




Bharathiar University

State University | "A⁺⁺" Grade by NAAC | 46th Rank in MoE-NIRF
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr K MATHIYALAGAN Assistant Professor Department of Mathematics Bharathiar University Coimbatore, 641041 Tamil Nadu E-mail: kmathimath@buc.edu.in Phone: 9965542886 Office Number: 04222428417	
Research Area <ul style="list-style-type: none">• Differential Equations• Robust Control• Stability Analysis	Courses Teaching <ul style="list-style-type: none">• Partial Differential Equations• Mathematical Methods• Optimization Techniques• Probability Theory
Research Experience: 17	Teaching Experience: 11
Research Credentials (as on September 2024 – Source: Google scholar) H-index: 41 Citations: 4063 i10-index: 88	
Publications International Journals: 117 Books/Chapters: 1 Conferences: 8	
Career Other Institutes <ol style="list-style-type: none">1. Designation : Guest Faculty Institution Name : Anna University of Technology, Coimbatore Period : October 2008 - June 20092. Designation : Post Doctoral Fellow Institution Name : Yeungnam University, Republic of Korea Period : November 2013 - May 20143. Designation : Post Doctoral Fellow Institution Name : Zhejiang University, Peoples Republic of China Period : January 2013 - October 20134. Designation : Post Doctoral Fellow Institution Name : Yeungnam University, Republic of Korea Period : April 2015 - May 20155. Designation : Assistant Professor Institution Name : Yeungnam University, Republic of Korea Period : April 2014 - March 2015 At Bharathiar University <ol style="list-style-type: none">1. Designation : Assistant Professor Period : November 2016 - Till Date2. Designation : Post Doctoral Fellow Period : June 2015 - November 2016	
Education	



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Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr K MATHIYALAGAN , Assistant Professor , Department of Mathematics

Ph. D.

Subject : Mathematics
Institution : Anna University
Affiliated University : Anna University
Year of Award : October 2012

M. Phil.

Subject : Mathematics
Institution : Bharathiar University
Affiliated University : Bharathiar University
Year of Award : December 2008

M. Sc.

Subject : Mathematics
Institution : SRMV College of Arts & Science
Affiliated University : Bharathiar University
Year of Award : May 2007

B. Sc.

Subject : Mathematics
Institution : SRMV College of Arts & Science
Affiliated University : Bharathiar University
Year of Award : May 2005

Projects

National Level

Ongoing - 1 completed - 1

Research Guidance

Completed

Ph.D. - 4 M.Phil. - 9

Submitted

Ph.D. - 1

On Going

Ph.D. - 3

Institutional Responsibilities

SWAYAM Mentor

Period :Aug 2021 to Till date

Nature of Responsibility :Department Coordinator for the SWAYAM programme from 2021-22 onwards

Visits

1. Presented a paper "Sliding mode controller for fractional-order nonlinear systems" in the International Congress of Mathematics (ICM) 2018 at Rio-de-Janeiro, Brazil (2018-08-09 - 2018-08-01)
2. Presented a paper "New probability-dependent gain scheduled control for discrete-time stochastic systems with randomly occurring nonlinearities" in International Congress of Mathematicians – SEOUL ICM 2014, Seoul, Republic of Korea (2014-08-13 - 2014-08-21)

Collaborations

1. Visited Department of Applied Mathematics, Kongju National University, Chungcheongnam, Republic of Korea for a research collaboration (2023-09-01 - 2023-08-28)

Programs organized

1. International Conference on Nonlinear Dynamics:Modeling and Computation (ICNDMC 2025) (2025-02-17 - 2025-02-19)
2. Symposium on Mathematical-Computational Sciences (2022-09-13 - 2022-09-15)
3. Workshop on Applications of Differential Equations (WADE 2020) (2020-02-12 - 2020-02-14)



Publications

International Journals - 117

117. Stabilization of discrete-time nonlinear strict-feedback systems with Poisson noise

International Journal of General Systems, Early Access (September 2025)
K. Mathiyalagan, P. Anto Vinn Christy and T. Elizabeth Jeyanthi

116. Observer-based boundary control for semi-linear stochastic systems

International Journal of Control, Early Access (September 2025)
R. Ragul and K. Mathiyalagan

115. Stabilisation of stochastic systems driven by Poisson process

International Journal of Systems Science, Early Access (September 2025)
K. Mathiyalagan and T. Elizabeth Jeyanthi

