**Prof. M. LAKSHMANAN** F.N.A.Sc., F.A.Sc., F.N.A., FTWAS, Vigyan Shri
**Professor of Eminence &**
**DST-ANRF National Science Chair**

## Contact

Address : Department of Nonlinear Dynamics
School of Physics
Bharathidasan University
Tiruchirappalli – 620 024
Tamil Nadu, INDIA
Date of Birth : 25-03-1946
Contact Phone (Office) : +91 431 2407093
Contact Phone (Mobile) : +91 9940823079
Contact e-mail(s) : lakshman.cnld@gmail.com

## Academic Qualifications:

| Course | Year | Subject | Class | University |
|---|---|---|---|---|
| B.Sc. | 1966 | Physics | First | Madras |
| M.Sc. | 1969 | Physics | First | Madras |
| Post M.Sc. | 1970 | Theoretical Physics | First Rank | Madras |
| Ph.D.* | 1974 | Theoretical Physics | ------ | Madras |
| D.Sc Honaris Causa | 2009 | Theoretical Physics | ------ | University of Burdwan |
| *Thesis Title : Dynamics of Certain Nonlinear Systems and Field Models<br>Supervisor : Professor P.M. Mathews | | | | |

## Teaching Experience: 43 Years

1. Professor of Eminence, Bharathidasan University, Tiruchirappalli, India (2006 onwards)
2. Professor of Physics, Bharathidasan University, Tiruchirapali, India (July 1984 - 2006)
3. Honorary Professor, S.N. Bose National Centre for Basic Sciences, Calcutta (1989-94)
4. Reader in Physics, Bharathidasan University (1982-84).
5. Reader in Physics, University of Madras Autonomous Post- Graduate Centre, Tiruchirappalli – (1978-82).

## Research Experience: 49 Years

1. DST-ANRF National Science Chair (2021 Onwards)
2. DST-SERB Distinguished Fellow (2017 - 2021)
3. NASI - Platinum Jubilee Senior Scientist (2016 - 2018)
4. DAE-BRNS Raja Ramanna Fellow (2006-2007; 2011- 2016)
5. DST Ramanna Fellow (2007-2014)
6. Professor of Physics, Bharathidasan University, Tiruchirappalli, India (1984-2006)
7. Honorary Professor, S.N. Bose National Centre for Basic Sciences, Calcutta (1989-94)
8. Reader in Physics, Bharathidasan University (1982-84).
9. Reader in Physics, University of Madras Autonomous Post- Graduate Centre, Tiruchirappalli – (1978-82).
10. Post-doctoral Fellow : University of Tuebingen, W.Germany (1976-77); Eindhoven University of Technology, Holland (1977-78).
11. Research Fellow/Research Assistant, University of Madras (1970-76).

## Additional Responsibilities

1. Dean, Faculty of Science, Bharathidasan University (2002-2005)
2. Head of the Department of Physics, Bharathidasan University (1994 - 2006): 12 years
3. Head in-charge, Department of Physics, Bharathidasan University (1987-89) : 2 years
4. Head, Centre for Nonlinear Dynamics, Bharathidasan University (1992 - 2006): 14 years
5. Member of the Syndicate, Bharathidasan University (1995-98)
6. Member of the Senate: 1987-89, 1994 - 2006
7. Member of the Standing Committee on Academic Affairs : 1993-99, 2003-2006
8. Convener, Disciplinary Committee, Bharathidasan University : 1995-98
9. Member, (i) Finance Committee, (ii) Staff Pattern Committee, (iii) Course Affiliation Committee, Bharathidasan University (1995-98)
10. Member, Various Committees on Course Affiliation to various Colleges/Inspection Commissions.
11. Member, Commission to evaluate the working of Cochin University of Science & Technology by the Govt. of Kerala.
12. Member, C.S.I.R. Bhatnagar Award Selection Committee at various times
13. Member/Convener of C.S.I.R. National Level Entrance Test at various times
14. Member, National Board for Higher Mathematics (1989-92)
15. Member, Program Advisory Committee, Department of Science & Technology, Govt. of India (1996 - 2002)
16. Member, Swarnajayanti Award Selection Committee of D.S.T. (1999 -2005 )
17. Member, Sectional Committee in Physical Sciences/Multidisciplinary Committee, etc. of Indian National Science Academy (1997-2000)
18. Member, TANSA Award Selection Committee (several years)
19. Convener, Madurai Local Chapter of the Indian National Science Academy, 2000-2003
20. Member, Council of Indian National Science Academy (2005-08)

