




# R L JALAPPA INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University, & Approved by AICTE)

Doddaballapura - 561203, Bangalore Rural District

## DEPARTMENT OF ALLIED SCIENCES

<b>Faculty Name</b>	DR. THIRUMALESH	
<b>Designation</b>	ASSOCIATE PROFESSOR & HOD	
<b>Area of Interest</b>	PHYSICS, SHOCK WAVES, ELECTRONICS, PROGRAMING	
<b>Email ID</b>	<a href="mailto:thirumalesh.dbp@gmail.com">thirumalesh.dbp@gmail.com</a> <a href="mailto:thirumalesh@rljit.in">thirumalesh@rljit.in</a>	
<b>Research Identity</b>	Orcid Id: <a href="https://orcid.org/0000-0002-4791-9749">0000-0002-4791-9749</a> Scopus Id: Google Scholar Id: <a href="https://scholar.google.com/citations?user=p2EoHaIAAAAJ">p2EoHaIAAAAJ</a> Research gate Id: <a href="https://www.researchgate.net/profile/K-Thirumalesh-2">K-Thirumalesh-2</a> Vidwan Id: <a href="https://www.vidwan.in/profile/356107">356107</a>	

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### EDUCATION:

M.Sc., Ph.D

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### TECHNICAL SKILLS:

Programing – C, C++, VB, Python, HTML, CSS, JS, Bootstrap, NodeJS, REACT,  
Electronics – Analog and Digital Electronics, Circuit design and Simulation, Embedded systems,  
ARDUINO, RASPBERRY PI etc.

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### PROFESSIONAL WORK EXPERIENCE:

20 years of Teaching Experience of Physics  
10 years of Research experience

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### PUBLICATIONS:

#### PEER REVIEWED JOURNAL;

- ❖ Thirumalesh, S P Raju, K Swaroop and H M Somashekharappa, “Study on effects of shockwave treatment on PVA films in view of electrical property changes” 2020 Mater. Res. Express 7 015344, <https://doi.org/10.1088/2053-1591/ab6ca1>
- ❖ Thirumalesh K, Raju SP, Somashekarappa HM, Swaroop K. Shock tube data processing tools using open source hardware and software platforms. *Engineering Reports*. 2020;e12353. <https://doi.org/10.1002/eng2.12353>

- ❖ Thirumalesh , S.P. Raju, H.M. Somashekharappa, “*Shock wave treated PVA films as alternative bio degradable polymer for packaging industry*” *J. Nano- Electron. Phys.* 12 No 2, 02034 (2020). DOI: [https://doi.org/10.21272/jnep.12\(2\).02034](https://doi.org/10.21272/jnep.12(2).02034)
- ❖ SP Raju, Ramaraja Varma, SN Chaitra, P Poornima, K Thirumalesh, Ganesh Sanjeev, “*Fluorescent sensitized irradiation sensing and recording hybrid quantum dot embedded polymer nanocomposites*” -, 2022, *Physica Scripta*, **97 (5)**, 055001, <https://doi.org/10.1088/1402-4896/ac5f26>
- ❖ Thirumalesh , Raju S P, Srinivasa Rao K, Ashok A S, Somashekharappa H M., "Dynamic stress-induced alterations in the physical and electrical properties of poly (vinyl alcohol) films via novel low-energy shock wave treatment", *Results in Surfaces and Interfaces* (2024), doi: <https://doi.org/10.1016/j.rsurfi.2024.100189>.
- ❖ Thirumalesh, Ashok A S, Meenakshi H, Aruna R, Shashidhar S N, Madhu N R, Reshma S R, “*Data visualization techniques for research publications and scientific computational methods using Python: a review*”, *International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)*, 3(2), 2023, DOI: 10.48175/IJARSCT-12765
- ❖ Thirumalesh, Ashok A S, Sujatha V, Kavya S R, Mahesh Kumar K L Govindaraj K G, “*Scientific Instrumentation techniques using open-source hardware platforms like Arduino and Raspberry-Pi: A review*”, *International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)*, 3(2), 2023, DOI: 10.48175/IJARSCT-12764

