

The American College, Madurai
FACULTY PROFILE

Name : **Dr. S. SANTHOSH KUMAR JACOB**

Designation : **Assistant Professor**

Department : **PHYSICS**

Date of Joining : **05.10.2020**

Mobile : **9994872361**

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jacobsanthosh37@gmail.com



I. Education Qualification:

Degree	Subject	College/University & Place	Year Completed
Ph.D.	Physics	Madurai Kamaraj University Tamil Nadu, India.	2020
M. Phil.	Physics	The Madura College, Madurai (Affiliated to Madurai Kamaraj University) Tamil Nadu, India.	2011
M.Sc.	Physics	The Madura College, Madurai (Affiliated to Madurai Kamaraj University) Tamil Nadu, India.	2007
PGDCA	Computer Application	Madurai Institute of Social Science (Affiliated to Madurai Kamaraj University) Tamil Nadu, India.	2006
B.Sc. (Spl.)	Physics	The American College, Madurai (Affiliated to Madurai Kamaraj University) Tamil Nadu, India.	2004

Specialization in Research:

- Thin Film

Research Interests:

- Semiconductor materials, Photovoltaic Cell

Any Other Work Experience:

Designation	Institution	Year – From (month/year) To (month/year)
Assistant Professor	Arul Anandar College, Karumathur, Madurai	August 2011 – September 2020
Assistant Professor	The American College, Madurai, Tamil Nadu, India.	October 2020 – till date

Publications:

Total : 7 papers
International : 5 papers
National : 2 papers

Articles Published in International Journals: (Peer reviewed)

6

Synthesis and characterization of the nano semiconducting material cadmium sulphide
S. Santhosh Kumar Jacob, S.Saravanan Kumar, R.Saravanan
Materials Science Forum Vol. 699 (2011)79 – 88(Trans Tech publications, Switzerland)
(I.F. 0.4)
<https://doi.org/10.4028/www.scientific.net/MSF.699.79>

5

Effect of Trisodium Citrate Concentration on the Structural and Photodiode Performance of CdO Thin Films
M. Ravikumar, S. Valanarasu, R. Chandramohan, **S. Santhosh Kumar Jacob** & A. Kathalingam,
Journal of Electronic Materials, Vol. 44 (2015) 2800 – 2806 (Springer) (I.F. 1.678)
DOI: 10.1007/s11664-015-3759-8

4

Improving the conductivity of cuprous oxide thin film by doping Calcium via feasible nebulizer spray technique for solar cell (FTO/ZnO/Ca-Cu₂O)

S. Santhosh Kumar Jacob, I. Kulandaisamy, S. Valanarasu, A. M.S. Arulanantham, Mohd. Shkir, A. Kathalingam, N. Soundaram

Materials Research Express, Vol. 6, No. 4 (2018) (IOP Science) (I.F. 1.410)

DOI: 10.1088/2053-1591/aafb18

3

Enhanced optoelectronic properties of Mg doped Cu₂O thin films prepared by nebulizer pyrolysis technique

S. Santhosh Kumar Jacob, I. Kulandaisamy, S. Valanarasu, A. M. S. Arulanantham, V. Ganesh, S. AlFaify, A. Kathalingam

Journal of Materials Science: Materials in Electronics, Vol. 30, No. 24 (2019)1 –11 (Springer) (I.F. 2.195)

DOI: 10.1007/s10854-019-01397-8

2

Investigation on structural, optical and photovoltaic properties of Barium doped cuprous oxide thin films

S. Santhosh Kumar Jacob, I Kulandaisamy , S Valanarasu , A M S Arulanantham , V Ganesh, MohdShkir, I.S. Yahia

Materials Research Express, Vol. 6, No. 11 (2019) (IOP Science) (I.F. 1.410)

DOI: 10.1088/2053-1591/ab485f

1

Sn Doping Effect on the Structural, Optical and Electrical Properties of Cu₂O Thin Film Prepared by Nebulizer Spray Technique

S. Santhosh Kumar Jacob, I. Kulandaisamy

Journal of Scientific Research and Reviews, IJSRR 2019, Vol.8, No.1, 3347-3359 (I.F. 1.536)

DOI: https://www.ijssr.org/down_2219.php

Articles published in National Journals: (Peer reviewed)

1

Improving carrier transport in strontium- doped cuprous oxide thin films prepared by Nebulizer spray pyrolysis for solar cell applications

S. Santhosh Kumar Jacob, I. Kulandaisamy, S. Valanarasu, A. M. S. Arulanantham, V. Ganesh, Mohd Shkir & S. AlFaify

Indian Journal of Physics, Vol. 94 (2020) 1527 – 1535 (Springer) (I.F. 1.407)

DOI: 10.1007/s12648-019-01603-7

Conference / workshop/ Seminar Presentations:

4

Electrical and optical behaviors of Ag-doped Cu₂O thin films by Nebulizer Spray Technique

S. Santhosh Kumar Jacob

National Seminar on Technologically Important Crystalline and Amorphous Solids (TISCAS - 2018)

Kalasalingam (Academy of Research and Education), Deemed to be University, Krishnankoil – 626 126, Virudhunagar (Dt.), Tamil Nadu, India, 2nd & 3rd March 2018

3

Sn Doping Effect on the Structural, Optical and Electrical Properties of Cu₂O Thin Film Prepared By Nebulizer Spray Technique

S. Santhosh Kumar Jacob, I. Kulandaisamy

National Seminar on “Materials Science and Applications” (NSMSA - 2018), Mother Teresa Women’s University, Kodaikanal, Tamil Nadu, India, July 2018

2

Electrical and optical behaviors of Zinc-doped Cu₂O thin films by Nebulizer Spray Technique