21. Chairman, DST Expert Panel for Fast Track Scheme for Young Scientists in the area of Physical & Mathematical Sciences (2005-08; 2009 -2015 )
22. Member, National Committee for International Union of Pure and Applied Physics (2007-2012)
23. Member, Inter-Academy Council Committee on DST-INSPIRE (2009)
24. Elected Council Member, Indian Academy of Sciences (2010-12).
25. Chairman, DST Fast Track Scheme for Young Scientists in Physical and Mathematical Science for 2009-11, 2012 -2015.
26. Chairman, DST Committee on FIST programme in Physical Sciences (2012-16)
27. Member, Science Panel, Indian Academy of Sciences (2009 - 16).
28. Chairman, Physical Sciences Research Committee, CSIR (2015 - 2018).
29. Member, Empowered Committee, DST – SERB (2015 - 2018).
30. Visitor's Nominee – IIT, Guwahati (2015 - 2020).
31. Member, Selection Committee, SASTRA - G. N. Ramachandran Award in Physical Sciences, SASTRA University (2021 onwards)

## Areas of Research

Theoretical/Mathematical Physics with special reference to Nonlinear Dynamics:

**(i) Solitons and (ii) Chaos**

## Research Supervision / Guidance

| Program of Study | | Completed | Ongoing |
|---|---|---|---|
| Research | NPDF/DSKPDF/ RA/WOS | 40 | 05 |
| | Ph.D. | 36 | 01 |
| | M.Phil. | 50 | -- |
| Project | PG | 50 | -- |

## Publications

| International | | National | | Others |
|---|---|---|---|---|
| Journals | Conferences | Journals | Conferences | Books / Chapters / Monographs / Manuals |
| 408 | 26 | 12 | Xx | 22 |

**Google Scholar (24-04-2025)**

| | | |
|---|---|---|
| **Total Citations** | **:** | **19971** |
| **h-index** | **:** | **71** |
| **i10 index** | **:** | **311** |

