Dr.R.RAJA
Assistant Professor

Contact

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Academic Qualifications: M.Sc., M.Phil., PhD

Teaching Experience: 11 Years

Research Experience: 9 Years

Additional Responsibilities in the University

- Acting as a Warden for the International Student's Hostel from September 2022 to till date.
- Acting as a Compliance Officer to coordinate with FRROs/FROs for ascertaining facts in respect of Foreign Students/ Scholars during grant of various services to them through the FRRO portal.
- Acting as a Coordinator for Students Carrier Progression & Alumni Network (SCPAN) from February 2020 to till date.
- Acting as a Deputy Director for Centre for International Relations (CIR) from August 2018 to till date.

- Acted as a Member of the inspection committee for Revival of Approved Research Centre of Alagappa University affiliated colleges.
- Acted as a Department Research Committee Member for our Affiliated Colleges.
- Acted as a member of the squad team for November 2015 Regular Examinations of our Affiliated Colleges.
- Deputed as a University Representative to oversee the conduct of Distance Education Examination for December 2012 May 2013, May 2014, December 2014, May 2015, December 2015, May 2016 and December 2016, respectively.
- Acted as a member of the organizing committee in the Three-day Orientation Programme to the Fresher's for 2014-2015 batch.

Additional Responsibilities in the Department

- Acted as a Co-ordinator for Village Placement Programme (VPP) for the academic year 2017-2018.
- Acted as a Placement Cell coordinator in Department of Mathematics from 2015 2017.
- Acted as a Student Counselling Cell coordinator in Department of Mathematics from 2015 to 2017.
- Member of the UGC SAP-DRS (Level-I) in the School of Mathematics.
- Member of the DST-FIST Phase-I in the School of Mathematics
- Acted as a Co-ordinator for Village Placement Programme (VPP) for the academic year 2013-2014.

Areas of Research

Abstract and Fractional Differential Equations, Control Theory, Neural Networks, Stability Analysis of Dynamical Systems, Synchronization and Chaos Theory, Genetic Regulatory and Oscillatory Networks, Multi-Agent Systems, Mathematical Modeling and Population Dynamical Systems, Complex Dynamical Systems.

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	09	05
	M.Phil.	33	--
Project	PG	95	17
	UG / Others	--	--

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
108	15	--	05	06

Cumulative Impact Factor (as per JCR)   :   350.457
h- index   :   30
i 10 index   :   63
Total Citations   :   2218

Funded Research Projects

Completed Projects

S. No	Agency	Period From	Period To	Project Title	Budget (Rs. In lakhs)
1.	UGC	2013	2015	Studies on Stability Issues of Neural Networks	5.40
2.	AURF	2016	2018	Global Stability Analysis of Neural Networks with Time-varying Delays: The Continuous and Discrete-time Case	3.00

Ongoing Projects

S. No	Agency	Period From	Period To	Project Title	Budget (Rs. In lakhs)
1.	DST-SERB (EMEQ)	27.11.2019	26.11.2022	Optimal Control of Population Dynamical Systems & Epidemiology: An LMI Approach	14.13

Distinctive Achievements / Awards

1. Awarded "Promising Researcher Award - 2022" in recognition of the contribution made towards Excellence in Research at Alagappa University.
2. Awarded "Vallal Alagappar Research Recognition Award–2020" in contribution towards the enhancement of Research Outcome of the Alagappa University in the form of "h"-index.

3. Awarded "365 years of Fractional Calculus Award" for the year 2020 in Testimony of High Regard of Achievements in the Area of Fractional Calculus and Its Applications by Biruni University, Turkey.
4. Awarded travel grant for the sum of Rs.1, 80, 000/- from NBHM for attending International Congress of Industrial and Applied Mathematics (ICIAM 2015) in Beijing, China during August 10-14, 2015.
5. Awarded travel grant for the sum of Rs.2, 00, 000/- from NBHM for attending International Congress of Mathematicians (ICM 2014) in Seoul, South Korea during August 15-21, 2014.
6. Sir. C.V. Raman Budding Innovator Award for the year 2010 from Periyar University, Salem.
7. Awarded Senior Research Fellow under Rajiv Gandhi National Fellowship, 2008.
8. Awarded Junior Research Fellow under Rajiv Gandhi National Fellowship, 2005.

Events organized in leading roles

1. Acted as a Convenor for the 2nd International Conference on Mathematical Modeling and Computational Methods in Science and Engineering during January 22-24, 2020.
2. Acted as a Co-ordinator for the Village Exchange Programme (VEP) for the academic year 2018.
3. Acted as a Convenor for the 1st International Conference on Mathematical Modeling and Computational Methods in Science and Engineering during February 20-22, 2017.
4. Acted as a Co-ordinator for the State Level Quiz Contest 2016 on February 15th, 2016.
5. Acted as a Co-ordinator for the Village Placement Programme (VPP) for the academic year 2013-2014.

Events Participated

Conferences / Seminars / Workshops: 15

1. Participated in the *"National Conference on Bridging Innovative Trends in Pure and Applied Mathematics"* held at Bannari Amman Institute of Technology, Erode during July 15-16, 2016.
2. Participated in the *"International Conference on Innovations in Computer Science & Technology (ICICST 2016)"* held at Alagappa University, Karaikudi during April 4-5, 2016.
3. Participated in the *"International Conference on Nonlinear Dynamical Systems (ICNDS 2016)"* held at Bharathiar University, Coimbatore during March 24-26, 2016.
4. Participated in the *"International Congress for Industrial and Applied Mathematics (ICIAM 2015)"*, was held in Beijing, China during August 10 - 14, 2015.

