



Dr. M. SENTHIVELAN
PROFESSOR & HEAD

Contact

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Academic Qualifications: M.Sc., M.Phil., Ph.D.

Ph.D. : Bharathidasan University, Tiruchirappalli
(1996) Supervisor: Prof. M. Lakshmanan
Title: *Lie Symmetries and Integrability of Certain Nonlinear Dynamical Systems*

Teaching Experience: 15 Years

27 June 2019 – Present	Professor and Head Department of Nonlinear Dynamics
9 July 2018 – 26 June 2019	Professor Department of Nonlinear Dynamics
9 July 2015 – 8 July 2018	Associate Professor Centre for Nonlinear Dynamics, Bharathidasan University
9 July 2005 – 8 July 2015	Lecturer/ Assistant Professor Centre for Nonlinear Dynamics, Bharathidasan University

Research Experience: 24 Years

26 Feb. 2003 – 8 July 2005	Senior Scientist Centre for Nonlinear Dynamics, Bharathidasan University
1 Dec. 2000 – 22 Feb. 2003	Post Doctoral Fellow School of Physics, The University of Sydney, NSW 2006, Australia
1 Nov. 1998 – 30 Oct. 2000	Post Doctoral Fellow Instituto de Fisica Teorica, Universidad Estadual Paulista, Sao Paulo, Brazil
1 Oct. 1997 – 30 Sep. 1998	Post Doctoral Fellow Dipartimento de Matematica e Informatica, Univesita de Catania, Italy
20 Sep. 1995 – 26 Sep. 1997	Research Associate Centre for Nonlinear Dynamics, Bharathidasan University

Additional Responsibilities

1. In-charge of Post graduate degree semester examinations conducted by School of Physics, Bharathidasan University, Tiruchirappalli, during the year 2008 - 2014.

Areas of Research

- Dynamical Systems (Classical and Quantum), Mathematical Methods and Quantum Entanglement.

Academic Interest

- Classical Mechanics, Quantum Mechanics, Mathematical Physics and Statistical Mechanics.

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	08	04
	M.Phil.	13	00
Project	PG	41	05

Ph.D. Guidance (completed)

S.No.	Name	Title of thesis	Year of award
1	Dr. V. Chithika Ruby	On certain continuous variable quantum states of a generalised isotonic oscillator and its position dependent mass counterparts	2014

2	Dr. N. Vishnu Priya	Breather and Rogue wave solutions of a coupled generalized nonlinear Schrödinger equation	2016
3	Dr. R. Mohanasubha	Interplay of symmetries and other integrability quantifiers in finite dimensional integrable nonlinear dynamical systems	2017
4	Dr. N. Ananth	Detection of Entanglement in bipartite states and non-k-separability in multipartite states	2017
5	Dr. K. Manikandan	Characterization of rogue waves and breather solutions of certain variable coefficients nonlinear Schrodinger equations	2017
6	Dr. K. Premalatha	A study on chimera patterns in Stuart-Landau oscillators under different coupling schemes	2018
7	Dr. S. Karthiga	On the Nonlinear Dynamics of Certain Mechanical and Optical PT Symmetric systems	2019
8	Dr. S. Stalin	On the dynamics of bright soliton in certain PT symmetric reverse space nonlocal nonlinear Schrödinger systems	2019

M.Phil. Guidance (completed)