## Funded Research Projects

### Completed Projects

| S. No | Agency | Period | | Project Title | Budget (Rs. In lakhs) |
|---|---|---|---|---|---|
| | | From | To | | |
| 1 | INSA | 1979 | 1982 | Nonlinear Wave Propagation in Ferromagnets | 2.0 |
| 2 | CSIR | 1980 | 1983 | Biological Oscillators | 3.0 |
| 3 | UGC | 1980 | 1983 | Differential Geometry of Soliton Systems | 2.5 |
| 4 | UGC | 1980 | 1983 | Nonlinear Dynamics (Career Award) | 2.5 |
| 5 | DST | 1985 | 1989 | Nonlinear Excitations in Magnetic Materials | 3.0 |
| 6 | DST | 1986 | 1989 | Solitons | 3.0 |
| 7 | CSIR | 1990 | 1994 | Classical and Quantum Chaos in Rydberg Atoms in External Field | 4.0 |
| 8 | DST | 1990 | 1995 | Nonlinear Dynamics of Magnetic Systems: Coherent and Chaotic Structures | 6.25 |
| 9 | DAE | 1994 | 1997 | Symmetry, Singularity Structure and Bifurcation Aspects of Certain Nonlinear Differential Equations | 2.0 |
| 10 | DST | 1995 | 2002 | Establishment of a Nonlinear Dynamics Unit | 83.0 |
| 11 | DAE | 1998 | 2001 | Nonlinear Differential Equations of Diffusive Type : Spatio Temporal Patterns | 5.0 |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Bifurcation and Chaos | |
| 12 | CSIR | 2002 | 2005 | Optical Soliton Interactions in Birefringent Fibers | 12.0 |
| 13 | DAE | 2001 | 2004 | Integrability and Nonintegrability of Nonlinear Differential Equations: Role of Symmetries and Singularity Structures | 7.2 |
| 14 | DST | 2002 | 2007 | Establishment of a Nonlinear Dynamics Unit – Phase II | 100.12 |
| 15 | DAE | 2004 | 2007 | DAE Project "Spatio-temporal Patterns and Localized Structures in Nonlinear Schrodinger Family of Equations in (2+1) Dimensions | 13.0 |
| 16 | DAE (NBHM) | From the year 1990 onwards. Annual Grant | | Library Grant to the Centre for Nonlinear Dynamics | 4.30 per year |
| 17 | DST | 2007 | 2010 | DST Ramanna Fellowship Grant | 40.2 |
| 18 | DST | 2008 | 2015 | Establishment of a Nonlinear Dynamics Unit – Phase III | 284.00 |
| 19 | DST | 2011 | 2014 | DST Ramanna Fellowship project | 33 |
| 20 | DAE | 2015 | 2018 | DAE – NBHM Project "Moving curves and surfaces in potential fields: Geometrical connections to spin systems and soliton equations" | 12 |
| 21 | CSIR | 2015 | 2019 | CSIR Project "Nonlinear Dynamics of Spin Transfer Nano Oscillators (STNOs)" | 15 |
| 22 | DST | 2016 | 2019 | DST-SERB Project " Collective Dynamical Structures in Coupled Nonlinear Osciollators" | 29 |
| 23 | DST | 2018 | 2021 | DST-SERB Distinguished Fellowship Project | 84 |

**Ongoing Projects**

| S. No | Agency | Period | | Project Title | Budget (Rs. In lakhs) |
|---|---|---|---|---|---|
| | | From | To | | |
| 1 | DST | 2021 | 2026 | DST-ANRF National Science Chair | 220 |

## Distinctive Achievements / Awards

1. **University Grants Commission Career Award for Young Scientists (1980).**
2. **Raman Research Prize-Gold Medal, University of Madras (1980).**
3. **Best University Teacher Award (1984), Govt. of Tamil Nadu.**
4. **S.S. Bhatnagar Prize in Physical Sciences (1989) (India's highest scientific prize).**
5. **Member, National Board for Higher Mathematics (1989-92).**
6. **Fellow of the Indian National Science Academy (1992).**
7. **Fellow of the Indian Academy of Sciences (1991).**
8. **Fellow of the National Academy of Sciences, India (1989).**
9. **Prof. G. Sankaranarayanan Endowment Lecturer, Annamalai University (1991).**
10. **Tamilnadu Scientists Award (TANSA) – 1993/94.**
11. **U.G.C. Hari Om Trust - Meghnad Saha Award in Theoretical Sciences (1990).**
12. **Hari Om Ashram Prerit Shri Hari Vallabhdas Chunilal Shah Research Endowment Prize – 1996**
13. **Dr. Biren Roy Memorial Lecture Award of INSA – 1998.**
14. **Foreign Member,Royal Academy of Sciences, Uppsala, Sweden (1999).**
15. **Professor M.M. Thomas Endowment Lectureship Award, Bishop Moore College, Mavelikara (2001)**
16. **Awarded ICTP Senior Associate Fellowship, Trieste, Italy (2002-2008).**
17. **76$^{th}$ Indian Science Congress Madurai Kamaraj University Distinguished Scientist Award (2004).**

