compounds, *J. Chem. Soc. Dalton Trans.*, **2010**, *39*, 7266-7275.
29. **V. Madhu** and S. K. Das, New Series of Asymmetrically Substituted Bis(1,2-dithiolato)-Nickel(III) Complexes Exhibiting Near IR Absorption and Structural Diversity, *Inorg. Chem.* **2008**, *47*, 5055-5070.
30. **V. Madhu** and S. K. Das, A New Approach to Functionalize an Organic Compound through the Influence of

Metal Bis(dithiolene) Complexes Leading to Ion-Pair Compounds Exhibiting Strong Emission at Room Temperature in the Visible Region, *Inorg. Chem.* **2006**, *45*, 10037–10039.

31. **V. Madhu** and S. K. Das, N–H···S Hydrogen Bonds in a New Family of Ion-Pair Complexes Between Cationic Nickel Tetraazabicyclononane and Anionic Metal Dithiolates: Synthesis, Characterization and Properties of $[\text{Ni}(\text{C}_9\text{H}_{22}\text{N}_6)][\text{M}(\text{mnt})_2]$ (MII = Cu, Ni, Pd), *Eur. J. Inorg. Chem.* **2006**, 1505–1514.
32. **V. Madhu** and S. K. Das, One Pot Synthesis of a Mn(III)–Cu(II)–Mn(III) Trinuclear Heterometallic Compound Formed by Mn···S–Cu–S···Mn Supramolecular Interactions: Crystal Structure of $[\text{Mn}^{\text{III}}(\text{salph})(\text{H}_2\text{O})]_2\{\text{Cu}^{\text{II}}(\text{mnt})_2\}\cdot 4\text{DMF}$, *J. Chem. Sci.*, **2006**, *118*, 611–617.
33. **V. Madhu** and S. K. Das, Supramolecular p–p Assembly of a Neutral $[\text{Cu}(\text{salen})]$ Complex via the Templating Effect of an Ionic Inorganic Complex $\text{Na}_2[\text{Cu}(\text{mnt})_2]$ Forming a Framework type Material having Well-Defined Channels, *Inorg. Chem. Commun.*, **2005**, *8*, 1097–1100.
34. **V. Madhu** and S. K. Das, Near-IR Absorption due to Supramolecular Electronic Interaction in an Extended 3D Hydrogen-Bonding Network Material: Synthesis, Crystal Structure and Properties of $[4,4'\text{-H}_2\text{bpy}][\text{Cu}(\text{mnt})_2]$, *Polyhedron*, **2004**, *23*, 1235–1242.

Papers Presented in Conference

35. **V. Madhu**, Participated in the one day seminar on “ACS on Campus” Organized by American Chemical Society on 10th August 2020.
36. **V. Madhu**, Participated in the one day DST and ACS workshop, Organized by American Chemical Society and Department of Science and Technology, India on 28th July 2020.
37. **V. Madhu**, Participated and presented his work as oral in the Virtual 2nd International Conference on Crystal Engineering: From Molecule to Crystal, Organized by Royal Society of Chemistry and IISER, kolkata during, 19 – 20 June 2020.
38. **V. Madhu**, Participated in the *International Webinar on Soil Spectroscopy: An Emerging Technique for Rapid Soil Health Assessment* Jointly organized by ICAR-Indian Institute of Soil Science, Bhopal & World Agroforestry (ICRAF), Nairobi on 01 October 2020
39. **V. Madhu**, Participated in the National webinar on Forensic Science: Careers and future prospects organized by Department of Applied Chemistry, Karunya Institute of Technology and Sciences (Deemed to be University), Coimbatore, Tamil Nadu, India on 27-05-2020.
40. **V. Madhu**, Participated in the Indo-UK Virtual Conference ‘Current Innovations and the Future of Therapeutic Developments’ CIFTD-2020, organized by Centre for Biomaterials Cellular & Molecular Theranostics (CBCMT) at Vellore Institute of Technology (VIT), Vellore, India and Swansea University, United Kingdom during 1st-3rd June, 2020.
41. **V. Madhu**, Attended the 1st Virtual International Symposium on C-H Activation organized by Prof. Dr. Lutz Ackermann, Universität Göttingen, Germany, from July 27th to July 30th, 2020.
42. **V. Madhu**, Participated in the One day international seminar on “*Curriculum Design and Instructional Materials Development*” Organized by Karunya Competency Development Center (KCDC) and NITTR, chennai held at Karunya Institute of Technology and Sciences, Coimbatore on 6th January 2018.
43. **V. Madhu** and S. K. Das, *Coordination Polymers Based on a Metal(dithiolene) Complexes: Syntheses, Structures, and Properties*, Poster presentation at the International conference on Emerging Trends in Chemical Sciences (IETC-2013), Organized by Chemistry Division, School of Advanced Sciences, VIT, Vellore.,5-7, December **2013**.
44. **V. Madhu**, *Synthesis, Characterization and Structural diversity of Manganese Complexes of Ditopic 1,2-*