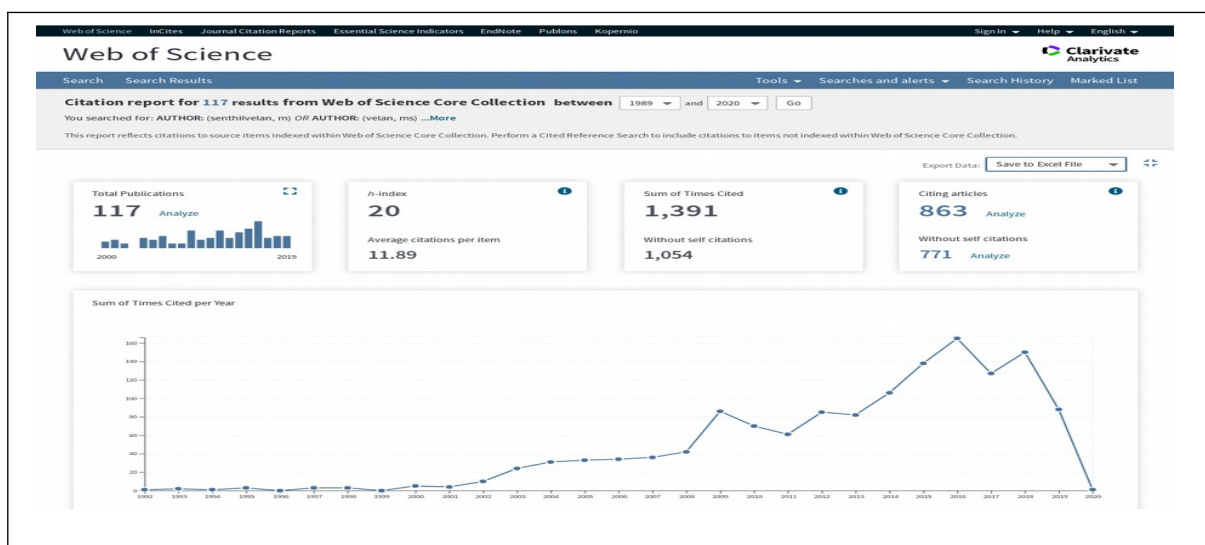
S. No.	Name	Title of thesis	Year of award
1	R. Gladwin Pradeep	On the integrability of Lotka-volterra system	2008
2	N. Ananth	On the entanglement conditions of certain bipartite states	2011
3	A. Bhuvaneshwari	λ - Symmetries and time independent integrals of damped harmonic oscillator	2011
4	K. Manikandan	On the exact solutions of certain population models with Allee effect	2011
5	S. Selvakumar	On the Rogue wave solution of the Davey-Stewartson equation	2012
6	M. I. Sabiya Shakila	On the breathers and rogue wave solutions of a higher-order dispersive nonlinear Schrodinger equation	2013
7	G. Mullai Malar	On the periodic wave solutions of certain nonlinear partial differential equations using Riemann theta functions	2013
8	A. N. Vigneswaran	On the exact quantum solvability of quadratic Lienard type oscillators	2014
9	M. Sindhuja	Lie point symmetries of a class of Lienard type nonlinear oscillators	2015
10	Arun Raj	An overview on methods of finding conservation laws of partial differential equations	2016
11	R. Vedhanayagi	On the shape invariance properties of a nonlinear oscillator	2018
12	A. Gayathri	Exact generalized separable solutions to certain nonlinear delay reaction-diffusion equations	2019

13	P. Madhumathi	Zeros of time-dependent monic polynomials and solvable nonlinear dynamical systems	2019
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Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Chapters
119	09	Nil	08	Nil

Cumulative Impact Factor (as per JCR)	: ~ 239.316
h-index	: 20
Total Citations	: 1391



Funded Research Projects

List of Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	NBHM	2018	2021	Nonstandard Bilinearization and PT-invariant Localized Solution of Certain PT-invariant Nonlocal Nonlinear Schrödinger Equation	13.73
2	CSIR	2017	2020	Collective Dynamical states of coupled Nonlinear Oscillators	7.51 (2 years Grant)
3	DST-SERB	2017	2020	Exploring the dynamics, control mechanisms and novel structures in certain PT symmetric systems	18.85

List of Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In Lakhs)
		From	To		
1	DST-SERB	2013	2016	Classical and quantum dynamics of certain PT symmetric (reversible) Lienard type nonlinear oscillator	19.35
2	NBHM	2013	2016	Multi-Rogue wave solutions of certain coupled nonlinear Schrödinger equations.	9.67
3	UGC	2010	2013	On the dynamics of certain two component Generalization of Camassa - Holm and Degasperis - Processi equations	8.29
4	DST	2009	2012	Applied Nonlinear Physics: Indo-Brazil Joint Research Project	12.22
5	DST	2008	2011	On the invariance, linearization and integrability of certain nonlinear dynamical systems	10.39
6	NBHM	2007	2011	A New approach to integrability of a class of nonlinear ordinary and partial differential equations	6.32

Consultancy Projects : **NIL**

Patents : **NIL**

Distinctive Achievements / Awards

1. Awarded Postdoctoral research fellowship for the year 2000-'03 by the University of Sydney, Sydney, Australia.
2. Awarded Fundacao de Amparoa Pesquisa do Estado de Sao Paulo (FAPESP, Brazil) Postdoctoral research fellowship for the year 1998 - '2000.
3. Awarded Consiglio Nazionale delle Ricerche (National Research), Italy, Postdoctoral research fellowship for the year 1997 - '98.
4. Awarded Senior Research Fellowship by Council of Scientific and Industrial Research, Government of India for the year 1992 - '95.
5. Qualified in Graduate Aptitude Test in Engineering (GATE) in the year 1989 with an overall percentile score of 84.73 conducted by Ministry of Human Resources, Government of India.

Events organized in leading roles

1. Co-ordinator for the UGC sponsored Refresher Course in Physics conducted by UGC-Academic Staff College, Bharathidasan University, Tiruchirappalli, from 6 - 26 November, 2014.

