



TITU THOMAS

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DOB: 16 December 1988
Nationality: Indian
Married

Online Academic Profiles:

Research Gate Profile

https://www.researchgate.net/profile/Titu_Thomas4

Linkedin Profile

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PRESENT POSITION

Working as Assistant Professor , Department of Physics , Nirmala College, Muvattupuzha, Kerala, India

AREA OF INTEREST

Thin film fabrication and characterization, Analysis and restoration of cultural artifacts and monuments, Maintenance and study of various characterization tools.

EDUCATION

- 2015- **Working as assistant professor**
- 2012-2015 **Junior Research Fellow (JRF)-** Cochin University of Science and Technology
- 2009-2011 **M.Sc Physics -** Cochin University of Science and Technology , Cochin, Kerala
Subject areas: Solid state physics, Thin film fabrication and characterization.
- 2006-2009 **B.Sc Physics -** Mahatma Gandhi University , Kottayam, Kerala

ACHIEVEMENTS

- University Rank Holder in B.Sc Physics (2009)
- NET (National Eligibility Test) 2012 in Physics qualified

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- GATE (Graduate Aptitude Test For Engineers) qualified

Domain of expertise

- **Programming Languages :**

C++, Python

- **Operating Systems:**

Windows, Linux, Macintosh

Online platforms

NPTEL

Datacamp

Coursera

Stanford Online

PUBLICATIONS

- **Conference Publications**

“Deposition And Characterisation Of CuInS₂ thin films Over Copper thin films”

Titu Thomas, K.Rajeev Kumar , C. Sudha Kartha ,K.P Vijayakumar at 59th Solid state Symposium by Department of Atomic Energy, 16th to 21st December, Vellore ,Tamilnadu.

- **Journal Publications**

1. **Titu Thomas** , Rajeev Kumar , C Sudhakartha , K .P Vijayakumar. “Simple one step Spray process for CuInS₂/In₂S₃ heterojunction on flexible substrates for photovoltaic applications”. Thinfilms for Solar and Energy Technology VII.SPIE proc vol 9561 95610J-1
 2. **Titu Thomas** ,Rajeev Kumar, C Sudhakartha , K.P Vijayakumar. Deposition and charecterisation of CulnS₂ thinfilms deposited over copper thinfilms.AIP Procead 1665 120037-1-120037-3: dio : 10,1063/1.4918144
 3. **Titu Thomas** , Soumya Xavier , K.P Vijaykumar , K Sreekumar .“Synthesis and Characterization of low band gap conjugated polymer , poly (3,4) ethylenedioxy –thiophene (PEDOT) for bulk heterojunction photovoltaic cell”.Journal of Material Chemistry(communicated)
 4. **Titu Thomas**, Soumya Xavier, K.P Vijayakumar , K Sreekumar .“Fabrication and Characterization of poly (2-methoxy-5-[20-ethyl hexyloxy]-1,4-phenylenevinylene, (MEH PPV)) and its application in photovoltaics”. Solar Energy Material and Solar Cell (communicated)
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PROJECTS UNDERTAKEN

1. Department of Science and Technology, Government Of India funded project :-

“Design and Synthesis of Design and Synthesis of Low Band Gap Conjugated Polymers and the fabrication of Inverted Polymer Solar Cell”

2. Masters Degree Project:

“Alternative energy solutions- ingenious method of harvesting solar energy- construction of a solar thermal updraft tower”

TRAINING/ONLINE COURSES ATTENDED

- Refreshment course and training on Walk With A Scholar programme by Government of Kerala .
<http://www.collegiateedu.kerala.gov.in>.
- **Solar Photovoltaics: Fundamentals, technology and applications**
https://onlinecourses.nptel.ac.in/noc19_ph13/course?user_email=tt@nirmalacollege.ac.in
- **Introduction to R Software**
https://onlinecourses.nptel.ac.in/noc19_ma33/course?user_email=tt@nirmalacollege.ac.in
- **Experimental Physics-II**
https://onlinecourses.nptel.ac.in/noc19_ph09/course?user_email=tt@nirmalacollege.ac.in

WORK EXPERIENCE

Technical experiences

- Basic engineering and fabrication methods. Expertise in various tools and systematic methods of mechanical engineering.
- Familiar with different methods of Thin film preparation
 - Automated Chemical Spray Pyrolysis Unit
 - Vacuum Coating Unit
 - Pulsed laser deposition technique
 - Hydrothermal method
 - Spin coating technique
- **Analytical instrumentation exposure**
 - X-ray Photoelectron Spectroscope
 - High Resolution XRD
 - UV-VIS-NIR Spectrophotometer
 - Stylus Profiler (Thickness measurement)
 - Atomic Force Microscope(AFM)
 - Source Measuring Unit
 - Jobin Yvon Flouromax-3 spectrometer

MAJOR SEMINARS/WORKSHOPS ATTENDED

- 59th Solid State Symposium by Department Of Atomic Energy, 16th- 21st December , Vellore, Tamilnadu
- Optimization of Chemical Spray pyrolysis Unit at Bharath Heavy Electricals Limited , Hyderabad on February 2013
- 2nd International Conference On Optoelectronic Materials and Thin films for Advanced Technology from 3rd to 5th January 2013, Department Of Physics , Cochin University of Science and Technology, Cochin
- National workshop on the "Advanced Material Characterization by Multitechnique XPS" at Materials Research Centre, Centre for Nano Science & Engineering ,Indian Institute of Science, Bangaluru on 22nd march 2013
- 57th Solid Sate Symposium by Department Of Atomic Energy.

- Third International Conference on Frontiers in Nano Science and Technology (Cochin Nano-2011)
- National workshop on “Recent Trends in theoretical Physics, Cochin 2010

- National workshop on application of X-ray fluorescence spectrometry in analytical science and technology by Indian society of analytical scientists

- Lecture series by Prof. Vikram Dalal : Iowa state university on “Recent developments in solar cells” at CUSAT, Cochin.

- Nobel laureate program by Government of Kerala, Prof. Zheres I Alferov :Lecture serious on solar energy, Heterojunction solar cells conducted at Cochin University of Science and Technology.

LANGUAGES KNOWN:

Malayalam (mother tongue) , English, Hindi, Tamil(basics) and German

MEMBERSHIPS

- SPIE- International Society for optics and Photonics
- OSA- The Optical Society
- APT- All Kerala Physics Teachers Association

REFERENCES

Prof.K. Sreekumar
Department of Applied Chemistry
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