5. Participated in the *"International Congress for Mathematicians (ICM 2014)"*, was held in Seoul, South Korea during August 15 - 21, 2014.
6. Participated in the *"Second National Conference on Advances in Differential Equations and Applications"* held at Periyar University, Salem during March 29-30, 2012.
7. Participated in the National Workshop on *"Decompositions of Graphs and Product Graphs"* held at Periyar University during June 22-25, 2011.
8. Participated in the *"National Conference on Advances in Differential Equations and Applications"* held at Periyar University, Salem during October 7-8, 2010
9. Participated in the *"International Conference on Futuristic Computer Applications"* held at IISC Banglore February 25, 2010.
10. Participated in the *"One day seminar on partial differential equations in commemoration of Prof. E. K. Ramasami's retirement"* held at Bharathiar University, Coimbatore on November 6, 2009.
11. Participated in the *"Fifth Annual Instructional Conference of ADMA and Graph Theory Day V"* held at Periyar University, Salem during June 8-10, 2009.
12. Participated in the National Workshop on *"Mathematical Modeling and Computational Mathematics"* held at Gandhigram Rural University, Gandhigram during February 23-28, 2009.
13. Participated in the *"National Seminar on Algebra and its Applications"* held at Periyar University, Salem during February 12-13, 2009.
14. Participated in the *"15th Ramanujan Symposium on Dynamic Equations"* during February 4-6, 2008.
15. Participated in the *"95th Indian Science Congress held at Andhra University"*, was held in Visakhapatnam during January 3 - 7, 2008.

Other Training Programs

1. Participated in the *"Refresher Course"* organized by the Teaching Learning Centre & Ramanujan College, University of Delhi from March 16-30, 2021.
2. Participated in the *"Refresher Course"* organized by the Academic Staff College, Pondicherry University, Puducherry from September 7-27, 2016.
3. Participated in the *"Orientation Programme"* organized by the Academic Staff College, Madurai Kamaraj University, Madurai from May 30-June 29, 2013.
4. Participated in the *"Orientation Programme"* organized by the Curriculum Development Cell, Alagappa University, Karaikudi from August 24-31, 2012.

Overseas Exposure / Visits

1. Visited Rome, Italy and presented a research paper in the 3rd International Conference and Summer School on Numerical Computations: Theory and Algorithms during June14-20, 2019.
2. Visited Maejo University, Chiang Mai, Thailand as a Visiting Faculty during 30th August to 25th September 2018.
3. Visited Beijing, China for attending the "*International Congress of Industrial and Applied Mathematics* (ICIAM 2015)" in during August 10-14, 2015.

4. Visited Seoul, South Korea for attending the *"International Congress of Mathematicians (ICM 2014)"* in during August 15-21, 2014.

Membership in

Editorial Board

1. Chief Editor for the Conference Proceedings "2nd ICMMCMSE-2020" in the IOP Journal of Physics: Conference Series (Institute of Physics Publishers).
2. Guest Editor for the special issue on some selected high-quality papers from the "2nd ICMMCMSE-2020" in Mathematics and Computers in Simulation (Elsevier Publication).
3. Guest Editor for the special issue on some selected high-quality papers from the "ICMA-MU (2018)" in Mathematics and Computers in Simulation (Elsevier Publication).
4. Guest Editor for the special issue "Mathematical Problems and Computational Methods in Science and Engineering" in the International Journal of Advanced Intelligence Paradigms. (Inderscience Enterprises Ltd).
5. Guest Editor for the special issue "Computational Problems in Science and Engineering" in the International Journal of Computational Systems in Engineering (Inderscience Enterprises Ltd).
6. Guest Editor for the special issue on some selected high-quality papers from the "ICMMCMSE-2017" in Mathematics and Computers in Simulation (Elsevier Publication).
7. Guest Editor for the special issue *"Dynamics of Neural Networks and Applications"* in Optimization in Mathematical Problems in Engineering (Hindawi Publishers).
8. Guest Editor for the special issue *"Stability and Control of Stochastic Systems"* in Mathematical Problems in Engineering (Hindawi Publishers).
9. Guest Editor for the special issue *"Stability and Its Application of Stochastic Systems"* in the International Journal of Differential Equations (Hindawi Publishers).
10. Editor for the *"DJ Journal of Engineering and Applied Mathematics"* from 2015 to till date editorial board for the *"World Academy of Science, Engineering and Technology"* from 2016 to till date.

Advisory Board

1. Member of the International Scientific Committee in *2016 International Conference on Mathematical, Computational and Statistical Sciences and Engineering (MCSSE2016)* which will be held on October 30-31, 2016 in Shenzhen, China.
2. Member of the Technical Programme Committee in *2016 International Conference on Mechanical Design and Control Engineering [MDCE2016]* which will be held on November 19-20, 2016 in Wuhan, China.