#### INTERNATIONAL CONFERENCE:

- Thirumalesh , S.P. Raju, H.M. Somashekharappa, “*Construction and optimization of modified Reddy Shock-tube using open source platforms*”, at International conference on Recent Advances in Materials Science and Biophysics (RAMSB 2018), by Department of Studies in Physics Mangalore University, Mangalagangothri-574199. On January 23-25, 2018.
- Thirumalesh , S.P. Raju, H.M. Somashekharappa, “*Study of water resistance property of PVA films with shockwave treatment*”, at INTERNATIONALCONFERENCE ON RECENT ADVANCES IN APPLIED SCIENCES (ICRAAS – 2019), 17th-18th October 2019, Organised by School of Applied Sciences, REVA University, Bangalore.
- Thirumalesh , S.P. Raju, H.M. Somashekharappa, “*Shock wave treated PVA films as alternative bio degradable polymer for packaging industry*”, at International Conference on Smart Materials and Nanotechnology (ICSMN-2020), organised by DEPARTMENT OF ENGINEERING PHYSICS & CHEMISTRY SKN SINHGAD COLLEGE OF ENGINEERING, Pandharpur - 413304, Maharashtra, India.
- Thirumalesh, Ashok A S, Meenakshi H, Aruna R, Shashidhar S N, Madhu N R, Reshma S R, “*Data visualization techniques for research publications and scientific computational methods using Python: a review*”, 7<sup>th</sup> International Conference on Artificial Intelligence-Machine Learning & Advances in Engineering and Technologies (ICAIMLAEST) – 2023, on 14<sup>th</sup> – 15<sup>th</sup> July 2023, organised by R L Jalappa Institute of Technology, Doddaballapur-561203, Bangalore.
- Thirumalesh, Ashok A S, Sujatha V, Kavya S R, Mahesh Kumar K L Govindaraj K G, “*Scientific Instrumentation techniques using open-source hardware platforms like Arduino and Raspberry-Pi: A review*”, 7<sup>th</sup> International Conference on Artificial Intelligence-Machine Learning & Advances in Engineering and Technologies (ICAIMLAEST) – 2023, on 14<sup>th</sup> – 15<sup>th</sup> July 2023, organised by R L Jalappa Institute of Technology, Doddaballapur-561203, Bangalore.

## NATIONAL CONFERENCE:

- ✓ Thirumalesh , S.P. Raju, H.M. Somashekarappa, “*Shock wave impact study on PVA films*” at **6th National Symposium on Shock Waves-IIT Madras**, Chennai (NSSW-2020), 26<sup>th</sup> to 28<sup>th</sup> Feb 2020.

## TEXT BOOK AUTHORED:

Published a book named “Engineering Physics Objective Type Question-Answers”.

Publisher – Star Tech Publications, Bangalore.

The book is first of its kind, containing the materials required for the I/II semester engineering Students studying Engineering Physics (2011).

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## INVITED TALKS:

- a. **Invited speaker and chief guest** for the Science day celebration on 06/03/2020 at Govt. First Grade College and PG Center, Chinthamani, Kolar Dist., Bangalore North University and Presented a talk on “**Shockwaves and its Applications**”
- b. **Invited Speaker** for a ‘**One Day National level Webinar**’ on “**Shockwaves and its Applications**” Organized by Department of Physics (UG & PG) Government First Grade College and PG Center, Chinthamani, Bangalore North University, on 8<sup>th</sup> June 2020.
- c. **Invited speaker** for an online webinar on “**Recent Advances and Applications of Shockwaves**” organized by Vidhya Vardhaka College of Engineering, Mysore, on 14<sup>th</sup> July, 2020.
- d. **Invited speaker** for an online webinar on “**Recent Advances in Shockwaves and its Applications**” organized by Atria Institute of Technology, Bangalore, on 3<sup>rd</sup> Feb, 2021.
- e. Delivered an **Invited talk** on “**Shockwaves and their Applications**” organized by BMS Institute of Technology, Bangalore, on 9<sup>th</sup> July, 2021.
- f. Delivered an **Invited talk** on “**Recent Developments in Shockwaves and their Applications**” organized by Brindavan College of Engineering, Yelahanka, Bangalore, on 13<sup>th</sup> August, 2022.

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## FDP/WORKSHOP ATTENDED:

- ✓ Attended a QIP Short term course on “Smart Materials and Devices”, conducted by IIT Guwahati, from 9<sup>th</sup> 13<sup>th</sup> of August 2010.
- ✓  Attended a QIP Short term course on NANO MATERIALS: Characterization and applications, conducted by NITTTR (National Institute for Technical Teachers Training and Research), Chandigarh from 20-25, October, 2008.
- ✓  Attended three months course on “Introduction to Artificial Intelligence”, conducted by Center for Continuing Education, I.I.Sc., Bangalore, (PROFICIENCE).