2. Co-coordinator for the UGC sponsored Refresher Course in Physics conducted by UGC-Academic Staff College, Bharathidasan University, Tiruchirappalli, from 20-11-2012 to 10-12-2012 (with Prof. S. Dhanuskodi, Bharathidasan University).
3. Organized Sixth National Conference on Nonlinear Systems and Dynamics (NCNSD-2011) held at School of Physics, Bharathidasan University, Tiruchirappalli, during 27-30 January 2011 (with Prof. M. Daniel, Bharathidasan University).
4. Organized DST-SERC School on “Nonlinear Dynamics” held at School of Physics, Bharathidasan University, Tiruchirappalli, during 04-26 January 2011 (with Prof. M. Lakshmanan and Prof. M. Daniel, Bharathidasan University).
5. Organized National Level TPSC Workshop on, “Nonlinear Physics: Theory, Experiments and Applications” at Nehru Memorial College, Puthanampatti, Tiruchirappalli District, during 29-31, March 2010 (with Dr. A. Venkatesan, Nehru Memorial College, Puthanampatti).
6. Organized Seminar, “Frontier Topics in Fundamental Physics”, at Centre for Nonlinear Dynamics, School of Physics, Bharathidasan University, Tiruchirappalli, during 30-31, March, 2009 (with Prof. S. Rajasekar, School of Physics, Bharathidasan University).
7. Coordinator for the UGC sponsored Refresher Course in Physics conducted by UGC-Academic Staff College, Bharathidasan University, Tiruchirappalli, from 04-03-2008 to 24-03-2008.
8. Organized seminar on Recent Developments in Physics during 21-22, Nov. 2005 at Bharathidasan University, Tiruchirappalli (With Prof. S. Rajasekar, School of Physics, Bharathidasan University).

Events Participated

Conferences/ Seminars/ workshop/ School	Participation only	Paper Presentation	Invited Talk	Resource Person
International Level	9	5	9	--
National Level	6	9	2	5
State Level	--	--	2	7
Regional Level	--	--	--	23
Refresher Course	--	--	--	5

Overseas Exposure / Visits

1. Visited Departamento Matematica Aplicada, Universidad Rey Juan Carlos, Madrid, Spain, during November 5 – 11, 2012
2. Visited Instituto de Fisica Teorica, Universidad Estadual Paulista, Sao Paulo, Brazil, during 1 June 2012 – 1 July 2012
3. Visited Instituto de Fisica Teorica, Universidad Estadual Paulista, Sao Paulo, Brazil, during 10 August 2011 – 10 September 2011

4. Visited Departamento de Matematicas, Universidad de Cadiz , 11510 Puerto Real, Cadiz, Spain, during Feb. 15 - March 2, 2011
5. Visited Instituto de Fisica Teorica, Universidad Estadual Paulista, Sao Paulo, Brazil, during 3 July 2010 – 5 September 2010
6. Visited Instituto de Fisica Teorica, Universidad Estadual Paulista, Sao Paulo, Brazil, during 4 June 2009 – 31 August 2009
7. Visited Departamento Matematica Aplicada, Universidad Rey Juan Carlos, Madrid, Spain, during Nov. 4-15, 2008
8. Visited Dipartimento di Matematica e Informatica, Universita de Catania, Catania, Italy, during Nov. 16-23, 2008
9. Visited Instituto de Fisica Teorica, Universidad Estadual Paulista, Sao Paulo, Brazil,, during 23 October 2007 – 18 January 2008
10. Visited Institute of Mathematics, Statistics & Actuarial Science, University of Kent, Canterbury, UK during 3 Jan. - March 3, 2007 (under India-UK Science Networks Scheme jointly supported by Department of Science and Technology, India and Royal Society, UK)
11. Visited Dipartimento di Matematica e Informatica, Universita de Catania, Catania, Italy, during Dec. 4-15, 2005
12. Visited Department of Mathematics and Statistics, University of Surrey, Guilford, U.K, during July 26 – July 31, 2004.
13. Visited Dipartimento di Matematica e Informatica, Universita de Catania, Catania, Italy, during June 16 – July 2, 2003.
14. Visited Departamento de Fisica Teorica, Universidad de Salamanca. Salamanca, Spain, during June 2 – 7, 2003.
15. Visited Departamento de Fisica Teorica, Universidad de Zaragoza, Zaragoza, Spain, during June 9 – 14, 2003.
16. Visited Department of Mathematics, University of British Columbia, Vancouver, Canada, during Feb 1 – April 30, 2000.

Seminars Presented

1. Delivered a lecture entitled “Classical and Quantum Studies of a Position Dependent Mass Nonlinear Oscillator”, at Department of Physics, Panjab University, Chandigarh (December 7, 2018)
2. Invited Lectures given in Mini Winter School on Ultracold Atoms (UCAT-2014) held at Department of Physics, Government College for Women, Kumbakonam, Tamil Nadu, during 22 – 24, December 2014.
3. Departamento de Fisica Teorica II, Facultad de Ciencias Fisicas, Universidad Complutense, Madrid, Spain (November 7, 2012) Title on “On the non-standard conservative Hamiltonian description of certain damped nonlinear oscillators”
4. Instituto de Matematica, Estatistica e Computacao Cientifica, Universidade Estadual de Campinas, Campinas, Brazil (June 26, 2012).
5. Instituto de Fisica, Universidade Estadual Paulista, Guaratingueta, Brazil (June 22, 2012)

