

# CURRICULUM VITAE OF Dr. N. M. MUSAMMIL

## Career Objective

---

To excel in the field of academics as a dedicated researcher and educator, leveraging my expertise and passion for teaching to inspire and mentor students while contributing to innovative research that fosters sustainable development and societal progress.

## Personal Profile

---

Name : **MUSAMMIL. N. M**

Gender : Male

Age & Date of Birth : 35 & 12/02/1989

Nationality : Indian

Marital Status : Married

Address for Communication : Narikkott Mecheri House  
Thalappara  
Moonniyur P. O  
Malappuram  
Kerala, India  
PIN: 676311

Institute Address : Department of Physics  
University of Calicut  
Malappuram, Kerala, India  
PIN:673635

Passport Details : Passport No. - R6067899  
Nationality - Indian  
Place of Issue - Kozhikode  
Date of Expiry - 27/05/2028

Languages Known : Malayalam, English, Tamil, Arabic, Hindi

Emails and contact numbers : [musammil@uoc.ac.in](mailto:musammil@uoc.ac.in)  
[musammilm7007@gmail.com](mailto:musammilm7007@gmail.com)  
Mob: +919744217007, +918590666623

Google Scholar : N. M. Musammil  
Research Gate : Musammil Nm  
Scopus Author ID : 55813729600

## Educational Profile

---

Course	Year	Subject	University/Institution	Percentage/CGPA & Remarks
Ph. D	2019	Physics	University of Calicut	Highly recommended
M. Phil	2012	Physics	Pondicherry Central University	First Class 8.14/10
M. Sc.	2011	Physics	Bharathidasan University	First Class-Distinction 8.0/10
B.Sc.	2009	Physics	University of Calicut	First Class 60.3%

## Research Publications:

---

S. No	Authors	Title	Name of journal	Volume	Page	Year
1.	<b>N.M. Musammil,</b> P.A. Subha and K.Nithyanandan.	Phase dynamics of inhomogeneous Manakov vector soliton	<b>Physical Review E</b>  American Physical Society ISSN: 2470-0045 IF: 2.4	100	012213	2019
2.	<b>N.M. Musammil,</b> P.A. Subha and K.Nithyanandan.	Black and gray soliton interactions and cascade compression in the Vc-NLSE	<b>Optik</b>  ELSEVIER ISSN: 0030-4026 IF: 3.1	159	176	2018
3.	<b>N.M. Musammil,</b> K. Porsezian , K.Nithyanandan, P.A. Subha , P. Tchofo Dinda	Ultrashort dark solitons interactions and nonlinear tunneling in the Vc-MNLSE	<b>Optical-Fiber-Technology</b>  ELSEVIER ISSN: 1068-5200 IF: 2.8	37	11	2017
4.	<b>N.M. Musammil,</b> K. Porsezian, P. A. Subha, and K. Nithyanandan	Dynamics of vector dark solitons propagation and tunneling effect in the Vc-CNLSE	<b>Chaos</b>  American Institute of Physics. ISSN 1089-7682 IF: 3.74	27	023113	2017

