Curriculum Vitae

Dr. Palani ELUMALAI

Research Scientist
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Objectives

I believe such an opportunity would provide me with the world class research experience that I am seeking to further develop the skills. This position appeals to me because of my strong interest and vast experience in synthetic organic, organometallic, bioinorganic/coordination compounds and interlocked and non-interlocked supramolecular self-assemblies, MOFs and modern analytical techniques.

Professional Experience and Education

2016/11 – Present	**Research Scientist** Department of Chemistry, Science Program, Texas A&M University, Texas, USA
2014 – 2016	**National Research Foundation Fellow of Korea** Department of Chemistry & Biology, University of Ulsan, Ulsan, South Korea
2013 – 2014	**Post-Doctoral Fellow** (*Advisor: Prof. Ki-Whan Chi*) Department of Chemistry & Biology, University of Ulsan, Ulsan, South Korea
2012 – 2013	**Post-doctoral Research Associate** (*Advisor: Prof. M. Sathiyendiran*) Department of Chemistry, University of Delhi, New Delhi, India
2007 – 2013	**Ph.D., Synthetic Organometallic Chemistry** (*Advisor: Prof. Natesan Thirupathi*) Department of Chemistry, University of Delhi, New Delhi, India
2005 – 2007	**M.S., Chemical Sciences** (*Advisor: Prof. Ram. Murugesan*) School of Chemistry, Madurai Kamaraj University, Tamil Nadu, India
2001 – 2005	**B.S., Chemistry** AAGA-College, University of Madras, India

Awards and Recognition

2013 – Present	**Reviewer of Peer-Reviewed Journals:** *Journal of American Chemical Society, Inorganic Chemistry, Organometallics (ACS), Scientific Reports (Nature Publications), Chemical Sciences, Dalton Transaction, and New Journal of Chemistry (RSC).*
2014 – 2017	National Research Foundation Fellow of Korea (*NRF-Fellow of Korea*)
2014 – 2015	Post-doctoral Senior Research Fellow (*ESHRC-Fellow*)
2013 – 2014	Post-doctoral Fellow (*Korean BK-21-Fellow*)
2012 – 2013	Research Associate (*CSIR-India*)
2008 – 2012	University Research Fellowship (*USIC-DU, INDIA*)

Research Grants Authored

Individual Basic Science & Engineering Research Program Project Grant (2014-2017): entitled *"Functionalized Supramolecular Self-assemblies of Metallaladderanes: Synthesis, Characterization and Their Applications in Materials and Biomedicines"* Granted by National Research Foundation of Korea (NRF-Korea) (Project worth 154,500,000/- SKW)

Research Interest

- Covalent and Non-covalent Bonded Organic and Metal Organic Frameworks (MOFs) (*Recognition, gas storage, gas adsorption and catalysis studies*).
- Synthesis of Supramolecular Self-assembled interlocked Organic/Metallacycles (*Catenane, Rotoaxanes, Solomon Link, Borromean rings, Coordination Cages and Cubes*) and and non-interlocked (*Metalla-Cage, Cubes, Rectangles, Squares*) (*for energy harvest-storage, soft-materials, gas adsorption and storage materials and bio-materials*).
- Bio-materials properties, Anti-cancer, Protein, DNA-bindings, Cellular-uptake and Bio-Imaging Studies. Host-Guest, OLED studies, CO-releasing properties (*Photo-COMRs*), Homogeneous and Heterogeneous Catalysis studies.

Research Experience

Nov. 2016 – Present **Research Scientist** (*Funded* by Qatar National Research Foundation (*QNRF*)
Texas A&M University, TX, USA.

"Bridging the gap between homogeneous and heterogeneous catalysis through Metal Organic Framework (MOF) supported biomaterials and catalyst"

The current project focusing on development of a new type of heterogeneous catalysts based on immobilization of well-defined, potent molecular homogeneous catalysts on the surface and pores of the MOF materials. The new catalyst is anticipated to combine the strengths of homogeneous catalysts such as high levels of activity and selectivity with the strengths of heterogeneous catalysts such as high stability and recyclability. The project will be accomplished through functionalization of MOF structures with monodentate and bidentate phosphorus and nitrogen ligands. The functionalized MOF materials also will be studied their gas and energy storage properties and biomaterials application.