bis(2,2'-bipyridyl-6-yl)ethyne Ligand: Epoxidation and Catalase Activity Studies. Poster presentation at the “*International Conference on Biological Inorganic Chemistry (ICBIC-2013)*”, which was held in Periyar University, Salem, 20-22 February 2013.

45. **V. Madhu**, Participated in the one day National level technical seminar on “*X-Ray photoelectron spectroscopy for nanomaterials characterization*” Organized by Department of Chemistry, Department of ECE and Department of Nanoscience and technology, Karunya Institute of Technology and Sciences, Coimbatore on 19th February **2019**.
46. **V. Madhu**, Participated in the One day national seminar on “*Crystallography-an outreach programme by International Union of Crystallography-2017 (IUCr-2017)*” Organized by Department of Science and Humanities, Karunya University, Coimbatore on 17th February 2017.
47. **V. Madhu**, Participated in the two-days national hands-on training workshop on “*UV-Visible and Fluorescence Spectroscopy (HUVF-2015)*” Organized by Department of Chemistry, School of Science and Humanities, Karunya University, Coimbatore during 30th-31st January **2015**.
48. **V. Madhu**, Participated in the two-day national workshop on “*Luminescence Materials Devices and Applications (LMDA-15)*” Organized by Luminescence Society of India and IGCAR, Kalpakkam, which held during 19th-20th August **2015**.
49. **V. Madhu**, Participated and poster presented in the 10th Mid-year *CRSI Symposium in Chemistry (CRSI Mid-2015)* which held at NIT Trichy during 23rd- 25th July **2015**.
50. **V. Madhu**, Participated in National Conference on “*Innovations In Chemistry-Health and Energy (i-Chem-He 2014)*” Organized by Department of Chemistry, Karunya University, Coimbatore held on 6-8th February 2014.
51. G. Durga Prasad, **V. Madhu** and S. K. Das* *Modeling the active sites of iron only hydrogenase: synthesis, crystal structures and properties of heterocyclic dithiolene based iron carbonyls, [Fe₂{μ₂-Pdt}(CO)₆] And [Fe₂{μ₂-Qdt}(CO)₆]* Poster presentation at the “*Modern Trends in Inorganic Chemistry (MTIC-XII)*” which was held in Indian Institute of Technology, Madras, India on December, **2007**.
52. **V. Madhu** and S. K. Das*, *Conformational change of an organic cation receptor by molecular recognition of an inorganic complex anion: A supramolecular influence of π - π interactions*. Oral and Poster presentation at the “*Modern Trends in Inorganic Chemistry (MTIC-XI)*” which was held in Indian Institute of Technology, Delhi, India on December, **2005**.
53. **V. Madhu** and S. K. Das*, *A New Family of Ion-Pair Charge-Transfer Complexes Between Anionic Metal Dithiolates (M(II) = Cu, Ni, Pd) and Cationic Nickel Tetraazabicyclononanes*. Poster presentation at the “*Modern Trends in Inorganic Chemistry (MTIC-X)*” which was held in Indian Institute of Technology, Bombay, India on December, **2003**.
54. **V. Madhu**, Participated in the One day workshop on “*Electrochemical Energy conversion systems*” Organized by Department of Chemistry, School of Sciences, Arts, Media and Management, Karunya Institute of Technology and Sciences, Coimbatore on 7th March 2019.
55. **V. Madhu**, Participated and Poster presented in the 24th congress and general assembly of the *International Union of Crystallography* held at Hyderabad International Convention Centre, Hyderabad during 21-28 August **2017**.
56. **V. Madhu**, *Development of materials for anticancer, catalysis and Optoelectronic applications*. Poster presentation at Academic research poster presentation meet, which held at Karunya University, Coimbatore on 29th September 2017.
57. **V. Madhu**, Participated in a faculty development programme on “*LMS-BASIC (MOODLE)*” Organized by

Karunya Competency Development Center (KCDC), Karunya University, Coimbatore on 5th August 2016.
2018.

