


Title	Prof./Dr./Mr./Ms.	First Name	Thirupathi	Last Name	Natesan	Photograph
Designation		Professor				
Department		Chemistry				
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Web-Page		http://www.du.ac.in/faculty_member_details.htm?id=1486				
Education						
Subject		Institution	Year	Details		
Ph.D		Indian Institute of Science	1998	Thesis topic: Contributions to the chemistry of cyclotriphosphazanes and bicyclic tetraphosphapentazanes		
M. Sc		University of Madras	1991	Subject: Chemistry		
B. Sc		University of Madras	1989	Subject: Chemistry		
Career Profile						
Organisation/Institution		Designation	Duration	Role		
University of Delhi		Professor	2010 onwards	Research and Teaching		
University of Delhi		Associate Professor	2007-2010	Research and Teaching		
University of Delhi		Reader	2004-2007	Research and Teaching		
Case Western Reserve University		Research Associate	2002-2004	Research		
Iowa State University		Post Doctoral Fellow	1999-2002	Research		
University of Ottawa		Post Doctoral Fellow	1998-1999	Research		
Indian Institute of Science		Research Associate	1997-1998	Research		
Research Interests/Specialization						
Organometallic Chemistry						
Platinum group metal complexes of nitrogen donor ligands, transition metal amides, imides and related complexes						
Main Group Chemistry						
Group 12 metal carboxylate complexes, phosphorus-nitrogen rings, cages and their coordination chemistry aspects						
Teaching Experience (Subjects/Courses Taught)						
Inorganic Chemistry						
<ul style="list-style-type: none"> M. Sc: Supramolecular and photoinorganic chemistry (2008–2018), Chemistry of d-and f- block elements (2004-2008), Catalysis and Bio-inorganic Chemistry (2005–09) and Transition metal organometallic Chemistry (2008 onwards), Inorganic Reaction Mechanism (2018 onwards) and M. Sc Practical (2004 onwards) Ph.D: Metal alkoxides, aryloxides, amides, imides and related compounds (2004–2009) & Organometallic Chemistry (2009 onwards) 						
Honors & Awards						

1. CSIR-Junior Research Fellow (1992-94) & CSIR-Senior Research Fellow (1994-97)
2. General Proficiency Certificate, Ripon and Mendeleev medals (1986-89)
3. Stood University sixth rank in M.Sc (1989-1991)

Publications

Books/Monographs: Nil

Publications in Indexed/Peer Reviewed Journals (LAST FIVE YEARS)

<u>Year of Publication</u>	<u>Title</u>	<u>Journal</u>	<u>Co-Authors</u>
2020	Syntheses and structural aspects of dinuclear cycloplatinated N,N',N'' -triarylguanidinate (2-) complexes with a novel tridentate μ_2 - κ^2 (C, N): κ^1N coordination mode	<i>J. Organomet. Chem.</i> 2020 , <i>911</i> , 121138–121143.	Thakur, V.
2019	Half sandwich electron deficient N,N',N'' -triarylguanidatoruthenium(II) complexes: Syntheses, reactivity studies, and structural aspects	<i>Eur. J. Inorg. Chem.</i> 2019 , (31), 3619–3628.	Kumar, R.; Ujjval, R
2019	Homoleptic <i>cis</i> - and <i>trans</i> -palladium(II) bis(guanidinato) complexes derived from <i>N</i> -aryl- N',N'' -di(pyridin-2-yl)- and <i>N</i> -aryl- N',N'' -bis(6-methylpyridin-2-yl)guanidines: Catalysts for Heck-Mizoroki coupling reactions	<i>J. Organomet. Chem.</i> 2019 , <i>892</i> , 1–17.	V. Mishra, J. M. Thomas, S. Chinnappan
2019	Influence of cadmium(II) source upon the formation of a discrete monomer $[Cd(\kappa^2-OC(O)^tBu)_2(H_2O)_2]$ and a trinuclear heterobimetallic 1D CP, $\{Na_2[Cd(\mu_5-\kappa^3:\kappa^3-OAc)(\mu_3-\kappa^2:\kappa^3-OC(O)^tBu)(\mu_3-\kappa^1:\kappa^2-OC(O)^tBu)_2] \cdot 2^tBuC(O)OH\}_\infty$	<i>Inorg. Chim. Acta</i> 2019 , <i>489</i> , 126–131.	P. Agarwal, M. Nethaji
2019	Syntheses and structural aspects of six-membered palladacyclic complexes derived from N,N',N'' -triarylguanidines with N- or S-thiocyanate ligands	<i>New. J. Chem.</i> 2019 , <i>43</i> , 2307–2327.	P. Saxena, J. M. Thomas, C. Sivasankar
2018	Critical role of anions in platinum(II) precursors upon the structural motifs of six-membered cycloplatinated N,N',N'' -triarylguanidines	<i>ACS Omega</i> 2018 , <i>3</i> (6), 6075–6090.	V. Mishra
2018	Syntheses, characterization, solution behavior and catalytic activity of <i>trans</i> - $[(\text{guanidine})_2PdX_2]$ (X = Cl, OC(O)R; R = Me, Ph and ^t Bu) in Heck-Mizoroki coupling reactions involving chloroarenes/methyl acrylate	<i>Polyhedron</i> 2018 , <i>151</i> , 313–322.	P. Elumalai, R. Ujjval, M. Nethaji