6. Invited talk given at the International Scientific Seminar “Generalized Hamiltonian structure of differential equations and dissipative dynamical systems” held at School of Mathematics, University of Kent, UK, during 27-29, June 2011.
7. Department of Applied Mathematics, University of Leeds, Leeds, UK, Feb., 2007
8. Institute of Mathematics, Statistics and Acturial Science, University of Kent, Canterbury, UK, Feb., 2007
9. Dipartimento di Matematica e Informatica, Universita de Catania, Catania, Italy, Dec. 2005
10. Departamento de Fisica Teorica, Universidad de Salamanca. Salamanca, Spain, June, 2003
11. Departamento de Fisica Teorica, Universidad de Zaragoza, Zaragoza, Spain, June, 2003

Conferences/ Seminars/ Workshops

1. Participated and delivered a talk in the Conference on Nonlinear Systems and Dynamics (CNSD 19) held at IIT Kanpur, 12-15 December 2019.
2. Participated and delivered a talk in the National Conference on Differential Equations and Dynamical Systems held at Department of Mathematics, NIT Karaikal, 5-6 April, 2019.
3. Participated in the three day workshop “Quantum Statistics – Theory & Experiment” organized by the Department of Physics, St. Philomena’s College, Mysuru, during 15-17, Feb. 2019.
4. Participated and delivered a talk in the Conference on Nonlinear Systems and Dynamics (CNSD 18) held at JNU, New Delhi 11-14 October 2018.
5. National Conference on Dynamical Systems and Chaos held at Government Arts College, Coimbatore, Tamilnadu during September, 11-13, 2017.
6. Participated in “Bangalore School on Statistical Physics-VII” held in ICTS Campus, Bangalore, during 1-15 July 2016.
7. National conference on Computational Mathematics and Nonlinear Dynamics (CMND-2016) held at Department of Mathematics, Visva-Bharathi, Santiniketan – 731 235 during 19-21 February 2016.
8. 4th International conference on Complex Dynamical Systems and Applications (CDSA 2016) held at Department of Mathematics, National Institute of Technology, Durgapur during 15-17 February 2016.
9. Participated and presented a talk in Conference on Nonlinear Systems and Dynamics (CNSD 15) held at IISER, Mohali 13-15 March 2015.
10. Participated in Bangalore School on Statistical Physics held during 31 March – 12 April, 2014 held at the Raman Research Institute, Bangalore.
11. Nonlinear Integrable Systems and Their Applications, Centre for Nonlinear Dynamics, School of Physics, Bharathidasan University, Tiruchirappalli, 24 Feb.-1 March 2014.
12. Quantum Integrable Systems, S.N.Bose National Centre for Basic Sciences, Kolkatta, Dec.2-6, 2013.
13. National Conference on Nonlinear Physics and its Applications, Darjeeling Government College, Darjeeling, West Bengal, Nov.26-28, 2013.
14. Perspectives in Nonlinear Dynamics (PNLD)-2013, University of Hyderabad, July15-18th, 2013.

15. National Conference on Frontiers in Analysis and Differential Equations held at School of Mathematics, Bharathidasan University, Tiruchirappalli during Dec.19-20, 2012.
16. Fifth National level Conference on “Nonlinear Systems and Dynamics (NCNSD) 2009” held at Saha Institute of Nuclear Physics, Kolkatta, India, during, March 5 – 7, 2009
17. International Conference on “*Geometry of Integrable System*” held in Hanoi, Vietnam, during April 9 – 13, 2007.
18. Third National level Conference on “Nonlinear Systems and Dynamics (NCNSD) 2006” held at Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai, India, during, February 6 – 8, 2006
19. International Conference on “*Mathematical Ideas in Nonlinear Optics: Guided Wave in Inhomogeneous Media*” held in Edinburgh, United Kingdom, during July18 – July 24, 2004.
20. First National level Conference on “Nonlinear Systems and Dynamics 2003” held at Indian Institute of Technology, Kharagpur, India, during, December 28 – 30, 2003.
21. International Conference on “*Nonlinear Physics: Theory and Experiment –III*” held in Gallipoli, Lecce, Italy, during June 22 – July 3, 2004.
22. International Conference on “Nonlinear Phenomena” held at Indian Institute of Science, Bangalore, India, during January 5 – 10, 2004.
23. International Conference on “Symmetry in Nonlinear Mathematical Physics” held in Kiev, Ukraine, during July 3 – 8, 1995.

Poster Presentations

1. “School and Conference on Quantum Information (ISCQI-2011)” held at Institute of Physics, Bhubaneswar, India, during December 13-22, 2011
2. “Non-Hermitian Hamiltonian in Quantum Physics” held at BARC, Mumbai, during January 12-16, 2009
3. “Perspectives in Nonlinear Dynamics” held at Indian Institute of Technology, Chennai, India, during July 12-15, 2004.
4. Australian Conference on “Optics, Lasers and Spectroscopy 2001” held at the University of Brisbane, Brisbane, Australia, during December 3-6, 2001
5. “Symmetries and Integrability of Difference Equations – III (SIDE III)” held at Sabudia, Italy, during May 1998.