18. **Dr. V. Shanmuga Sundaram Endowment Lectureship Award, Annamalai University (2005).**
19. **Professor Vishnu Vasudeva Narlikar Memorial Lecture Award of INSA - 2006 (Given in 2008) .**
20. **Goyal Prize in Physics 2005 (given in 2008) .**
21. **A.C. Banerjee Memorial Lecture Award of National Academy of Sciences -2007.**
22. **Conferred Doctor of Science (Honoris Causa) by University of Burdwan for outstanding contribution to Nonlinear Dynamics (2009).**
23. **Elected Fellow of the Academy of Sciences for the Developing World (FTWAS)- 2009.**
24. **NASI – Platinum Jubilee Senior Scientist (2016).**
25. **R.D. Birla Award for Excellence in Physics – 2014 by Indian Physics Association.**
26. **G. N. Ramachandran Award for Excellence in Physics – 2018 by SASTRA Deemed Univeristy, Tamil Nadu.**
27. **DST – SERB Distinguished Fellow (2018-2021).**
28. **Tamil Nadu Government's prestigious Dr. A.P.J Abdul Kalam Award (2021).**
29. **DST – SERB National Science Chair (2021).**
30. **American Physical Society Outstanding Referee Award (2022).**
31. **Europhysics Letters Distinguished Referee Award(2022).**
32. **Rashtriya Vigyan Puraskar 2024 – Vigyan Shri (2024).**
33. **LAGRANGE AWARD For lifetime achievement in Nonlinear Physical Science (2025).**

## Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized: 14

1. Organizer, SERC (DST) Winter School on 'Solitons' during Jan. 5-17, 1987 at Tiruchirapalli.

2. Local Secretary and Organizer of the 57 the Annual Session of the National Academy of Sciences, India and the National Symposium on 'New Materials'held at Tiruchirapalli during Oct. 7-10, 1987.
3. Coorganizer, International Workshop on 'Nonlinear Evolution Equations: Integrability and Spectral Methods' held at Como, Italy during July 4-15, 1988.
4. Organizer, International Workshop on 'Symmetries and Singularity Structures of Nonlinear Dynamical Systems' at Tiruchirapalli, during Nov. 29-Dec. 2, 1989.
5. Organizer, NBHM Winter School on 'Analysis, Manifolds and Physics' held at Tiruchirapalli during Dec 20, 1992-Jan. 9, 1993.
6. Organizer, Winter School on "Integrable Systems and Low Dimensional Many Body Problems" held at Tiruchirapalli during Dec.18-23, 1995.
7. Organizer, Workshop on "Recent Developments in Chaotic Dynamics," Tiruchirapalli Dec. 9-13, 1996.
8. Organizer, International Conference on "Nonlinear Dynamics: Integrability and Chaos" to be held at Tiruchirapalli during February 12-16, 1998.
9. Organizing Committee Member/Editor-in-Chief of Annual National Conferences on Nonlinear Systems & Dynamics (Kharagpur, 2004; Aligarh, 2005; Chennai 2006).
10. Local Organizer, 71st Annual Meeting of Indian Academy of Sciences at Trichy during November 11-13, 2005.
11. Organizing Committee Member of numerous other meetings in Nonlinear Dynamics inside and outside India.
12. Organizer, NMI workshop on “Nonlinear Intergable Systems and thier Applications” held at Bharathidasan University, during Feb 24- March 01, 2014.
13. Director, Academies sponsored Refresher Course on “Quantum Mechanics” held at Bishop Moore College, Mavelikara, Kerala during May 5-17 , 2014 & Refresher Course on “Classical Mechanics and Electromagnetism” held at SDM College, Ujire, during December 8-20, 2014.
14. Director, Academies sponsored Science Academies' Refresher Course in Theoretical Physics scheduled to be held at Bishop Moore College, Mavelikara, Kerala, during 15 June - 01 July 2023.
15. Director, Academies sponsored Science Academies' Refresher Course in Theoretical Physics scheduled to be held at Sri S. Ramasamy Naidu Memorial College, Sattur, during 17 March – 30 March 2025.