Dec. 2014 – Oct.2016 **National Research Foundation Fellow of Korea** (*NRF-Fellow*)
University of Ulsan, Ulsan, South Korea

"Functionalized supramolecular arene-Ruthenium and Iridium based non-trivial interlocked organic/metal based self-assemblies: and their applications in materials and biomedicines"

Design, synthesis, stability and solution, solid state characterization of all newly synthesised organic and metal-based self-assemblies via NMR, IR spectroscopy, HR-ESI-MS, single crystal X-ray diffraction (SC-XRD), UV-visible and micro-analytical techniques.

Newly synthesised supramolecular self-assemblies will be studied their anti-cancer studies via cytotoxicity, cellular uptake, DNA-binding and other methods. Metal-organic frameworks (MOFs) also will be utilised for the gas-adsorption, gas-storage and as a homogeneous and heterogeneous catalysis application.

Nov. 2013 – Dec.2014 **Post-doctoral Research Fellow** (*Brain Korean Fellow-BK-21, Korea*)
University of Ulsan, Ulsan, South Korea

"Bio-supramolecular and self-assemblies of arene-ruthenium(II) based interlocked and non-interlocked metalla drugs synthesis and their studies on bio-medicinal and materials properties"

Synthesis, characterisation and applications towards finding the potential anti-tumour drugs via cytotoxicity studies, cellular-uptake and DNA binding studies. Also studied their host-guest, template effect and sensing properties of Ru, Rh, Ir and Pt metalla supramolecular self-assemblies.

June 2012 – Nov. 2013 **Postdoctoral Research Associate** (CSIR-RA, INDIA)
University of Delhi, New Delhi, India

Supramolecular self-assemblies of photo-active fac-Re(CO)$_3$-core self-assembles with N-, P- and P=O donor ligands and their structural and materials studies"

Rational design and synthesis of biologically important bio-organometallics and supramolecular compounds of *fac*-Re(CO)$_3$, organometallic arene-Ru(II) metal based metallo-macrocycles with nitrogen, phosphine and phosphine oxide (P=O) donors as ligands: Studied their photo-physical and chemical properties.

Aug. 2007 – May. 2012 **Doctoral Research (PH.D.,)** in Synthetic Organometallic Chemistry
University of Delhi, New Delhi, India

*"Palladium(II) and Platinum(II) Complexes of sym. N,N′,N″–Triarylguanidines: Efforts Directed Towards the Understanding of Mechanistic Aspects of C–H Activation Process***"**

Thesis work was focused on synthesis, characterization and understanding the mechanism aspects of C–H and C–C activation processes in Synthetic Bio-Organometallic and Coordination Chemistry of Palladium(II) and Platinum(II) metals with biologically important Guanidine backbone.

A significant success was achieved in our objective of the synthesis of various Platinum(II) and Palladium(II) organometallic/coordination complexes, which are known to be as catalysts, materials in several applications and biological and pharmaceutical field.

Mar. 2006 – June 2007 **Master's (M.S.)** Dissertation
Madurai Kamaraj University, Madurai, India

"Improvisation of Anthraquinones as Photodynamic Therapeutic Agents: A Molecular Modelling Approach"
Series of anthraquinone based photodynamic therapeutic agents was screened by optimisation and energy calculation studies by molecular modelling approaches and verified the theoretically calculated optimised data with experimentally performed results.