Membership in Professional Bodies

Editorial Board

1. Editorial board member in Pramana – Journal of Physics, Indian Academy of Sciences.

Referee

1. Referee for Journals Nonlinear Dynamics, Proceedings of the Royal Society of London A, Journal of Physics A, Pramana-Journal of Physics, Physics letters A.

Academic Bodies (Board of Studies)

1. Member of Board of Studies in Physics, J. J. College of Arts and Science (Autonomous), Pudukottai (2019-2021).
2. Member of Board of Studies in Physics, Nehru Memorial College (Autonomous), Puthanampatti (2017-2020).
3. Member of Board of Studies in Physics, Vellalar College for Women (Autonomous), Erode (2017-2020).
4. Member of Board of Studies in Physics (UG), Poompuhar College (Autonomous), Melaiyur, Nagapattinam (2016-2018).
5. Member of Board of Studies in Physics at Thevanai Ammal College for Women (2015-2018)

Resource persons in various capacities

Number of Invited / Special Lectures delivered: **75**

Faculty Development Programs

1. Served as a Resource Person for the Faculty Development Programme on Mathematical Physics organized by the Physics Department of PSGR Krishnammal College for Women, Coimbatore (22 & 23 -11-2018)
2. Served as a Resource Person in the Faculty Enrichment Programme organized by the Internal Quality Assurance Cell, Bishop Heber College, Trichy on 19-11-2018.
3. Delivered a lecture in the Faculty Training Programme – Physics for college faculty members organized by Periyar University at Bharathiyar Arts & Science College for Women, Deviyakurichi (15-11-2018).
4. Delivered a lecture on the topic Funding Schemes and Research Proposal Preparations in the 99th Orientation Programme Conducted by the UGC – Human Resource Development Centre, Bharathidasan University, Tiruchirappalli, on 2-12-2017.
5. Acted as a Resource Person for the Faculty Development Programme – NET Training organized by the Internal Quality Assurance Cell at Cauvery College for Women, Tiruchirappalli, during October 5-6, 2017.
6. Delivered a lecture in the Orientation Programme Conducted by the UGC – Human Resource Development Centre, Bharathidasan University, Tiruchirappalli, on 9-9-2017.
7. Acted as a Resource Person for the Faculty Development Programme – NET Training organized by the Internal Quality Assurance Cell at Cauvery College for Women, Tiruchirappalli, during August 18-19, 2017.
8. Acted as a Resource person for UGC sponsored Guest Lecture Programme on Vector Calculus from Physicists' Perspective organized by the Department of Physics, Vellalar College for Women, Erode (20.09.2016).

Refresher Courses

1. Delivered a Lecture on “Introduction to Ensembles” to the participants of the Refresher Course in Physics organized by the UGC Human Resource Centre, Bharathidasan University, Tiruchirappalli (23-10-2019).
2. Delivered a Lecture on Statistical Physics 1 & 2 to the participants of the Refresher Course in Physics organized by the UGC Human Resource Centre, Bharathiar University, Coimbatore (24-11-2018).
3. Delivered a Lecture on “Mathematical Physics 1 & 2” to the participants of the Refresher Course in Physics organized by the UGC Human Resource Centre, Bharathiar University, Coimbatore (23-11-2018).
4. Delivered a lecture on the topic Publication Phisihing in the Refresher Course on Nano Sciences Conducted by the UGC – Human Resource Development Centre, Bharathidasan University, Tiruchirappalli, on 31-12-2017.
5. Delivered an invited lecture entitled “Introduction to Vector Calculus” on 31.03.2016 under UGC-DSA Lecture Series Program held at the School of Physics, Madurai Kamaraj University.
6. Delivered an invited talk in the UGC sponsored “Refresher Course in Physics for the College & University Teachers during the period 17 February 2016 – 08 March 2016”.

Invited Talks in Student Training Programs

1. Delivered a guest lecture on “Applications of Mathematics in Physics” at Department of Physics, A.V.C College (Autonomous), Mayiladuthurai (18-12-2019 and 19-12-2019).
2. Delivered a special lecture on “Vector Analysis” at Department of Physics, Government Arts College (Autonomous), Kumbakonam (27-09-2019).
3. Served as a Resource Person for DBT – STAR College Scheme funded, Guest Lecture Programme on Vector Calculus organized by the Department of Physics, Vellalar College for Women (Autonomous), Erode (24-09-2019).
4. Delivered a set of lectures to Post Graduate students participated in the CSIR-NET coaching classes organized by the Department of Physics, Bharathiar University, Coimbatore (September 21 and 22, 2019).
5. Delivered a Distinguished lecture on “The Contribution of Vikram Sarabhai for the Nation Building” at the Department of Library Information Science, Bharathidasan University (18-09-2019).
6. Delivered a guest lecture on “understanding Curvilinear Coordinates from Physics Students Perspective” at J.J.College of Arts and Science (Autonomous), Pudukottai (07-08-2019).
7. Delivered a set of lectures to Post Graduate students of Department of Physics, AVC College, Mayiladuthurai. (02-08-2019).
8. Acted as a Resource Person for the “Bridge Course on Mathematical Physics” for the Post – Graduate Students of Physics Department, Lady Doak College, Madurai (30-07-2019).