Others

1. Member of the Reviewer board in Advances in Difference Equations.
2. Member of the Reviewer board in American Mathematical Society.
3. Member of the Reviewer board in Canadian Journal of Physics.
4. Member of the Reviewer board in Circuits, Systems and Signal Processing.
5. Member of the Reviewer board in Computers and Mathematics with Applications.
6. Member of the Reviewer board in Communications in Computer and Information Science.
7. Member of the Reviewer board in IEEE Transactions on Neural Networks.
8. Member of the Reviewer board in Intelligent Control and Automation.
9. Member of the Reviewer board in International Journal of Machine Learning and Cybernetics.
10. Member of the Reviewer board in Journal of The Franklin Institute.
11. Member of the Reviewer board in Journal of Applied Mathematics and Mechanics.
12. Member of the Reviewer board in Mathematical Problems in Engineering.
13. Member of the Reviewer board in Neural Computing and Applications.
14. Member of the Reviewer board in Neurocomputing.
15. Member of the Reviewer board in Neural Networks.
16. Member of the Reviewer board in Nonlinear Analysis: Hybrid Systems.
17. Member of the Reviewer board in International Journal of Advanced Computer Science and Applications.
18. Member of the Reviewer board in Nonlinear Dynamics.
19. Member of the Reviewer board in IEEE Transactions on Cybernetics.
20. Member of the Reviewer board in Applied Mathematics and Computation.
21. Member of the Reviewer board in International Academy of Computer \& IT Engineering.
22. Member of the Reviewer board in Mathematics and Computers in Simulation.
23. Member of the Reviewer board in International Journal of Robust & Nonlinear Control.
24. Member of the Reviewer board in International Journal of System Science.
25. Member of the Reviewer board in IEEE Transactions on Cybernetics.
26. Member of the Reviewer board in Mathematics MDPI.
27. Member of the Reviewer board in AIMS Mathematics.
28. Member of the Reviewer board in Chaos, Solitons and Fractals.
29. Member of the Reviewer board in Asian Journal of Control.
30. Member of the Reviewer board in Neural Processing Letters.
31. Member of the Reviewer board in Neural Computing and Applications.
32. Member of the Reviewer board in Fractal and Fractional.
33. Member of the Reviewer board in Mathematical Methods in the Applied Sciences.
34. Member of the Reviewer board in International Journal of Adaptive Control & Signal Processing.

Resource persons in various capacities

1. Invited as a Chief Guest and delivered a talk in the *"PG Mathematics Association"*, Department of Mathematics, Seethalakshmi Achi College for Women, Pallathur on September 3, 2016.
2. Delivered a talk in the *"National Conference on Recent Trends in Applied Mathematics (NCRTAM 16)"* organized by PG and Research Department of Mathematics, St. Joseph's College of Arts and Science (Autonomous), Cuddalore during July 22-23, 2016.
3. Delivered a lecture in the 20 day *"Young Scientist Programme"* organized by Periyar University, Salem and Tamilnadu State Council for Science and Technology, Chennai from May 02-21, 2011.

Others

1. Articles published in Newspapers / Magazines: xx

2. Products developed: xx

3. No. of PhD Thesis evaluated : **01**

4. No. of PhD Public Viva Voce Examination conducted: **09**

5. Sequences submitted in Gen Bank: xx

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

Recent Publications

2022

1. S.A. Jose, **R. Raja**, Q. Zhu, J. Alzabut, M. Niezabitowski, V.E. Balas, (2022), "An Integrated Eco-Epidemiological Plant Pest Natural Enemy Differential Equation Model with Various Impulsive Strategies", *Mathematical Problems in Engineering*, Vol.2022, Article ID 4780680, Pp.1-23. (IF:1.430)
2. A. Pratap, **R. Raja**, J. Cao, C. Huang, J. Alzabut, O. Bagdasar, (2022), "$O(t^{-\beta})$ O (t − β) Synchronization and Asymptotic Synchronization of Delayed Fractional Order Neural Networks", *Acta Mathematica Scientia*, Vol. 42, Iss.4, Pp.1273-1292, (IF:1.085)
3. S. Aadhithiyan, **R. Raja**, Q. Zhu, J. Alzabut, M. Niezabitowski, C.P. Lim, (2022), "A Robust Non-Fragile Control Lag Synchronization for Fractional Order Multi-Weighted Complex Dynamic Networks with Coupling Delays", *Neural Processing Letters*, Pp.1-22. (IF: 2,565)
4. S.A. Jose, **R. Raja**, J. Alzabut, G. Rajchakit, J. Cao, V.E. Balas, (2022), "Mathematical modeling on transmission and optimal control strategies of corruption dynamics", *Nonlinear Dynamics*, Vol.109, Iss.4, Pp.3169-3187. (IF:5.741)

5. S.A. Jose, **R. Raja**, Q. Zhu, J. Alzabut, M. Niezabitowski, V.E. Balas, (2022), "Impact of strong determination and awareness on substance addictions: A mathematical modeling approach", ***Mathematical Methods in the Applied Sciences***, Vol.45, Iss.8, Pp.4140-4160. (IF:3.007)

6. A. Stephen, **R. Raja**, J. Alzabut, Q. Zhu, M. Niezabitowski, O. Bagdasar, (2022), "Mixed time delayed nonlinear multi-agent dynamic systems for asymptotic stability and non-fragile synchronization criteria", ***Neural Processing Letters***, Vol.54, Iss.1, Pp.43-74. (IF: 2,565)

7. S. Aadhithiyan, **R. Raja**, J. Alzabut, Q. Zhu, M. Niezabitowski, (2022), "Robust non-fragile Mittag-Leffler synchronization of fractional order non-linear complex dynamical networks with constant and infinite distributed delays", ***Mathematical Methods in the Applied Sciences***, Vol.45, Iss.4, Pp.2166-2189. (IF:3.007)

8. J. Dianavinnarasi, **R. Raja**, J. Alzabut, J. Cao, M. Niezabitowski, O. Bagdasar, (2022), "Application of Caputo–Fabrizio operator to suppress the Aedes Aegypti mosquitoes via Wolbachia: An LMI approach", ***Mathematics and Computers in Simulation***, Vol. 201, Pp.462-485. (IF:3.601)

