



B. Sundara Vadivoo
Assistant Professor

Contact

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Academic Qualifications: M.Sc, M.Phil, Ph.D, CSIR-NET, PGDOR,

Teaching Experience: 19 Years

Research Experience: 4 Years

Additional Responsibilities

Areas of Research

Differential Equations, Fractional differential Equations , Perturbation Theory, Stability Theory, Control Theory, Mathematical Modelling, Optimal Control, Functional Analysis

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	-	04
	M.Phil.	24	-
Project	PG	110	17
	UG / Others	-	-

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
10	3	-	1	02

Cumulative Impact Factor (as per JCR) : 16
 h-index : 05
 i10 index : 02
 Total Citations : 75

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	RUSA 2.0	17/09/2019	Till Date	Mathematical Modelling and Computational Intelligence	2.25

Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1					

Consultancy Projects

S. No	Agency	Period		Project Title	Budget (Rs. in lakhs)
		From	To		
1					
2					

Others

Note: Budget must be rounded to two decimal places

Patents

Nil

Distinctive Achievements / Awards

1. University Rank Holder in M.Sc. Mathematics

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized:

1. Organizing Secretary in the **National Mathematics Day 22 nd December 2023**
2. Organizing Secretary in the **National Mathematics Day 22 nd December 2021.**
3. Member of the program organizing committee in the **Second International Conference on Mathematical Modeling and Computational Intelligence (ICMMCMSE-2020)** held during January 22-24, 2020.
4. Organizing Secretary in the **National workshop on Dynamical System with MATLAB and Its Computations (NWDMC-2020)** January 09-11, 2020.
5. Organizing Secretary in the **International Conference on Mathematical Modeling and Computational Intelligence (ICMMCI-2019)** held during September 03-04, 2019.
6. Member of the program organizing committee in the **International Conference on Discrete And Computational Mathematics (ICDCM-2018)** held during December 20-21, 2018.
7. Member of the program organizing committee in the **National Conference on Mathematical and Computational Sciences (NCMCS-2018)** held during October 23-24, 2018.

8. Member of the program organizing committee in the **National Conference on Modern Trends in Pure and Applied Mathematics (NCMTPAM-2018)** held during March 02, 2018.
9. Member of the program organizing committee in the **International Conference on Mathematical Modeling and Computational Methods in Science and Engineering (ICMMCMSE-2017)** held during February 20-22, 2017.
10. Member of the program organizing committee in the **National Conference on Pure and Applied Mathematics (NCPAM-2016)** held during March 30-31, 2016.

Events Participated (optional)

Conferences / Seminars / Workshops:

1. Participated in the online “**Third national conference on control and inverse problems**”, which is jointly organized by Central University of Kerala, Central University of Tamilnadu, Periyar University, during 25- 26 th February 2022.
2. Participated in the “**Recent Advances in Fractional Calculus**”, which is held at Charotar University of Science and Technology (CHARUSAT), during september 10 th to October 1 st 2021.
3. Participated in the “First online conference on Modern Fractional Calculus and its Applications” which is held at Biruni University, Istanbul, Turkey during 04-06 th December 2020.
4. Participated and Presented in the “International Conference on Advances in materials processing and characterization” entitled as “Non-linear stochastic fractional neutral type differential system with state delay”, which is held at Bannari Amman Institute of Technology, Sathyamangalam during 9-10 th September 2019.
5. Participated and Presented in the “International Conference on emerging trends in Engineering and Technology” entitled as “Controllability of nonlinear integrodifferential equations”, which is held at Arunachala Engineering for Women, Vellichanthai during 9- 10th December 2016.
6. Participated and Presented in the “First Andhra Pradesh Science Congress entitled as “Improved Controllability Results For Nonlinear Neutral Fractional Volterra type Integro Differential inclusions with Impulses Mathematics”, which is held at Sri Venkateswara University, Tirupati during 27-29th January 2016.
7. Participated and Presented in the “International Conference on Innovations in Computer Science and Technology entitled as “Relative Controllability of Fractional Dynamical Systems With Distributed Delays and Impulses””, which is held at, Alagappa University, Karaikudi during 4-5th April 2016.
8. Participated and Presented in the “International Conference on Innovations in Computer Science and Technology entitled as “Relative Controllability of Fractional Dynamical Systems With Distributed Delays and Impulses””, which is held at, Alagappa University, Karaikudi during 4-5th April 2016.