9. Delivered a lecture entitled "Fundamentals of Statistical Mechanics" in Physics Association Programme at Sri S. Ramasamy Naidu Memorial College, Sattur, (26.07.2019).
10. Delivered a set of lectures to Post Graduate students participated in the Summer Training Programme in Physics (STPIP – 2019) conducted by the Academy of Sciences, Chennai and Department of Nuclear Physics, University of Madras. (June 05 and 06, 2019).
11. Delivered a series of lecture on "Statistical Physics (Ensembles: An Introduction)", at Department of Physics, School of Advanced Sciences, Vellore Institute of Technology, Vellore (09-03-2019).
12. Delivered a set of lectures to Post Graduate students of Department of Physics, Gandhigram Rural Institute, Gandhigram. (06-03-2019).
13. Delivered guest lectures on Mathematical Physics and Statistical Mechanics at the Department of Physics, Lady Doak College, Madurai (12-02-2019)
14. Delivered a lecture entitled "Ensembles", at Department of Physics, Anna University, Chennai (06-02-2019).
15. Delivered a lecture entitled "Curvilinear Coordinate System", at Department of Physics, D.G.Vaishnav College, Chennai (06-02-2019).
16. Delivered a series of special lectures covering topics in Mathematical Physics and Statistical Physics on Feb. 5, 7 and 8, 2019 in the Department of Nuclear Physics, University of Madras, Chennai.
17. Acted as a Resource Person and delivered a talk on "Visualisation of Vectors" in the Association Meeting organized by the PG and Research Department of Physics, Seethalakshmi Ramaswami College, Tiruchirappalli (25-01-2019).
18. Delivered a invited lecture entitled "Importance of Mathematical Physics", at the Department of Physics, Gobi Arts and Science College, Gobichettipalayam (28-12-2018).
19. Acted as a Resource Person and delivered a talk on "Role of Mathematics in Physics" in the Special Meeting organized by the PG Department of Physics, Vellalar College for Women, Erode (28-12-2018)
20. Delivered a lecture entitled "Classical and Quantum Studies of a Position Dependent Mass Nonlinear Oscillator", at Department of Physics, Panjab University, Chandigarh (7-12-2018)
21. Acted as a Resource Person in the special meeting Programme "Introduction to Differential Equations" organized by the Department of Physics, Vellalar College for Women, Erode (6-10-2018).
22. Acted as a Resource Person for National Seminar on "An Overview on Statistical Physics" at Kongunadu Arts and Science College, Coimbatore (31-07-2018).
23. Delivered a talk in One Day Seminar on Vector Analysis at Department of Sciences, Amritha School of Engineering, Amritanagar, Coimbatore (24-07-2018).
24. Delivered a series of lectures on "Vector Analysis" for the students of PSGR Krishnammal College for Women, Coimbatore (12.07.2018 and 13-07-2018).
25. Delivered a guest lecture on "Combinatorial Problems with Applications to Physics" in the Department of Mathematics, School of Advanced Studies VIT, Vellore on 11-04-2018.