9. A. Pratap, **R. Raja**, R.P. Agarwal, J. Alzabut, M. Niezabitowski, E. Hincal, (2022), "Further results on asymptotic and finite-time stability analysis of fractional-order time-delayed genetic regulatory networks", ***Neurocomputing***, Vol.475, Pp.26-37, (IF: 5.779)

10. M. Iswarya, **R. Raja**, J. Cao, M. Niezabitowski, J. Alzabut, C. Maharajan, (2022), "New results on exponential input-to-state stability analysis of memristor based complex-valued inertial neural networks with proportional and distributed delays", ***Mathematics and Computers in Simulation***, Vol.201, Pp.440-461, (IF:3.601)

11. R. Thomas, SA. Jose, **R. Raja**, J. Cao, V.E. Balas, (2022), "Modeling and analysis of SEIRS epidemic models using homotopy perturbation method: A special outlook to 2019-nCoV in India", ***International Journal of Biomathematics***, Vol.15, Iss.8, ID:2250059. (IF:2.129).

12. S.O. Neill, O. Bagdasar, S. Berry, N. Popovici, **R. Raja**, (2022), "Modelling equilibrium for a multi-criteria selfish routing network equilibrium flow problem", ***Mathematics and Computers in Simulation***, Vol.201, Pp. 658–669. (IF:3.601).

13. M. Iswarya, **R. Raja**, J. Cao, J. Alzabut, C. Maharajan, (2022), "New results on exponential input-to-state stability analysis of memristor based complex-valued inertial neural networks with proportional and distributed delays", ***Mathematics and Computers in Simulation***, Vol.201, Pp. 440–461. (IF: 3.601).

14. J. Dianavinnarasi, **R. Raja**, J. Alzabut, M. Niezabitowski, O. Bagdasar, (2022), "Application of Caputo–Fabrizio operator to suppress the Aedes Aegypti mosquitoes via Wolbachia: An LMI approach", **Mathematics *and Computers in Simulation***, Vol.201, Pp. 462–485. (IF: 3.601).

2021

15. J. Dianavinnarasi, **R. Raja,** J. Alzabut, M. Niezabitowski, G. Selvam, (2021), "An LMI Approach-Based Mathematical Model to Control Aedes aegypti Mosquitoes Population via Biological Control", ***Mathematical Problems in Engineering***, Vol. 2021, Article ID 5565949, Pp.1-18. (IF:1.430)

16. J. Dianavinnarasi, **R. Raja**, J. Alzabut, M. Niezabitowski, O. Bagdasar, (2021), "Controlling Wolbachia transmission and invasion dynamics among aedes aegypti population via impulsive control strategy", *Symmetry*, Vol.13, Iss.3, ID: 434. (IF: 2.940)

17. M. Iswarya, **R. Raja**, Q. Zhu, M. Niezabitowski, J. Alzabut, C. Maharajan, (2021), "Existence, uniqueness, and exponential stability of uncertain delayed neural networks with inertial term: nonreduced order case", *Mathematical Problems in Engineering*, 2021, Article ID 5560763, Pp.1-15. (IF:1.430)

18. S. Senthilraj, T. Saravanakumar, **R. Raja**, J. Alzabut, (2021), "Delay-dependent passivity analysis of nondeterministic genetic regulatory networks with leakage and distributed delays against impulsive perturbations", *Advances in Difference Equations*, Vol.2021, Iss.1, Pp.1-26. (IF:3.702)

19. A. Stephen, **R. Raja**, J. Alzabut, Q. Zhu, M. Niezabitowski, C.P. Lim, (2021), "A Lyapunov– Krasovskii functional approach to stability and linear feedback synchronization control for nonlinear multi-agent systems with mixed time delays", *Mathematical Problems in Engineering*, Vol.2021 (IF:1.430)

20. S. Aadhithiyan, **R. Raja**, Q. Zhu, J. Alzabut, M. Niezabitowski, C.P. Lim, (2021), "Modified projective synchronization of distributive fractional order complex dynamic networks with model uncertainty via adaptive control", *Chaos, Solitons & Fractals*, Vol.147, ID: 110853. (IF:9.922)

21. S. Aadhithiyan, **R. Raja**, Q. Zhu, J. Alzabut, M. Niezabitowski, C.P. Lim, (2021), "Exponential synchronization of nonlinear multi-weighted complex dynamic networks with hybrid time varying delays", *Neural Processing Letters*, Vol. 53, Iss.2, Pp.1035-1063. (IF: 2,565)

22. A. Pratap, **R. Raja**, J. Cao, C. Huang, M. Niezabitowski, O. Bagdasar, (2021), "Stability of discrete-time fractional-order time-delayed neural networks in complex field", *Mathematical Methods in the Applied Sciences*, Vol. 44, Iss.1, Pp.419-440. (IF:3.007)

2020

23. B.S. Vadivoo, **R. Raja**, J. Cao, G. Rajchakit, A.R. Seadawy, (2020), "Controllability criteria of fractional differential dynamical systems with non-instantaneous impulses", *IMA Journal of Mathematical Control and Information*, Vol. 37, Iss.3, Pp.777-793. (IF:1.48)

24. C. Sowmiya, **R. Raja**, J. Cao, G. Rajchakit, A. Alsaedi, (2020), "A delay-dependent asymptotic stability criteria for uncertain BAM neural networks with leakage and discrete time-varying delays: A novel summation inequality", *Asian Journal of Control*, Vol.22, Iss.5, Pp.1880-1891. (IF:2.444)