2018	Probing the factors that influence the conformation of a guanidinato ligand in $[(\eta^5\text{-C}_5\text{Me}_5)\text{M}(\text{NN})\text{X}]$ (NN = chelating N,N',N''-tri(o-substituted aryl)guanidinate(1-); X = chloro, azido and triazolato)	<i>New J. Chem.</i> 2018 , 42, 1853–1866.	R. Kumar, R. Kishan, J. M. Thomas, C. Sivasankar
2017	Syntheses, characterisation, and catalytic role of $(\eta^5\text{-C}_5\text{Me}_5)\text{Rh}(\text{III})$ guanidinato complexes in transfer hydrogenation (TH) and TH-etherification	<i>RSC Adv.</i> 2017 , 7, 33890–33904.	R. Kumar
2016	Six-membered Cyclopalladated N,N',N'' -Triarylguanidines, $[\{\kappa^2(\text{C},\text{N})\text{Pd}\}_2(\mu\text{-OAc})(\mu\text{-Pz})]$, $[\kappa^2(\text{C},\text{N})\text{Pd}(\mu\text{-Pz})]_2$ and a Novel $[\text{AgNO}_3]\{\{\kappa^2(\text{C},\text{N})\text{Pd}\}_2(\mu\text{-NO}_3)(\mu\text{-Pz})\}$: Syntheses, Reactivity Studies, Structural Aspects, and Solution Behavior	<i>Polyhedron</i> 2016 , 117, 679–694.	P. Agarwal, J. M. Thomas, C. Sivasankar, M. Nethaji
2016	Syntheses, structural aspects, solution behavior, and catalytic utility of cyclopalladated N,N',N'' -triarylguanidines $[\kappa^2(\text{C},\text{N})\text{Pd}(\text{Pyrazole})_2\text{X}]$ (X = Br, OC(O)CF ₃ and PF ₆) in Suzuki-Miyaura coupling reactions of aryl bromides	<i>Organometallics</i> 2016 , 35, 3112–3123.	P. Agarwal, M. Nethaji

Conference Presentations (LAST FIVE YEARS)

1. U. Ujval, **N. Thirupathi**, *Platinum(II) adducts, cis-[L₂PtXX']* (X = X' = Cl (1); X = Cl, X' = OC(O)CH₃ (2) and X = X' = OC(O)CF₃ (3)) of rigid 2-amino benzimidazole type guanidines, L. *Synthetic and structural studies*. In Abstract "Modern Trends in Inorganic Chemistry (MTIC-XVIII)". P. 117. Department of Chemistry, Indian Institute of Technology, Guwahati, India
2. H. Parihar, **N. Thirupathi**, *Syntheses of indole N-carboximidamides from unsymmetrical N,N',N''-triarylguanidines through cobalt (II) catalysed directed C–H activation*. In Abstract "Modern Trends In Inorganic Chemistry (MTIC-XVIII)". P.164. Department of Chemistry, Indian Institute of Technology Guwahati, India.
3. K. N. Sinha, **N. Thirupathi**, *Formation of mono- and dinuclear palladium pincers derived from picolinamide and picolyl protected unsymmetrical N,N',N''-trisubstituted guanidines and their role as catalysts in Suzuki-Miyaura coupling reactions*. In Abstract "Modern Trends in Inorganic Chemistry (MTIC-XVIII)". P.193. Department of Chemistry, Indian Institute of Technology, Guwahati, India.
4. R. Ujval, **N. Thirupathi**, *Reactivity studies of six-membered cycloplatinated guanidines,*