Experimental Skills:

- Highly commendable knowledge/experienced in the designing of new problems to synthesis of suitable organic molecules/ligands and their corresponding organometallic, bioinorganic, coordination complexes, metallo-supramolecular self-assemblies, Metal-Organic Frameworks (MOFs) and biologically active metalla-drugs.
- Highly commendable experience in the design and synthesis of non-trivial structures of interlocked supramolecular self-assemblies such as single interlocked *Catenane*, double interlocked *Solomon Knot* and triply interlocked *Borromean rings* and Metal Organic-frame Works (MOFs).
- Vast experience in multi-step synthesis, purification and characterization of organic, inorganic and organometallic metalla-biosupramolecular self-assemblies using crystallization, column chromatography and other techniques.
- Vast experience to carry out in High Pressure and Air Sensitive reactions using Schlenk line techniques and expertise in handling various chemicals, performing moisture sensitive/–78 °C temperature reactions. Also expert in high-pressure synthetic methods such as solvo-, hydro-thermal methods and solid state synthesis.
- Excellent experience in the applications studies towards finding high potential anti-cancer drugs and imaging agents, photo-CORM molecules via cytotoxicity, cellular uptake, DNA-binding and CO-releasing properties. Also application studies on homogeneous catalysis, bio-sensor and host-gest studies.
- Excellent experience analysing potential for newly synthesised compounds by various techniques such as IR, NMR (^{1}H, ^{13}C, ^{19}F, ^{31}P and ^{195}Pt), 2D-NMRs (COSY, DOSY, HMQC, ROESY, NOE and DEPT), UV-visible, fluorescence spectroscopic, ESI-MS spectrometry, elemental analysis methods, TGA, DTA and single crystal X-ray diffraction.
- Excellent analysis and writing skills related synthetic methodologies, and bio-materials applications for manuscripts, projects to high quality journals, project grants and fellowships, respectively.

Technical Skills (Handling experience):

- The JEOL-400 MHz NMR instrument.
- Bruker Avance 300/400/600 MHz NMR instrument.
- Nano Particle Size, Molecular Weight and Zeta Potential DLS Analyser.
- GC- Flame-Ionization Detection (GC-FID) and GC-MS spectrometry instrument.
- Surface Area and Porosity Analyzer (BET).
- *Oxford CrysAlix PRO (Oxford Diffraction 2006)* single crystal X-ray diffraction.
- *Analysensysteme GmbH VarioEL V3.00,* Elemental Analyser (CHNSO).
- UV-visible and Fluorescence spectrometer.
- ESI-MS mass, FT-IR, TGA and DTA instruments.
- Other techniques • Use of Schlenk Line Distillation • Column chromatography • Crystallization techniques.
- Expert in modern computers with *Microsoft* and *Macintosh* OS.
- Expert in Single Crystal X-ray diffraction software such as Diamond 3.3, Olex2.1, Mercury 3.3, Wingx-Shelx-97, Origin 8, Chemdraw 12, and many other chemistry, scientific and non-scientific software.

Analysis Skills

- • Single Crystal X-ray Diffraction (SCXRD) • ^{1}H, ^{13}C, ^{19}F, ^{31}P, ^{195}Pt 1D-Nuclear Magnetic Resonance Spectroscopy (1D-NMR) and 2D-NMRs COSY, ROESY, NOESY, DEPT, HMQC, HETCORE and DOSY • Infrared spectroscopy (FT-IR) • UV-Visible spectroscopy • Fluoresce spectroscopy • Differential Scanning Calorimetry (DSC) • Thermal Gravimetric Analysis (TGA) • High Resolution Electrospray Ionization Mass spectrometry (HR-ESI-MS) • Nano Particle Size, Molecular Weight and Zeta Potential DLS Analyser • Surface Area and Porosity Analyzer (BET).
- **In addition to these synthetic skills, I have good knowledge to solve the single crystal X-ray structures of organic, inorganic, organometallic, coordination complexes and supramolecular self-assemblies, and have solved a good number of crystal structures up to the publication standard.**

List of Publications: 23 (Perrier Reviewed, *No. of citations: 198; h-index: 10; i11-index: 10 dated on 19June'17*)

[1]. **Elumalai, P.**; Kaushik, N.; Kim, D. W.; Kim, H.; Lee, S. J.; Choi, E. H.; Chi, K-W.;Kaushik, N. K. "Flexible ligated ruthenium(II) self-assemblies sensitizes glioma tumor initiating cells in vitro".
***Oncotarget,* 2017,** *8*, 60188-60200.
http://www.impactjournals.com/oncotarget/index.php?journal=oncotarget&page=article&op=view&path[]=19028&path[]=60998