25. J. Dianavinnarasi, Y. Cao, **R. Raja**, G. Rajchakit, C.P. Lim, (2020), "Delay-dependent stability criteria of delayed positive systems with uncertain control inputs: Application in mosquito-borne morbidities control", *Applied Mathematics and Computation*, Vol.382, ID: 125210. (IF:4.397)

26. T. Saravanakumar, V.J. Nirmala, **R. Raja**, J. Cao, G. Lu, (2020), "Finite-time reliable dissipative control of neutral-type switched artificial neural networks with non-linear fault inputs and randomly occurring uncertainties", ***Asian Journal of Control***, Vol.22, Iss.6, Pp.2487-2499. (IF:2.444)

27. A. Pratap, **R. Raja**, R. Agarwal, J. Cao, O. Bagdasar, (2020), "Multi-weighted complex structure on fractional order coupled neural networks with linear coupling delay: a robust synchronization problem", ***Neural Processing Letters***, Vol. 51, Iss.3, Pp.2453-2479. (IF: 2,565)

28. A. Pratap, **R. Raja**, J. Cao, J. Alzabut, C. Huang, (2020), "Finite-time synchronization criterion of graph theory perspective fractional-order coupled discontinuous neural networks", ***Advances in Difference Equations***, Vol. 2020, Iss.1, Pp.1-24. (IF: 3.702)

29. A. Pratap, **R. Raja**, C. Sowmiya, O. Bagdasar, J. Cao, G. Rajchakit, (2020), "Global projective lag synchronization of fractional order memristor based BAM neural networks with mixed time varying delays", ***Asian Journal of Control***, Vol.22, Iss.1, Pp.570-583. (IF:2.444)

30. A. Pratap, **R. Raja**, J. Cao, F.A. Rihan, A.R. Seadawy, (2020), "Quasi-pinning synchronization and stabilization of fractional order BAM neural networks with delays and discontinuous neuron activations", ***Chaos, Solitons & Fractals***, Vol.131, ID:109491. (IF: 9.922)

31. G. Rajchakit, P. Chanthorn, M. Niezabitowski, **R. Raja**, D. Baleanu, A. Pratap, (2020), "Impulsive effects on stability and passivity analysis of memristor-based fractional-order competitive neural networks", ***Neurocomputing***, Vol.417, Pp.290-301. (IF: 5.779)

32. A. Pratap, **R. Raja**, J. Alzabut, J. Dianavinnarasi, J. Cao, G. Rajchakit, (2020), "Finite-time Mittag Leffler stability of fractional-order quaternion-valued memristive neural networks with impulses", ***Neural Processing Letters***, Vol. 51, Iss.2, Pp.1485-1526. (IF: 2.565)

33. A. Pratap, **R. Raja**, J. Alzabut, J. Cao, G. Rajchakit, C. Huang, (2020), "Mittag-Leffler stability and adaptive impulsive synchronization of fractional order neural networks in quaternion field", ***Mathematical Methods in the Applied Sciences***, Vol.43 Iss.10, Pp.62236253. (IF:3.007)

2019

34. O. Bagdasar, S. Berry, S.O.Neill, N. Popovici, **R. Raja**, (2019), "Traffic assignment: Methods and simulations for an alternative formulation of the fixed demand problem", ***Mathematics and Computers in Simulation***, Vol.155, Pp.360-373, (IF:3.601)

35. S. Senthilraj, **R. Raja**, J. Cao, H.M. Fardoun, (2019), "Dissipativity analysis of stochastic fuzzy neural networks with randomly occurring uncertainties using delay dividing approach", ***Nonlinear Analysis: Modelling and Control***, Vol.24, Iss.4, Pp.561–581. (IF:2.217)

36. S.Pandiselvi, R. Raja, J. Cao, X. Li, G. Rajchakit, (2019), "Impulsive discrete-time GRNs with probabilistic time delays, distributed and leakage delays: an asymptotic stability issue", ***IMA Journal of Mathematical Control and Information***, Vol.36, Iss.1, Pp.79-100. (IF:1.540)

37. B.S. Vadivoo, R. Raja, R.A. Seadawy, G. Rajchakit, (2019), "Nonlinear integro-differential equations with small unknown parameters: a controllability analysis problem", ***Mathematics and Computers in Simulation***, Vol.155, Pp.15-26. (IF:3.601)

38. Q.Zhu, S.V. Kumar, R. Raja, F. Rihan, (2019), "Extended dissipative analysis for aircraft flight control systems with random nonlinear actuator fault via non-fragile sampled-data control", ***Journal of the Franklin Institute***, Vol.356, Iss.15, Pp.8610-8624, (IF:4.246)

39. K. Balasundaram, **R. Raja**, A. Pratap, S. Chandrasekaran, (2019), "Impulsive effects on competitive neural networks with mixed delays: existence and exponential stability analysis", ***Mathematics and Computers in Simulation***, Vol.155, Pp.290-302. (IF:3.601)

40. S.V. Kumar, S.M. Anthoni, R. Raja, (2019), "Dissipative analysis for aircraft flight control systems with randomly occurring uncertainties via non-fragile sampled-data control", ***Mathematics and Computers in Simulation***, Vol.155, Pp.217-226. (IF:3.601)

