

# SAM KIRUBAKAR P



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## RESEARCH OBJECTIVE

I am an aspiring chemist with insatiable fervour to make a tangible achievement in the fields of *organometallics* and *bio-inorganics*. I am committed to working diligently and learning relentlessly to surmount any hurdles I may face. As a creative and innovative thinker, I am always open to novel ideas and unconventional approaches. I am excited to collaborate with and learn from other researchers to perpetually expand my intellectual horizons and refining my practical skills. I am looking for a challenging and rewarding position that will enable me to apply my knowledge and skills to contribute to the advancement of science.

## EDUCATION

- **Master of Science in Chemistry** 2020 – 2023  
*Pondicherry University, Puducherry.*
  - **CGPA: 7.63** (*First Class*).
- **Bachelor of Science in Chemistry** 2017 – 2020  
*Bishop Heber College, Tiruchirappalli.*
  - Minored in Physics and Mathematics
  - **CGPA: 7.88** (*First Class*).
- **Higher Secondary Certificate (HSC)** 2015 – 2017  
*GRT Mahalakshmi Vidyalyaya Matriculation Higher Secondary School, Chennai.*
  - Passed with **78.25%**.
- **Secondary School Leaving Certificate (SSLC)** 2014 – 2015  
*GRT Mahalakshmi Vidyalyaya Matriculation Higher Secondary School, Chennai.*
  - Passed with **92.40%**.

## RESEARCH EXPERIENCE

- **Master's Project** 2021 – 2022  
*Organometallics & Supramolecular Chemistry Lab, Department of Chemistry, Pondicherry University, Puducherry.*
  - 1) Synthesis and Characterisation of Dinuclear Metallocycles with Ester and Thioester Functionalised Pyridyl Ligands
    - Designed and synthesised dinuclear metallo-supramolecular assemblies with semi-rigid ester and thioester functionalised pyridyl ligands with organic spacers and metal precursor containing *fac*-M(CO)<sub>3</sub> core (M = Re, Mn).
    - Characterised using various analytical techniques, such as <sup>1</sup>H NMR, FT-IR, UV-Vis, and High-Resolution ESI-Mass Spectroscopy.
    - These complexes will be used for studying their biological, photoemission, therapeutic, catalytic and electro-catalytic properties.
    - Supervisor: **Prof. Dr Bala. Manimaran**
  - 2) Synthesis and Characterisation of Ester and Thioester Functionalised Pyridyl and Amino quinone Ligands
    - Designed and synthesised novel dipodic and tripodic ester and thioester functionalised pyridyl and amino quinone ligands.
    - Characterised using various analytical techniques, such as <sup>1</sup>H NMR, FT-IR, UV-Vis, and High-Resolution ESI-Mass Spectroscopy.

- These dipodic and tripodic ligands will be used for the preparation of metallo-supramolecular transition metal-carbonyl assemblies.
- Supervisor: **Prof. Dr Bala. Manimaran**
- **Summer Internship** 2021  
*Organometallics & Supramolecular Chemistry Lab, Department of Chemistry, Pondicherry University, Puducherry.*
  - Designed and synthesised 2,2',2'',2'''-(ethane-1,2-diylbis(azanetriyl))tetrakis(N-(2-(pyridin-4-yl)ethyl)acetamide), a novel quadrapodic ligand.
  - Characterised using various analytical techniques, such as <sup>1</sup>H NMR, FT-IR, UV-Vis, and High-Resolution ESI-Mass Spectroscopy.
  - This quadrapodic ligand will be used for the preparation of metallo-supramolecular transition metal-carbonyl assemblies.
  - Supervisor: **Prof. Dr Bala. Manimaran**

## AWARDS AND HONOURS

- **Academic Topper** 2020  
*Bishop Heber College, Tiruchirappalli.*
- **First Prize** 2019  
*Bishop Heber College, Tiruchirappalli.*
  - Awarded for proficiency in Part 1 French.
- **High Achiever Award** 2015  
*GRT Mahalakshmi Vidyalaya Matriculation Higher Secondary School, Chennai.*
  - Awarded for getting more than **90%** in SSLC.

## WORKSHOPS

- **Energy Materials-Fundamentals to Device Fabrication (ECPE)** 2021  
*CSIR-Central Electrochemical Research Institute, Karaikudi – 630003*
  - **Fifth place** in the overall evaluation.

## CONFERENCES AND SEMINARS

- **Participant, International High Energy Materials Conference & Exhibit (HEMCE-2019)** organized by **High Energy Materials Society of India (HEMSI), SHAR-Chennai Chapter** in association with **Satish Dhawan Space Centre (SDSC), SHAR and Indian Institute of Technology, Madras (IITM), Chennai, 2019**
- **Participant, Regional Level Workshop on Analytical Techniques & Instrumentation for Chemists-ATIC'18, at Bishop Heber College, Tiruchirappalli, 2018**
  - Attended lectures and demonstrations on various analytical techniques and instruments, such as GC-MS, HPLC, FTIR, UV-Vis, etc.

## SKILLS

- **Research Skills:** Synthetic and coordination chemistry, analytical techniques, data analysis, literature review, report writing, presentation skills.
- **Technical Skills:** Purification of common Organic Solvents - Hexanes, DCM, Toluene, Mesitylene, Thionyl chloride and THF; Preparation of Samples for spectroscopic studies - IR Spectroscopy (solid and liquid), High Resolution ESI-Mass Spectroscopy and NMR Spectroscopy; PerkinElmer ChemOffice 22.0, Mnova 14, OriginPro® 2022, L<sup>A</sup>T<sub>E</sub>X, Python 3, Microsoft 365, Adobe Photoshop 2024, Adobe Illustrator 2023.
- **Instrumentation Skills:** Vacuum - Schlenk Line; FT-IR Spectroscopy; Rotary Evaporator Chromatographic Techniques - Column chromatography and TLC

- **Linguistic Skills:** Tamil (native/bilingual proficiency), English (full professional proficiency), French (limited working proficiency)

## PERSONAL INFORMATION

**Father's name** : Mr R. Pugalenth  
**DOB** : 18 – 03 – 2000  
**Residential address** : № 6/4, Kamakodi Street,  
 Subramania Salai,  
 West Saidapet,  
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**Nationality** : Indian  
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## REFERENCES

### 1) Prof. Dr Bala. Manimaran

*Professor and Head,  
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## DECLARATION

I hereby declare that the above-furnished details are true and complete to the best of my knowledge.

**Place:** Chennai

Yours sincerely,

**Date:**

**(SAM KIRUBAKAR P)**