58. **V. Madhu**, Participated in a faculty development programme on “*Lecture Capturing*” Organized by Karunya Competency Development Center (KCDC), Karunya University, Coimbatore on 23rd August 2018.
59. **V. Madhu**, Participated in the workshop on “*Improving effectiveness of teaching and quality of education*” Organized by Department of Science and Humanities, Karunya University, Coimbatore on 23rd June 2016.
60. **V. Madhu**, Participated in the Industry-Academia workshop on “*Opportunities for Science postgraduates*” Organized by Department of Science and Humanities, Karunya University, Coimbatore on 28th September 2016.
61. **V. Madhu**, Participated in the one day workshop on “*Journalism writing*” Organized by Department of extension and continuing Education (DECE), Karunya University, Coimbatore held on 11th January 2014.
62. **V. Madhu**, Participated in the workshop on “*Nuclear Chemistry and Radioisotope Detection Techniques*, Organized by Department of Chemistry and Department of Nanotechnology, Karunya University on 23-24th August 2013.

Invited lectures Delivered

63. **V. Madhu**, Delivered an Invited lecture on “*UV-Vis-NIR spectroscopy: From Materils Design to Optoelectronic Device Applications*” at Webinar, organized by PG & Research Department of Chemistry, Padmavani College of Arts and Science for women, Salem, during 13th, August, **2020**.
64. **V. Madhu**, Delivered an Invited lecture on *Non-precious Metal Complexes for Sustainable Catalysis, Optoelectronic and Biology Application*” in National level Webinar organized by PG and Research Department of Chemistry, Chikkanna Government Arts College, Tirupur on **7/29/2020**.
65. **V. Madhu**, Delivered an Invited lecture on “*Transition Metal NNN-Pincer Complexes for Sustainable Catalysis*” at National Seminar, organized by Department of Chemistry, JP College of Arts and Science, Tenkasi on 5th August **2019**.
66. **V. Madhu**, Delivered an Invited lecture on “*NNN-Pincer Ligands Based Transition Metal Complexes and their Application*” at In-house symposium on Recent Advances in Chemistry-2019 (ISRAC-19), organized by Department of Chemistry, Karunya Institute of Technology and Sciences, Coimbatore on 16th March **2019**.
67. **V. Madhu**, Delivered an Invited lecture on “*NNN-Pincer Ligands Based Transition Metal Complexes: Application in Catalysis and Thermochromism*” at National seminar on Recent Advances in Chemistry (NSRAC-2019), organized by Department of Chemistry, Pondicherry University, Pondicherry during 4-5th March, **2019**.
68. **V. Madhu**, Delivered an Invited lecture on “*Development of Transition Metal Based Catalysts Towards Sustainable Development: Challenges and Applications*” at National level workshop on “*Environmental Friendly Catalytic Operations In Chemistry*” organized by Department of Chemistry, E.R.K Arts and Science College, Dharmapuri on 30th January **2019**
69. **V. Madhu**, Delivered an Invited lecture on “*Supramolecular Interaction Directed Assembly of Molecules into 1D Functional Materials*” at 1st International Symposium on Main-group Molecules on Materials (MMM) held at Department of Inorganic and Physical Chemistry, IISc-Bangalore during 28th to 31st October **2018**.
70. **V. Madhu**, Delivered an Invited lecture on “*Challenges in Development of Transition Metal Complexes For Catalysis and Anti-cancer Applications*” at National conference on Catalysis and Sustainable Development (NCCSD-2018), organized by PG & Research Department of Chemistry, Padmavani College of Arts and Science for women, Salem, during 19, January, **2018**.
71. **V. Madhu**, Delivered an Invited lecture on “*Perylenediimide and Metal-Bis(dithiolene) Based Analogues for NIR Absorbing Application*” at International Conference on Molecular Spectroscopy (ICMS-2017) held at Mahatma Gandhi

University, Kottayam, Kerala during 8-10th December **2017**.

