

Curriculum Vitae

Dr. R. PRIYA,
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Career Objectives

Seeking a challenging and progressive career to enhance my knowledge, skills and strength in the research field and I can put forward my efforts for organizational efficiencies.

Education:

<i>Qualification</i>	<i>Subject</i>	<i>School/college/university</i>	<i>Percentage of Marks</i>	<i>Year of Passing</i>
<i>Ph.D</i>	<i>Specialization: Nonlinear Dynamics</i>	<i>Periyar University, India.</i>	<i>Highly Commended</i>	<i>2021</i>
<i>M.Sc</i>	<i>Physics</i>	<i>Periyar University, India.</i>	<i>75%</i> <i>First class with distinction</i>	<i>2013</i>
<i>B.Ed</i>	<i>Physical Science, Psychology, Innovation</i>	<i>Stanley College of Education, Tamil Nadu, India.</i>	<i>81%</i> <i>First class with distinction</i>	<i>2011</i>
<i>B.Sc</i>	<i>Physics</i>	<i>Govt. Arts and Science College for Women, Salem-8.</i>	<i>69%</i> <i>First class</i>	<i>2010</i>
<i>H. S. C</i>	<i>Maths, Physics, Chemistry and Biology</i>	<i>P.D.R Matric Higher Secondary School</i>	<i>65%</i> <i>First class</i>	<i>2007</i>
<i>S.S.L.C</i>	<i>State board</i>	<i>Govt Hr. Sec School,</i>	<i>70%</i> <i>First class</i>	<i>2005</i>

Ph.D thesis title: “Nonlinear Localized Excitations and Discrete Breathers In Neuronal Microtubules And Nerve Axons” Under the guidance of **Prof. L. Kavitha**, Professor and Head,

Department of Physics, School of Basic and Applied Sciences, Central University of Tamil Nadu, Thiruvarur-610 005, Tamil Nadu, India.

M.Sc Project title: “*Synthesis and characterization of strontium nano hydroxyapatite using Ethylene diamine tetra acetic acid as template*” under the guidance of **Dr. L. Kavitha**, Assistant professor, Department of Physics, Periyar University, Salem, Tamil Nadu, India.

Research Interests and Expertise:

- ❖ Computational Physics
- ❖ Nonlinear excitations in order magnetic systems
- ❖ Modulational Instability and Discrete breathers in ferromagnets
- ❖ Energy transport mechanism in Neuronal Microtubules/ Nerve Axons/ Microtubulin system/ Hydrogen bonded system/DNA

Awards and Honors:

- ✚ **Senior Research Fellow (SRF)** in the *Rajiv Gandhi National Fellowship (RGNF)*, University Grants Commission (UGC), Delhi during **2018-2021**.
- ✚ **Awarded International Young scientist award (2017)** in Physical Sciences by **4th International Young Scientist Congress (IYSC-2018)**, International Science Community Association and Rashtriya Sanskrit Vidyapeetha, Tirupati, Andhra Pradesh, India.

Area of Interest:

- ❖ Classical Mechanics
- ❖ Quantum Mechanics
- ❖ Electromagnetic Theory
- ❖ Condensed Matter Physics
- ❖ Nonlinear Dynamics

Software skills:

- ✚ Theoretical research was performed using the following software skills: **Linux, Latex, Windows, Mathematica, Maple, Matlab, MS word.**

Track Record (Journal Publications):

1. **R. Priya** and L. Kavitha, “*Solitons in nerve axons*”, **Materials Today: proceedings**, 2021, DOI: 10.1016/j.matpr.2021.04.060.

2. C. Boopathy, L. Kavitha, D. Gopi and **R. Priya**, “*Propagation of pulse solitary waves in fluid filled elastic tube with cosine shaped stenosis*”, ***Design Engineering***, 6, 7932-7948, 2021.
3. **R. Priya**, L. Kavitha and D. Gopi, “*Dynamic instability in neuronal microtubules*”, ***Materials Today: proceedings***, 26, 3552-3558, 2020.
4. **R. Priya**, L. Kavitha, C. Boopathy and D. Gopi, “*Modulational instability analysis of neuronal microtubules under the influence of Toda potential*”, ***Research Journal of Recent Sciences***, 9, 1-8, 2020.
5. L. Kavitha, **R. Priya** and D. Gopi, “*Effect of temperature on the discrete solitons in Microtubules*”, ***Mathematical Sciences International Research Journal***, 6 2, 99-103, 2017.
6. L. Kavitha, **R. Priya**, N. Ayyappan, D. Gopi and S. Jayanthi, “*Energy transport in the form of proton soliton in one dimensional hydrogen bonded polypeptide chain*”, ***Journal of biological physics***, 42, 9-31, 2015.