S. Santhosh Kumar Jacob, I. Kulandaisamy

International Conference on Recent Trends in Applied Science and Technology (ICRTAST - 2018)

Periyar University, Salem – 636 011, Tamil Nadu, India, August 2018

1

Structural, Electrical and optical characterization of CuO thin films prepared by Nebulizer Spray pyrolysis technique

S. Santhosh Kumar Jacob, I. Kulandaisamy

National Level Conference on Nano science and Nanotechnologies in the livelihood enhancement of common man (NSLECM - 2017)

Arul Anandar College, Karumathur – 625 514, Madurai District, Tamil Nadu, India, February 2017

Workshops/seminars attended:

1. Participated in the State level seminar on “**Material Characterization Techniques - SLSMCT**”, organized by Department of Physics, **The Madura College, Madurai**, on 22nd December 2010.
2. Participated and presented a paper (oral) in the “**INDO – US workshop and International conference**” organized by department of Physics, **St. Joseph’s College** (Autonomous), Trichirappalli, from 12th to 14th, January 2011

3. Participated one day workshop on “Physics concepts through Interactive Animation, organized by Department of Physics, **The Madura College, Madurai**, on 25th February 2011.
4. Special lecture in the “**workshop for Science Teachers in Chellampatti Educational Union**” sponsored by Tamil nadu Science and Technology centre, Chennai, Organized by Arul Anandar Science and Society forum & Department of Physics, Arul Anandar College, Karumathur, Madurai District on 1,2 December 2011.
5. Participated One day UGC sponsored State Level seminar on “**Nano and Thin film Solar Materials**” organized by Indian Association of Physics Teachers, held at Department of Physics, **The Madura College, Madurai**, on 29th December 2011.
6. Resource Person in the “**National Science Mela 2012**” organized by Department of Religion and Value Education, **Arul Anandar College**, Karumathur, Madurai District on 16th to 18th March 2012.
7. Participated one day UGC sponsored “**National Colloquium for IQAC Coordinators on Best Practices in Higher Educational Institutes**”, organized by IQAC Arul Anandar College, Karumathur, Madurai District on 20th & 21st July 2012.
8. Participated one day state level on seminar on “Research Avenues in Physics” organized by Department of Physics, **Arul Anandar College**, Karumathur, Madurai District on 18th February 2013.
9. Participated one day state level Awareness on “Non – Conventional and Renewable Energy Resources” Sponsored by Ministry of New and Renewable Energy, Government of India, New Delhi, organized by Department of Physics in Collaboration with Department of Foundation Courses, **Arul Anandar College**, Karumathur, Madurai District on 27-28 November 2013.
10. Participated one day state level on seminar on “**Medical Instrumentation**” organized by Department of Physics, Vivekananda **College**, Tiruvedakam west, Madurai on 29th January 2015.
11. One day workshop on Materials Characterization Techniques, International Research Centre (IRC), 2nd February 2015, **Kalasalingam (Academy of Research and Education)**, Deemed to be University, Krishnankoil – 626 126, Virudhunagar (Dt.), Tamil Nadu, India.
12. Participated in National conference on “Academic Audit and Quality Enhancement in HEI’s” organized by Internal Quality Assurance Cell (IQAC), **Arul Anandar College**, Karumathur, Madurai District on 22nd & 23rd March 2016.

13. Guided a model during the “National Science Meal 2017” sponsored by DST, Ministry of Science and Technology, New Delhi & Tamil Nadu Science & Technology Centre, Chennai, organized by Department of Physics, **Arul Anandar College**, Karumathur, Madurai District on 27th to 29th January 2017.
14. National Conference on Advances in Astronomy and Space Technology (NCAAST - 2018), **Arul Anandar College**, Karumathur – 625 514, Madurai District, Tamil Nadu, India.

Faculty Development Programs (Online):

Webinars attended:

1. Webinar series on “Conceptual and Applied Physics” – 5-8 May 2020, Organized by R.K.University, Gujarat
2. A live webinar on Micro and Nanotechnology and its applications on 14th may 2020 by Department of Physics, GTN Arts College, Dindigul – 624005, Tamil Nadu.
3. Participating in the online “International Workshop on Space Science”, jointly organized by Space Education and Research Foundation, Ahmedabad and Department of Physics, School of Science, RK University, Rajkot, India during 18 -21 May, 2020.
4. Attended the National level webinar on Nano-Photonics held on 23-06-2020 through WebEx platform Organized by the Department of Physics, Madonna Arts & Science College for women, Madurai.
5. Attended in the National level webinar on “The Exciting Astronomy: Electromagnetic Radiation from the Sky” organized by the department of physics, Madonna Arts & Science College for women, Madurai, on 13th July, 2020.
6. Attended in the webinar on “The Progress in Nano-composites for Environmental and Device Applications” organized by the Department of Physics, Arul Anandar College (Autonomous), Karumathur, Madurai Dist., Tamil Nadu held on 05th August 2020

Research activities of the student under guideship

S. No.	Title	M. Phil / M.Sc./ B.Sc.	Month & Year	Please tick if it is collaborative
1.	Synthesis and characterization of Cobalt Sulphide thin film	M.Sc.	2014	
2.	Synthesis and characterization of Copper Oxide Thin film using CBD method	M.Sc.	2015	
3.	Studies on properties of CuO thin films by Nebulizer spray method	M.Sc.	2016	
4.	Effect of molar concentration on structural and optical properties of ZnS thin films by nebulizer spray method	M.Sc.	2019	
5.	Investigation on Nickel oxide (NiO) thin films for gas sensor application	M.Sc.	2020	

Head of the Department

(Dr. D. DURAI MANOHARADOSS PRABAHARAN) Dr. S. SANTHOSH KUMAR JACOB