41. S. Chandran, **R. Ramachandran**, J. Cao, R.P. Agarwal, G. Rajchakit, (2019), "Passivity analysis for uncertain BAM neural networks with leakage, discrete and distributed delays using novel summation inequality", ***International Journal of Control, Automation and Systems***, Vol.17 Iss.8, Pp.2114-2124. (IF: 2.964)

42. C. Maharajan, **R. Raja**, J. Cao, G. Rajchakit, (2019), "Fractional delay segments method on time-delayed recurrent neural networks with impulsive and stochastic effects: an exponential stability approach", ***Neurocomputing***, Vol. 323, Pp.277-298, (IF: 5.779)

43. A. Pratap, **R. Raja**, R.P. Agarwal, J. Cao, (2019), "Stability analysis and robust synchronization of fractional-order competitive neural networks with different time scales and impulsive perturbations", ***International Journal of Adaptive Control and Signal Processing***, Vol.33, Iss.1, Pp.1635-1660. (IF:3.369)

44. M. Iswarya, **R. Raja**, G. Rajchakit, J. Cao, J. Alzabut, C. Huang, (2019), "A perspective on graph theory-based stability analysis of impulsive stochastic recurrent neural networks with time-varying delays", ***Advances in Difference Equations***, Vol.2019 Iss.1, Pp.1-21. (IF: 3.702)

45. S. Pandiselvi, **R. Raja**, J. Cao, G. Rajchakit, (2019), "Stabilization of switched stochastic genetic regulatory networks with leakage and impulsive effects", ***Neural Processing Letters***, Vol.49, Iss.2, Pp.593-610. (IF: 2,565)

46. A. Pratap, **R. Raja**, G. Rajchakit, J. Cao, O. Bagdasar, (2019), "Mittag-Leffler state estimator design and synchronization analysis for fractional-order BAM neural networks with time delays", ***International Journal of Adaptive Control and Signal Processing***, Vol.33, Iss.5, Pp.855-874. (IF:3.369)

47. A. Pratap, R. Raja, J. Cao, C.P. Lim, O. Bagdasar, (2019), "Stability and pinning synchronization analysis of fractional order delayed Cohen–Grossberg neural networks with discontinuous activations", ***Applied Mathematics and Computation***, Vol.359, Pp.241-260. (IF:4.397)

48. C. Sowmiya, **R. Raja**, Q. Zhu, G. Rajchakit, (2019), "Further mean-square asymptotic stability of impulsive discrete-time stochastic BAM neural networks with Markovian jumping and multiple time-varying delays", *Journal of the Franklin Institute*, Vol.356, Iss.1, Pp.561-591. (IF: 4.246)

49. M. Iswarya, **R. Raja**, G. Rajchakit, J. Cao, J. Alzabut, C. Huang, (2019), "Existence, Uniqueness and Exponential Stability of Periodic Solution for Discrete-Time Delayed BAM Neural Networks Based on Coincidence Degree Theory and Graph Theoretic Method", *Mathematics,* Vol.7, Iss.11, ID: 1055. (IF: 2.592)

50. G. Rajchakit, A. Pratap, **R. Raja**, J. Cao, J. Alzabut, C. Huang, (2019), "Hybrid control scheme for projective lag synchronization of Riemann–Liouville sense fractional order memristive BAM Neural Networks with mixed delays", *Mathematics*, Vol.7, Iss.8, ID: 759. (IF:2.592)

51. A. Pratap, **R. Raja**, J. Cao, G. Rajchakit, H.M. Fardoun, (2019), "Stability and synchronization criteria for fractional order competitive neural networks with time delays: An asymptotic expansion of Mittag Leffler function", *Journal of the Franklin Institute*, Vol.356, Iss.4, Pp.2212-2239. (IF: 4.246)

2018

52. C. Sowmiya, **R. Raja**, J. Cao, G. Ravi, X. Li, A. Alsaedi, Z. Tu, (2018), "Global exponential stability of antiperiodic solutions for impulsive discrete-time Markovian jumping stochastic BAM neural networks with additive time-varying delays and leakage delay", *International Journal of Adaptive Control and Signal Processing*, Vol.32, Iss.6, Pp.908-936. (IF:3.369)

53. C. Sowmiya, **R. Raja**, J. Cao, G. Rajchakit, (2018), "Enhanced result on stability analysis of randomly occurring uncertain parameters, leakage, and impulsive BAM neural networks with time-varying delays: Discrete-time case", *International Journal of Adaptive Control and Signal Processing*, Vol.32, Iss.7, Pp.1010-1039. (IF:3.369)

54. C. Sowmiya, R. Raja, J. Cao, G. Rajchakit, (2018), "Impulsive discrete-time BAM neural networks with random parameter uncertainties and time-varying leakage delays: an asymptotic stability analysis", *Nonlinear Dynamics*, Vol.91, Iss.4, Pp.2571-2592. (IF:5.741)

55. S. Pandiselvi, **R. Raja**, J. Cao, G. Rajchakit, B. Ahmad, (2018), "Approximation of state variables for discrete-time stochastic genetic regulatory networks with leakage, distributed, and probabilistic measurement delays: a robust stability", *Advances in difference equations*, Vol.2018, Iss.1, Pp.1-27. (IF:3.702)

56. C. Maharajan, **R. Raja**, J. Cao, G. Ravi, G. Rajchakit, (2018), "Global exponential stability of Markovian jumping stochastic impulsive uncertain BAM neural networks with leakage, mixed time delays, and α-inverse Hölder activation functions", *Advances in Difference Equations*, Vol.2018, Iss.1, Pp.1-31. (IF: 3.702)