114. Backstepping based boundary control design for reaction-diffusion equations with delays

The European Physical Journal Special Topics, 234, 1573-1583, 2025 (August 2025)
K. Mathiyalagan, N. Soundarya Lakshmi and R. Ragul

113. Boundary stabilization of semi-linear time fractional reaction-diffusion systems with delays

Asian Journal of Control, 27 (4), 1926-1939, 2025 (July 2025)
K. Mathiyalagan, T.V. Renugadevi, H. Zhang and Y. Shi

112. Backstepping control for stochastic strict-feedback systems with Lévy noise

Chaos, Solitons & Fractals, 195, 111241, 2025 (June 2025)
K. Mathiyalagan and T. Elizabeth Jeyanthi

111. Observer-based event-triggered formation control for connected vehicles under DoS attacks

Mathematics and Computers in Simulation, 240, 920-937, 2025 (February 2025)
Y. Xu, Y. Liu, N. Zhao, K. Mathiyalagan

110. Dynamic event-triggered adaptive neural control for MIMO nonlinear CPSs with time-varying parameters and deception attacks

Chaos, Solitons and Fractals, 185, 115166, 2024 (August 2024)
Y. Tian, H. Zhang, Y. Liu, N. Zhao and K. Mathiyalagan

109. Boundary stabilization of fractional reaction-diffusion systems with time-varying delays

International Journal of Systems Science, 55, 209-221, 2024 (July 2024)
K. Mathiyalagan, T. Renugadevi and H. Zhang

108. Event-triggered adaptive secure tracking control for nonlinear cyber-physical systems against unknown deception attacks

Mathematics and Computers in Simulation, 221, 79-93, 2024 (July 2024)
Y. Tian, H. Zhang, Y. Liu, N. Zhao and K. Mathiyalagan

107. Reliable stabilization of discrete-time nonlinear singular systems with time-varying delays

International Journal of General Systems, 1-22, 2024 (April 2024)
K. Mathiyalagan and Y.K. Ma

106. Resilient Event-Triggered Dynamic Output Feedback Control for Networked Takagi-Sugeno Fuzzy Systems Under Denial-of-Service Attack

International Journal of Fuzzy Systems, 26, 357-367, 2024 (February 2024)
N. Zhao, H. Sun, H. Zhang and K. Mathiyalagan

105. Observer-based SMC design for stochastic systems with Lévy noise

IMA Journal of Mathematical Control and Information, 40, 673-690, 2023 (December 2023)
G. Sangeetha, K. Mathiyalagan, Y.K. Ma and H. Zhang

104. Adaptive neural dissipative control for Markovian jump cyber-Physical systems against sensor and actuator attacks

Journal of the Franklin Institute, 360(12), 7676-7698, 2023 (August 2023)
H. Zhang, Z. Chen, N. Zhao, B. Xing and K. Mathiyalagan



103. Mittag-Leffler Stability of Impulsive Nonlinear Fractional-Order Systems with Time Delay

Iranian Journal of Science, 47(1), 99-108, 2023 (February 2023)
K. Mathiyalagan and Y.K. Ma

102. A new modelling of fractional-order and sensitivity analysis for hepatitis-b disease with real data

Fractal and Fractional, 7(2), 165, 2023 (February 2023)
M. Yavuz, F. Ozkose, M. Susam and K. Mathiyalagan

101. Exponential stability results for stochastic semi-linear systems with Levy noise

International Journal of Innovative Computing, Information and Control, 18- 6, 1929-1940, 2022 (December 2022)
R. Ragul, G. Sangeetha, K. Mathiyalagan, and H. Zhang

100. Robust Passivity Analysis of Stochastic Genetic Regulatory Networks with Levy Noise

International Journal of Control, Automation and Systems, 20-10, 3241-3251, 2022 (October 2022)
P. Jothiappan and K. Mathiyalagan

99. Boundary state feedback control for semilinear fractional-order reaction diffusion systems

Chaos, Solitons & Fractals, 162, 112428, 2022 (September 2022)
K. Mathiyalagan, T. Renugadevi, A. S. Nidhi, Y.K. Ma and J. Cao

98. Observer and output feedback control for nonlinear ordinary differential equation coupled to a under-actuated transport partial differential equation

International Journal of Robust and Nonlinear Control, 32-12, 7074 - 7098, 2022 (August 2022)
K. Mathiyalagan and A. Shree Nidhi

