

**Dr. C. IMLA MARY,**

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**OBJECTIVE**

To pursue more challenging and professional assignment. To work with an organization which can utilize my skills to achieve its higher goal and provide me ample opportunity to work.

**ACADEMIC PROFILE**

DEGREE	DISCIPLINE/ SPECIALIZATION	YEAR OF PASSNG	INSTITUTE	CGPA/%
Ph. D	Physics	2015–2021	Crystal Growth Centre, AC- Tech Campus, Anna University, Chennai.	Study on Multifunctional Properties of Copper Zinc Tin Chalcogenide Nanoparticles for Photocatalytic and Photovoltaic Applications
M.sc	Materials Science	2012–2014	Department of Physics CEG- Campus Anna university, Chennai.	<b>82.9%</b>
B.sc	Physics	2009–2012	Department of Physics Fatima college, Madurai.	<b>78.27%</b>
H.S.S	Bio-Maths	2009	St. Joseph's Girls Higher Secondary School Dindigul.	<b>70.91%</b>
S.S.L.C		2007	St. Joseph's Girls Higher Secondary School Dindigul.	<b>80%</b>

### **Additional Qualification:**

- Advance Diploma in Computer Applications
- Type Writing – English

### **PROJECT FELLOWSHIP:**

- UGC- Project Fellow (2015- 2018) in Crystal Growth Centre, Anna University, Chennai- 25

### **INSTRUMENT HANDLING / HANDS ON EXPERIENCE:**

- Fourier-transform infrared spectrometer with imaging (Jasco FTIR – 6300)
- UV-Vis spectroscopy (Jasco UV- 650)
- Portable laser Raman spectrometer
- Electrochemical Workstation (CH- Instrument)
- Solar cell device fabrication

### **RESEARCH PUBLICATIONS:**

- i. **Imla Mary, C, Senthilkumar, M, Manobalaji, G, Sai Prasanna, M, & Moorthy Babu, S**, “ Effect of different nanostructures of  $\text{Cu}_2\text{ZnSnS}_4$  on visible light-driven photocatalytic degradation of organic pollutants” *Journal of Materials Science: Materials in Electronics*, **Accepted**
- ii. **Imla Mary, C, Senthilkumar, M, Manobalaji, G, & Moorthy Babu, S**, 2021, ‘Solution Processed  $\text{Cu}_2\text{ZnSnSe}_4$  nanoink for inexpensive Pt-free counter Electrode in Dye-Sensitized Solar Cells’, *Solid State Sciences*, ISSN: 1293-2558, Vol. 116, PP. 106612
- iii. **Imla Mary, C, Senthilkumar, M, Manobalaji, G, & Moorthy Babu, S**, 2020, ‘Surface-treated  $\text{Cu}_2\text{ZnSnS}_4$  nanoflakes as Pt-free inexpensive and effective counter electrode in DSSC’, *Journal of Materials Science: Materials in Electronics*, ISSN: 0957-4522, vol. 31, pp. 18164-18174,
- iv. **Imla Mary, C, Senthilkumar, M & Moorthy Babu, S**, 2019, ‘Ligand exchange in  $\text{Cu}_2\text{ZnSnS}_4$  nano particles and its effect on counter electrode performance in dye-sensitized solar cells’, *Bulletin of Materials Science*, ISSN: 0250-4707, vol.42, no. 256, pp.1-6,