57. R. Pandiselvi, **R. Raja**, Q. Zhu, G. Rajchakit, (2018), "A state estimation H∞ issue for discrete-time stochastic impulsive genetic regulatory networks in the presence of leakage, multiple delays and Markovian jumping parameters", *Journal of the Franklin Institute*, Vol.355, Iss.5, Pp.2735-2761. (IF:4.246)

58. C. Maharajan, **R. Raja**, J. Cao, G. Rajchakit, A. Alsaedi, (2018), "Novel results on passivity and exponential passivity for multiple discrete delayed neutral-type neural networks with leakage and distributed time-delays", *Chaos, Solitons & Fractals*, Vol.115, Pp.268282. (IF: 9.922)

59. B.S. Vadivoo, **R. Ramachandran**, J. Cao, H. Zhang, X. Li, (2018), "Controllability analysis of nonlinear neutral-type fractional-order differential systems with state delay and impulsive effects", *International Journal of Control, Automation and Systems*, Vol.16, Iss.2, Pp.659-669. (IF: 2.964)

60. C. Sowmiya, **R. Raja**, J. Cao, X. Li, G. Rajchakit, (2018), "Discrete-time stochastic impulsive BAM neural networks with leakage and mixed time delays: An exponential stability problem", *Journal of the Franklin Institute*, Vol.355, Iss.10, Pp.4404-4435. (IF:4.246)

61. C. Maharajan, **R. Raja**, J. Cao, G. Rajchakit, Z. Tu, A. Alsaedi, (2018), "LMI-based results on exponential stability of BAM-type neural networks with leakage and both time-varying delays: A non-fragile state estimation approach", *Applied Mathematics and Computation*, Vol.326, Pp.33-55. (IF:4.397)

62. C. Maharajan, **R. Raja**, J. Cao, G. Rajchakit, A. Alsaedi, (2018), "Impulsive Cohen–Grossberg BAM neural networks with mixed time-delays: an exponential stability analysis issue", *Neurocomputing*, Vol.275, Pp.2588-2602. (IF: 5.779)

63. A. Pratap, **R. Raja**, C. Sowmiya, O. Bagdasar, J. Cao, G. Rajchakit, (2018), "Robust generalized Mittag-Leffler synchronization of fractional order neural networks with discontinuous activation and impulses", *Neural Networks*, Vol.103, Pp.128-141. (IF:9.657)

64. S.V. Kumar, **R. Raja**, S.M. Anthoni, J. Cao, Z. Tu, (2018), "Robust finite-time non-fragile sampled-data control for TS fuzzy flexible spacecraft model with stochastic actuator faults", *Applied Mathematics and Computation*, Vol. 321, Pp.483-497. (IF: 4.397)

65. A. Pratap, **R. Raja**, J. Cao, G. Rajchakit, F.E. Alsaadi, (2018), "Further synchronization in finite time analysis for time-varying delayed fractional order memristive competitive neural networks with leakage delay", *Neurocomputing,* Vol.317, Pp.110-126. (IF: 5.779)

66. C. Maharajan, **R. Raja**, J. Cao, G. Rajchakit, (2018), "Novel global robust exponential stability criterion for uncertain inertial-type BAM neural networks with discrete and distributed time-varying delays via Lagrange sense", *Journal of the Franklin Institute*, Vol.355, Iss.11, Pp.4727-4754. (IF: 4.246)

2017

67. **R. Raja**, Q. Zhu, S. Senthilraj, R. Samidurai and W.Hu, (2017), "Improved results on delay-dependent H_∞ control for uncertain systems with time-varying delays", *Circuits, Systems and Signal Processing*, Vol.36, Pp.1836-1859. (IF: 2.311).

68. Q. Zhu, S. Senthilraj, R. Raja, R. Samidurai, (2017), "Stability analysis of uncertain neutral systems with discrete and distributed delays via the delay partition approach", *International Journal of Control, Automation and Systems*, Vol.15, Iss.5, Pp.2149-2160. (IF: 2.964)

69. R.Raja, Q. Zhu, R. Samidurai, S. Senthilraj, W. Hu, (2017), "Improved Results on Delay Dependent H ∞ Control for Uncertain Systems with Time-Varying Delays, *Circuits, Systems, and Signal Processing*, Vol.36, Iss.5, Pp.1836-1859. (IF:2.311)

70. R. Samidurai, S. Senthilraj, Q. Zhu, **R. Raja**, W. Hu, (2017), "Effects of leakage delays and impulsive control in dissipativity analysis of Takagi–Sugeno fuzzy neural networks with randomly occurring uncertainties", *Journal of the Franklin Institute*, Vol.354, Iss.8, Pp. 3574-3593. (IF:4.246)

71. C. Sowmiya, **R. Raja**, J. Cao, G. Rajchakit, A. Alsaedi, (2017), "Enhanced robust finite-time passivity for Markovian jumping discrete-time BAM neural networks with leakage delay", *Advances in Difference Equations*, Vol.2017, Iss.1, Pp.1-28. (IF:3.702)

2016

72. K. Balasundaram, **R. Raja**, Q. Zhu and S. Chandrasekaran, (2016), "New global asymptotic stability of discrete-time recurrent neural networks with multiple time-varying delays in the leakage terms and impulsive effects", *Neurocomputing*, Vol.214, Pp. 420-429. (IF: 5.779).

73. S. Senthilraj, **R. Raja**, Q. Zhu, R. Samidurai and H. Zhou, (2016), "Delay-dependent asymptotic stability criteria for genetic regulatory networks with impulsive perturbations", *Neurocomputing*, Vol.214, Pp.981-990. (IF: 5.779).

