CURRICULUM VITAE

J. VASUNDHARA DEVI
Professor in Mathematics
GVP – Prof. V. Lakshmikantham Institute for Advanced Studies
GVP College of Engineering (Autonomous)
Madhurawada, Visakhapatnam - 530 048.

EDUCATION:

Ph.D. in Mathematics:

Guide: Professor **V.Lakshmikantham**

Florida Institute of Technology, Melbourne, Florida, USA.

Graduation: August 1992.

GPA: 3.96/4.00

Thesis: Qualitative Behavior of Impulsive Differential Systems.

Areas of Concentration: Impulsive Differential Equations, Stability Analysis by Lyapunov's Second Method, Theory of Nonlinear Differential Equations, Set Differential Equations, Fractional Differential Equations.

M.Phil in Mathematics:

Andhra University, Visakhapatnam, AP, India.

Graduation: March, 1990.

Specialization: Impulsive Differential Equations.

Dissertation: Impulse Systems and Models.

M.Sc. in Mathematics:

Andhra University, Visakhapatnam, AP, India.

Graduation: November 1986.

Specializations: Differential Equations, Real and Functional Analysis.

B.Sc. in Mathematics:

Mrs. AVN College, Andhra University, Visakhapatnam, AP, India.

Graduation: April 1983.

EXPERIENCE:

(a) TEACHING:

April, 2007- Present.

    Professor, Dept. of Mathematics and
    Associate Director, GVP – Professor V. Lakshmikantham Institute for Advanced Studies
    GVP College of Engineering, Visakhapatnam 530 048.

Aug '2003 – June 05.

    Visiting Associate Professor, Department of Mathematical Sciences, Florida Institute of
    Technology, Melbourne Florida, U.S.A.

    (On leave from Gayatri Vidya Parishad College for PG Courses, Visakhapatnam.)

Sept '96 – May, 2003.

    Associate Professor, Department of Mathematics, Gayatri Vidya Parishad College for

    PG Courses, Madhurawada, Visakhapatnam-530041, Andhra Pradesh, India.

Mar '93 – Sep '96.

    Lecturer, Department of Applied Mathematics, Sri Padmavathi Mahila Visvavidyalayam,
    Tirupati - 517502, Andhra Pradesh, India.

Sep '89 – Sep '92.

    Graduate Student Assistant, Florida Institute of Technology, Melbourne, Florida, USA, Involved
    in teaching various levels of Calculus and Differential Equations.

July '87 – Aug '89.

    Research Scholar, Department of Mathematics, Andhra University, Visakhapatnam, AP, India.

Nov '86 – Apr '87.

    Instructor in Government Junior College, Visakhapatnam, AP, India.

(b) RESEARCH:

    Research Professor for International Federation of Nonlinear Analysts, Aug., 05 – April, 07.

    Post Doctoral Research Fellow, Florida Institute of Technology, Melbourne Florida, U.S.A,
    May 23rd – Aug 4th, 2003.

    Two students obtained M.Phil from Sri Padmavathi Mahila Visvavidyalayam, Tirupati.

    One student obtained M.Phil from Sri Venkateswara University, Tirupati, AP, India.

    Successfully guided 3 scholars to obtain their Ph D . One scholar Submitted her work and 3
    are registered for PhD in JNTU (K), AP.

RESEARCH PROJECTS:

1.DST Project No. SR/S4/MS: 491/07 dated 12-01-09.

Amount Sanctioned: Rs. 9,84,000/-

Title: Qualitative study of set differential equations involving causal operators with memory.

Sanctioned on 19-03-09 to be completed by 31st May, 2012.

2.NBHM - DAE Project 2/48(8)/2011/ - R&D II/1600 dated Feb. 8th 2012.

Amount Sanctioned: Rs. 20,43,500/-

Title: A Qualitative study of Graph differential equations and Matrix differential equations.

Sanctioned on 8th Feb. 2012 and completed by June 2015

3.Serb-DST Project File No. EMR/2016/003572

Title: A computational study of fractional differential equations

Started on Feb6th 2017.

Amount Rs.1633480.

RESEARCH Guidance Completed:

1.Ch.V.Sreedhar, Assistant Professor, Department of Mathematics, G.V.P College of Engineering (A), Visakhapatnam, awarded from Rayalaseema University, Kurnool.

2. S.Nagamani, Govt. Junior Lecturer in Mathematics, Elamanchili, Visakhapatnam, awarded from Rayalaseema University, Kurnool.

3. N.Giribabu, Assistant Professor, Department of Mathematics, G.V.P College of Engineering (A), awarded from JNT University, Kakinada

V.Radhika, Assistant Professor, Department of Mathematics, G.V.P College for Degree and P.G Courses (A), awarded at Rayalaseema University, Kurnool.