List of proceedings:

1. L. Kavitha, **R. Priya** and D. Gopi, “*Energy transfer mechanism via kink-Antikink soliton excitations in microtubules*”, National seminar on emerging trends in theoretical and experimental physics (ETTEP-2015), Sree Ayyappa College for Women, Chunkankadai, Nagercoil, 8 - 9 January 2015.
2. L. Kavitha, **R. Priya**, D. Gopi, “*Discrete solitons for bio-energy transport in microtubules*”, National conference on advance in material science and Nonlinear systems (AMSNS-16), KSR College of Engineering, Thiruchengode, 07-08 January 2016.

Paper Presented in National/ International Conferences:

1. L. Kavitha, **R. Priya** and D. Gopi, “*Energy localization via modulational instability in microtubulin systems, 8th International conference on nonlinear science*”, Dynamics Days Asia Pacific, IIT and IMSc, Chennai, India, July 21-24, 2014.
2. L. Kavitha, **R. Priya** and D. Gopi, “*Energy transfer mechanism via kink-Antikink soliton excitations in microtubules*”, National seminar on emerging trends in theoretical and experimental physics (ETTEP-2015), Sree Ayyappa College for Women, Tamil Nadu, India, 8-9 January 2015.
3. L. Kavitha, **R. Priya** and D. Gopi, “*Bio energy transport in the form of soliton in microtubules governed by sine-Gordon equation*”, National symposium on X-Ray

- diffraction and recent advances in crystallography, Department of Physics, School of Sciences, Periyar University, Salem-636011, Tamil Nadu, India, 27-28th February, 2015.
4. L. Kavitha, **R. Priya** and D. Gopi, “Localized soliton excitation as an energy transfer mechanism in microtubules”, National conference on current trends in soft matter (NCCTSM-2015), Department of Physics, School of Basic and Applied Sciences, Central University of Tamil Nadu, Thiruvarur, Tamil Nadu, India, 19-20th March 2015.
 5. L. Kavitha, **R. Priya** and D. Gopi, “Discrete solitons for bioenergy transport in microtubules”, National conference on advance in material science and Nonlinear systems (AMSNS-16), KSR College of Engineering, Thiruchengode, 07-08 January 2016.
 6. L. Kavitha, **R. Priya** and D. Gopi, “Effect of temperature on the discrete solitons in microtubules”, International conference on Mathematics 2017, Department of Mathematics, Providence college for women, Coonoor, Tamil Nadu and International Multidisciplinary Research foundation, India, 04-05 August 2017.
 7. L. Kavitha, **R. Priya** and D. Gopi, “Long-lived soliton excitations in neuronal microtubulin lattices under the effect of morse potential”, International Conference on advanced materials science and technology (ICAMST-2017), Department of Physics, Bannari Amman Institute of Technology, Sathiyamangalam, Erode, Tamil Nadu, India, 17th-19th August 2017.
 8. **R. Priya**, L. Kavitha, C. Boopathy, D. Gopi, “Modulational Instability Analysis Of Neuronal Microtubules Under The Influence Of Toda Potential” 4th International Young Scientist Congress (IYSC-2018), International Science Community Association and Rashtriya Sanskrit Vidyapeetha, Tirupati, Andhra Pradesh, India, 8th-9th May 2018.
 9. **R. Priya**, L. Kavitha, D. Gopi, “Solitary wave excitations in neuronal microtubules by using Nonlinear Schr dinger equation” 2nd International Conference on Recent Trends in Applied Science and Technology-2018, Periyar University, Salem and Indian Science and Technology Association (Elavenil organization), Tamil Nadu, India, 23-25 August 2018.
 10. **R. Priya**, L. Kavitha, D. Gopi, “Stability/Instability nature in Neuronal Microtubulin lattices Under the effect of double-well Potential” International Conference of Emerging Materials and Modeling (ICEMM-2019), Department of Physics, K.S. Rangasamy College of Arts and Science (Autonomous), Tiruchengode in Association with Indian Science and Technology Association, Chennai, Tamil Nadu, India, 07-09 January 2019.
 11. **R. Priya**, L. Kavitha and D. Gopi, “Solitons in nerve axon”, International Workshop-cum-Conference on Smart Materials and their Applications in Recent Technologies (SMART 2020), Department of Chemistry, Periyar University, Salem, India, 4-5 March 2020.