

# Dr. S. REX ROSARIO

Assistant Professor of Physics



## Personal details



Dr. S. REX ROSARIO



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Dept. of Physics , St. Joseph's  
College  
620002 - Tiruchirappalli

## Skills

Document Editing , Program  
Organizing, Counseling

## Languages

Tamil, English

## Hobbies

■ Report Writing

## Qualities

■ Mentoring, Team Work, Flexibility  
and Adaptability, Open Minded to  
learn

## Profile

Transformative Physics educator with a gift for igniting curiosity and passion in students. Expertise in breaking down complex concepts into intuitive understanding. Committed to nurturing the next generation of innovative thinkers and problem solvers.

## Education

### Doctor of Philosophy in Physics (Phd)

2015 - 2020

PG & Research Dept. of Physics, Arul Anandar College (Autonomous),  
Karumathur, Madurai, Affiliated to Madurai Kamaraj University.

Title: **DEPOSITION AND CHARACTERIZATION OF SEMICONDUCTING THIN  
FILMS FOR PHOTO-VOLTAIC APPLICATIONS**

### Master of Philosophy (MPhil)

2012 - 2013

Dept. of Physics, St. Joseph's College (Autonomous), Trichy

### Bachelor of Education

2011 - 2012

S.A.S College of Education, Trichy

### Master of Science in Physics

2009 - 2011

St. Joseph's College (Autonomous), Trichy

### Bachelor of Science in Physics

2006 - 2009

St. Joseph's College (Autonomous), Trichy

## Employment

### Assistant Professor of Physics

06/2021 - Present

St. Joseph's College (Autonomous), Trichy

### Assistant Professor of Physics

10/2020 - 04/2021

Servite Arts and Science College for Women, Thogaimalai

### Assistant Professor of Physics

06/2013 - 05/2020

PG & Research Dept. of Physics, Arul Anandar College (Autonomous),  
Karumathur, Madurai

## List of Publications

1. Growth and Optoelectronic characterizations of potassium hydrogen phthalate single crystals for two-photon absorption and optical limiting applications,

Learn something about everything and everything about something-  
Thomas Huxley

- Journal of Material Science: Materials in Electronics, Springer - 2024***
2. Noticeable gas sensing properties of ZnO nanocrystallites using twostep preparation technique, ***Applied Physics A, Material Science and Processing, Springer - 2023***
  3. Fabrication of heterostructure solar cell using the optimized Sn incorporated PbS films via atomized nebulizer spray pyrolysis, ***Materials Science in Semiconductor Processing, Elsevier- 2020***
  4. Ag-doped PbS thin films by nebulizer spray pyrolysis for solar cells, ***International Journal of Energy Research, Wiley- 2020***
  5. Deposition of p-type Al doped PbS thin films for heterostructure solar cell device using feasible nebulizer spray pyrolysis technique, ***Physica B: Physics of Condensed Matter, Elsevier - 2019***
  6. Fabrication and characterization of lead sulfide (PbS) thin film based heterostructure (FTO/CdS/PbS/Ag) solar cell by nebulizer spray method, ***Materials Research Express, IOP Science - 2019***
  7. Analysis of Cu doping concentration on PbS thin films for the fabrication of solar cell using feasible nebulizer spray pyrolysis, ***Materials Research Express, IOP Science - 2019***
  8. Investigation on nebulizer spray coated Nd- doped SnS<sub>2</sub> thin films for solar cell window layer application, ***Journal of Materials Science: Materials in Electronics, Springer - 2019***
  9. Nebulizer spray assisted chemical vapour deposited (NACVD) tin disulfide (SnS<sub>2</sub>) thin films for solar cell window layer applications, ***Materials Research Express, IOP Science - 2019***
  10. Preparation and Characterization of Sol–Gel Dip Coated Al: ZnO (AZO) Thin Film for Opto-Electronic Application, Semiconductors, ***Springer - 2019***
  11. Tuning the phase of Tin sulfide (Sn<sub>x</sub>S<sub>y</sub>) thin films by nebulizer spray pyrolysis method, ***AIP Conference Proceedings, 2115/ 030277- 2019***
  12. Evaluation of the structural, optical and electrical properties of AZO thin films prepared by chemical bath deposition for optoelectronics, ***Solid State Sciences, Elsevier- 2018***
  13. Effect of Tin Concentration on SnS<sub>2</sub> Thin films Prepared by Simple Nebulizer Spray Method, ***International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181- 2017***
  14. Effect of film thickness on the solar cell performance of CBD grown CdS/PbS Heterostructure, ***Journal of Materials Science: Materials in Electronics, Springer - 2016***

## Courses Handled

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- Solid State Physics, Basic Electronics, Digital Electronics, Optics, Atomic Physics, Nuclear Physics, Quantum Mechanics, Nano Science, Mechanics,

Communication Physics, Astrophysics, Bio-Medical Instrumentation, Allied Physics, Applied Physics.

- UG, PG, Allied Practicals
- Bridge Course (English Speaking and Writing)

## Reviewer

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Reviewed an article from Royal Society of Chemistry (RSC Advances) - 2020

## Invited Talk

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1. Lecture on Basic Electronics- Servite Arts and Science College for Women, Thogamalai, 4th October, 2023 .
2. Hands on Training on Physics Practicals, Servite Arts and Science College for Women, Thogamalai, 8th January 2024.

## Papers Presented

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**Presented a paper in International Conference on "Functional Materials for Bio-Energy, Green Technology and Environmental Sustainability (FMGES)"**

Trinity College for Women, Namakkal

Title: "Effect of Al doping on PbS thin films prepared using feasible Nebulizer Spray Pyrolysis for Solar cell Applications" (8th August 2019)

## Extra Activities

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**Bio-Physics Club, Discipline Committee , Dept. Sports incharge**