G. GENIFER SILVENA

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Renga Nagar,
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CAREER OBJECTIVE

To perpetually and continually improve my knowledge by teaching, learning and contributing in the field of research and development

EDUCATIONAL QUALIFICATION

Doctor of Philosophy, Nov 2018 - Commended

St. Joseph's College, Bharathidasan University, Trichy

M.Sc. - Physics, 2014 – 82%

St. Joseph's College, Bharathidasan University, Trichy

B.Sc. - Physics, 2012 – 73%

Holy Cross College, Bharathidasan University, Trichy

PROJECTS

- **Ph.D. Work**

  Thesis title : Investigation on Optimizing Cu_2ZnSnS_4 and ZnS Layered Thin Films Prepared by Spray Pyrolysis Technique for Optoelectronic Application

- **M. Sc Project**

  For : Final year, Master of Science (Physics)
  Project title : Study on the theoretical and experimental evidence for the existence of Higgs Boson.

- **B. Sc Project**

  For : Final year, Bachelor of Science (Physics)
  Project title : Theoretical study of celestial occurrence-formation and evolution of stars into Galaxies

PROFESSIONAL EXPERIENCE

Position: Assistant Professor (Shift-II)

Institution: St. Joseph's College (Autonomous), Trichy.

Period: 1st Sep. 2020 – Till date.

ADDITIONAL QUALIFICATIONS AND SKILLS

- Have done courses in C and JAVA programing.
- Experienced in handling chemical deposition techniques for thin film preparation
- Working capability in UV-Visible and Photoluminescence spectrophotometer
- Good in presentations and co-ordination skills
- Good communication skills
- Good team worker

RESOURCE PERSON

- *Delivered talk* on "Capacity Enhancement Programmed for Secondary School Students" on 16th March 2022 for 12th std. students of St. Joseph's Hr. Sec. School, Nagamangalam, organized by Extension Department Programme-Shepherd.
- Have been a *subject expert* to review project proposal on "A Comprehensive study on the solvothermal synthesis and characterization of $CuSbS_2$ nanoparticles as an absorber material for solar cell applications" for AFRG project instituted by Management & Research Committee, St. Joseph's College for Women, Alappuzha, during 2022.

INTERNATIONAL/NATIONAL/CONFERENCE PUBLICATIONS:

- Bincy John, Anju Mathew, K.S. Steny, Arunima Shaji and **G. Genifer Silvena**, "The effect of sulfate-based precursors on the formation of Cu_2ZnSnS_4 nanoparticles through temperature tuned solvothermal technique", ***J. Mater. Sci. Mater. Electron.***, vol. 34 (2023) pp.1270-78. DOI: 10.1007/s10854-023-10694-2
- R. Anne Sarah Christinal, **G. Genifer Silvena**, Sujay Chakravarty and A. Leo Rajesh, "Sulfurization free spray deposited kesterite Cu_2ZnSnS_4 absorber layer for photovoltaic applications", ***J. Mater. Sci. Mater. Electron.***, vol. 33 (2022) pp. 22361-73. DOI: 10.1007/s10854-022-09014-x
- Bincy John, **G. Genifer Silvena** and K. Veena Kumar, "Surfactant free and temperature dependent phase formation of ternary Cu_3SnS_4 nanoparticles by solvothermal process", ***Materials Today: Proceedings,*** (2022), DOI: 10.1016/j.matpr.2022.02.409.
- Bincy John, **G. Genifer Silvena**, Shamima Hussain, M.C. Santhosh Kumar and A. Leo Rajesh, "Surfactant-mediated solvothermal synthesis of $CuSbS_2$ nanoparticles as p-type absorber material", ***Indian J. Phys.***, vol. 93 (2019) pp.185-195, DOI:10.1007/s12648-018-1288-z.

- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Solution enhancement for the liable preparation of Cu_2ZnSnS_4 thin films", ***J. Mater. Sci. Mater. Electron.***, vol. 29:6 (2018) pp. 6113-6118. DOI: 10.1007/s10854-018-8587-1.
- **G. Genifer Silvena**, Bincy John, R. Anne Sarah Christinal, M. C. Santhosh Kumar, Sujay Chakravarty and A. Leo Rajesh, "Solution processed p-type Cu_2ZnSnS_4 thin films for absorber layer", ***J. Inorg. Organomet. Polym. Mater.***, vol. 27 (2017) pp. 1556-1562. DOI: 10.1007/s10904-017-0616-7.
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Non-vacuum based preparation of heterojunction thin film layers for photovoltaic application", ***International Journal of Scientific Research in Science and Technology***, vol. 3 (2017) pp. 273-277.
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Effect of precursor on the efficient formation of ZnS thin films for buffer layer", ***International Research Journal of Engineering and Technology***, vol. 4 (2017) pp.82-85.
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Rod like CuS thin films deposited using chemical spray pyrolysis technique", ***RETELL***, vol. 17 (2017) pp. 42-46, ISSN: 0973-404X.
- Bincy John, **G. Genifer Silvena** and A. Leo Rajesh, "Influence of reaction time on the structural, optical and electrical performance of copper antimony sulfide nanoparticles using solvothermal method", ***Physica B Condens. Matter***, vol. 537 (2018) pp. 242-250, DOI: 10.1016/j.physb.2018.02.030
- Bincy John, **G. Genifer Silvena** and A. Leo Rajesh, "Temperature dependent solvothermal synthesis of Cu-Sb-S nanoparticles with tunable structural and optical properties", ***Mater. Res. Bull.***, vol. 95 (2017) pp. 267- 276, DOI: 10.1016/j.materresbull.2017.07.026.
- Bincy John, **G. Genifer Silvena** and A. Leo Rajesh, "Investigating the effect of solvents for the preparation of $CuSbS_2$ nanoparticles by solvothermal method", ***AIP Conf. Proc.***, vol. 1832 (2017) pp. 050007(1-3), DOI:10.1063/1.4980.
- Bincy John, **G. Genifer Silvena** & A. Leo Rajesh, "Solvothermal Synthesis of CuSbS2 Nanoparticles for Photovoltaic Application", ***RETELL***, vol. 17 (2017) pp. 47-52, ISSN: 0973-404X.
- R. Anne Sarah Christinal, **G. Genifer Silvena**, Bincy John, A. Leo Rajesh and Sujay Chakravarty, **"**Sol-Gel Spin Deposited ZnO Semiconductor for Window Layer", ***RETELL***, vol. 18 (2017) pp. 85-92, ISSN: 0973-404X.
- Bincy John, **G. Genifer Silvena** and A. Leo Rajesh, "The post annealed effect on the optical properties of Cu_2ZnSnS_4 nanomaterials", ***International Journal of Applied Bioengineering***, vol. 9 (2015) pp. 49-53, ISSN: 0973-9084.