TEXT BOOK

Linear Algebra to Differential Equations, with S.G. Deo and RamaKrishna Khnadeparkar, accepted and is in the process of publication by Taylor and Francis Group

RESEARCH PUBLICATIONS:

Research Monographs:

- *Introduction to the theory of fractional dynamic Systems* with V. Lakshmikantham and S. Leela, Cambridge Scientific Publishers, 2009.

- *Theory of Set Differential Equations in a Metric Space* with V. Lakshmikantham and T. Gnana Bhaskar Cambridge Scientific Publishers, U.K., 2005.

- *The Origin and History of Mathematics* with V. Lakshmikantham and S. Leela, Cambridge Scientific Publishers, U.K., 2005.

- *What India Should Know* with V. Lakshmikantham Bharatiya Vidya Bhavan, Bombay, 2005.

- Ganitam Identically equal to Jeevitam, with N.Ch. Suresh and ISNRG Bharat published by Gayatri Vidya Parishad, Visakhapatnam, India.

Edited volumes:

- *Proceedings of the International Conference on Recent Advances in Mathematical Sciences and Applications-09,* held at GVP-Professor V.Lakshmikantham Institute for Advanced Studies, GVP College of Engineering, Visakhapatnam.

- *Trends in Nonlinear Analysis :In Honor of Professor V.Lakshmikantham* A felicitation volume for Professor V. Lakshmikantham celebrating his 84th birthday. Special issue by Nonlinear Analysis Theory Methods and Applications, Aug 2008 (Communicating Guest Editor: J.Vasundhara Devi. Other Guest Editors: Professor Girija Jayaraman, Professor S. Leela and Professor A. Sengupta).

- *Advances in Nonlinear Analysis Theory Methods and Applications* in honor of Professor V.Lakshmikantham, Cambridge Scientific Publishers, A felicitation volume for Professor V. Lakshmikantham (Communicating Editor J. Vasundhara Devi. Other Editors Professor S. Sivasundarram, Professor Z. Drici and Professor F.A. Mc Rae.). 2009, Cambridge Scientific Publishers, U.K.

- *Advances in dynamics and control*.: *Theory, methods and applications,* A felicitation volume for Professor A. V.Balakrishnan, 2009, Cambridge Scientific Publishers (Communicating Editor J. Vasundhara Devi. Other Editors Professor S. Sivasundarram, Professor F. E. Udwadia and Professor Irena Lasiecka.)

Editor-in-Chief Nonlinear World, a journal f interdisciplinary nature, published online by Gauyatri Vidya Parishad College of Engineering (A), Gayatri Vidya Parishad Prof.V.Lakshmikantham Institue for Advanced Studies in Association with International Federation of nonlinear Analysts.

Subject Area Editor: Subject editor in the area of **Nonlinear Analysis** for the **European Journal of Pure and Applied Mathematics, Istanbul, Turkey.**

Member of Editorial Board:

Journal of Malaya Journal of Matematik.
Journal of Nonlinear Studies.
Journal of International Federation of Nonlinear Analysts.
Journal of Fractional Dynamic Systems.

REVIEWER:

- Reviewer for American Mathematical Society Reviews, USA
- Reviewer for Zentralblatt MATH edited by the European Mathematical Society, the Heidelberg Academy of Sciences and Fachinformationszentrum Karlsruhe.

- Reviewer for the Journal of Australian Mathematical Society, Australia.

- Adjudicator of a Ph.D. thesis, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

- Reviewer for International journals published by Elsevier.

- Reviewer for International journals published by Springer.

- Reviewer for many other journals published from various countries.

- Reviewed a paper American Society for Mechanical Engineers, Applied Mechanics Reviews.

- Reviewed a book for **Birkhäuser Publishers.**

BOOK CHAPTERS:

1. Theory of Fractional Differential Equations Using Inequalities and Comparison Theorems: A Survey, with F. A. Mc Rae and Z. Drici, in the book titled Current Trends in Fractional Calculus and Fractional Differential Equations published by Springer Nature India Private Limited (in press).

2. An Exposition on Mathematical Models involving Various Types of Differential Equations, with F. A. Mc Rae and Z. Drici, in the book titled Mathematics in Engineering Sciences: Novel Theories, Technologies, and Applications published by CRC Press (in press).

Refereed Publications in Journals and Proceedings:

1. Boundedness and Dichotomies for Impulsive Equations, with S.V.Krishna and K.Satyavani, JMAA, Vol.158, No.2, July, 1991, PP 352-375.

2. Dichotomies of Impulsive Differental Systems, with S.V. Krishna, and G.V. Ravindhranath Babu, JMAA, Vol.163, No.2, 1992, PP 322-344.

