



**Dr. V. KAVITHA**

Department of Mathematics  
Karunya Institute of Technology and  
Sciences  
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Dr. V. Kavitha working as an Assistant Professor in Karunya Institute of Technology and Sciences, Coimbatore, India. She received her Ph.D award in impulsive differential equations from Karunya University. She also received her 2<sup>nd</sup> Ph.D in Mathematics from Bharathiar University. She is having teaching experience for both UG and PG students since 2006. She qualified TNSET (Tamil Nadu State Eligibility Test ). She have published a book and also published good number of research articles in the reputed International Journals including Science Direct and Springer Verlag. She is an editorial board member for an International Journal and referee for 10 reputed International Journals. She received “Best Teacher Award” from Karunya University. Her research area includes Impulsive Differential Equations and Almost Automorphic Functions. Under her guidnece 1 Ph.D scholar completed and 1 Ph.D scholar persuing.

**Personal Information:**

Name : **Dr. V. KAVITHA**

Designation : Assistant Professor

Department : Mathematics

Date of Joining : 20.06.2007

Complete postal Address: 4/412, Sappanimadai,

Karunya Nagar (Post)

Coimbatore- 641 114

Tamilnadu, India.

Email: **kavi\_velubagyam@yahoo.co.in**

**Qualification with Specialization:**

<b>Degree</b>	<b>Major</b>	<b>Specialization</b>	<b>Year of Passing</b>	<b>College/ University</b>	<b>Ranks</b>
2 <sup>nd</sup> Ph.D	Mathematics	Almost Automorphic Functions	2018	Bharathiar University	Commended
Ph.D.	Mathematics	Impulsive Differential Equations	2012	Karunya University	<b>Highly Commended</b>
M.Phil	Mathematics	Differential Equations	2005	Bharathiar University	First Class
M.Sc.	Mathematics	Fourier Transforms	2003	Bharathiar University	<b>University 9<sup>th</sup> rank</b>
B.Sc	Mathematics	-----	2001	Bharathiar University	<b>First class with Distinction</b>

**Teaching Experience:**

Name of Institution & Place	Duration	Designation	
		From	To
Kongunadu Arts and Science College, Coimbatore	4 months 11 days	<b>Lecturer</b>	
		19.06.2006	30.10.2006
CMS College of Science and Commerce, Coimbatore	3 months 5 days	<b>Lecturer</b>	
		08.01.2007	13.04.2007
Karunya University	1 year 6 months and 10 days	<b>Lecturer</b>	
		20.06.2007	31.12.2008
	3 years 5 months and 20 days	<b>Assistant Professor</b>	
		01.01.2009	20.05.2012
	4 years, 8 months and 11 days	<b>Assistant Professor(AGP 7000)</b>	
		21.05.2012	31.01.2017
2 years and 9 months	<b>Assistant Professor(AGP 8000)</b>		
	01.02.2018	Till now	
<b>Total</b>			<b>14 years and 1 months</b>

**Administrative Experience:**

Position	Organization	Duration	
		From	To
Board of Studies Member	Karunya University	October 2014	December 2015

**Books Published:**

- **V. Kavitha** and M. Mallikaarjunan, Fundamental of Latex, Lambert Academic Publishing, Germany, 2013.

**Awards and Honours:****EDITORIAL BOARD MEMBER**

I am one of the **Editorial Board Member** for the International Journal **Malaya Journal of Matematik** from October 2012 onwards.

**BEST TEACHER AWARD**

I have received “**The Best Teacher Award**” from Karunya University for the academic year 2012-2013 (even semester).

**RESEARCH PROJECTS UNDERTAKEN**

Seed money project given by KITS-ongoing

**Courses Taught:**

- Control Theory
- Complex Analysis
- Partial Differential Equations
- Ordinary Differential Equations
- Discrete Mathematics
- Mathematical Statistics
- Multivariable calculus and differential equations
- Fourier Series, Transforms and PDE
- Complex Analysis, Statistics and Z-Transforms
- Multiple integrals, Differential Equation and Laplace Transform

- Algebra, Differential Calculus and Analytical Geometry
- Mathematical Transforms
- Calculus and Statistics
- Numerical Mathematics and Computing
- Foundations of Mathematics and Statistics
- Vector Calculus and Complex Analysis
- Probability and Stochastic Process
- Probability, Random process and Numerical Methods

### **RESEARCH**

- **Thesis Title (Ph.D): “EXISTENCE AND CONTROLLABILITY RESULTS FOR IMPULSIVE ABSTRACT FUNCTIONAL DIFFERENTIAL SYSTEMS WITH DELAY”.**(Guide: Dr. M. Mallika Arjunan)
- **2<sup>nd</sup> Ph.D Thesis Title: “STUDIES ON ALMOST AUTOMORPHIC SOLUTIONS TO FRACTIONAL ORDER INTEGRO-DIFFERENTIAL SYSTEMS IN BANACH SPACES”.**(Dr. R. Murugesu)

### **RESEARCH INTERESTS:**

- Impulsive Differential Equations, Fractional Differential Equations, Differential Inclusions and Control theory, Almost automorphic functions and functional integro-differential equations.