- [Pt{κ²(C,N)}{OC(O)CF₃}(DMSO)]* with Ph₂P(CH₂)_nPPh₂ (n = 1-3). Efforts to unravel factors that determine C,N versus N,N coordination modes of N,N',N''-triarylguanidines in the products 2018 In Abstract "1st International Symposium on Main-group Molecules to Materials (MMM)". P.130. Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bengaluru.
5. V. Thakur, M. Adnan, G. V. Prakash, **N. Thirupathi**, Synthesis, structural and optical studies of six-membered cycloplatinated guanidines, [Pt{κ²(C,N)}{κ²(O,O'-acac)}] 2018 In Abstract "1st International Symposium on Main-group Molecules to Materials (MMM)". P.148. Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bengaluru.
 6. V. Thakur, **N. Thirupathi**, Cyclopalladated N,N,N-triarylguanidines [κ²(C,N)Pd(μ-OAc)]₂ and [κ²(C,N)Pd(PPh₃)Br] as catalysts in Suzuki-Miyaura cross coupling reactions of aryl bromides and activated aryl chlorides 2016 In Abstract "19th CRSI National Symposium in Chemistry" P. 81, Department of Chemistry, University of North Bengal, Siliguri.
 7. R. Kumar, **N. Thirupathi**, Half sandwich ruthenium(II) electron deficient triarylguanidinato complexes: Reactivity studies and catalytic activity in azide-alkyne cycloaddition reactions 2016 In Abstract "19th CRSI National Symposium in Chemistry" P. 83, Department of Chemistry, University of North Bengal, Siliguri.
 8. V. Mishra, **N. Thirupathi**, M. Nethaji, Synthesis, structural studies and solution behaviour of Pt₂Ag₂ clusters [κ²(C,N)Pt(μ₂-OC(O)CF₃)₂Ag]₂ containing six-membered cycloplatinated N,N',N''-triarylguanidines 2016 In Abstract "19th CRSI National Symposium in Chemistry" P.88, Department of Chemistry, University of North Bengal, Siliguri.
 9. P. Agarwal, **N. Thirupathi**, M. Nethaji, The influence of synthetic routes upon the formation of [Cd(κ²O,O'-OC(O)^tBu)₂(H₂O)₂] and {Na₂[Cd(κ²O,O'-OC(O)Me)(κ²O,O'-OC(O)^tBu)(OC(O)^tBu)₂·2^tBuC(O)OH]}_∞ 2016 In Abstract "18th CRSI National Symposium in Chemistry" P.9, Punjab University and Institute of Nanoscience and Technology, Mohali.
 10. R. Kumar, **N. Thirupathi**, Transfer hydrogenation of ketones and aldehydes catalyzed by [(η⁵-C₅Me₅)RhCl{κ²(N,N')(ArN)₂C-N(H)Ar}] 2016 In Abstract "18th CRSI National Symposium in Chemistry" P.200, Punjab University and Institute of Nanoscience and Technology, Mohali.
 11. V. Mishra, **N. Thirupathi**, Bis-chelate palladium(II) amide complexes derived from N-aryl-N',N''-dipyridylguanidines: Pre-catalysts for Heck-Mizoriki coupling reactions involving styrene and aryl bromides/activated aryl chlorides 2016 In Abstract "18th CRSI National Symposium in Chemistry" P.258, Punjab University and Institute of Nanoscience and Technology, Mohali.

<u>Lecture delivered</u>
1. N. Thirupathi , <i>Palladium(II) and platinum(II) complexes of N,N',N''-triarylguanidines. Recent findings and ongoing investigations 2018</i> In Abstract "1 st International Symposium on Main-group Molecules to Materials (MMM)". P.83. Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bengaluru.
Total Publication Profile <i>optional</i>
Books: _____ Nil
In Indexed/Peer Reviewed Journals: 45 Total publications in journals plus one US Patent
Public Service/University Service/Consulting Activity
University Service: Coordinator for CHNSO elemental analyzer, member of 400 MHz NMR spectrometer housed in USIC, University of Delhi, Delhi 7 (2008-till date); Member of various committees in USIC and Chemistry Department; Coordinator for Refresher Course in Chemistry 2015, Deputy Coordinator for UGC SAP.
Professional Societies Memberships
<ul style="list-style-type: none"> a. Life Member, Chemical Research Society of India b. Life Member, Nuclear Magnetic Resonance Spectroscopy c. Life Member, Indian Council of Chemist d. Life Member, International Union of Crystallography
Projects (Major Grants / Collaborations)
Major Projects Completed: Four (Three projects sponsored by DST and one project sponsored by CSIR) Ongoing Project: Nil
Other Details; M. Phil degree awarded: Four students Ph.D degree awarded: Ten Students Number of undergraduate students trained (2016): two (Deeksha Sharma; University of Delhi; Summer Internship in Exposure to Laboratory Research and Divyansh Anil Khurana, Indian Institute of Science; KVPY-SA 2013) Number of Research Scholars presently working: Four Number of Research Scholar who has submitted PhD Thesis: One

(Signature of Faculty Member)

(Signature & Stamp of Head of the Department)