- ✓  Attended FEEL(Facilitating Excellence in Effective Leadership) – a HRD program organized by College for Leadership and Human Resource Development, Mangalore at Jnanabharathi campus Bangalore University.
- ✓  Attended FEEL (Facilitating Excellence in Effective Leadership) – a HRD program organized by College for Leadership and Human Resource Development, Mangalore at Jnanabharathi campus Bangalore University.
- ✓  Attended Science Writers Training Camp, Organized by Karnataka Rajya Vijnana Parishath. Held at Kuvempu University, Shimoga.
- ✓  World Physics year celebration Symposium at Nitte Meenakshi Institute of Technology, Yalahanka, Bangalore. Nov 2005.
- ✓  Workshop on Nano Materials and Applications: conducted by NMAM IT, Nitte, Mangalore.
- ✓  Attended two day’s Seminar on “Understanding Our Universe” in commemoration of International Year of Astronomy(IYA)’ at Department of Physics, Kuvempu Univesity, Shimoga on 8<sup>th</sup> and 9<sup>th</sup> Dec 2009.
- ✓  Attended One day workshop on Advanced Materials and their Applications&quot; organized by Department of Physics, Chemistry and LSIKC on 26th March,2011 at BMS Institute of Technology.
- ✓  Attended a national seminar-cum-workshop on “How to Promote Applied (Basic) Sciences to Strengthen Technical Education”, at Govt. Engg. College for women, Ludhiana, Punjab on 23-24 February 2012.
- ✓ Prof. Thirumalesh Attended one week FDP on “**In Pursuit of Innovation, Product Development, IPR and EDC**”, from 20<sup>th</sup> to 25<sup>th</sup> January 2020. Organised by Sri Venkateshwara College of Engineering, Bangalore.
- ✓ Prof. Thirumalesh Attended five days FDP on “**Recent Advances in Smart Materials for Sensors and Energy Applications**”, from 6<sup>th</sup> to 10<sup>th</sup> July, 2020. Organised by BMS Institute of Technology, Yelahanka, Bangalore.
- ✓ Participated in a 5 days FDP on “**AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)**” from 13/09/2021 to 17/09/2021, organized by AICTE, New Delhi.
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**CONFERENCE/FDP/WORKSHOP CONDUCTED:**

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**UNIVERSITY RESPONSIBILITIES:**

- ❖ Panel member for the Visveswaraya Technological University (VTU) Engg. Physics syllabus frame committee for 2018-19 scheme.

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**OTHER RESPONSIBILITIES:****COLLEGE LEVEL:**

- Organized a two days **National Level Technical Symposium “Xibit – The Talent in you”** as Chief Coordinator at R L Jalappa Institute of Technology, for the year 2008.
- Guided a batch of students to participate in the ‘Mech-A-Boolean’ competition at “TECHFEST-08”. A technical fest organized by IIT Bombay in Jan 2008.
- Organized a two days **National Level Technical Symposium “Xibit – The Talent in you”** as Chief Coordinator at R L Jalappa Institute of Technology, for the year 2009.
- Conducted RLJT annual cultural fest **SANTHASA** for **2016** as college cultural secretary.
- Conducted RLJT annual cultural fest **SANTHASA** for **2017** as college cultural secretary.

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**PROFESSIONAL MEMBERSHIPS:**

- ❖ Life Member of Indian Society for Technical Education, (I.S.T.E), New Delhi.
- ❖ Life member of Indian Association of Physics Teachers(I.A.P.T)
- ❖ Life Member of Society for Shock wave Research (SSWR)

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**HONORS/AWARDS:**

- ✓ Participated in Inter college Lecture Competition Organized by Bangalore University Physics Teachers Forum at PES College Bangalore and **own Special Prize**.
- ✓ Participated in Inter college Lecture Competition Organized by Bangalore University Physics Teachers Forum at Rural College Kanakapura.
- ✓ Got special appreciation award for the paper titled “Shock wave impact Study on PVA thin films” presented at 6 th National Symposium on Shock waves at IIT-Madras, held during 26<sup>th</sup> – 28<sup>th</sup> Feb 2020.

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**OTHER SIGNIFICANT ACHIEVEMENTS:**

- ✓ **Designed and developed a Shock wave research facility – a Shock tube**, using open source development platforms. Which is of worth around 10 Laks. The work is published in a research journal called “Engineering Reports”.

Publication link: . <https://doi.org/10.1002/eng2.12353>

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**CONTACT DETAILS:**

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