74. S. Senthilraj, **R. Raja**, Q. Zhu, R. Samidurai and Z. Yao, (2016), "Delay-interval-dependent passivity analysis of stochastic neural networks with Markovian jumping parameters and time delay in the leakage term", *Nonlinear Analysis: Hybrid Systems*, Vol.22, Pp.262-275. (IF: 5.477).

75. S. Senthilraj, **R. Raja**, Q. Zhu, R. Samidurai, Z. Yao, (2016), "New delay-interval-dependent stability criteria for static neural networks with time-varying delays", *Neurocomputing*, Vol.186, Iss.19, Pp. 1-7. (IF: 5.779).

76. S. Senthilraj, **R. Raja**, F. Jiang, Q. Zhu and R. Samidurai, (2016), "New delay-interval-dependent stability analysis of neutral type BAM neural networks with successive time delay components", *Neurocomputing*, Vol.171, Pp.1265-1280. (IF: 5.779).

2015

77. R. Samidurai, S. Rajavel, **R. Raja** and Q. Zhu, (2015), "Robust passivity analysis for neutral-type neural networks with mixed and leakage delays", *Neurocomputing*, Vol.175, Pp.635-643. (IF: 5.779).

78. R. Suresh Kumar, G. Sugumaran, **R. Raja**, Q. Zhu and U. Karthik Raja, (2015), "New stability criterion of neural networks with leakage delays and impulses: a piecewise delay method", *Cognitive Neurodynamics*, Vol.10, Pp.85-98. (IF: 3.473).

79. S. Senthilraj, **R. Raja**, Q. Zhu, R. Samidurai and Z. Yao, (2015), "Exponential passivity analysis of stochastic neural networks with leakage, distributed delays and Markovian jumping parameters", *Neurocomputing*, Vol.175, Pp.401-410. (IF: 5.779).

80. **R. Raja**, Q. Zhu, S. Senthilraj and R. Samidurai, (2015), "Improved stability analysis of uncertain neutral type neural networks with leakage delays and impulsive effects", *Applied Mathematics and Computation*, Vol.266, Pp.1050-1069. (IF: 4.397)

81. **R. Raja**, U. Karthik Raja, R. Samidurai, and A. Leelamani, (2015), "Improved stochastic dissipativity analysis of uncertain discrete-time neural networks with multiple delays and impulses", *International Journal of Machine Learning and Cybernetics*, Vol.6, Pp.289-305. (IF: 4.377)

82. **R. Raja**, U. Karthik Raja, R. Samidurai, and A. Leelamani, (2014)," Passivity analysis for uncertain discrete-time stochastic BAM neural networks with multiple time varying delays", *Neural Computing and Applications*, Vol.25, Pp.751-766. (IF: 5.102)

83. **R. Raja**, U. Karthik Raja, R. Samidurai, and A. Leelamani, (2014), "Dynamic analysis of discrete-time BAM neural networks with stochastic perturbations and impulses", *International Journal of Machine Learning and Cybernetics*, Vol.5, Iss.1, Pp.39-50. (IF: 4.377)

84. **R. Raja**, U. Karthik Raja, R. Samidurai, and A. Leelamani, (2013), "Dissipativity of discrete-time BAM stochastic neural networks with Markovian switching and impulses", *Journal of The Franklin Institute*, Vol.350, Iss.10, Pp.3217-3247. (IF: 5.504).

85. U. Karthik Raja, **R. Raja**, R. Samidurai, and A. Leelamani, (2013), "Exponential stability for stochastic delayed recurrent neural networks with mixed time-varying delays and impulses: the continuous-time case", *Physica Scripta*, Vol.87, Article ID 055802, 11 Pages. (IF: 3.081)

2012

86. **R. Raja**, R. Sakthivel and S.Marshal Anthoni, (2012), "Linear matrix inequality approach to stochastic stability of uncertain delayed BAM neural networks", *IMA Journal of Applied Mathematics*, Vol.78, Pp.1156-1178. (IF: 1.146)

87. **R. Raja**, R. Samidurai, (2012), "New delay dependent robust asymptotic stability for uncertain stochastic recurrent neural networks with discrete and distributed time varying delays", *Journal of The Franklin Institute*, Vol.349, Pp. 2108-2123. (IF: 4.504)

2011

88. **R. Raja** and S.Marshal Anthoni, (2011), "Global exponential stability of BAM neural networks with time-varying delays: The discrete-time case", *Communications in Nonlinear Science and Numerical Simulation*, Vol.16, Pp.613-622. (IF: 4.186)

89. R. Sakthivel, **R. Raja** and S.Marshal Anthoni, (2011), "Exponential stability for delayed stochastic BAM neural networks with Markovian jumping and impulses", *Journal of Optimization Theory and Applications*, Vol.150, Pp.166-187. (IF: 2.189)

2010

90. R. Sakthivel, **R. Raja** and S.Marshal Anthoni, (2010), "Asymptotic stability of delayed stochastic genetic regulatory networks with impulses", *Physica Scripta*, Vol.82, Iss.no.5, ID.005009. (IF 3.081)

91. **R. Raja**, R. Sakthivel and S.Marshal Anthoni, (2010), "Stability analysis for discrete-time stochastic neural networks with mixed time delays and impulsive effects", *Canadian Journal of Physics*, Vol.88, Iss.no.12, Pp.885-895. (IF: 1.358

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