[2]. **Elumalai, P.**; Jeong, Y. J.; Park, D. W.; Kim, D-W.; Kim, H.; Kang, S. C.; Chi, K.-W.; "Antitumor and biological investigation of doubly cyclometalated ruthenium(II) organometallics derived from benzimidazolyl derivatives".
***Dalton Trans.*, 2016,** *45*, 6667-6673.
http://pubs.rsc.org/en/content/articlelanding/2016/dt/c5dt04400f#!divAbstract

[3]. Shankar, B.; Arumugam, R.; **Elumalai, P.**; Sathiyendiran, M.; "Rhenium(I)-Based Monocyclic- and Bicyclic Supramolecular Coordination Complexes from an in Situ Phosphine Oxidation Reaction or Phosphine Oxide Ligands".
***ACS Omega,* 2016,** *1, 507–517.*
http://pubs.acs.org/doi/pdf/10.1021/acsomega.6b00187

[4]. Behera, S. K.; Sadhuragiri, G.; Murkherjee, A.; **Elumalai, P.;** Sathiyendiran, M.; Krishnamoorthy, G. "Aggregation induced enhanced and exclusively highly Stokes shifted emission from an excited state intramolecular proton transfer exhibiting molecule"
***Faraday Discuss.* 2016**, *Accepted Manuscripts DOI: 10.1039/C6FD00171H.*
http://pubs.rsc.org/en/content/articlelanding/2016/fd/c6fd00171h#!divAbstract

[5]. Behera, S. K.; Sadhuragiri, G.; **Elumalai, P.;** Sathiyendiran, M.; Kumar, M.; Mandal, B. B.; Krishnamoorthy, G. "Exclusive Excited State Intramolecular Proton Transfer from a 2-(2′-Hydroxyphenyl)benzimidazole Derivative"
***RSC. Adv.* 2016**, *6, 59708-59717.*
http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra11780e#!divAbstract

[6]. Sivalingam, Y.; **Elumalai, P.;** Yuvaraj, S. V. J.; Magna, G.; Sowmya, V. J.; Martinelli, E.; Paolesse, R.; Natale, C. D.; Chi, K-W.; Kawazoe, Y.; Natale. C. D. "Interaction of VOCs with Pyrene Tetratopic Ligands Layered on ZnO Nanorods Under Visible Light"
***J. Photochem. Photobiol. A: Chem.,* 2016**, *324, 62–69.*
http://www.sciencedirect.com/science/article/pii/S1010603015303282

[7]. **[#]Lee, H.-W.; [#]Elumalai, P.**; Singh, N.; Kim, H.; Lee, S. U.; Chi, K.-W.; "Selective Synthesis of Ruthenium(II) Metalla[2]Catenane via Solvent and Guest-Dependent Self-Assembly".
***J. Am. Chem. Soc.,* 2015**, *137*, 4674-4677. **([#]these authors contributed equally)**
http://pubs.acs.org/doi/abs/10.1021/jacs.5b02573

[8]. **Elumalai, P.**; Kanagaraj, R.; Marimuthu, R.; Shankar, B.; Kalita, A. C.; Sathiyendiran, M. "Rhenium(I)-based Bridgeless Double Metallocalix[4]arenes".
***Dalton Trans.*, 2015**, 44, 11274-11277.
http://pubs.rsc.org/en/content/articlepdf/2015/dt/c5dt00841g?page=search

[9]. **Elumalai, P.**; Thirupathi, N.; Nethaji, M. "The Dual Role of Acetate as a Nucleophile and as an Internal Base in Cycloplatination Reaction of *sym N,N′,N″*-Triarylguanidines".
***Inorg. Chem.* 2013**, *52*, 1883–1894.
http://pubs.acs.org/doi/pdf/10.1021/ic302058u