9. Participated in the “National Conference on Pure and Applied Mathematics”, which is held at Alagappa University , Karaikudi during 30-31st March 2016.
10. Participated in the “Advanced Level workshop on Integral Equations Solvability Analysis and Applications”, which is held at Jaypee University of Information Technology , Waknaghat during 19-25th October 2015.
11. Participated in the “Lecture workshop on Applicable Mathematics”, which is held at K.S. Rangasamy College of Arts and Science, Tiruchengode during 12-14th February 2015.
12. Participated in the “Advanced Level workshop on Computational Methods For Control Problems”, which is held at Mar Ivanios college, Thiruvananthapuram during 16-21th March 2015.
13. Participated in the “International Conference on Algebra and Discrete Mathematics”, which is held at Government College Katapana, Kerala during 4-6th March 2014.
14. Participated in the “National Conference on Recent Advances in Numerical Methods and its Applications”, which is held at Pondicherry University, Pondicherry during 27-28th January 2014.
15. Participated in the “National Conference on Labelings and Decomposition of Graphs”, which is held at The Madura College, Madurai during 29-30th August 2013.
16. Participated in the “One day International Conference on Recent Trends in Discrete Mathematics and its Applications to Science and Engineering”, which is held at Periyar Maniammai University, Thanjavur on 3rd December 2013.
17. Participated in the “One day workshop on Financial Mathematics”, which is held at Madurai Kamaraj University, Madurai on 27th March 2013.
18. Participated in the “National Conference on Frontiers in Analysis and Differential Equations”, which is held at Bharathidasan University, Tiruchirappali during 19-20th December 2012.
19. Participated in the “National Conference on Frontiers in Analysis and Differential Equations”, which is held at Bharathidasan University, Tiruchirappali during 19-20th December 2012.
20. Participated in the “International Conference on Legacy of Srinivasa Ramanujan”, which is held at Srinivasa Ramanujan Centre SASTRA University, Kumbakonam during 14-15th December 2012.

21. Participated in the “International Conference on Legacy of Srinivasa Ramanujan”, which is held at Srinivasa Ramanujan Centre SASTRA University, Kumbakonam during 14-15th December 2012.
22. Participated in the “One day workshop on MATLAB Lecture-II”, which is held at Periyar Maniammai University, Thanjavur on 10th March 2012.
23. Participated in the “One day workshop on Applications of MATLAB Software in Mathematical Field”, which is held at Periyar Maniammai University, Thanjavur on 25th February 2012.
24. Participated in the “One day seminar on Contributions of some women Mathematicians from India”, which is held at Periyar Maniammai University, Thanjavur on 8th March 2012.
25. Participated in the “One day Seminar on Statistics and its Applications in Engineering”, which is held at Periyar Maniammai University, Thanjavur on 18th April 2012.

Other Training Programs

1. Participated in the “Refresher Course” which is held at Madurai Kamaraj University, Madurai during 10-23rd November 2021.
2. Participated in the “Refresher Course” which is held at Pondicherry University, Puducherry during 07-27 th September 2016.
3. Participated in the “Faculty Development (Enrichment Program)” which is held at Alagappa University, Karaikudi during 06-12 th January 2016.
4. Participated in the “Orientation Programme” which is held at Madurai Kamaraj University, Madurai during 30 th May -29 th June 2013.
5. Participated in the “Orientation Programme” which is held at Alagappa University, Karaikudi during 24- 31st August 2012.

Overseas Exposure / Visits

Membership in

Professional Bodies

1. Life Member: Indian Mathematical Sciences, India
2. Life Member: Kerala Mathematical Society , India

Editorial Board

1. J o u r n a l O f M a t h e m a t i c s

Advisory Board

1. xxx

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

1. M.Sc. Mathematics

Others

1. Reviewer for Mathematics and Computers in Simulation, Elsevier publication.
2. Reviewer for Mathematical Methods in the Applied Sciences, Wiley online Publications.