97. Observer and boundary output feedback control for coupled ODE-transport PDE

Applied Mathematics and Computation, 426, 127096, 2022 (August 2022)
K. Mathiyalagan, A. Shree Nidhi, H. Su and T. Renugadevi

96. Exponential Stability Analysis of Stochastic Semi-Linear Systems with Levy Noise

IEEE Access, 10, 73871-73878, 2022 (July 2022)
K. Mathiyalagan, R. Ragul, G. Sangeetha and YK. Ma

95. Stability of fractional-order quasi-linear impulsive integro-differential systems with multiple delays

Axioms, 11-7, 308, 2022 (June 2022)
K. Mathiyalagan, S. Zeng and M. Yavuz

94. Observer-based finite-time dissipativity for parabolic systems with time-varying delays

Applied Mathematics and Computation, 413, 126605, 2022 (January 2022)
K. Mathiyalagan and R. Ragul

93. Results on Boundary Control for Parabolic Systems Using Backstepping Method

Mathematical Problems in Engineering, 2022, 1-13, 2022 (January 2022)
K. Mathiyalagan, T. Renugadevi and A. Shree Nidhi

92. Boundary stabilization and state estimation of ODE-transport PDE with in-domain coupling

Journal of the Franklin Institute, 359- 2, 1605-1625, 2022 (January 2022)
K. Mathiyalagan, A. Shree Nidhi and T. Renugadevi

91. New results on robust sliding mode control for linear time-delay systems

IMA Journal of Mathematical Control and Information, 38- 1, 320-336, 2021 (March 2021)
J. Palraj, K. Mathiyalagan and P. Shi

90. State estimation results for genetic regulatory networks with Levy-type noise

Chinese Journal of Physics, 68, 191-203, 2020 (December 2020)
K. Mathiyalagan and G. Sangeetha

89. Second-order sliding mode control for nonlinear fractional-order systems

Applied Mathematics and Computation, 383, 125264, 2020 (October 2020)
K. Mathiyalagan and G. Sangeetha

88. Exponential stabilisation and dissipativity analysis of semi-linear parabolic systems

International Journal of Systems Science, 51, 2181-2191, 2020 (July 2020)
K. Mathiyalagan, R. Ragul, J. H. Park and J. Palraj



87. Finite-time dissipativity based filter design for networked control systems

International Journal of Adaptive Control and Signal Processing, 33, 1706-1721, 2019 (November 2019)
K. Mathiyalagan, M. Balasubramani, X.H. Chang and G Sangeetha

86. Finite-time stabilization of nonlinear time delay systems using LQR based sliding mode control

Journal of the Franklin Institute, 356, 3948-3964, 2019 (May 2019)
K. Mathiyalagan and G. Sangeetha

85. Robust energy-to-peak filtering for discrete-time nonlinear systems with measurement quantization

Signal Processing, 139, 102-109, 2017 (October 2017)
Z.M. Li, X.H. Chang, K. Mathiyalagan and J. Xiong

84. Robust state feedback H_2 control for discrete-time fuzzy system with random delays

Journal of Dynamic Systems, Measurement and Control, 139, 081017, 2017 (August 2017)
R. Sakthivel, A. Arunkumar, K. Mathiyalagan and J. H. Park

83. Exponential passivity results for singular networked cascade control systems via sampled-data control

Journal of Dynamic Systems, Measurement and Control, 139, 031001, 2017 (March 2017)
S. Santra, R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

82. Reliable dissipative sampled-data control for uncertain systems with actuator failures and application to vehicle dynamics

IMA Journal of Mathematical Control and Information, 34, 239-254, 2017 (March 2017)
R. Sakthivel, S. Srimanta, K. Mathiyalagan and S. Marshal Anthoni

81. Robust reliable dissipative filtering for Markovian jump nonlinear systems with uncertainties

International Journal of Adaptive Control and Signal Processing, 31, 39-53, 2017 (January 2017)
R. Sakthivel, M. Sathishkumar, K. Mathiyalagan and S. Marshal Anthoni

80. Robust reliable sampled-data control for switched systems with application to flight control

International Journal of Systems Science, 47 (15), 3518-3528, 2016 (December 2016)
R. Sakthivel, Maya Joby, P. Shi and K. Mathiyalagan

79. Fault estimation for discrete-time switched nonlinear systems with discrete and distributed delays

International Journal of Robust and Nonlinear Control, 26-17, 3755-3771, 2016 (November 2016)
J.H. Park, K. Mathiyalagan and R. Sakthivel