[10]. **Elumalai, P.**; Rajakannu, P.; Hussain, F.; Sathiyendiran, M. "Design Strategy for Arranging an Aromatic Cyclic Trimer into a Tripodal Molecule".
***RSC. Adv.* 2013**, *3*, 2171–2173.
http://pubs.rsc.org/en/content/articlelanding/2013/ra/c2ra22679k/unauth#!divAbstract

[11]. **Elumalai, P.**; Thirupathi, N.; Netaji. M. "Six-membered [C,N] cyclopalladated sym N,N′,N″-tri(4-tolyl)guanidines: Synthesis, reactivity studies and structural aspects".
***J. Organomet. Chem.* 2013**, *741-742*, 141–147.
http://www.sciencedirect.com/science/article/pii/S0022328X13004178

[12]. Shankar, B.; **Elumalai, P.**; Sathiyashivan, S. D.; Sathiyendiran, M. "Spheroid metallocavitands with eight calixareneshaped receptors on surface".
***Inorg. Chem.* 2014**, *53*, 10018–10020.
http://pubs.acs.org/doi/pdf/10.1021/ic5014895

[13]. Shankar, B.; **Elumalai, P.;** Shanmugam, R.; Singh, V.; Masram. D. T.; Sathiyendiran, M. "New class of supramolecular coordination complexes based on neutral oxygen donor bridging ligands".
***Inorg. Chem.* 2013**, *52,* 10217-10219.
http://pubs.acs.org/doi/pdf/10.1021/ic401257w

[14]. Rajakannu, P.; **Elumalai, P.**; Shankar, B.; Hussain, F.; Sathiyendiran, M. "Rhenium(I) based metallocalix[4]arenes decorated with free functionalized benzimidazolyl unit".
***Dalton Trans.* 2013**, *42*, 11259–11362.
http://pubs.rsc.org/en/content/articlepdf/2013/dt/c3dt51096d?page=search

[15]. Shankar, B.; Sahu, S.; Deibel, N.; Schweinfurth, D.; Sarkar, B.; **Elumalai, P.**; Sathiyendiran, M. "Luminescent Dirhenium(I)-Double-Heterostranded Helicate and Mesocate".
***Inorg. Chem.* 2014**, *53*, 922–930.
http://pubs.acs.org/doi/pdf/10.1021/ic4023135

[16]. Kanchithalaivan, S.; Sivakumar, S.; Ranjith Kumar, R. **Elumalai, P.** "Four-component domino Strategy for theCombinatorial Synthesis of novel 1,4-dihydropyrano[2,3-*c*]pyrazol-6-amines".
***ACS, Comb. Sci.,* 2013**, *15, 631-638.*
http://pubs.acs.org/doi/pdf/10.1021/co4000997

[17]. Shankar, B.; **Elumalai, P.**; Shanmugam, R.; Sathiyendiran, M. "Neutral heteroleptic rhenium-based M_3L_3L'' type metallacycles: Synthesis, structural characterization and DFT/TDFT studies".
***J. Organomet. Chem.* 2014**, *749,* 224-232.
http://www.sciencedirect.com/science/article/pii/S0022328X13006967

[18]. Gupta, D.; Shankar, B.; **Elumalai, P.;** Shanmugam, R.; Mobin. S. M.; Weisser, F.; Sarkar, B.; Sathiyendiran, M. "Synthesis and characterization of a tetrametallic coordination complex of tetrahydroxy-p-benzoquinone".
***J. Organomet. Chem.* 2014**, *754,* 59-62.
http://www.sciencedirect.com/science/article/pii/S0022328X13008978

[19]. Rajakannu, P.; **Elumalai, P.**; Hussain, F.; Sathiyendiran, M. "Rhenium-based Bicyclic Supramolecule with Calixarene-shaped Bowls".
***J. Organomet. Chem.* 2013**, *725*, 1–4.
http://www.sciencedirect.com/science/article/pii/S0022328X12006961

[20]. Shankar, B.; **Elumalai, P.**; Hussain, F.; Sathiyendiran, M. "Synthesis and Characterization of Tetragonal Prismatic π-stacked Metallacycles".
***J. Organomet. Chem.* 2013**, *732*, 130–136.
http://www.sciencedirect.com/science/article/pii/S0022328X1300154X