16. Coordinator of numerous Academy sponsored Lecture workshops in Theoretical Physics / Nonlinear Dynamics.

## Events Participated

**Conferences / Seminars / Workshops:**

1. Numerious Conferences/Seminars/Workshops in Theoretical Physics and Nonlinear Dynamics

**Other Training Programs**

1. Academic sponsored and other Lecture Workshops/Refresher Courses
2. DST-INSPIRE programmes all around the country

**Convocation Addresses :**

1. Numerous Colleges in and around Tiruchirappalli

## Overseas Exposure / Visits

1. Japan Society for Promotion of Science Fellowship, Kyoto University, Kyoto, Japan (1984-85).
2. Swedish Natural Science Research Council Guest Scientist (1981, March-June).
3. Royal Society and Nuffield Foundation Bursary, University of Manchester Institute of Science and Technology, U.K. (1979-80).
4. Alexander von Humboldt Foundation Fellow, University of Tuebingen, (1976-77); Univ. of Hanover (1982,April-May), Potsdam Climate Research Institute (2012, Sept. – Dec.) W. Germany.
5. Eindhoven University of Technology, Holland Post-doctoral Fellow (1977-78).
6. International Centre for Theoretical Physics,Trieste, Italy (May-Aug. 1975; April-June 1986).
7. Institute of Theoretical Physics, University of Utrecht, Holland (Aug-Oct. 1975).
8. NATO Advanced Study Institute, Banff, Alberta, Canada (Aug. 1980).
9. Department of Mathematics, University of Melbourne/University of Adelaide, Australia (Feb-March 1983).
10. Centro di Cultura A. Volta, Como, Italy (July 1988).

11. Fudan University, Shanghai, China (April 1989).
12. Department of Science and Technology - USSR Academy of Sciences Long Term Programme Visitor to USSR (July - Aug. 1990).
13. Indian National Science Academy-Polish Academy Exchange Programme Visitor to Poland (Jan/Feb.1991).
14. Indo-Greek Cultural Exchange Programme Visitor to Greece (July 1991).
15. INSA - Royal Society Visitor to U.K. during Sept.-Nov.1996.
16. Indo-Finnish Cultural Exchange Programme Visitor to University of Turku, Finland, November 1997.
17. Swedish Natural Science Research Council Visiting Scientist, University of Uppsala, Sweden, May 1999.
18. INSA-Royal Netherlands Academy Visitor Holland, Sept. 1999.
19. Visitor to Ukraine/Bulgaria, 2001.
20. Visiting Scholar, Princeton University, U.S.A., May-June 2002.
21. JSPS Invitation Fellow, Osaka City University, Osaka, Japan 1 October – 30 November 2002.
22. Visitor, Institute of Physics, University of Potsdam, Germany during November 2004
23. INSA-French Academy of Sciences Visitor to France during 14-28, March 2005
24. Visiting Scientist, Los Alamos National Laboratory, U.S.A., May-June 2006
25. JSPS Invitation Fellow, University of Tokyo, Japan 15 July 2006 – 15 September 2006
26. Visiting Scientist, Los Alamos National Laboratory, U.S.A., August –October 2007
27. Invited Speaker in the Robin Bullough Memorial Meeting at University of Manchester, U.K. during 10-11, June 2009.
28. Invited Speaker in the International Conference on "Nonlinear Evolution Equations and Dynamical Systems-2009" held at Isola Rossa, Sardinia, Italy during May 16-23, 2009.
29. Invited Speaker in the SIAM Conference on "Nonlinear Waves and Coherent Structures (NW08)" was held at Rome (Italy), during 21-24 July 2008.
30. Invited Speaker at the International Conference on "Symmetry plus Integrability" held at the South Padre Island , Texas during June 10-14, 2011.
31. Invited Speaker at the Physcon-2011 conference held at Leon, Spain during September 4-8, 2011.