## List of International / National Paper Presentations

---

1. ULTRASHORT DARK SOLITON PULSE EVOLUTION IN THE VARIABLE COEFFICIENT MODIFIED NONLINEAR SCHRODINGER MODEL, International conference on fiber optics and photonics (Photonics2012), IIT Madras, Chennai.
2. THE SELF-STEEPENING EFFECT ON ULTRASHORT BRIGHT AND DARK SOLITONS IN THE Vc-MNLSE, International Conference on Nonlinear System and Dynamics (CNSD-2013), IIT Indore.
3. PULSE COMPRESSION OF OPTICAL SOLITONS IN THE VARIABLE COEFFICIENT MODIFIED NONLINEAR SCHRODINGER MODEL, DAE-National Laser Symposium (NLS-22), 2014, Manipal University, Karnataka.
4. ANTIDARK SOLITON SOLUTIONS IN VC-MNLSE, DAE-National Laser Symposium (NLS-23), 2014, Sri Venkateswara University, Andhra Pradesh.
5. BRIGHT AND DARK OPTICAL SOLITONS IN THE VARIABLE COEFFICIENT MODIFIED NONLINEAR SCHRODINGER MODEL WITH GAIN/ LOSS, 26<sup>th</sup> Kerala Science Congress, 2014, KVASU Wayanad.
6. NONLINEAR TUNNELING EFFECT OF THE DARK SOLITON. National Conference on Modern Optics and Material Science (NCMOMS-2015), Farook College, Kozhikode, Kerala.
7. PULSE COMPRESSION OF ANTIDARK SOLITON IN THE Vc-MNLS EQUATION, 27<sup>th</sup> Kerala Science Congress, 2015, Alappuzha, Kerala.
8. NONLINEAR TUNNELING EFFECT OF THE ANTIDARK SOLITON. 28<sup>th</sup> Kerala Science Congress, 2016, University of Calicut, Kerala.
9. BLACK AND GRAY SOLITON PROPAGATION IN THE NONLINEAR SCHRÖDINGER EQUATION, International Conference on Nonlinear Physics: Theory and Experiment (NPTE-2016), Farook College, Kozhikode, Kerala.
10. THEORETICAL INVESTIGATION OF MULTI-SOLITON PROPAGATION IN MODIFIED KORTEWEG-DEVRIES EQUATION, International Conference on Nonlinear Physics: Theory and Experiment (NPTE-2016), Farook College, Kozhikode, Kerala.
11. BIG-BANG THEORY: THE FIRST THREE MINUTES, International conclave 2020, DHU, Kerala
12. OPTICAL SOLITON TUNNELING IN INHOMOGENEOUS NONLINEAR SCHRODINGER EQUATION, International OSA Network of Students conference 2020, IIT Delhi.

## List of Seminars/ Workshops/ Schools Attended

---

1. UGC-Intercollegiate seminar on NANOSCIENCE AND TECHNOLOGY, October 2010, Jamal Mohamed College, Tiruchirappalli, Tamil Nadu.
2. ASTRONOMY AWARENESS CAMP FOR COLLEGE STUDENTS, March 2010, National College, Tiruchirappalli, Tamil Nadu.
3. RECENT ADVANCES IN LASER APPLICATIONS, March 2010, Jamal Mohamed College, Tiruchirappalli, Tamil Nadu.
4. SPECIAL LECTURE SERIES ON THEORETICAL PHYSICS, February 2010, Jamal Mohamed College, Tiruchirappalli, Tamil Nadu.
5. NATIONAL SEMINAR ON HUMAN RIGHTS EDUCATION, July 2014, University of Calicut, Kerala.
6. NATIONAL SEMINAR ON LIGHT ENERGY AND ENVIRONMENT. March 2015, Farook College, Kozhikode, Kerala.
7. NATIONAL WORKSHOP ON APPLICATIONS OF MATLAB IN BASIC SCIENCES. July 2015, Farook College, Kozhikode, Kerala.
8. NATIONAL CONFERENCE ON ENCHANTING DEVELOPMENTS IN ADVANCED MATERIALS. July 2015, University of Calicut, Kerala.
9. NATIONAL SEMINAR ON IBNUL-HAYTHAM AND HIS WORLD OF SCIENCE. November 2015, University of Calicut, Kerala.
10. DAE-SERC SCHOOL. March 2016, Pondicherry University, Puducherry.
11. NATIONAL WORKSHOP ON FOUNDATIONS OF STATISTICAL AND QUANTUM MECHANICS. Jan 2017, S. A. R. B. T. M GOVT. College, Koyilandi, Kerala.
12. NATIONAL WORKSHOP ON FOURIER TRANSFORM AND DIGITAL SIGNAL PROCESSING. Jan 2017, S. A. R. B. T. M GOVT. College, Koyilandi, Kerala.
13. NATIONAL SEMINAR ON THEORETICAL PHYSICS. March 2017, University of Calicut, Kerala.
14. NATIONAL SEMINAR ON NUCLEAR DATA AND APPLICATIONS. June 2017, University of Calicut, Kerala.
15. EXPERIENTIAL EDUCATION AND INVITATIONAL EDUCATION. June 2019, Lifelab International, Wayanad, Kerala
16. ONE DAY WORKSHOP ON LEADERSHIP SKILLS. August 2019, Razi Interenational group of institutions, Kottakkal, Kerala.
17. NATIONAL SEMINAR ON ADVANCED CONDENSED MATTER PHYSICS. December 2019, University of Calicut, Kerala.