3. "A Variation of Lyapunov second Method to Impulsive Differential Equations", Journal of Mathematical Analysis and Applications (JMAA), Vol. 177, No. 1, 1993, pp 190-200.

4. Strict Stability Criteria for Impulsive Differential Systems, with V.Lakhsmikantham, Journal of Nonlinear Analysis Theory, Method and Applications, vol.21, No.10, 1993, pp785-794.

5. Monotone Iterative Technique for Impulsive Differential Equations, with Variable Moments, with V. Lakshmikantham, Nicolas S. Papageorgiou, Journal of Applicable Analysis vol.51, 1993 pp 41-58.

6. Practical Stability Criteria for Impulsive Differential Systems Using a Variational Lyapunov Method, with R.Arun Kumar, Nonlinear Times and Digest, Vol.1, No.2, pp 189-196.

7. "Existence of Maximal Solutions and Comparison Theorem for Impulsive Differential Equations with Variable moments", Nonlinear World 2 (1995) pp 419-427.

8. -Generalised Quasilinearisation for Impulsive Differential Equation with Fixed Moments of Impulse with G.N. Chandrakala and A.S. Vatsala, Dynamics of Continuous, Discrete and Impulsive Systems 1 (1995) pp 91-99.

9. Generalised Quasilinearisation of PBVP with Fixed Moments of Impulse", with V. Sobha Rani and A. S. Vatsala, Journal of Communications in Applied Analysis, Vol.3., No. 4, (1999) pp 517-528.

10. Another approach to the Theory of Differential Inequalities Relative to Changes in the Initial Times, with V.Lakhsmikantham, S. Leela, Journal of Inequalities and Applications, Vol. 4, (1999), pp 163-174.

11. Stability Criteria for Solutions of Differential Equations Relative to Initial Time Difference, with V.Lakhsmikantham, S. Leela, International Journal of Nonlinear Differential Equations Theory-Methods and Applications, Vol. 5, Nos. 1&2, (1999) pp 86-108.

12. Quasilinearisation for Second Order Singular Boundary Value Problems with Solutions in Weighted Spaces, with A.S. Vatsala, Journal of Korean Mathematical Society, Vol.37 (2000), No.5, pp 823-833

13. On Existence and Quasilinearisation Method for First Order Singular Initial Value Problems in Weighted Spaces, with A.S. Vatsala, proceedings of the third international conference on Nonlinear Problems in Aviation and Aerospace, Vol.2, (2000) pp 681-687.

14. A Qualitative Study of Solutions of IVPs with Initial Time Difference, Journal of Nonlinear Analysis 47(2001), pp 3401-3411.

15. Extended method of quasilinearization for reaction diffusion systems, with Vatsala, A.S., Proceedings of Neural, Parallel, and Scientific Computations. Vol. 2, 273--276, Dynamic, Atlanta, GA, 2002.

16. Generalised Quasilinearization of Impulsive Differential Equations with Variable Moments, with A.S. Vatsala, Dynamic Systems and Applications, Vol.12, (2003}, pp 369-382.

17. Hybrid system having partly invisible solutions, with S.Leela and Cesar Martinez-Garza, International journal of Hybrid Systems, Vol.3, No.1, March (2003), pp 95-100.

18. Basic results in Impulsive set differential equations, Nonlinear Studies, Vol.10, No.3, (2003) pp 259-272.

19. On Existence of Solution of an Impulsive Terminal Value Problem", Mathematical Methods and Modelling (Russia), Vol.25, (2003), pp 115-121.

20. "Generalised Monotone Technique for Impulsive Differential Equations with Variable Moments of Impulse", with A.S. Vatsala, Nonlinear Studies, Vol.9, No.3 (2003), pp319-330.

21. Stability of Hybrid Systems with Invisible Solutions on Invariant Sets, with Cesar – Garza Martinez, International journal of Hybrid Systems, 3 (2-3), 2003, 283 – 290. Heidelberg Academy of Sciences and Fach information szentrum, Karlsruhe.

22. Revisiting Fuzzy Differential Equations, with V. Lakshmikantham and T.Gnana Bhaskar Nonlinear Analysis TMA 58(3-4), 2004, 351-358.

23. Existence of Solutions of Singular Initial and Boundary Value Problems, with V.Lakshmikantham Problems of Nonlinear analysis in Engineering Systems No. 1 (20), Vol.10, 2004.

24. A Study of Set Differential Equations with Delay, with A.S.Vatsala Dynamics of Continuous, Discrete and Impulsive Systems, Series A: Mathematical Analysis 11(2004), 287-300.

25. Stability Theory for Set Differential Equations" with V. Lakshmikantham and S.Leela the special issue honouring Prof. Siljak for his 70th Birthday Dynamics of Continuous, Discrete and Impulsive Systems 11 (2004), no. 2-3, 181--189.