78. Finite-time stability of fractional-order stochastic singular systems with time delay and white noise

Complexity, 21, 370-379, 2016 (November 2016)
K. Mathiyalagan and K. Balachandran

77. Robust reliable H_2 control for fuzzy systems with random delays and linear fractional uncertainties

Fuzzy Sets and Systems, 302, 65-81, 2016 (November 2016)
R. Sakthivel, P. Shi, A. Arunkumar and K. Mathiyalagan

76. Reliable gain-scheduled control of discrete-time systems and its application to CSTR model

International Journal of Systems Science, 47 (14), 3447-3454, 2016 (November 2016)
R. Sakthivel, S. Selvi, K. Mathiyalagan and Y. Shi

75. Dissipative sampled-data controller design for singular networked cascade control systems

Journal of the Franklin Institute, 353, 3386-3406, 2016 (September 2016)
S. Santra, R. Sakthivel, Y. Shi and K. Mathiyalagan

74. Passivity of memristor-based BAM neural networks with different memductance and uncertain delays

Cognitive Neurodynamics, 10 (4), 339-351, 2016 (August 2016)
R. Anbuviya, K. Mathiyalagan, R. Sakthivel and P. Prakash

73. Stabilization of discrete-time fuzzy systems via delta operators and its application to truck-trailer model

Circuit Systems and Signal Processing, 35 (7), 2373-2389, 2016 (July 2016)
R. Sakthivel, M. Rathika, Srimanta Santra, Y. Ma and K. Mathiyalagan

72. Fault-tolerant sampled-data mixed H_2 and passivity control of stochastic systems and its application

Complexity, 21 (6), 420-429, 2016 (July 2016)
M. Joby, R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni



71. Finite-time boundedness and dissipativity analysis of networked cascade control systems

Nonlinear Dynamics, 84, 2149-2160, 2016 (June 2016)
K. Mathiyalagan, J. H. Park and R. Sakthivel

70. Delay-dependent robust reliable control for uncertain switched neutral systems

Complexity, 21 - 5, 224-237, 2016 (May 2016)
S. Selvi, R. Sakthivel and K. Mathiyalagan

69. Impulsive controller for wireless networked control system: Switched system approach

Complexity, 21 - 5, 291-299, 2016 (May 2016)
Y.Q. Wu, H. Su and K. Mathiyalagan

68. Reliable H_∞ stabilization of fuzzy systems with random delay via nonlinear retarded control

Circuit Systems and Signal Processing, 35 (4), 1123-1145, 2016 (April 2016)
R. Sakthivel, K. Sundareswari, K. Mathiyalagan and S. Marshal Anthoni

67. Robust Sampled-data PI Controller Design for Networked Control Systems

Journal of the Franklin Institute, 353 (4), 797-815, 2016 (March 2016)
S. Santra, R. Sakthivel, S. Marshal Anthoni, Y. Shi and K. Mathiyalagan

66. Reliable anti-synchronization conditions for BAM memristive neural networks with different memductance functions

Applied Mathematics and Computation, 275, 213-228, 2016 (February 2016)
R. Sakthivel, R. Anbuviya, K. Mathiyalagan, Y. K. Ma and P. Prakash

65. Novel results on robust finite-time passivity for discrete-time delayed neural networks

Neurocomputing, 177, 585-593, 2016 (February 2016)
K. Mathiyalagan, J. H. Park and R. Sakthivel

64. Non-fragile H_∞ synchronization of memristor-based neural networks using passivity theory

Neural Networks, 74, 85-100, 2016 (February 2016)
K. Mathiyalagan, R. Anbuviya, R. Sakthivel, J. H. Park and P. Prakash

63. Robust passivity based resilient control for networked control systems with random gain fluctuations

International Journal of Robust and Nonlinear Control, 26 - 3, 426-444, 2015 (February 2016)
K. Mathiyalagan, TH. Lee, JH. Park and R. Sakthivel

62. Non-fragile synchronization of memristive BAM networks with random feedback gain fluctuations

Communications in Nonlinear Science and Numerical Simulation, 29 (1), 427-440, 2015 (December 2015)
R. Anbuviya, K. Mathiyalagan, R. Sakthivel and P. Prakash

61. Combined H_∞ and passivity state estimation of memristive neural networks with random gain fluctuations

Neurocomputing, 168, 1111-1120, 2015 (December 2015)
R. Sakthivel, R. Anbuviya, K. Mathiyalagan and P. Prakash