INTERNATIONAL/NATIONAL/CONFERENCE PRESENTATIONS:

- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Effect of solvent on the efficient preparation of spray pyrolysed Cu_2ZnSnS_4 thin films", Second International Conference on Materials Science and Technology (ICMST 2016) from 5^{th} to 8^{th} June 2016 organized by the Department of Physics, *St. Thomas College, Palai, Kottayam, Kerala*, India.

- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Solvent Utilized Preparation of p-type Cu_2ZnSnS_4 Thin Films", International Conference on Membrane Technology and its applications (MEMSEP-2017) during 21st-23rd February, 2017 at *National Institute of Technology, Tiruchirappalli, Tamilnadu,* India.
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Effect of precursor on the efficient formation of ZnS thin films for buffer layer", One-day International Seminar on Materials Science and Technology (ISMST-2017) held on 4th August 2017 organized by the Department of Physics, *Mother Theresa Women's University, Kodaikannal,* Tamilnadu, India.
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Preparation and Characterization of Cu_2ZnSnS_4 Thin Films using Spray Pyrolysis Method", National Conference on Advanced Materials (NCAM - 2016) held on 7th October 2016 organized by the Department of Physics, *St. Joseph's College (Autonomous), Tiruchirappalli*.
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Deposition of CuS Thin Film using Spray Pyrolysis Technique", TEQIP-II Sponsored National Conference on Advanced Materials: Processing and Characterization (AMPC-2017) during 27th and 28th of February 2017 held at the Department of Physics, *National Institute of Technology, Tiruchirappalli.*
- **G. Genifer Silvena**, Bincy John, Sujay Chakravarty and A. Leo Rajesh, "Chemical Spray deposited Cu2ZnSnS4 thin films for Photovoltaic Application", 21st National Seminar on Crystal Growth and Applications (NSCGA-2017) during 6th – 8th March, 2017 organized by the Department of Physics, *National College (Autonomous), Tiruchirappalli,* in association with Indian Association for Crystal Growth (IACG).
- **G. Genifer Silvena**, Bincy John and A. Leo Rajesh, "Non-vacuum based preparation of heterojunction thin film layers for photovoltaic application", International Conference on Advanced Materials (ICAM -2017) held on 14th-15th December 2017 organized by the Department of Physics, *St. Joseph's College (Autonomous), Tiruchirappalli*.

LIST OF TRAININGS/ CONFERENCES ATTENDED

- Hi-Impact Language Training Programme for faculty 6th to 24th May, 2024 conducted by Jospeh's Hub for Language, *St. Joseph's College (Autonomous), Trichy*.
- International Conference on Advanced Materials (ICAM-2023) 8th & 9th December, 2023 conducted by *St. Joseph's College, Tiruchirappalli.*
- One day training programme in soft skills 1st December 2023 conducted by JASS, St. Joseph`s College (Autonomous), Trichy at *Cluny Provincialate, Trichy.*
- International Conference on Advanced Materials (ICAM-2022) 11th & 12th February, 2022 conducted by *St. Joseph's College, Tiruchirappalli.*
- Orientation Programme for Young Professors, 8th & 9th December, 2022 conducted by Madurai Jesuit Province Higher Education Commission, *St. Xavier`s College of Education, Palayamkottai*.
- Innovations and Startups (for Self-Reliant India), 18th January 2022 conducted by *Tamilnadu State Council for Science and Technology, Chennai.*

- SuperSolar/PVSAT Conference 2021 (Online), 8th – 10th June 2021conducted by *Loughborough University, London.*
- Indian Nano Users Programme (INUP), "19th Hands on Training on Photovoltaics and Micro and Nano Characterization Techniques" from 3rd-12th February 2015 conducted at the Centre for Nano Science and Engineering, *Indian Institute of Science, Bangalore.*
- Summer Research Training Programme (SRTP - 2015) during 11th -18th May 2015 held at *Bishop Heber College, Tiruchirappalli.*
- Workshop on "Elemental, compound and phase analysis by powder X-ray diffraction" held on 19-20th September 2014 at Department of Physics, *National Institute of Technology, Tiruchirappalli.*
- Short term course on "Application of Nanotechnology" during 31st October- 1st November 2014 organized by the Department of Mechanical Engineering, *National Institute of Technology, Tiruchirappalli.*
- Workshop on "Electronic Information Sources and Web designing" on 4th December 2014 organized by *St. Joseph's College, Tiruchirappalli*

PERSONAL DETAILS

Date of Birth	:	23rd Sep 1992
Nationality	:	Indian
Languages	:	Tamil, English
Aadhar Number	:	210094943131

DECLARATION

Hereby, I declare that all the above furnished details are true.

(G. GENIFER SILVENA)