26. Monotone Iterative Technique for Impulsive Set Differential Equations, with A.S.Vatsala Nonlinear Studies 11 (2004) no.4, 639-658

27. Lyapunov-like functions in metric spaces, with V.Lakshmikantham Dynamic Systems and Applications 13 (2004), no. 4, 553--560.

28. Method of vector Lyapunov functions for impulsive fuzzy systems with Vatsala, A.S., Dynamic systems Appl. 13 (2004), no. 3-4, 521--531.

29. Differential equations with causal operators in a Banach space Nonlinear Analysis 62 (2005), no. 2, 301--313 with Z.Drici, and F.A. McRae.

30. Stability Criteria in Set Differential Equations, with T.Gnana Bhaskar, Mathematical and Computer Modeling 41 (2005), no.11-12, 1371--1378.

31. Non uniform stability and boundedness criteria for Set Differential Equations, with T.Gnana Bhaskar, Applicable Analysis, 84 (2005) no.2, 131-143.

32. Set Differential Systems and Vector Lyapunov functions, with T.Gnana Bhaskar Appl.. Math. Comp 165 (2005), no. 3, 539--548.

33. Impulsive Set Differential Equations with Delay, with F. A. McRae Applicable Analysis, 84 (2005), no. 4, 329--341.

34. Monotone Iterative Techniques for Set Differential Equations with Delay, with F.A.McRae Applicable Analysis,84 (2005), no. 4, 329-341.

35. Set Differential Equations with Causal operators with Z. Drici and F. A. Mc Rae, Mathematical Problems in Engineering 2005.2 (2005), 185-194.

36. Stability in terms of two measures of hybrid systems with partially visible solutions Nonlinear Analysis TMA.62 (2005), no.8, 1536 – 1543.

37. Nonlinear variation of parameters formula for set differential equations in a metric space with V.Lakshmikantham and T.Gnana Bhaskar, Nonlinear Analysis TMA 63 (2005), no.5-7, 735-744.

38. Stability results for Set Differential Equations with Causal maps, with Z. Drici, and F.A. McRae ,Dynamic Systems and Applications 15(2006), 451-464.

39. Hybrid Systems with time scales and impulses, with V.Lakshmikantham Nonlinear Analysis TMA 65 (2006), no.11, 2147--2152.

40. Existence and Monotone Iterative technique for BVPs of set differential equations Problems of Nonlinear Analysis in Engineering systems, with V.Lakshmikantham No.2 (26) Vol.12, 2006, pp 46-52.

41. Monotone Iterative technique for PBVP involving Causal Operators, with Z.Drici, and F.A. McRae Nonlinear Analysis 64 (2006), 1271 – 1277.

42. Fixed – Point theorems in partially ordered metric spaces for operators with PPF dependence, with Z. Drici, and F.A. McRae Nonlinear Analysis TMA, 67 (2007) No.2, 641 –647.

43. Functional differential systems with anticipation with V.Lakshmikantham, Nonlinear Studies, Vol.14. No.3 ,2007, 235-240.

44. Monotone Iterative technique for functional differential Equations with retardation and Anticipation, with V.Lakshmikantham and T.Gnana Bhaskar Nonlinear Analysis TMA, 66 (2007), 2237-2242.

45. Differential equations involving Causal operators with memory, with Z.Drici and F.A.Mcrae, Nonlinear Studies Vol.15, No.3, (2008), 227-234

46. Theory of fractional differential Equations in a Banach space, with V.Lakshmikantham European Journal of Pure and Applied Mathematics, vol1, No. 1, (2008) 38-45.

47. Fixed – Point theorems in partially ordered metric spaces for mixed monotone operators with PPF dependence, with Z. Drici, and F.A. McRae, Nonlinear Analysis TMA (2007), doi.10.1016/j.na2007.05.044.

48. Heartfelt tribute to the person with an amazing legacy editorial for the volume Trends in Nonlinear Analysis- In honor of Professor V.Lakshmikantham , Nonlinear Analysis TMA 69 (2008), 781-785.

49. Variation of parameters for differential equations with causal maps, with Z. Drici, and F.A. McRae , Mathematical Inequalities and Applications, Vol 12, No. 1, 2009, 209-215.

50. Quasilinearization for Functional Differential Equations with retardation and Anticipation with Z. Drici, and F.A. McRae, Nonlinear Analysis TMA 70 (2009) 1763-1775.

51. Nonsmooth analysis and fractional differential equations with V.Lakshmikantham Nonlinear Analysis TMA Vol. 70 (2009), 4151 – 4157.