26. Delivered a series of lectures on “Statistical Physics” at Physics Department, SASTRA University, Thanjavur (2.04.2018).
27. Delivered a lecture entitled “Tensor Analysis” at Sri S. Ramasamy Naidu Memorial College, Sattur, (22.03.2018).
28. Delivered an invited lecture entitled “Some Terminologies in Statistical Physics” on 1.03.2018 under UGC-DSA Lecture Series Program held at the School of Physics, Madurai Kamaraj University.
29. Presented a talk entitled “A view on Mathematical Concepts in Physics” at *Department of Physics, N.G.M.College, Pollachi*, Tamil Nadu, India (19-02-2018).
30. Presented a talk entitled “Introduction to Ensembles” at *Department of Physics, V.V.Vanniaperumal College for Women, Virudhunagar*, Tamil Nadu, India (01-02-2018).
31. Delivered a lecture on the topic “Why Statistical Methods need for Physicists” at *Department of Physics, Nehru Memorial College, Puthanampattii*, Tamil Nadu, India (24-01-2018).
32. Delivered a lecture entitled “Vector Calculus: An Informal Introduction” organized by Physics Association, Presidency College, Chennai (20.12.2017).
33. Delivered a lecture entitled “Statistical Mechanics” at Government Arts College, Coimbatore (10.10.2017).
34. Delivered a lecture entitled “Application of Mathematics in Physics” at Sri S. Ramasamy Naidu Memorial College, Sattur, (07.03.2017).
35. Delivered a lecture entitled “Vector Analysis” organized by PSGR Krishnammal College for Women, Coimbatore (30.08.2017).
36. Acted as a Resource Person in the two days seminar on Emerging Trends in Materials and Technology – ETMAT 2017 organized by the JEPPIAAR Engineering College, Chennai, during July 27-28, 2017.
37. Delivered a lecture entitled “Vector Calculus” at Government Arts College, Coimbatore (07.03.2017).
38. Delivered a lecture entitled “Introduction to Vector Calculus” at Chidambaram Pillai College for Women, Mannachanallur, Tiruchirappalli (23.02.2017).
39. Delivered a lecture on Curvilinear Coordinates and Visualization of Vector Fields at Sri S. Ramasamy Naidu Memorial College, Sattur, (20.02.2017).
40. Delivered a set of lectures entitled “Insights into Vector Calculus: Through Digital Tool” in the Academic Staff College, VIT, Vellore on 11-02-2017.
41. Delivered a special lecture on “Vector Analysis from Geometrical Point of View” at Department of Physics, Bharathiar University, Coimbatore (2-3 Feb..2017).
42. Delivered three one hour lectures on “Visualizing Mathematics” at Department of Physics, Anna University, Chennai (26.10.2016).
43. Presented an invited talk entitled “Vector Analysis” at Cauvery College for women, Tiruchirappalli (30.08.2016).

44. Delivered an invited lecture entitled “Introduction to Vector Calculus” on 31.03.2016 under UGC-DSA Lecture Series Program held at the School of Physics, Madurai Kamaraj University.
45. Delivered a lecture at “National Seminar on Dynamical Systems and Chaos” held at Post Graduate Department of Physics, St. Mary’s College, Sulthan Bathery, Kerala, during 25 – 27, January 2016.
46. Given a talk at *Department of Physics, Government College for Women, Kumbakonam, Tamil Nadu, India.*
47. Presented a talk on Science Day Celebrations (28-02-2006) at *Department of Physics, Nehru Memorial College, Puthanampatti, Tamil Nadu, India.*
48. Presented a talk at the *Department Science and Humanities, Saveetha University, Chennai, Tamil Nadu (25-2-2009)*
49. Delivered a talk at Department of Physics, Jamal Mohamed College, Tiruchirappalli, Tamil Nadu (19-12-2013).

School/ Winter School/ Summer School/ Workshop

1. Acted as a Resource Person in the Resource Person in Two day State Level Workshop on “Mathematical and Statistical Physics” at Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore (16 & 18, Sept. 2019)
2. Delivered a set of 5 lectures in the SERB School on Nonlinear Dynamics held at the Department of Physics, Guru Nanak Dev University, Amritsar, during the period 4-6, December 2018.
3. Acted as a Resource Person in the Resource Person in the Regional Level Workshop on Theoretical Physics organized by Bishop Heber College, Trichy (27 & 28, Nov. 2018).
4. Acted as a Chief Resource Person in the Mini Winter School on “Mathematical Physics and Statistical Mechanics (MSPM-18) at Government College for Women (Autonomous), Kumbakonam (3-5, Oct. 2018).
5. Delivered a set of lectures in the one day workshop on “Understanding Calculus Through Digital Mode II” for the Faculties of VIT, Vellore (25-09-2018).
6. Delivered a series of lectures in the one day workshop on “Thermodynamics of some simple systems: Ensemble approach” at Nehru Memorial College, Puthanampatti, Tiruchirappalli (11.09.2018).
7. Delivered a set of lectures in the One Day Workshop on “Understanding Calculus Through Digital Media” in the Academic Staff College, VIT, Vellore on 10-04-2018.
8. Delivered a lecture on the topic Publication Phishing in the Summer School on Materials Science conducted by the UGC – Human Resource Development Centre, Bharathidasan University, Tiruchirappalli, on 7-3-2018.
9. Delivered a series of lectures in the two day National Level workshop on Mathematical Physics conducted by Department of Physics, Kongunadu Arts and Science College, Coimbatore, Tamilnadu during 6-7, September 2017.

10. Delivered a set of 4 lectures in the DST-SERC School on Nonlinear Dynamics held at the Department of Physics, PSG College of Technology, Coimbatore, during the period 1-2, December 2016.
11. Given a series of lectures in the Workshop on “Mathematical Methods in Physics” conducted by Srinivasa Ramanujan Institute for Basic Sciences, Kottayam during 3-5 September 2016.
12. Delivered lecture in one day workshop on “Application of Vector Calculus” at Nehru Memorial College, Puthanampatti, Tiruchirappalli (18.08.2016).
13. Delivered a series of 5 lectures in the DST-SERC School on Nonlinear Dynamics held at the Department of Physics, Panjab University, Chandigarh, during the period 5th-9th February 2014.
14. Delivered a series of 4 lectures in the DST-SERC School on Nonlinear Dynamics held at the Department of Physics, Central University of Rajasthan, Rajasthan, during the period 4th-6th December 2014.