- v. **Imla Mary, C**, Senthilkumar, M & Moorthy Babu, S, 2018, ‘Influence of different sulfur sources on the phase formation of  $\text{Cu}_2\text{ZnSnS}_4$  (CZTS) nano particles (NPs)’, Journal of Materials Science: Materials in Electronics, ISSN : 0957-4522, vol. 29, pp. 9751-975,
- vi. **Imla Mary, C**, Ananthakumar, S, Senthilkumar, M, & Moorthy Babu, S, 2017, ‘Synthesis and Characterization of amine capped  $\text{Cu}_2\text{ZnSnS}_4$  (CZTS) nano particles (NPs) for Solar Cell application’, Materials Today: Proceedings, ISSN: 2214-7853, vol. 4, pp. 12484-12490.
- vii. Senthilkumar, M, **Imla Mary, C**, Manobalaji, G, & Moorthy Babu, S, 2020, ‘Investigation on  $\text{Cu}_x\text{S}$  nanoparticles based hole transfer layer as an inexpensive alternative for next generation solar cells’, AIP Conference Proceedings, ISSN: 1551-7616, vol. 2265, pp. 030610,
- viii. Senthilkumar, M, **Imla Mary, C**, Manobalaji, G, Pandiyarajan, M & Moorthy Babu, S, 2019, ‘Copper Indium Sulfide: Zinc Sulfide (CIS: ZnS) Alloyed Quantum Dots as an Eco-Friendly Absorber in Solar Cells’, Bulletin of Materials Science, ISSN: 0250-4707, vol. 420, no. 270, pp. 1-6
- ix. Senthilkumar, M, **Imla Mary, C**, Manobalaji, G, & Moorthy Babu, S, 2019, ‘Ligand Assisted Tunability of Morphological and Optical Properties of Copper Sulfide Nanocrystals’, Materials Science in Semiconductor Processing, ISSN 1369-8001, vol. 104, pp. 104685
- x. Senthilkumar, M, **Imla Mary, C** & Moorthy Babu, S 2017, ‘Morphological controlled synthesis of hierarchical copper selenide nanocrystals by Oleic acid, 1-Dodecanethiol and 1-Octadecene as surfactants’, Journal of Crystal Growth, vol. 468, pp. 169-174.

#### CONFERENCES/ WORKSHOP PARTICIPATED

- Participated in “International Symposium on Semiconductor Materials and Devices (ISSMD-3)”, held at Crystal Growth Centre, Anna University, Chennai, Tamilnadu, during 02-05 February 2015
- Poster presented in “Twenty fifth National Seminar on Crystal Growth and Epitaxy (XXV-NSCG) Crystal Growth Centre, Anna University ,Chennai Tamilnadu, during 06-07 February 2015
- DST-SERC school on “Ion Interaction with Matter” at Department of Physics, Saurashtra University, Rajkot, Gujarat, during 2-22 March 2015
- INUP Hands – on Training workshop from July 02-10, 2015 in IISC, Bangalore, Karnataka
- DST- SERC School “Single Crystals of functional materials and their applications” from September 2-22, 2015 in SSN College of Engineering, Chennai, Tamilnadu

- Participated in “ Third International Workshop on Advanced Functional Nanomaterials (TIWAN – 2015)”, held at Centre for Nanoscience and Technology, Anna University, Chennai, Tamilnadu, during 16-18 December 2015
- Participated in “ A Short term course on Flexible Electronics 2016”, held at IIT-Kanpur, Uttar Pradesh, during 04-08 July 2016
- Poster presented in “National Conference on Materials Science and Technology”, held at IIST, Thiruvananthapuram, Kerala, during 12-14 July 2016
- Poster presented in “ 2<sup>nd</sup> International conference on solar energy photovoltaics” held at KIIT University, Bhubaneswar, Odisha, during 17- 19 December 2016
- Poster presented in “ Materials & Technologies for energy conversion and storage (M-TECS 2018), BARC, Mumbai, during 26-29 September 2018
- Poster presented in “ 5<sup>th</sup> International conference on nanoscience and nanotechnology (ICONN-2019), held at SRM University, Chennai, during 28-30 January 2019

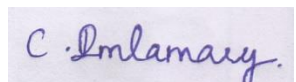
## PERSONAL DETAILS

Father’s Name : Mr. A.Charles  
 Mother’s Name : Mrs. A. Rani Pushpa Stella Mary  
 Date of Birth : 6<sup>th</sup> October 1991  
 Gender : Female  
 Languages Known : Tamil, English  
 Marital status : Unmarried

## DECLARATION

I do hereby declare that the above particulars of facts and information stated are true, correct, and complete to the best of my belief and knowledge.

**PLACE : DINDIGUL**

  
**(C. IMLA MARY)**