52. Generalized monotone method for periodic boundary value problems of Caputo fractional differential equations, Communications in Applied Analysis, Vol 12, No.4, 2008, 399 - 406.

53. Quasilinearization for fractional differential equations with Ch.Suseela, , Communications in Applied Analysis, Vol. 12, No.4, 2008, 407-418.

54. Trends in fractional differential equations with V.Lakshmikantham and S.Leela (accepted for publication in Advances in Theory, methods and applications in dynamics and control).

55. Hybrid model for differential equations involving retardation and anticipation with Z.Drici, and F.A. McRae, Advances in Nonlinear Analysis Theory, methods and applications, Cambridge Scientific Publishers, 2009, 291-299.

56. Generalized Quasilinearization for Fractional Differential Equations with F. A. McRae and Z. Drici, Computers and Mathematics with Applications, 59 (2010), 1057-1062.

57. Monotone Iterative Technique for Integro Differential Equations with Retardation and Anticipation with Ch.V.Sreedhar and S.Nagamani, Communications in Applied Analysis, Vol. 14, N0.3 & 4, 2010, 325-336.

58. Fractional Differential Equations involving causal operators with Z. Drici, F. A. McRae., Communications in Applied Analysis, 14 (2010), No.1, 81–88.

58. Existence and Uniqueness of Solutions for set differential equations involving causal operators with memory, European Journal of Pure and Applied Mathematics, Vol. 3, N0. 4, 2010, 737-747.

60. Extremal Solutions and Continuous Dependence for set differential equations involving causal operators with memory, Communications in Applied Analysis, Vol.15, (2011), N0.1, 113-124.

61. Generalized monotone iterative method for Set Differential Equations involving Causal operators with memory, International Journal of Advances in Engineering Sciences and Applied Mathematics, Vol. 8, No.3, 74-83.

62. Approximate and Euler Solutions for Set Differential Equations Involving Causal Operators with Memory with Ch.Appala Naidu, Dynamics of Continuous, Discrete and Impulsive Systems Series A, Mathematical Analysis 18 (2011), 783-795.

63. Comparison Theorems and Existence results for Set Differential Equations Involving Causal Operators with Memory Nonlinear Studies, Vol. 18, No. 4, pp. 603-610, 2011.

64. Quasilinearization for integro differential equations with retardation and anticipation with Ch.V. Sreedhar , Nonlinear Studies, Vol. 19, No. 2, pp. 303-326, 2012.

65. Variational Lyapunov method for fractional differential equation with, F.A. Mc Rae and Z.Drici, Computers and Mathematics with Applications, (2012), doi: 10.1016/j. camwa. 2012.01.070. impact factor 1.75.

66. On the existence and stability of Solutions of hybrid Caputo fractional differential equations with Z. Drici and F. A. Mc Rae Dynamics of Continuous, Discrete and Impulsive Systems Series **A:** Mathematical Analysis 19 (2012), 501-512.

67. Euler solutions of integro differential equations with retardation and anticipation, with Ch. V. Sreedhar, Nonlinear Dynamics and Systems Theory, 12(3) (2012) 237-250.

68. Euler solutions for delay differential equations, Dynamics of Continuous Impulsive and Discrete Systems, Series A: Mathematical Analysis 19 (2012) 135-144.

69. Monotone Iterative Technique for Hybrid Caputo Fractional Differential Equations, with M. Krishna Sastry, Dynamics of Continuous Impulsive and Discrete Systems Series A: Mathematical Analysis 19 (2012) 397-411.

70. Quasilinearization for Hybrid Caputo Fractional Differential Equations, with V. Radhika, Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis 19 (2012), 745-756.

71. Stability Results for Set differential Equations using Causal operator with memory, with Ch. Appala Naidu, European Journal of Pure and Applied Mathematics, Vol.5, No.2,2012,.

72. Boundedness Results on Impulsive Set Differential Equations involving Causal Operators with memory with Ch. Appala Naidu, Communications in Applied 187-196 Analysis 17 (2013), No. 1, 9–20.

73. Generalized Monotone Iterative Technique for Hybrid Caputo Fractional Differential Equations, with M. Krishna Sastry, Communications in Applied Analysis 17 (2013), No. 1, 109–128.

74. On Fractional Trigonometric Functions and Their Generalizations, with S. G. Deo and S. Nagamani, Dynamic Systems and Applications 22 (2013) 337 – 384.

75. On graph differential equations and its associated matrix differential equations with R. V. G. Ravi Kumar and N. Giribabu, Malaya Journal of Matematik,1(1) (2013) 1-9.

76. On fractional hyperbolic functions and their generalizations with S. Nagamani, Nonlinear Studies, Vol. 20, No. 3 (2013), pp. 331 - 348.