60. Robust reliable H_∞ control for discrete-time systems with actuator delays

Asian Journal of control, 17 - 6, 2133-2142, 2015 (November 2015)
R. Sakthivel, K. Sundareswari, K. Mathiyalagan, A. Arunkumar and S. Marshal Anthoni

59. Observer-based dissipative control for networked control systems: A switched system approach

Complexity, 21 - 2, 297-308, 2015 (October 2015)
K. Mathiyalagan, J. H. Park and R. Sakthivel

58. Mixed H_∞ and passive control for singular Markovian jump systems with time delays

Journal of the Franklin Institute, 352 - 10, 4446-4466, 2015 (October 2015)
R. Sakthivel, Maya Joby, K. Mathiyalagan and S. Srimanta

57. Robust L₂-L_∞ control for uncertain systems with additive delay components

Circuit Systems and Signal Processing, 34 - 9, 2819-2838, 2015 (September 2015)
S. Selvi, R. Sakthivel and K. Mathiyalagan

56. Reliable gain-scheduled control design for networked control systems

Complexity, 21 - 1, 214-228, 2015 (September 2015)
S. Selvi, R. Sakthivel, K. Mathiyalagan and A. Arunkumar



55. Exponential synchronization for fractional-order chaotic systems with mixed uncertainties

Complexity, 21 - 1, 114-125, 2015 (September 2015)
K. Mathiyalagan, J.H. Park and R. Sakthivel

54. Robust reliable sampled-data H_2 control for uncertain stochastic systems with random delay

Complexity, 21 - 1, 42-58, 2015 (September 2015)
R. Sakthivel, S. Selvi, K. Mathiyalagan and A. Arunkumar

53. Observer-based control for switched networked control systems with missing data

International Journal of Machine Learning and Cybernetics, 6 (4), 677-686, 2015 (August 2015)
R. Sakthivel, S. Santra, K. Mathiyalagan, S. Marshal Anthoni

52. New results on passivity-based H_2 control for networked cascade control systems with application to power plant boiler-turbine system

Nonlinear Analysis- Hybrid Systems, 17, 56-69, 2015 (August 2015)
K. Mathiyalagan, J. H. Park and R. Sakthivel

51. Non-fragile observer-based H_2 control for discrete-time systems using passivity theory

Circuit Systems and Signal Processing, 34 - 8, 2499-2516, 2015 (August 2015)
K. Mathiyalagan, J. H. Park, H.Y. Jung and R. Sakthivel

50. H_2 filtering for impulsive networked control systems with random packet dropouts and randomly occurring nonlinearities

International Journal of Robust and Nonlinear Control, 25 - 12, 1767-1782, 2015 (August 2015)
K. Mathiyalagan, H. Su, Y.Q. Wu and R. Sakthivel

49. Robust reliable control design for networked control systems with sampling communications

International Journal of Control, 88 -12, 2510-2522, 2015 (July 2015)
R. Sakthivel, S. Srimanta, K. Mathiyalagan and H. Su

48. Robust fault-tolerant H_2 control for offshore steel jacket platforms via sampled-data approach

Journal of the Franklin Institute, 352 - 6, 2259-2279, 2015 (June 2015)
R. Sakthivel, P. Selvaraj, K. Mathiyalagan and Ju H. Park

47. Synchronization for delayed memristive BAM neural networks using impulsive control with random nonlinearities

Applied Mathematics and Computation, 259, 967-979, 2015 (May 2015)
K. Mathiyalagan, J. H. Park and R. Sakthivel

46. Robust sampled-data control of uncertain switched neutral systems with probabilistic input delay

Complexity, 21 - 5, 308-318, 2016 (May 2015)
S. Selvi, R. Sakthivel and K. Mathiyalagan

45. Reliable stabilization for memristor-based recurrent neural networks with time-varying delays

Neurocomputing, 153, 140-147, 2015 (April 2015)
K. Mathiyalagan, R. Anbuviya, R. Sakthivel, J. H. Park and P. Prakash

44. Robust reliable control for uncertain vehicle suspension systems with input-delays

Journal of Dynamic Systems, Measurement and Control, 137, 041013, 2015 (April 2015)
R. Sakthivel, A. Arunkumar, K. Mathiyalagan and S Selvi