Resource persons in various capacities

Number of Invited / Special Lectures delivered: 55

Others

Recent Publications

1. **Amar Debbouche, B.Sundara Vadivoo , Viladimir Fedorov, Valery Antonov,** Controllability Criteria for Nonlinear Impulsive Fractional Differential Systems with Distributed Delays in Controls, **Mathematical and Computational Applications** **28(1):13** (2023), <https://doi: 10.3390/mca28010013> [*ESCI Publication,IF: 2.25*]
2. **Naima Hakkar, Lavanya Muruganantham, Amar Debbouche,B.Sundara Vadivoo,** Nonlinear fractional order neutral-type stochastic integro-differential system with rosenblatt process - A controllability exploration, **Proceedings of the Institute of Mathematics and Mechanics National Academy of Sciences of Azerbaijan** **48(SI):68-83** (2022), <https://doi: 10.30546/2409-4994.48.2022.6883> [*Scopus Publication, IF: 1.36*]
3. **B.S. Vadivoo , G. Jothilakshmi, Y. Almalki , A. Debbouche, M. Lavanya,** Relative controllability analysis of fractional order differential equations with multiple time delays, **Applied Mathematics and Computation** (2022), <https://doi: 10.1016/j.amc.2022.127192> [*SCI, Elsevier Publication, IF: 4.397*]
4. G. Jothilakshmi, B. S. Vadivoo, Y. Almalki, A. Debbouche (February 2022), Controllability analysis of multiple fractional order integro-differential damping systems with impulsive interpretation, Journal of Computational and Applied Mathematics, <https://doi.org/10.1016/j.cam.2022.114204> , ISSN: 0377-0427. [*SCI, Elsevier Publication, IF: 2.621*]

5. K. Muthuselvan, B. Sundaravadivoo, Analyze existence, uniqueness and controllability of impulsive fractional functional differential equations, *Advanced Studies: Euro-Tbilisi Mathematical Journal*, 171-190, (October 2021)[[ESCI Publication](#)].
6. B.Sundaravadivoo,(September 2020), Controllability analysis of nonlinear fractional order differential systems with state delay and non-instantaneous impulsive effects, *Discrete & Continuous Dynamical Systems - S* 13(9), 2561-2563. [[SCI](#), [AIMS Publication](#), [IF: 1.00](#)]
7. B.Sundaravadivoo, (March 2020), "Non-linear Stochastic Fractional Neutral-type Differential Systems with State Delay : A Controllability Interpretation" IOP Conference Series Materials Science and Engineering, 764:012054 [[SCI](#), [Elsevier Publication](#), [IF: 0.5](#)]
8. B. Sundaravadivoo, Jinde Cao, R. Raja, G. Rajchakit, Aly R Seadawy,(October 2019) "Controllability criteria of fractional differential dynamical systems with non-instantaneous impulses" *IMA Journal of Control and Information*, 777-793.[[SCI](#), [Scopus Publication](#), [IF: 1.00](#)]
9. B. Sundara Vadivoo, R.Raja, R.P.Agarwal, G. Rajchakit,(October 2018), "A novel controllability analysis of impulsive fractional linear time invariant systems with state delay and distributed delays in control", 275-290.[[L and H Scientific Publication](#)]
10. B. Sundara Vadivoo, R.Raja, Jinde Cao, Hai Zhang and Xiaodi Li, (April 2018), "Controllability Analysis of Nonlinear Neutral-type Fractional-order Differential Systems with State Delay and Impulsive Effects" 659-669. [[SCIE](#), [Springer Publication](#), [IF: 1.687](#)]
11. B. Sundara Vadivoo, R.Raja, Aly. R. Seadawy, Grienggrai Rajchakit, (October 2017) "Nonlinear integro-differential equations with small unknown parameters: A controllability analysis problem" [[SCI](#), [Elsevier Publication](#), [IF: 1.28](#)]
12. B. Sundara Vadivoo, R.Raja, (October 2016), "Improved Controllability results for non-linear neutral fractional Volterra-type Integro-differential inclusions with impulses", *Science Spectrum, India, Volume1 (4) Issue*, 462-470.
13. B. Sundara Vadivoo, R.Raja, (April 2016), "Relative Controllability of fractional dynamical systems with distributed delays and impulses", *International Journal of Advanced Research Trends in Engineering and Technology* , India, Volume3, Special Issue 20.
14. B. Sundara Vadivoo, R.Raja, (October 2015), "Existence of solutions of fractional delay Integro differential inclusions with non local conditions and impulsive effects", *International Journal of Mathematical and Computational Sciences*, India, Volume2, Issue1.