77. Terminal Value problems for Caputo fractional differential equations with F. A. McRae, Z. Drici, Dynamic Systems and Applications 22 (2013) 425-432.

78. Boundedness Results for Set Differential Equations Involving Casual Operators with Memory with Ch. Appala Naidu, Communications in Applied Analysis Vol. 17, No. 1, pp. 9-20, 2013.

79. On existence of component dominating solutions for fractional differential equations

with M. P. K. Kishore, R.V.G. Ravi Kumar, Nonlinear Studies Vol. 21, No. 1, pp. 45-52, 2014.

80. Modelling the Prey Predator Problem by a Graph Differential Equation with, R. V. G. Ravi Kumar, European Journal of Pure and Applied Mathematics, Vol. 7, No. 1, 2014, 37-44.

81. On the comparison principle and existence results for terminal value problems with F. A. McRae and Z. Drici, Nonlinear Studies, Vol. 21, No. 2, pp. 265-278, 2014.

82. On Hybrid Caputo Fractional Differential Equations with Variable Moments of Impulse with N. Giri Babu, European Journal of Pure and Applied Mathematics, Vol. 7, No.2, 2014, 115 - 128.

83. Existence result for periodic boundary value Problem of set differential equations using Monotone iterative technique with F. A. McRae and Z.Drici, Communications in Applied Analysis 19 (2015), 245–256

84. Periodic boundary value problem for graph differential equations and its associated matrix Differential equations with I. S. N. R. G. Bharat and S.Srinivasa Rao Malaya Journal of Mathematik, 3(4)(2015) 598–606

85. Existence results for Caputo fractional integro differential equations, Ch.V.Sreedhar, N.Ch.N Suresh, GJMS Special Issue for Recent Advances in Mathematical Sciences and Applications-13 GJMS Vol 2. 2 55–59

86. Stability in terms of two measures for matrix differential equations and graph differential Equations, Nonlinear Dynamics and System Theory, Vol. 16, No. 2, 2016, pp 179-191.

87. Solutions of Riemann-Liouville fractional matrix differential equations with S. Nagamani, K. Jayalakshmi, J. of Ramanujan Society of Math. and Math. Sc. ISSN : 2319-1023 Vol.5, No.1 (2016), pp. 111-126

88. Differential equations-retardation, anticipation and synchronized anticipation – A Survey, with F. A. McRae, Z. Drici, Mathematics in Engineering, Science and Aerospace, Vol. 7, No. 2, 2016, pp. 351-376.

89. Quasilinearization Technique Periodic boundary value problem for graph differential equations and its associated matrix Differential equations with S.N.R.G. Bharat Iragavarapu and S. Srinivasa Rao , Dynamics of Continuous, Discrete and Impulsive Systems, Series B: Applications & Algorithms 23 (2016) pp. 287-300.

90. Generalized Monotone Iterative Method for Caputo Fractional Integro-differential Equations, with Ch. V. Sreedhar , European Journal of Pure and Applied Mathematics, Vol. 9, No. 4, 2016, 346-359

91. Basic Theory for Graph Differential Equations and Associated Matrix Differential Equations, Proceedings of Dynamic Systems and Applications, Vol. 7, 2016, 1-7.

92. The Method of Upper and Lower Solutions for Initial Value Problem of Caputo Fractional

Differential Equations with Variable Moments of Impulse, with N Giribabu, and G V S R Deekshitulu Dynamics of Continuous, Discrete & Impulsive Systems Series A: Mathematical Analysis, vol 24, issue 1, Pg: 41-54, 2017.

93. Monotone Iterative Technique for Caputo Fractional Differential Equations with Variable Moments of Impulse, with N Giribabu, and G V S R Deekshitulu ,Dynamics of Continuous, Discrete & Impulsive Systems Series B: Applications and Algorithms, Vol 24, issue 1, Pg: 48-57, 2017.

94. Can Fractional Calculus Be Generalized: Problems And Efforts with S. K.SEN, R.V.G. Ravikumar, European Journal of Pure and Applied Mathematics, Vol. 11, No. 3, 2018, 1058-1099.

95. New Limit Definition of Fractional Derivatives: Toward Improved Accuracy and Generalization, with S. K.SEN, R.V.G. Ravikumar, Malaya Journal of Matematik, Volume 7, Issue 2, 2019, Pages:182-191.

96. Generalized Quasilinearization for PBVP through coupled lower and upper solutions of the IVP, I.S.N.R.G.Bharat and J.Vasundhara Devi, Dynamics of Continuous, Discrete and Impulsive Systems Systems Series B: Applications and Algorithms, accepted.

97. J. Vasundhara Devi, M. Vani, Connected Edge Litact Domination in Graphs" in International Journal of Innovative Technology and Exploring Engineering., Vol. 8, 11, 1593-1596, 2019.