43. Sampled-data state estimation for genetic regulatory networks with time-varying delays

Neurocomputing, 151, 737-744, 2015 (March 2015)
R. Anbuviya, K. Mathiyalagan, R. Sakthivel and P. Prakash

42. Robust Sampled-data H_2 control for mechanical systems

Complexity, 20 - 4, 19-29, 2015 (March 2015)
R. Sakthivel, A. Arunkumar and K. Mathiyalagan

41. Design of state estimator for bidirectional associative memory neural networks with leakage delays

Information Sciences, 296, 263-274, 2015 (March 2015)
R. Sakthivel, P. Vadivel, K. Mathiyalagan, A. Arunkumar, M. Sivachitra



40. Robust reliable H_2 control for stochastic neural networks with randomly occurring delays

Neurocomputing, 149, 1524-1534, 2015 (February 2015)
R. Sakthivel, A. Arunkumar, K. Mathiyalagan and S. Marshal Anthoni

39. Fault-tolerant sampled-data control of flexible spacecraft with probabilistic time delays

Nonlinear Dynamics, 79 - 3, 1835-1846. 2015 (February 2015)
R. Sakthivel, S. Selvi and K. Mathiyalagan

38. Reliable robust control design for uncertain mechanical systems

Journal of Dynamic Systems, Measurement and Control, 137 (2), 021003, 2014 (February 2015)
R. Sakthivel, S. Srimanta, K. Mathiyalagan and A. Arunkumar

37. Reliable mixed H_2 and passivity-based control for fuzzy Markovian switching systems with probabilistic time delays and actuator failures

IEEE Transactions on Cybernetics, 45 (12), 2720-2731, 2015 (January 2015)
R. Sakthivel, S. Selvi, K. Mathiyalagan and P. Shi

36. Robust control for fuzzy nonlinear uncertain systems with discrete and distributed time delays

Zeitschrift für Naturforschung A, 69 (10-11), 569-580, 2014. (November 2014)
R. Sakthivel, P. Vadivel, K. Mathiyalagan and J.H. Park

35. Robust reliable control for neutral-type nonlinear systems with time-varying delays

Reports on Mathematical Physics, 74, 181-203, 2015 (October 2014)
K. Mathiyalagan, R. Sakthivel and J. H. Park

34. Robust reliable dissipative filtering for networked control systems with sensor failure

IET Signal Processing, 8, 809-822, 2015 (October 2014)
K. Mathiyalagan, J. H. Park and R. Sakthivel

33. Robust reliable sampled-data control for offshore steel jacket platforms with nonlinear perturbations

Nonlinear Dynamics, 78 - 2, 1109-1123, 2015 (October 2014)
R. Sakthivel, S. Srimanta, K. Mathiyalagan and S. Marshal Anthoni

32. Exponential state estimation for discrete-time switched genetic regulatory networks with random delays

Canadian Journal of Physics, 92, 976-986, 2014 (September 2014)
K. Mathiyalagan, R. Sakthivel and H. Su

31. Robust mixed H_2 and passive filtering for networked Markov jump systems with impulses

Signal Processing, 101, 162-173, 2014 (August 2014)
K. Mathiyalagan, J.H. Park, R. Sakthivel and S. Marshal Anthoni

30. Exponential H_2 filtering for discrete-time switched neural networks with random delays

IEEE Transactions on Cybernetics, 44 - 4, 676-687, 2015 (July 2014)
K. Mathiyalagan, H. Su, P. Shi and R. Sakthivel

29. Robust stochastic stability of discrete-time fuzzy Markovian jump neural networks

ISA Transactions, 53 (4), 1006-1014, 2014 (July 2014)
A. Arunkumar, R. Sakthivel, K. Mathiyalagan and J.H. Park

28. Robust stochastic stability for discrete-time Markovian jumping neural networks with leakage delay

Zeitschrift für Naturforschung A - A Journal of Physical Sciences, 0932-0784, 2014 (June 2014)
K. Mathiyalagan, H. Su and R. Sakthivel

27. Robust state estimation for discrete-time BAM neural network with time-varying delay

Neurocomputing, 131, 171-178, 2014 (May 2014)
A. Arunkumar, R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

26. Delay-dependent H_2 state estimation of neural networks with mixed time-varying delays

Neurocomputing, 129, 392-400, 2014 (April 2014)
S. Lakshmanan, K. Mathiyalagan, J.H. Park, R. Sakthivel and F.A. Rihan