[21]. Manoharan, S.; Ramkumar, S.; **Elumalai, P.**; Anandan, S. "One-pot synthesis of metal free organic dyes containing different acceptor moieties for fabrication of dye sensitized solar cells".
***Tetrahedron Lett.* 2013**, *54*, 3132–3136.
http://www.sciencedirect.com/science/article/pii/S0040403913005765

[22]. Rajakannu, P.; **Elumalai, P.**; Mobin, S. M.; Sathiyendiran, M. "Hard and Soft-Donor Decorated Rhenium Based Calx[4]arene-Shaped Metallomacrocycles".
***J. Organomet. Chem.* 2013**, *743*, 17–23.
http://www.sciencedirect.com/science/article/pii/S0022328X13004531

[23]. Shankar, B.; **Elumalai, P.**; Jackmil, P. J.; Pramod, K.; Singh, S.; Sathiyendiran, M. "*Synthesis of rhenium-based M_2LL'-type supramolecular coordination complexes from flexible ligands".*
***J. Organomet. Chem.* 2013**, *743*, 109–113.
http://www.sciencedirect.com/science/article/pii/S0022328X13004828

[24]. Shankar, B.; **Elumalai, P.**; Sathiyendiran, M. "Synthesis of a polynuclear complex possessing four spatially arranged rhenium units".
***Inorg. Chem. Commun.* 2013**, *36*, 109–112.
http://www.sciencedirect.com/science/article/pii/S1387700313003377

List of Publications (*Submitted and Under Preparations* (Selected))

[1]. **Elumalai, P.**; Nethaji, M.; Thirupathi, N. "Preparation, Structural Characterization and Catalytic Utility of *trans*–[$X_2Pd(LH_2^{2,5\text{-xylyl}})_2$] (X = Cl and OC(O)R; R = Me, ^{t}Bu and Ph) in Heck-Mizoroki Coupling Reaction".
***Dalton Trans.*, 2017** (*Manuscript under Review*).

[2]. **Elumalai, P.**; Madrahimov, S. M.; Zhou, H.C, "Efficient Nano-size Functionalized UiO-66 MOF as Sustainable Catalysts for Successive C-C and C-heteroatom Bond Formation".
***J. Am. Chem. Soc.*, 2017** (*Manuscript under preparation*).

[3]. **Elumalai, P.**; Chi, K.-W.; "Self-assemblies with Ruthenium Metal and their Anti-cancer Potential".
***Dalton Trans.*, 2017** (Invited Review) and (*Manuscript under Preparation*)

Presentations and Participations in Conferences

[1]. Post-Functionalized Nano-size Zr-Metal Organic Frameworks (Zr-MOFs): Highly Active Sustainable Catalysts for Cross Coupling Reactions, "*The 4th International Conference and Exhibition on Laboratory Technology*" (**4th-LabTECH-2017**), Nov. 07-09, **2017**, Ministry of Energy, Doha, State of Qatar (Oral)

[2]. Efficient Nano-size Functionalized UiO-66 MOF as Sustainable Catalysts for Successive C-C and C-heteroatom Bond Formation, "*The* 2nd European Conference on Metal-Organic Frameworks and Porous Polymers" (**2nd-EuroMOF-*2017***), 29thOct.-01 Nov., **2017**, University of Technology, Delft, The Netherlands (Oral)

[3]. Efficient and Recyclable Functionalized Nano-size Zirconium Based Zr-MOF Catalysts for Successive C-N and C-heteroatom Bond Formation, "254th The American Chemical Society National Meeting *2017* " (**254th ACS-Meeting-2017**), August, 20-24, **2017**, Washington DC, **U.S.A**. (poster)

[4]. Immobilization of a Molecular Catalyst on Metal-Organic Framework for Efficient Catalytic Cross Coupling Reactions, "The 6th *Texas A&M University's Showcase Meeting 2017* " (**6th TAMUQ-Showcase-2017**), 20th April , **2017**, Doha, Qatar. (poster)