98. J. Vasundhara Devi , A. Renuka Lakshmi , Strong Split Litact Domination in Graphs" in International Journal of Recent Technology and Engineering, Vol. 8, 3, 7296-7300, 2019.

99. J. Vasundhara Devi, I.S.N. R. G Bharat, Generalized Quasilinearization for PBVP through coupled lower and upper solutions of the IVP" Dynamics of Continuous Discrete and Impulsive Systems

100. J. Vasundhara Devi, Ch. V. Sreedhar, Generalized Quasilinearization using coupled lower and upper solutions for periodic boundary value problem of an integro differential equation, European Journal of Pure and Applied Mathematics, Vol. 12, No. 4, 2019, 1662-1675

PRESENTATION:

- Resource person in the International Webinar Series on Advances in Mathematics-2020 organized by Tata Institute of Social Sciences, Tuljapur, between 22nd to 27th June.2020

- Resource person in the two day International Webinar on "Recent advances in Mathematics and COVID-19" , on 15th and 16th, June 2020, organized by St.Joseph's College for Women, Uttara Andhra Society for Mathematical Sciences and Prof.S.Minakshi Sundaram Memorial Society

- Invited speaker at a Regional Workshop, A Meet on Differential Equations and Applications

organized by Dept. of Mathematics ,GVP College of Engineering(A) on 3rd Jul.2017

- Invited speaker at the International Conference on Mathematical Analysis and its Applications at Dayanand Science College, Latur, Maharastra, India during 5th-9th Mar,2017

- Invited speaker at the National Workshop on Fractional order modeling in Engineering organized by Dept. of Mathematics and Dept of Electronics and Communications Engineering, GVP College of Engineering(A) during 26th-28th Oct.2016

- Invited speaker at the National Workshop on Differential equations and Engineering Applications
- organized by Dept. of Mathematics and Dept of Mechanical Engineering, GVP College of Engineering(A) during 21st 23rd Dec..2016

- Organized a session at the Fifth World Congress of Nonlinear Analysts, WCNA- 2008 at Orlando, U.S.A, in July 2008.

- Chaired a session at the Fifth World Congress of Nonlinear Analysts, WCNA- 2008 at Orlando, U.S.A, in July 2008.

- Gave an invited talk at the Fifth World Congress of Nonlinear Analysts, WCNA- 2008 at Orlando, U.S.A, in July 2008.

- Chaired a session at the Fourth World Congress of Nonlinear Analysts, WCNA-2004 at Orlando, U.S.A. in July 2004.

- Gave an invited talk at the Fourth World Congress of Nonlinear Analysts, WCNA-2004 at Orlando, U.S.A. in July 2004.

- Chaired a session at the Third World Congress of Nonlinear Analysts, WCNA-2000 at Catania, Sicily, Italy, in July 2000.

- Gave an invited lecture at the Third World Congress Of Nonlinear Analysts, WCNA-2000 at Catania, Sicily, Italy, in July 2000.

- Presented a paper at the National Conference on Nonlinear Analysis and Applications at Department of Mathematics, Andhra University, Visakhapatnam, March 27-29, 2000.

- Gave an invited talk in Second World Congress of Nonlinear Analysts, Athens, Greece, July 1996.

- Gave an invited talk in International Symposium on Nonlinear Analysis and Applications, Visakhapatnam, India, August 1993.

- Presented two papers in the 8th Annual Conference of Ramanujam Mathematical Society, Tirupati, India, June 1993.

- Presented a paper and was part of the organizing committee in the First World Congress of Nonlinear Analysts at Tampa, U.S.A., in August, 1992.

- Presented a paper in Annual Meetings of American Mathematical Society, Baltimore, Maryland, USA, January 1992.

- Presented a paper in 54th Annual Conference of Indian Mathematical Society, Poona, India, December 1988.

WORKSHOPS BOTH ACADEMIC & SOCIAL:

- Organized a One Day Regional Seminar on, Thinking in Mathematical Models: Simple to Real Industry Applications, at GVP College of Engineering (A) on 16th March 2018.
- Organizing Secretary for the 3rd International Conference, "Recent Advances in Mathematical Sciences and Applications, RAMSA 17, organized at GVP College of Engineering, Visakhapatnam during Dec.19-22, 2017.

- Coordinated a one day symposium on "Mathematical Applications in Communications " was organized jointly with Dept. of Electronics and Communication Engg., organized on the eve of Prof. V.Lakshmikantham's 91st birth anniversary on 16th march 2015.

- Coordinated an intensive course on "Cyber security" has been organized from 5th-9th Jan, 2015 in collaboration with Dept. of computer Science engineering Prof. R.G.Marshal, Professor, Dept. of computer science and engineering Plymouth State University Plymouth, USA.