25. Delay fractioning approach to robust exponential stability of fuzzy Cohen-Grossberg neural networks

Applied Mathematics and Computation, 230, 451-463, 2014 (March 2014)
K. Mathiyalagan, J.H. Park, R. Sakthivel and S. Marshal Anthoni



24. New stability criteria for stochastic Takagi-Sugeno fuzzy systems with time-varying delays

Journal of Dynamic Systems, Measurement and Control, 136 (2), 021013, 2014 (March 2014)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

23. Fault-distribution dependent reliable H_2 control for Takagi-Sugeno fuzzy systems

Journal of Dynamic Systems, Measurement and Control, 136, (2) 021021, 2014 (March 2014)
R. Sakthivel, P. Vadivel, K. Mathiyalagan and A. Arunkumar

22. Robust exponential stability and H_2 control for switched neutral-type neural networks

International Journal of Adaptive Control and Signal Processing, 28 (3-5), 429-443, 2014 (March 2014)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

21. New LMI-based passivity criteria for neutral-type BAM neural networks with randomly occurring uncertainties

Reports on Mathematical Physics, 72 (3), 263-286, 2013 (December 2013)
R. Sakthivel, R. Anbuviya, K. Mathiyalagan, A. Arunkumar and P. Prakash

20. Robust state estimation for discrete-time genetic regulatory networks with randomly occurring uncertainties

Nonlinear Dynamics, 74, (4) 1297-1315, 2013 (December 2013)
R. Sakthivel, K. Mathiyalagan, S. Lakshmanan and J.H. Park

19. Robust state estimation for uncertain fuzzy bidirectional associative memory networks with time varying delays

Physica Scripta, 88 (3), 035008, 2013 (August 2013)
P. Vadivel, R. Sakthivel, K. Mathiyalagan and A. Arunkumar

18. State estimation for switched discrete-time stochastic BAM neural networks with time varying delay

Nonlinear Dynamics, 73 (3), 1565-1585, 2013 (August 2013)
A. Arunkumar, R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

17. Admissibility analysis and control synthesis for descriptor systems with random abrupt changes

Applied Mathematics and Computation, 219 (18), 9717-9730, 2013 (May 2013)
R. Sakthivel, S. Srimanta and K. Mathiyalagan

16. New passivity criteria for fuzzy BAM neural networks with Markovian jumping parameters and time-varying delays

Reports on Mathematical Physics, 71 (1), 69-91, 2013 (February 2013)
P. Vadivel, R. Sakthivel, K. Mathiyalagan and P. Thangaraj

15. An improved delay-dependent criterion for stability of uncertain neutral systems with mixed time delays

Lobachevskii Journal of Mathematics, 34 (1), 36-44, 2013 (January 2013)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

14. Robust stabilisation of nonlinear uncertain Takagi-Sugeno fuzzy systems by H_2 control

IET Control Theory and Applications, 6 (16), 2556-2566, 2012 (November 2012)
P. Vadivel, R. Sakthivel, K. Mathiyalagan and P. Thangaraj

13. New robust exponential stability results for discrete-time switched fuzzy neural networks with time delays

Computers & Mathematics with Applications, 64 (9), 2926-2938, 2012 (November 2012)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

12. Robust stabilization and H_2 control for discrete-time stochastic genetic regulatory networks with time delays

Canadian Journal of Physics, 90 (10), 939-953, 2012 (August 2012)
K. Mathiyalagan and R. Sakthivel

11. Robust stability criteria for discrete-time switched neural networks with various activation functions

Applied Mathematics and Computation, 218 (22), 10803-10816, 2012 (July 2012)
A. Arunkumar, R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni



10. Robust H_2 control for uncertain discrete-time stochastic neural networks with time-varying delays

IET Control Theory and Applications, 6 (9), 1220–1228, 2012 (June 2012)
R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

9. Delay-dependent robust stabilization and H_2 Control for neural networks with various activation functions

Physica Scripta, 85 (4), 045801, 2012 (March 2012)
R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

8. New robust passivity criteria for stochastic fuzzy BAM neural networks with time-varying delays

Communications in Nonlinear Science and Numerical Simulation, 17 (3), 1392–1407, 2012 (March 2012)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

7. Design of a robust controller on stabilization of stochastic neural networks with time varying delays

Physica Scripta, 85 (3), 035003, 2012 (February 2012)
R. Sakthivel, U. Karthik Raja, K. Mathiyalagan and A. Leelamani