[5]. Functionalized Bisbenzimidazole Based arene-Ru(II) Metalla-Rectangles: Synthesis and Structural Studies, "*The 117th General Meeting of the Korean Chemical Society*" (**117th-KCS-*2016***), April 20–22, **2016**, KINTEX in Goyang, South Korea. (poster)

[6]. Interaction of Pyrene Ligands with Neat and Defective Two Dimensional Materials: a First Principles Study, "*XXV International Materials Research Congress*" (**XXV-IMRC-*2016***), Aug. 14–19, **2016**, Cancun, Mexico. (poster)

[7]. Interlocked and Non-Interlocked Supramolecular Coordination-Driven Self-Assemblies, "*The 116th General Meeting of the Korean Chemical Society*" (**116th-KCS-*2015***), Oct 14–16, **2015**, EXCO inDaegu,South Korea. (poster)

[8]. Rational Design and Synthesis of Functionalized Ruthenium(II) Organometallics, "*The 116th General Meeting of the Korean Chemical Society*" (**116th-KCS-*2015***), Oct 14–16, **2015**, EXCO in Daegu, South Korea. (poster)

[9]. Supramolecular Self-assembled arene-Ruthenium(II) Metalla-Chairs, "*The 45th World Chemistry Congress*" (**45th-IUPAC-*2015***), August 09–14, **2015**, BEXCO in Busan, South Korea. (poster)

[10]. Ruthenium(II) Supramolecular Self-assembled Metalla-[2]Catenane and Non-catenanes, *The 45th World Chemistry Congress*" (**45th-IUPAC-*2015***), August 09–14, **2015**, BEXCO in Busan, South Korea. (poster)

[11]. Ruthenium(II) Supramolecular Self-assembled Metalla-Chairs, "*The XXI EuCheMS International conference on Organometallic Chemistry*" (**XXI-EuCOMC-*2015***), July 05–09, **2015**, Department of Chemistry, Comenius University in Bratislava, **Slovakia**. (poster)

[12]. Organometallic Ruthenium(II) Supramolecular Self-assemblies of Dipyridyl-Diimine based N,N-donor, "*The 115th General Meeting of the Korean Chemical Society*" (**115th-KCS-*2015***), April 15–17, **2015**, KINTEX in, SK. (poster)

[13]. Ruthenium(II) Supramolecular Self-assemblies of Rigid Dipyridyl Based Diimides: Synthesis and Stuructural Aspects, "*The 115th General Meeting of the Korean Chemical Society*" (**115th-KCS-*2015***), April 15–17, **2015**, KINTEX in Goyang, South Korea. (poster)

[14]. Investigation on Interaction of VOCs with Pyrene Based Tetratopic Ligand, "*The 9th General Meeting of Asian Consortium on Computational Materials Science-Virtual Organization"* (**ACCMS-VOM9-*2014***), Dec 20–22, **2014**, Okinawa Institute of S&T. (OIST), Okinawa, **JAPAN**. (poster)

[15]. Rational Design and Synthesis of Organometallic Ruthesnium(II) Supramolecular Self-assemblies of Flexible Naphthalene Diimide, "*The 114th General Meeting of the Korean Chemical Society"* (**114th-KCS-*2014***), Oct 15–17, **2014**, Kimdaejung Convention Center, in Gwangju, **South Korea**. (poster)

[16]. Flexible Pyromellitic Diimide Scaffold Organometallic arene-Ruthesnium(II) Supramolecular Self-assemblies, "*The 114th General Meeting of the Korean Chemical Society"* (**114th-KCS-*2014***), Oct 15–17, **2014**, Kimdaejung Convention Center, in Gwangju, South Korea. (poster)

[17]. Design, Synthesis and Characterization of Doubly Cyclometallated Benzimidazole Based Ruthinacycles", poster presented in "*2014th Joined Seminar of Fukuoka Univ. and Univ. of Ulsan"* (***JSFU-2014***), Aug. 18–21, **2014**, Department of Chemistry in University of Ulsan, South Korea. (poster)