- Organizing Secretary for the National Conference on "Ramanujan's works and current trends in Computational Mathematics" by 22nd and 23rd Dec 2014.

- Coordinated a two day workshop on "Methods of fast computing using Vedic Mathematics" was organized during 29th and 30th Oct, 2014 with the department of mathematics.

- Organizing Secretary for the 2nd International Conference, "Recent Advances in Mathematical Sciences and Applications, RAMSA13, organized at GVP College of Engineering, Visakhapatnam during Dec.19-22, 2013.

- Organizing Secretary for a National Work Shop on " Fractional Differential Equations and Stability Theory" during November 17th to 19th, 2012 to be organized in memory of Prof. V. Lakshmikantham and also celebrating the 125th Birth anniversary of Ramanujan.

- Organizing Secretary for "Emerging Trends in Mathematical Applications to Engineering" from 19th to 22nd July 2012 at GVP College of Engineering, Visakhapatnam.

- Organizer for the Net Coaching Programme, during 14th April to 10th June, 2012 GVP College for Degree and PG Courses, Visakhapatnam.

- One day National Seminar on Modern Utility of Vedic Science, by GVP College of Engineering, Visakhapatnam and ISERVE t GVP College of Engineering, Visakhapatnam on 26th February, 2011.

- Organizing Secretary for the International Conference, "Recent Advances in Mathematical Sciences and Applications, RAMSA09, organized at GVP College of Engineering, Visakhapatnam during Dec.19-22, 2009.

- One of the Organizers of a short term program on Mathematical Applications in Engineering and Science, June 22- July 5, 2009. at GVP College of Engineering for Women, Visakhapatnam.

- Organized and attended a short term program on BIO-INFORMATICS and SPEECH RECOGNITION along with the Deprartment of CSE, IT and MCA of GVPCE during the dates 21 -07-08 to 26-07-08 Speaker: Professor R.Marshall, Plylmouth State University, NH, USA.

- Organized a short term program on GLOBAL WARMING with the Dept. of Mathematics, GVPCE form 6th to 10th Jan 2008 Speaker Professor Chris Tsokos, University of South Florida, USA.

- Organized a two month lecture course on FRACTIONAL DIFFERENTIAL EQUATIONS with the Department of Mathematics during November and December 2007 taught by Professor V.Lakshmikantham, Florida Institute of Technology , Melbourne Fl., USA.

- Organized a short term program on ADVANCED FINITE ELEMENT ANALYSIS with the Mechanical Engineering Dept from 20th to 24th December 2007 Speaker Professor J. N. Reddy, Texas A&M University, Texas, USA.

- Organized and attended a short term Program on ANALYTICAL DYNAMICS – A NEW APPROACH along with the department Mechanical Engineering of GVPCE during the dates 29 - 03-07 to 03-04-07 Speaker: Professor F.E.Udwadia University of Southern California, Los Angeles, CA, USA.

- Organised two lectures on MATHEMATICAL MODELLING (with special reference to Chilika Lagoon) and VARIOUS OPTIONS FOR RESEARCH PROJECTS FOR MEN AND WOMEN SCIENTISTS (5th& 6th November 2007) Speaker Professor Girija Jayaraman, IIT Delhi, India.

- Attended a two-day workshop on Modification in Educational System Change Over From Traditional to Semester Pattern, Sri Padmavathi MahilaVisvavidyalayam Tirupati, India, 19th to 21st Feb 1996.

- Attended a ten-day Faculty Development Programme in Educational Technology from 2nd Jan to 12th Jan 1996 at Sri Padmavathi Mahila Visvavidyalayam, Tirupati, India.

- Attended various workshops conducted under staff development training programme during the years 94 and 95, Sri Padmavathi Mahila Visvavidyalayam, Tirupati, India.

- Attended a workshop on AIDS conducted by Sri Padmavathi Mahila Visvavidyalayam and AIDS Research Foundation of India, Madras in 1994.

- Attended a workshop on Meteorology and Numerical Weather Prediction organised at Andhra University in 1988.

SOCIETIES:

- Life member of Ramanujan Mathematical Society.

- Member of International Federation of Nonlinear Analysts.

- Life Member of Andhra Pradesh Society for Mathematical Sciences.

- Life Member of Association of Mathematics Teachers of India.

- Life member of Marathwada Mathematical Society.

DISTINCTIONS:

- Junior Research Fellow of Council of Scientific and Industrial Research, India.

- M.Phil., Obtained First Class.

- M.Sc., Obtained First Class with Distinction, 2nd Rank in the University.

- B.Sc., Obtained First Class with Distinction, 9th Rank in the University.

- National Merit Scholarship.

INTERESTS:

- Reading and Music.