72. **V. Madhu**, Delivered an Invited lecture on “*Arene-Ruthenium(II) Complexes: Impact of Chelating Ligand on Anticancer Activity*” at RSC symposium on Inorganic Chemical Biology (**ICB-2017**) Organized by the School of Chemistry, Madurai Kamaraj University, Madurai, during March 17-18, **2017**.
73. **V. Madhu**, Delivered an Invited lecture on “*Development of Perylene and Perylenediimide Derivatives for Opto-Electronic Applications*” at *National Conference on 'Emerging Challenges in Material Science'* (**Spec-2017**) held at Muthayammal College of Arts & Science, Rasipuram during January 27 to 28, **2017**.
74. **V. Madhu**, Delivered an Invited lecture on “*Sulphur Rich Metallopolymers and Perylenediimide Analogues for Conducting and Opto-Electronic Applications*” at International Conference on Macromolecules: Synthesis, Morphology, Processing, Structure, Properties and Applications (**ICM-2016**) held at Mahatma Gandhi University, Kottayam, Kerala during May 13 to 15, **2016**.
75. **V. Madhu**, Delivered a Special Invited lecture on “*Catalysts Role in Sustainable Development*” at Thiruvalluvar Govt. Arts College, Namakkal on 2nd January **2015**.
76. **V. Madhu**, Delivered a Special Invited lecture on “*Chemistry and Its Applications*” at Thiruvalluvar Govt. Arts College, Namakkal on 9, February **2013**.
77. **V. Madhu**, Delivered an Invited lecture on “*Synthesis, Characterization and Applications of Nano Materials*” at Vijay Vidyalaya College of Arts and Science, Dharmapuri, on 7th September **2013**.
78. **V. Madhu**, Delivered a Special Invited lecture on “*Introduction and Job Opportunity of Chemistry*” in the DST-Inspire Internship Science Camp-2012 at Jayam College of Engineering and Technology on 25, August **2012**.

Workshop/seminar/conference organized:

79. First International Conference on Frontiers in Chemical Sciences (ICFCS-2020), organized by Department of Chemistry, Karunya Institute of Technology and Sciences, Coimbatore during 4-5th March 2020 (**Convener**)
80. In-house symposium on Recent Advances in Chemistry-2019 (ISRAC-19), organized by Department of Chemistry, Karunya Institute of Technology and Sciences, Coimbatore on 16th March **2019 (Coordinator)**
81. National Conference on Molecules and Materials for Sustainable Development (NCMM-18), 6th, April 2018, Division of Chemistry, Karunya Institute of Technology and Sciences (Deemed to be University), (**Convener**).
82. Hands on Training Workshop on “Molecular Spectroscopy” Division of Chemistry, Karunya Institute of Technology and Sciences (Deemed to be University), 11th January, 2018, (**Organizing Secretary**).
83. Mega School Students Carnival-18 Organized by Karunya Institute of Technology and Sciences (Deemed to be University), Coimbatore on 27th October 2018, (**Coordinator**).
84. One-Day National Seminar on Crystallography-an Outreach programme by International Union of Crystallography-2017 (IUCr-2017), February 17th, 2017, held at Karunya Institute of Technology and Sciences (Deemed to be University) (**Coordinator**).
85. National Symposium on Invention and Innovation for Sustainable Development (IISD-2016), February 19, 2016, held at Karunya Institute of Technology and Sciences (Deemed to be University), (**Convener**).
86. Science Academies' Lecture Workshop On *Recent Advances in Chemical Sciences (RACS-15)*, February 18th & 19th, 2015, held at Karunya Institute of Technology and Sciences (Deemed to be University) (**Coordinator**).
87. National Symposium on Invention and Innovation for Sustainable Development (IISD-2015), April 15, 2015, held at Karunya Institute of Technology and Sciences (Deemed to be University), (**Organizing Secretary**).
88. National Conference on “Innovations In Chemistry-Health and Energy (i-Chem-He 2014) Organized by Department of Chemistry, Karunya University, Coimbatore held on 6-8th February 2014, (**Member**).

89. National Symposium on Invention and Innovation for Sustainable Development (IISD-2014), March 24, 2014, held at Karunya University (**Organizing Secretary**).
90. National Conference on Molecules and Materials-Solving problems of mankind (NCMM-13) Organized by Department of Chemistry, Karunya University, Coimbatore during 15th and 16th, February 2013, (**Conference facilitator**).

Books / Book Chapters

V. Madhu, Role of Catalysts in Sustainable Development; *Towards Invention and Innovation for Sustainable development*; IRIS publishers, **2014**, 127-131.

Research Group Members

Current:

1. **Mr. P. Nagarasu**, PhD Student
2. **Ms. V. J. Tamilpriyai**, PhD Student
3. **Ms. K. S. Deepanjaly**, PhD Student
4. **Mr. Jerome Issac**, PhD Student

Alumni:

5. **Dr. J. Pitchaimani**, Assistant Professor, Thiagarajar College, Madurai, Tamil Nadu.