18. ANNULAR SOLAR ECLIPSE TRAINING PROGRAMME. December 2019, APJ hall, Kalpetta, Kerala
19. INTERNATIONAL WEBINAR ON NONLINEAR WAVES IN PHYSICS: FROM SOLITARY WAVES AND SOLITONS TO ROGUE WAVES. May 2020, SRM Institute of Science and Technology, Ramapuram, Chennai.
20. FACULTY DEVELOPMENT PROGRAMME ON RECENT ADVANCES IN PHYSICS. June 2020, SRM Institute of Science and Technology, Ramapuram, Chennai.
21. INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS FOR SUSTAINABILITY, December 2023, University of Calicut.
22. NATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE IN ASTRONOMY AND ASTROPHYSICS, January 2024, University of Calicut.
23. WORKSHOP ON NURTURING INNOVATION TO MARKET SUCCESS, February 2024, University of Calicut.
24. NATIONAL CONFERENCE ON ADVANCED MATERIALS. June 2024, University of Calicut, Kerala.

### Professional Experience:

---

1. **Assistant Professor:** Department of Physics, University of Calicut, Kerala  
From 21/08/2023 to Present
2. **Assistant Professor:** Department of Radiation Physics, University of Calicut, Kerala  
From 15/11/2020 to 31/08/2022
3. **Assistant Professor:** BSc Printing Technology, University of Calicut  
From 21/10/2016 to 31/05/2017.

### Area of interest:

---

Research in the field of **Optical Soliton, Optical Communication, Quantum Optics, Matter-Wave in Bose-Einstein Condensates.**

### PhD THESIS

---

**Title:** *Studies on Propagation and interaction of Multi-solitons in Inhomogeneous Optical Systems.* Under the guidance of **Dr. P. A. Subha**, Associate Professor, Department of Physics, University of Calicut, Kerala-673635

## MPhil THESIS

---

**Title:** *Bright and Dark Soliton Solutions in the Variable Coefficient Nonlinear Schrodinger Equation.* Under the guidance of **Dr. K. Porsezian**, Professor, Department of Physics, Pondicherry University, Puducherry-605014

## MSc THESIS

---

**Title:** *Kink, Antikink and Breather Scalar Soliton Solutions of the Sine-Gordon Equation.* Under the guidance of **Dr. R. Radhakrishnan**, Associate Professor, Department of Physics, Jamal Mohamed College, Tiruchirappally-20, Tamil Nadu-620020

## MSc Thesis Guided

---

1. *Construction Of Multi- Soliton Solution for The Kdv Equation by Hirota Method.* By **Mrs. Leena Swaliha M V**, Department of Physics, SARBTM Govt. College, Koyilandi.
2. *Theoretical Investigation of Soliton Propagation In M-Kdv Equation.* By **Mrs. Megha C P**, Department of Physics, SARBTM Govt. College, Koyilandi
3. *Kink And Antikink Soliton Solutions of The Sine-Gordon Equation.* By **Mrs. Riju M**, Department of Physics, SARBTM Govt. College, Koyilandi
4. *Study On M-Kdv Soliton Propagation in Inhomogeneous Optical System.* By **Mrs. Shahla. U**, Department of Physics, Farook College, Kottakal
5. *Bright Soliton Propagation in Inhomogeneous Nonlinear Schrodinger Model.* By **Mrs. Hasna P K**, WMO Arts and Science College, Wayand
6. *A Study of Optical Soliton Dynamics in Nonlinear Schrodinger Equation by Direct Ansatz Method.* By **Mrs. Arya Krishna**, WMO Arts and Science College, Wayanad
7. *Bright Matter-Wave Soliton Dynamics in Bose Einstein Condensates* by **Ms. Hasriya. P. M**, Department of Physics, Farook College, Kozhikode
8. *Study Of Optical Bright Soliton Dynamics in Nonlinear Schrodinger Equation by Hirota Method* by **Ms. Anagha Venugopal**, SNDP Yogam Arts and Science College, Pulpally, Wayanad
9. *Study Of Bright Soliton Solution in Bose-Einstein Condensate* by **Ms. Drisya Pramod** SNDP Yogam Arts and Science College, Pulpally, Wayanad
10. *Soliton Wave Propagation in Korteweg-De Vries Equation for Hydrodynamical Systems* By **Ms. Jinsha Yoonus** Wmo Arts and Science College, Wayanad

