

## Dr. V.Kalyanavalli

Assistant Professor,

Department of Physics

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Google Scholar :

<https://scholar.google.com/citations?user=IKxOAlwAAAAJ&hl=en>

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### EDUCATIONAL QUALIFICATIONS

**Ph.D.** : Physics

Thesis Title : Non- Destructive Evaluation of Basalt fiber reinforced composites using Infrared Thermography.

Awarded Year : 2019

Position : Research Scholar

Funding Agency : Technical Education Quality Improvement Programme (TEQIP)  
Government of India.

Institute : Department of Physics, National Institute of Technology,  
Tiruchirappalli

**M. Sc.** : Material Science and Technology

Institution : Thiagarajar College of Engineering, Madurai

Percentage of Marks : 8.58/10.00 CGPA

Year of Passing : 2004

**B. Sc. (Hons)** : Physics

Institution : Sri Sathya Sai Institute of Higher learning , Anantapur

Percentage of Marks : 4.21/5.00 CGPA

Year of Passing : 2002

### RESEARCH EXPERIENCE

**1. Position** : Research Scholar

Institution : National Institute of Technology, Tiruchirappalli.

Title : *Non- Destructive Evaluation of Basalt fiber reinforced composites using Infrared Thermography.*

Period : March 2013- July 2019

Mentor : Dr. D. Sastikumar, Professor, Department of Physics, National Institute of Technology, Tiruchirappalli.

- 2. Position** : Project Assistant- B  
Institution : Central Electro-chemical Research Institute – Karaikudi  
Title : *Development of fuel cells on hydrogen*  
Period : May 2005 to August 2006  
Mentor : Shri N. U. Nayak, Scientist, Instrumentation Department, CECRI
- 3. Position** : Project Fellow  
Institution : Indian Institute of Science, Bangalore  
Title : *Electrical switching characteristics of chalcogenide glasses*  
Period : December 2003 to April 2004  
Mentor : Dr. S. Ashokan, Professor, Instrumentation and Applied physics Department, IISc, Bangalore

### TEACHING EXPERIENCE

1. **Position** : Assistant Professor, Department of Physics  
Institution : Jamal Mohamed College, Trichy  
Period : August 2020 till present
2. **Position** : Lecturer, Department of Physics  
Institution : J.J. College of Engineering, Tiruchirappalli  
Period : December 2006 to August 2007
3. **Position** : Senior Lecturer, Department of Physics  
Institution : CARE group of Institutions, Tiruchirappalli  
Period : March 2011 to August 2012

### SUBJECTS HANDLED

Engineering Physics I and II  
Non- Destructive Testing  
Characterization of materials  
Composites  
Engineering Physics labs I & II  
Quantum mechanics  
Electronics  
Semiconductor Materials  
Electricity and Magnetism

## RESEARCH INTERESTS

- ✓ Non-Destructive Evaluation
- ✓ Polymer composites
- ✓ Chalcogenide glasses
- ✓ Nanomaterials
- ✓ Infrared Thermography
- ✓ Thermal properties characterization
- ✓ Ultrasonic NDT

## HAND ON EXPERIENCE TECHNIQUES

- ✓ Infrared thermal camera
- ✓ Lock-in thermography
- ✓ Eddy current setup
- ✓ XRD
- ✓ Laser Flash
- ✓ Pulse and long pulse thermography
- ✓ Immersion C-scan setup
- ✓ Vacuum bagging composite Fabrication
- ✓ Simulation using COMSOL Multiphysics
- ✓ Softwares such as Origin, Matlab

## LIST OF PUBLICATIONS

| S.No. | Author(s)   | Title  | Name of Journal                                       | Volume | Page      | Year |
|-------|---|--|---|--------|-----------|------|
| 1     | A Kalai Priya, Gaurav Kumar Yogesh, K Subha, <b>V Kalyanavalli</b> , D Sastikumar   | <i>Synthesis of silver nano-butterfly park by using laser ablation of aqueous salt for gas sensing application</i>                             | Applied Physics A<br>( <b>SCI, IP 1.669</b> )         | 127    | 1-12      | 2021 |
| 2     | Gaurav Kumar Yogesh, EP Shuaib, A Kalai Priya, P Rohini, Sathyan Vivekanand Anandhan, Uma Maheswari Krishnan, <b>V Kalyanavalli</b> , Shivam Shukla, D Sastikumar | <i>Synthesis of water-soluble fluorescent carbon nanoparticles (CNPs) from nanosecond pulsed laser ablation in ethanol</i>                     | Optics & Laser Technology<br>( <b>SCI, IP 3.233</b> ) | 135    | 106717    | 2020 |
| 3     | DR Rajkumar, K Santhy, <b>V Kalyanavalli</b>  | <i>Scratch characteristics of particle and fiber reinforced polymer composite</i>  | Materials Today: Proceedings<br>(SCOPUS,              | 44     | 506-511   | 2020 |
| 4     | Jack J Kenned ,Sankaranarayananasamy K, <b>V Kalyanavalli</b> and Suresh Kumar C  | <i>Characterization of indentation damage resistance and thermal diffusivity of needle-punched Musa sapientum cellulosic fiber/unsaturated</i> | Polymer Composites<br>( <b>SCI, IP 2.264</b> )        | 41     | 2933-2946 | 2020 |