32. Invited speaker at the International Conference on " Theory and Applications in Nonlinear Dynamics" held at Seattle, USA during Aug. 26-30, 2012.
33. Alexander von Humboldt foundation visitor at Potsdam Climate Impact Research Institute, Potsdam Germany during Sept 8 – Dec 6, 2012.
34. Invited speaker at the International Conference on "Data Analysis" at PIK, Potsdam, Germany during 19 March – 27 March 2013.
35. Invited speaker at the JNMP conference at Norway during 10-13 June, 2013.
36. Visiting Scientist, Los Alamos National Laboratory, U.S.A., during 15 June – 15 July 2013, 15 May – 15 July 2015 and 15 May – 15 July 2017, 01 May – 31 July 2019.
37. Plenary Talk, Conference on Nonlinear Science and Complexity (2025) at Rio Claro, Brazil, during August 4-8, 2025.

## Membership in

### Professional Bodies

1. **Elected Fellow of the Indian National Science Academy (FNA)(1992).**
2. **Elected Fellow of the Indian Academy of Sciences (FASc) (1991).**
3. **Elected Fellow of the National Academy of Sciences (FNASc) (1989).**
4. **Elected Fellow of the Academy of Sciences for the Developing World (FTWAS) (2009).**
5. **Elected Foreign Member,Royal Academy of Sciences, Uppsala, Sweden (1999).**

### Editorial Board

1. International Journal of Bifurcation & Chaos (1991- 2018).
2. Chaos, Solitons & Fractals (1993-2009).
3. Physics News (1994-96)
4. Journal of Nonlinear Mathematical Physics (1995 - 2010)
5. Guest Editor-in-Chief, Special issue on 'Solitons' of Chaos, Solitons & Fractals (1995)
6. Indian Journal of Physics (2002-04)
7. Proceedings of Royal Society of London A (2006 - 12 )
8. Advances in Mathematical Physics (2009 – 2016)
9. Physical Review E (2023-2025)

**Advisory Board**

1. Member of the Syndicate, Bharathidasan University (1995-98)
2. Member of the Senate: 1987-89, since 1994
3. Member of the Standing Committee on Academic Affairs : 1993-99, 2003-
4. Convener, Disciplinary Committee, Bharathidasan University : 1995-98
5. Member, (i) Finance Committee, (ii) Staff Pattern Committee, (iii) Course Affiliation Committee, Bharathidasan University (1995-98)
6. Member, Various Committees on Course Affiliation to various Colleges/Inspection Commissions.
7. Member, Commission to evaluate the working of Cochin University of Science & Technology by the Govt. of Kerala.
8. Member, Steering Committee, State Level Entrance Examination (1996-98)
9. Member, Academic Council, SASTRA University (2021-24)

**Academic Bodies (such as Board of Studies etc.,)**

1. Chairman Board of Studies in Physics (PG); 1986-89, 1993-99, 2003-
2. Member Board of Studies in Physics,
    1. Pondicherry University
    2. Alagappa University
    3. Cochin University of Science & Technology
    4. Madurai Kamaraj University
    5. Manonmaniam Sundaranar University
    6. University of Madras
    7. St. Joseph's College, Trichy
    8. Seethalakshmi Ramaswamy College, Trichy
    9. Regional Engineering College (NIT), Tiruchirappalli
    10. A.V.V.M. Sri Pushpam College, Poondi
    11. A.V.C. College, Mayiladuthurai

3. Member, Governing Board/Council

    1. Bishop Heber College, Trichy
    2. A.V.V.M. Sri Pushpam College, Poondi
    3. Holy Cross College, Trichy
    4. Nehru Memorial College, Puthanampatti
    5. J. J. College, Pudukkottai