11. *Theoretical Investigation of Kink, Anti- Kink and Breather Soliton Solution in Sine-Gorden Equation.* By **Ms. Rahiya. K** Wmo Arts and Science College, Wayanad
12. *Study Of Optical Bright Soliton Dynamics In Nonlinear Schrodinger Equation By Hirota Method* By **Ms. Shana Shirin** Wmo Arts And Science College, Wayanad
13. *Study Of Bright Soliton Solution in Bose-Einstein Condensate* by **Ms. Fasiha Gafoor** WMO Arts and Science College, Wayanad.
14. *Dynamics of Optical Rogue waves in Nonlinear Schrodinger Model* by **Mrs. Shahana. M. P.** Grace valley Arts and Science College, Malappuram.
15. *Study on Matter-wave Soliton dynamics in Bose-Einstein Condensate Using Gross-Pitaevskii Equation* by **Mrs. Hiba Rinsha** Department of Physics at Malappuram Government College, Malappuram

### **Professional Achievement / Award/ Prize/ Recognition**

---

1. **UGC- MANF** (Maulana Azad National Fellowship), 2012
2. **All India rank:** 18 (Pondicherry central University examination)
3. **Best Paper** award, Kerala Science Congress-27, 2015, Organised by *Kerala State Council for Science, Technology and Environment (KSCSTE)*.
4. **Invited Talk** on Science for Nation Building, National Science Day, 2015, Benchmark International School, Tirur, Kerala.
5. **Judge**, Science Exhibition, 2014, Farook Higher Secondary School, Calicut, Kerala.
6. **Judge**, *KSCSTE Sponsored Paper Presentation Competition, 2016, Malabar College, Vengara, Kerala*
7. **Invited Talk** on Big-bang Theory, International Conclave, 2019, Darul Huda University, Kerala.
8. **Invited Talk** on India's Moon Missions, 2023, DRSS Science School, Idukki.
9. **Invited Talk** on The Future of Nuclear Power Drive, 2023, Shaziya International College, Kooriyad
10. **Invited Talk** on Nuclear Energy Past, Present and Future, 2023, Hopeshore Public School, Malappuram.
11. **Invited Talk** on Research Methodology-Methods and Techniques, 2023, Department of Mathematics and Physics, EMEA college of Arts and Science, Kondotty.

12. **Career Talk:** Uplift Higher Secondary Conference, 2023, Moonniyur, Malappuram.
13. **Resource Person** in Workshop on Land measurement techniques, 2023, DRSS Science School, Idukki.
14. **Invited Talk** on Nobel Prize 2023 in Physics, 2024, Grace Valley College of Arts and Science, Maravattam, Malappuram, Kerala.
15. **Member**, Optical Society of America (OSA), Headquarters: Washington, D.C., United States.
16. **Chairman**, Velimukku sector TREND Career Club.
17. **Manager**, TREND Preschool, Thalappara, Malappuram, Kerala-676311
18. **Reviewer**, Physica Scripta-IOP Science

### **Theory Papers Handled (B. Tech/ B. Sc.)**

---

Engineering Physics, Electrodynamics, Optics, Properties of Solids & Fluids, Quantum Mechanics, Thermodynamics, LASERS fundamentals and Applications, Oscillations and Waves, Applied Science for B.Sc. Printing Technology, Medical Physics, History and philosophy of science.

### **Theory Papers & Practical Handled (M. Sc.)**

---

Basics of Electrodynamics, Basic Electronics, Mathematical Methods in Physics, Electronics Practical, Numerical techniques and Computer Programming.

### **Computer Proficiencies**

---

MATHEMATICA, MAPLE, MATLAB, Microsoft Office, Latex, Video Editing.

### **Interests / Extra Curricular Activities**

---

Teaching, Research, Reading, Travelling, Wandering, Cooking, Photography, Gardening

## **REFERENCES:**

- 1. Dr. P. A. Subha,**  
Professor (Rtd),  
Department of Physics, Farook College, Kozhikode  
Kerala, India-673632  
Mobile: +919447960497  
Email: [pasubha@gmail.com](mailto:pasubha@gmail.com),
- 2. Prof. Dr. M M Musthafa,**  
Professor  
Department of Physics, University of Calicut,  
Kerala, India-673635  
Mobile: +919745509190  
Email: [mmm@uoc.ac.in](mailto:mmm@uoc.ac.in), or [mm\\_musthafa@rediffmail.com](mailto:mm_musthafa@rediffmail.com)
- 3. Dr. M Shahin,**  
Professor & Head  
Department of Physics, University of Calicut,  
Kerala, India-673635  
Mobile: +919961824725  
Email: [ms@uoc.ac.in](mailto:ms@uoc.ac.in), or shahinth@gmail.com

(N. M. MUSAMMIL)