|   |  |  |  |     |           |      |
|---|--|--|--|-----|-----------|------|
|   |  | <i>polyester composite laminates using IR thermography</i>   |  |     |           |      |
| 5 | <b>V Kalyanavalli, PM</b><br>Mithun, D Sastikumar  | <i>Analysis of long-pulse thermography methods for defect depth prediction in transmission mode</i>                | Measurement Science and Technology (SCI, IP <b>1.806</b> ) | 31  | 014002    | 2019 |
| 6 | <b>V. Kalyanavalli, T.K.</b><br>Abilasha Ramadhas,<br>D. Sastikumar                          | <i>Determination of thermal diffusivity of Basalt fiber reinforced epoxy composite using infrared thermography</i> | Measurement (SCI, IP <b>2.791</b> )                        | 134 | 674-678   | 2019 |
| 7 | <b>V. Kalyanavalli, T.K.</b><br>Abilasha Ramadhas,<br>D. Sastikumar                          | <i>Long pulse thermography investigations of basalt fiber reinforced composite</i>                                 | NDT and E International (SCI, IP <b>2.934</b> )            | 100 | 84-91     | 2018 |
| 8 | P. Porkodi, V.<br>Yegnaraman, P.<br>Kamaraj, V.<br><b>Kalyanavalli</b> , and D.<br>Jeyakumar | <i>Synthesis of NASICON - A molecular precursor- based approach</i>  | Chemistry of Materials (SCI, IP <b>10.159</b> )            | 20  | 6410–6419 | 2008 |

## AWARDS & RECOGNITIONS

**Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.**

| S.No | Name of Award                                   | Awarding Agency  | Year |
|------|---|--|------|
| 1.   | Received award for securing Class topper        | Thiagarajar College of Engineering, Madurai, Tamilnadu | 2004 |
| 2.   | GATE Qualified in XE – Engineering Sciences     | Ministry of Human Resource Development (MHRD).         | 2012 |
| 3.   | Level-II certification in Infrared Thermography | Indian Society of Non- Destructive Testing (ISNT)      | 2016 |

## **PAPER PRESENTED IN CONFERENCES**

1. Kalyanavalli. V, T.K. Abilasha Ramadhas and D. Sastikumar “A Comparative Study Of Basalt And Glass Fiber Reinforced Composites By NonDestructive Evaluation”. NDE 2014-conference on Non-Destructive Testing from 04th - 06nd December 2014, Pune.
2. Kalyanavalli. V, T.K. Abilasha Ramadhas and D. Sastikumar. “Nondestructive studies of basalt fiber reinforced composites”. International Symposium for Research scholars on Metallurgy, Materials Science and Engineering from 11th to 13th 2014, IITM Chennai.
3. Kalyanavalli. V, T.K. Abilasha Ramadhas and D. Sastikumar” A Comparative Study of Basalt and Glass Fiber Reinforced Composites by Thermography”. QIRT-ASIA conference on Quantitative infrared thermography from 6 th to 10th of July 2015, Chennai.
4. Kalyanavalli. V, T.K. Abilasha Ramadhas and D. Sastikumar “Pulsed Thermography for Non-Destructive Evaluation of Adhesive Bonds in Basalt Composites”. QIRT-ASIA conference on Quantitative infrared thermography from 6th to 10th of July 2015, Chennai.
5. Kalyanavalli. V, T.K. Abilasha Ramadhas and D. Sastikumar. “Nondestructive evaluation of basalt fiber reinforced composites- Material and Defect characterization”. NDE 2018, Frontiers in NDE: Science and technology from 19th – 21st of December 2018, Mumbai.