[18]. Doubly Cyclometallation of Ru(II), Rh(III) and Ir(III) Organometallic Complexes and Their Supramolecular Self-assemblies, "*The 113th General Meeting of the Korean Chemical Society*" (**113th-KCS-*2014***), April 16–18, **2014**, KINTEX in Goyang, South Korea. (poster)

[19]. New class of phosphine oxide donor-based Re(I)-complexes from an in situ phosphine oxidation, "*16th CRSI National Symposium in Chemistry"* (***16th CRSI-2014***), Feb. 07–09, **2014**, Department of Chemistry, Indian Institute of Bombay (IITB), Mumbai. (poster)

[20]. Neutral Bridgeless Double Metallocalix[4]arenes, "*50th Annual Convention of Chemists"* (***50th-ACC-2013***), December 04–07, **2013**, Department of Chemistry & Center for Advanced Studies in Chemistry, Punjab University, Chandigarh. (poster)

[21]. Luminescent Re(I)-based Helicate and Mesocate, "*Modern Trends in Inorganic Chemistry"* (***MTIC-XV-2013***), December 13–16, **2013**, Department of Chemistry, Indian Institute of Roorkee, IIT-Roorkee. (poster)

[22]. Phosphine oxide based supramolecular complexes from phosphine donor, "9th International School of Organometallic Chemistry (**9th-ISOC-2013**)" Aug. 30– Sept-03, **2013** in University of Camerino, **ITALY**. (poster)

[23]. Rhenium(I)-based supramolecules possessing calixarene-shaped bowls from flexible bifunctional tritopic ligand, "*New Directions in Chemical Sciences: A Symposium"(**NDCS-2012**)*, December 7–9, **2012**, Department of Chemistry, Inidan Institute of Technology Delhi (IIT-Delhi), New Delhi. (poster)

[24]. Participated in International Symposium on "*3rd Asian Conference on Coordination Chemistry" (**ACCC-2011**)*, India Habitat Centre, New Delhi, India, October 17–20, **2011**, Organised by IIT-Kanpur and IIT-Delhi, New Delhi.

[25]. A Rational Design of *Sym N,N′,N″*-Tris(2,5-xylyl)guanidine that Avoids Cyclopalladaction: Synthesis, and Structural Characterization of *trans*-[$X_2Pd(LH_2^{2,5\text{-xylyl}})_2$] (X = Cl and OC(O)R; R = Me, ^{t}Bu, Ph and CF_3) and Their Utility as Precatalysts for Heck-Mizoroki Coupling of Aryl Cl, "*Modern Trends in Inorganic Chemistry"* (***MTIC-2011***), December 10–13, **2011**, Department of Chemistry, University of Hyderabad, Hyderabad. (poster)

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[29]. Training Programme for Laboratory Staff As an instructor and imparted technical training in the programme 6th–24th December **2010**, Organised by University Science Instrumentation Centre, University of Delhi, New Delhi.

[30]. Participated in 6th Indo-Italian Workshop on "Chemistry and Biology of Antioxidant, 10th – 11th December **2009**, Organised by Department of Chemistry, University of Delhi, New Delhi.

[31]. Participated in 3rd Indo-Italian Seminar on "Green Chemistry" 9th December **2009**, Organised by Department of Chemistry, University of Delhi, New Delhi.

[32]. Participated in 13th ISCB-International Conference on "Interplay of Chemical and Biological Sciences: Impact on Health and Environment" *(**ISCBC-2009**)*, 26th February – 1st March **2009**, Organised by Department of Chemistry, University of Delhi, New Delhi. India

[33]. Participated in Indo-Italian Seminar on "Green Chemistry and Natural Products" 5th – 6th December **2008**, Organised by Department of Chemistry, University of Delhi, New Delhi. Inida

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Academic References

Provided upon request.

Declaration:

I worked closely with a team of researchers and learned the value of working independently as well as in a team with good lab practice. Thank you for your consideration and would welcome the opportunity to discuss further this position.
I hereby declare that all the above-furnished details are true to the best of my knowledge and belief.

Sincerely Yours

(Dr. Palani ELUMALAI)