## Resource persons in various capacities

Number of Invited / Special Lectures delivered: **Numerous all over the world.**

**Examples:**

1. Invited Speaker in the Robin Bullough Memorial Meeting at University of Manchester, U.K. during 10-11, June 2009
2. Invited Speaker in the International Conference on "Nonlinear Evolution Equations and Dynamical Systems-2009" held at Isola Rossa, Sardinia, Italy during May 16-23, 2009
3. Invited Speaker in the SIAM Conference on "Nonlinear Waves and Coherent Structures (NW08)" was held at Rome (Italy), during 21-24 July 2008
4. Invited Speaker at the International Conference on "Symmetry plus Integrability" held at the South Padre Island , Texas during June 10-14, 2011.
5. Invited Speaker at the Physcon-2011 conference held at Leon, Spain during September 4-8, 2011.
6. Invited speaker at the International Conference on " Theory and Applications in Nonlinear Dynamics" held at Seattle, USA during Aug. 26-30, 2012
7. Invited speaker at the International Conference on "Data Analysis" at PIK, Potsdam, Germany during 19 March – 27 March 2013
8. Invited speaker at the JNMP conference at Norway during 10-13 June, 2013.

## Others

1. Articles published in Newspapers / Magazines : 10

    1. Nonlinear Dynamics: A Challenging Topic in Physics and Mathematics, M. Lakshmanan, Mathematics Education 9, 33-36 (1992)

2. Duffing Oscillator: A Paradigm of Chaos, M. Lakshmanan and K. Murali, Physics News 24, 3-12 (1993)

3. Analytic Structure of Certain Damped and Driven Nonlinear Oscillators, M. Lakshmanan, Indian J. Phys. 67 A, 477-491 (1993)

4. Controlling and Synchronization of Chaotic Dynamical Systems, M. Lakshmanan and K. Murali, Trans. Bose Res. Inst. (1993)

5. Harnessing Chaos: Synchronization and Secure Signal Transmission, M. Lakshmanan and K. Murali, Current Science 67, 989-994 (1994)

6. Rydberg Atoms and Molecules: Testing Grounds for Quantum Manifestations of Chaos, M. Lakshmanan and K. Ganesan, Current Science 68, 38-44, (1995)

7. Nonlinearity in Ferromagnetism: Some Potential Applications, M. Lakshmanan and B. Subash, Physics News 44, 4-10 (2015).

8. Waves and Oscillations in Nature : A. Satya Narayanan and Swapan K. Saha Book Review, M.Lakshmanan, Current Science, 110 2306-2307 (2016).

9. Anjan Kundu (1953-2016), M Lakshmanan, BK Chakrabarti, Current Science, 112, 865-866 (2017).

10. K. Porsezian (1963-2018), M Lakshmanan, Current Science, 115, 992-993 (2018).

2. No. of Ph.D Thesis evaluated : 80

3. No. of Ph.D Public Viva Voce Examination conducted : 65

**Books published**

1. Solitons: Introduction and Applications, M. Lakshmanan (Ed.) Springer series in Nonlinear Dynamics, Springer-Verlag, Berlin (1988)

2. Nonlinear Evolution Equations: Integrability and spectral Methods, A. De-gasperies, A. P. Fordy and M. Lakshmanan (Eds.) Proceedings in Nonlinear Science, Manchester University Press Manchester (1990)

3. Symmetries and Singularity Structures: Integrability and Chaos in Nonlinear Dynamical Systems, M. Lakshmanan and M.Daniel (Eds.) Springer-Verlag, Berlin (1990)

4. Chaos in Nonlinear Oscillators: Controlling and Synchronization, M. Lakshmanan and K. Murali, World Scientific Series on Nonlinear Science, Vol. 13 (World Scientific Singapore 1996).

5. Solitons in Science and Engineering: Theory and Applications, M. Lakshmanan (Ed.) Special Issue of the Journal "Chaos, Solitons & Fractals" – Pergamon Vol.5, No. 12 pp. 2213-2639 (1995).