6. Exponential stability result for discrete-time stochastic fuzzy uncertain neural networks

Physics Letters A, 376 (8), 901–912, 2012 (February 2012)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

5. New robust passivity criteria for discrete-time genetic regulatory networks with Markovian jumping parameters

Canadian Journal of Physics, 90 (2), 107–118, 2012 (February 2012)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

4. Robust stability and control for uncertain neutral time delay systems

International Journal of Control, 85 (4), 373-383, 2012 (January 2012)
R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

3. Robust passivity analysis of fuzzy Cohen–Grossberg BAM neural networks with time-varying delays

Applied Mathematics and Computation, 218 (7), 3799-3809, 2011 (December 2011)
R. Sakthivel, A. Arunkumar, K. Mathiyalagan and S. Marshal Anthoni

2. Design of a passification controller for uncertain fuzzy Hopfield neural networks with time-varying delays

Physica Scripta, 84 (4), 045024, 2011 (October 2011)
R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

1. New stability and stabilization criteria for fuzzy neural networks with various activation functions

Physica Scripta, 84 (1), 015007, 2011 (June 2011)
K. Mathiyalagan, R. Sakthivel and S. Marshal Anthoni

Books/Chapters - 1

1. Fault Estimator for Parabolic Systems with Distributed Inputs and Outputs

In: Park, J. (eds) Recent Advances in Control Problems of Dynamical Systems and Networks. Studies in Systems, Decision and Control, vol 301. Springer, Cham. (August 2020)
K. Mathiyalagan

Conferences - 8

8. Finite-time stability of linear time-varying delay systems using LQR based sliding mode control

2019 Fifth Indian Control Conference (ICC), New Delhi, India, 2019, pp. 85-90. (May 2019)
Finite-time Stability of Linear Time-Varying Delay Systems Using LQR Based Sliding Mode Control

7. Exponential dissipativity of discrete-time switched systems with time-varying delays

Proceedings of the International Conference on Modeling, Simulation and Visualization Methods (MSV) (November 2014)
J.H. Park, K. Mathiyalagan, S.M. Lee, J.H. Yoo

6. Delay-dependent finite-time H_2 filtering for networked control systems: A switched system approach

Proceedings of the 33rd Chinese Control Conference, Nanjing, China, 2014, pp. 1115-1120. (September 2014)
Y-Q. Wu, H. Su, K. Mathiyalagan, Z.G. Wu, W. Xu

5. Improved delay-dependent result on robust stability and stabilization of neutral-type systems with time-varying delays

2013 IEEE International Conference on Control Applications (CCA), Hyderabad, India, 2013, pp. 637-642 (November 2013)
K. Mathiyalagan, H. Su and R. Sakthivel



4. Reliable controller design for admissibility of uncertain discrete-time singular system with time-varying delay

Proceedings of the 32nd Chinese Control Conference, Xi'an, China, 2013, pp. 1532-1537. (October 2013)
K. Mathiyalagan, H. Su and R. Sakthivel

3. Robust stabilization results for TS fuzzy nonlinear stochastic systems with discrete and distributed time delays

In: Balasubramaniam, P., Uthayakumar, R. (eds) Mathematical Modelling and Scientific Computation. ICMMS 2012. Communications in Computer and Information Science, vol 283. Springer, Berlin, Heidelberg. (September 2012)
P. Vadivel, R. Sakthivel, K. Mathiyalagan and P. Thangaraj

2. Robust passivity of fuzzy Cohen-Grossberg neural networks with time-varying delays

In: Balasubramaniam, P., Uthayakumar, R. (eds) Mathematical Modelling and Scientific Computation. ICMMS 2012. Communications in Computer and Information Science, vol 283. Springer, Berlin, Heidelberg. (September 2012)
A. Arunkumar, R. Sakthivel, K. Mathiyalagan and S. Marshal Anthoni

1. New delay-dependent stability criteria for stochastic TS fuzzy systems with time-varying delays

In: Balasubramaniam, P. (eds) Control, Computation and Information Systems. ICLICC 2011. Communications in Computer and Information Science, vol 140. Springer, Berlin, Heidelberg. (September 2011)
K. Mathiyalagan

Projects

Completed - 1

1. Qualitative Analysis of Fractional-order Partial Differential Equations UGC-MRP 1000000 (March 2018 - June 2020)

Ongoing - 1

1. Estimation and characterization of stability regions for nonlinear systems: theory and applications Others 1212750 (August 2025 - July 2028)