Others

1	Articles published in Newspapers/ Magazines	:	Nil
2	Products developed	:	Nil
3	No. of PhD Thesis evaluated	:	9
4	No. of Ph.D Public Viva Voce Examination conducted	:	1
5	Sequences submitted in GenBank	:	NIL

**Social Interests and Initiatives / Articles in News papers etc can also be included

Recent Publications

1. M. Manoranjani, R. Mohanasubha, V.K. Chandrasekar and **M. Senthilvelan**, Extended Prolle-Singer procedure and Darboux polynomial method: An unknown interconnection, Int. J. Nonlinear Mech. **118**, 103284 (2020).
2. N. Vishnu Priya, **M.Senthilvelan** and G.Rangarajan, On the role of four-wave mixing effect in the interactions between nonlinear modes of coupled generalized nonlinear Schrödinger equation, Chaos **29**, 123135 (2019).
3. R. Mohanasubha, V.K. Chandrasekar and **M. Senthilvelan**, A Method of Identifying Integrability Quantifiers from an obvious λ symmetry in Second Order Nonlinear Ordinary Differential Equations, Int. J. Nonlinear Mech. **116**, 318-323 (2019).
4. R. Mohanasubha and **M. Senthilvelan**, A Note on the application of Darboux Polynomial Method to an Nonlinear Oscillator Equation, Int. J. Nonlinear Mech. **115**, 49-52 (2019).
5. S. Stalin, **M. Senthilvelan** and M. Lakshmanan, Energy Sharing Collisions and the Dynamics of Degenerate Solitons in the nonlocal Manakov System, Nonlinear Dynamics **95**, 1767-1780 (2019).

6. S. Stalin, R. Ramakrishnan, **M. Senthilvelan** and M. Lakshmanan, Nondegenerate Solitons in Manakov system, *Phys. Rev. Lett.* **122**, 043901 (2019).
7. S. Stalin, **M. Senthilvelan** and M. Lakshmanan, Degenerate soliton solutions and their dynamics in the nonlocal Manakov system: I Symmetry preserving and symmetry breaking solutions, *Nonlinear Dyn.* **95**, 343(2019).
8. N. Vishnu Priya, G.Rangarajan, M. Lakshmanan and **M.Senthilvelan**, On Symmetry Preserving and Symmetry Broken Bright, Dark and Antidark Soliton Solutions of Nonlocal Nonlinear Schrodinger Equation, *Phys Lett. A* **383**, 15(2019).
9. S.Karthiga, V.K.Chandrasekar, **M.Senthilvelan** and M. Lakshmanan, PT-symmetric nonlinear systems and their implications in optics, *Proceedings of the Conference on Nonlinear Systems and Dynamics* (2019). (DOI: 10.29195/iascs.02.01.0011).
10. R. Mohanasubha, V. K. Chandrasekar, **M. Senthilvelan** and M. Lakshmanan, Interconnections among analytical methods for two-coupled first-order integrable systems, in *Proceedings of the Conference on Nonlinear Systems and Dynamics* (2019). (DOI: 10.29195/iascs.02.01.0010).
11. K. Manikandan, S. Stalin and **M. Senthilvelan**, Dynamical behaviour of solitons in a PT-invariant nonlocal nonlinear Schrodinger equation with distributed coefficients, *Eur. Phys. J. B* **91**, 291 (2018).
12. K. Manikandan, N. Vishnu Priya, **M. Senthilvelan** and R. Sankaranarayanan, Deformation of dark solitons in a PT-invariant variable coefficients nonlocal nonlinear Schrodinger equation, *Chaos* **28**, 083103 (2018).
13. R. Mohanasubha, V. K. Chandrasekar, **M. Senthilvelan** and M. Lakshmanan, On the interconnections between various analytic approaches in coupled first-order nonlinear differential equations, *Comm. Nonlinear Sci. and Num. Sim* **62**, 213 (2018).
14. S. Kartiga, V. Chithiika Ruby and **M. Senthilvelan**, An inclusive SUSY approach to position dependent mass systems, *Phys Letts. A* **382**, 1645-1650 (2018).
15. K. Premalatha, V.K. Chandrasekar, **M. Senthilvelan** and M. Lakshmanan, Stable amplitude chimera states in a network of locally coupled Stuart-Landau oscillators, *Chaos* **28**, 033110 (2018).
16. R. Mohanasubha, V. K. Chandrasekar and **M. Senthilvelan**, A note on deriving linearizing transformations for a class of second order nonlinear ordinary differential equations, *Nonlinear Analysis Real World Appli.* **39**, 202 (2018).
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