6. Nonlinear Systems, R. Sahadevan and M. Lakshmanan (Ed.), Narosa Publishing House, New Delhi (2002).

7. Nonlinear Dynamics: Integrability, Chaos and Spatio-temporal Patterns, M. Lakshmanan and S. Rajasekar, Springer-Verlag (Advanced Texts in Physics) (2003).

8. National Conference on Nonlinear Systems and Dynamics-2006 (Proceedings), M. Lakshmanan and R. Sahadevan (Ed.), Allied Publishers, Chennai (2006).

9. Dynamics of Nonlinear Time Delay Systems, M. Lakshmanan and D.V. Senthilku-mar, Springer-Verlag (2011) (Series in Synergetics).

10. Proceedings of National Mathematics Initiative Workshop on Nonlinear Integrable Systems and their Applications, M. Lakshmanan and P. Muruganandam (Ed.), Pramana 84 (2015).

## Recent Publications

**Last 5 years (2020-2025)**

1. Nondegenerate soliton solutions in certain coupled nonlinear Schr¨odinger systems, S. Stalin, R. Ramakrishnan and M. Lakshmanan, Phys. Lett. A 384 126201 (2020).
2. Tailoring inhomogeneous PT-symmetric fiber Bragg grating spectra, S. Vignesh Raja, A. Govindarajan, A. Mahalingam and M. Lakshmanan, Phys. Rev. A 101 033814(2020).
3. Self-trapped dynamics of a hollow Gaussian beam in metamaterials, A. K. Shafeeque Ali and M. Lakshmanan, Phys. Lett. A, 384, 126527(2020).
4. Realization of parallel logic elements and memory latch in a quasiperiodically driven simple nonlinear circuit, M. Sathish Aravindh, R. Gopal, A. Venkatesan and M. Lakshmanan, Pramana 94 78(2020).
5. Frequency enhancement and power tunability in tilted polarizer spin-torque nano oscillator, R. Arun, R. Gopal, V. K. Chandrasekar and M. Lakshmanan, J. Appl. Phys. 127, 153903 (2020).
6. Tunable nonlinear spectra of anti-directional couplers, A. Govindarajan, Boris A. Malomed and M. Lakshmanan, Opt. Lett. 45, 1918(2020).
7. Influence of field-like torque in synchronization of spin torque oscillators, R. Arun, R. Gopal, V. K. Chandrasekar and M. Lakshmanan, IEEE Transaction on Magnetics, 56(9), 1400310 (2020).

8. Phase shifted PT-symmetric periodic structures, S V Raja, A Govindarajan, A Mahalingam, M Lakshmanan, Phys. Rev. A, 102, 013515 (2020).
9. Impact of higher-order effects on dissipative soliton in metamaterials, A. K. Shafeeque Ali, Malik Zaka Ullah and M. Lakshmanan, Physics Letters A, 384, 126744 (2020).
10. Interplay between reproduction and age selective harvesting delays of a single population non-autonomous system, N.S.N.V.K. Vyshnavi Devi, Debaldev Jana and M. Lakshmanan, Indian Journal of Pure and Applied Mathematics, 54(4), 1857 (2020).
11. Sliding Bifurcations In The Memristive Murali-Lakshmanan-Chua Circuit And The Memristive Driven Chua Oscillator, A. Ishaq Ahmed and M. Lakshmanan, Int. J. of Bif. and Chaos, 30, 295021 (2020).
12. Route to logical strange nonchaotic attractors with single periodic force and noise, M. Sathish Aravindh, A. Venkatesan, and M. Lakshmanan, Chaos, 30, 093137 (2020).
13. State Feedback Control and Observer Based Adaptive Synchronization of Chaos in a Memristive Murali-Lakshmanan-Chua Circuit, A. Ishaq Ahmed and M. Lakshmanan, Pramana - Journal of Physics, 94, 152 (2020).
14. Nondegenerate solitons and their collisions in Manakov system, R. Ramakrishnan, S. Stalin and M. Lakshmanan, Phys. Rev. E, 102, 042212 (2020).
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