### **Research Guidance:**

1. M.Sc- Completed – 1 .
2. Ph.D- **1 (Ongoing)**

**-1 (completed)-Thesis Title: A STUDY ON STABILITY AND ALMOST AUTOMORPHIC SOLUTIONS TO IMPULSIVE FRACTIONAL DIFFERENTIAL SYSTEM IN BANACH SPACES.**

### **Papers in Journals:**

Total Impact Factor = **20.463**  
 Google Scholar Citations: **317**  
 i-10 index-**12**

h-index in Google scholar: **11**

Website :<https://scholar.google.co.in/citations?user=ViZHTTMAAAAJ&hl=en>

**Number of Papers published in the refereed International Journals: 31**

**Details of Published papers:**

1. Soumya Geogre, **V. Kavitha**, J.Grayna, A study on stability of impulsive neutral volterra integrodifferential equation, *Nonlinear Studies*, 27(2) (2020), 551-561.**(Scopus Indexed)**.
2. J. Grayna, **V. Kavitha**, Soumya Geogre, A Study on PC-Asymptotically almost Automorphic Solution of Impulsive Fredholm-Volterra Integro-differential Equation with Fractional Order, *Journal of Advanced Research in Dynamical & Control systems*, 11(7)(2019), 259-270.**(Scopus Indexed)**
3. J. Grayna, **V. Kavitha**, Soumya Geogre, A Result on ULAM Stability of Impulsive Fractional Volterra Differential Equation Using a Fixed Point Approach, *Journal of Advanced Research in Dynamical & Control systems*,11(10)(2019), 1388-1397.**(Scopus Indexed)**
4. Mahalingam Nagaraj , **Velusamy Kavitha**, Dumitru Baleanu, Mani Mallika Arjunan, Approximate Controllability of Second-Order Nonlocal Impulsive Partial Functional Integro-Diffrential Evolution Systems in Banach Spaces, *Filomat*, 33(18)(2019), 5887-5912.**(SCI, Impact Factor: 0.789)**.
5. Soumya Geogre, **V. Kavitha**, J.Grayna, A Study on PC Pseudo almost Automorphic Solution of Impulsive Differential Equation, *Journal of Advanced Research in Dynamical & Control systems*, 11(11)(2019), 788-799.**(Scopus Indexed)**
6. J. Grayna, **V. Kavitha**, Soumya Geogre, A result on Ulam stability impulsive fractional integro-differential equation, , **Journal of Physics: Conf. Series**, 1139 (2018) 012066, doi:10.1088/1742-6596/1139/1/012054.**(Scopus Indexed)**.

7. Soumya Geogre, **V. Kavitha**, J.Grayna, A result on Ulam stability impulsive neutral differential equation, **Journal of Physics: Conf. Series**, 1139 (2018) 012066, doi:10.1088/1742-6596/1139/1/012066. **(Scopus Indexed)**.
8. **V. Kavitha**, Syed Abbas, R. Murugesu,  $(\mu_1, \mu_2)$ -Pseudo almost automorphic solutions of fractional order neutral integro-differential equations, **Nonlinear Studies**, 24(3)(2017), 1-17. **(Scopus Indexed)**.
9. **V. Kavitha**, Syed Abbas and R. Murugesu, Existence of Stepanov-like weighted pseudo almost automorphic solutions of fractional integro-differential equations via measure theory, **Nonlinear Studies**, 24(4)(2017), 1-26. **(Scopus Indexed)**
10. **V. Kavitha**, Abbas.Syed and R. Murugesu, Asymptotically almost automorphic solutions of fractional order neutral integrodifferential equations, **Bulletin of the Malaysian Mathematical Sciences**, 39(3)(2016), 1075-1088. **(SCI Journal) Impact Factor: 0.856**.
11. **V. Kavitha**, Abbas.Syed and R. Murugesu, Stepanov-like weighted pseudo almost automorphic solutions to fractional order partial integro-differential equations, **Proceedings Mathematical Sciences**, 125(3)(2015), 323-351. **(SCI Journal, IF: 0.272)**.
12. **V. Kavitha**, Peng-Zhen. Wang and R. Murugesu, Existence of weighted pseudo almost automorphic mild solutions to fractional integro-differential equations, **Journal of Fractional Calculus and Applications**, 4(2013), 1-19.
13. **Velusamy. Kavitha**, Peng-Zhen. Wang and R. Murugesu, Existence results for neutral functional fractional differential equations with state dependent-delay, **Malaya Journal of Matematik**, 1(1)(2012), 50-61.
14. **V. Kavitha** and M. Mallika Arjunan, Existence results for a second order impulsive neutral functional differential inclusions in Banach spaces with infinite delay, **Nonlinear**

*studies*, 19(3)(2012), 417-431 (**Scopus Indexed**).

15. **V. Kavitha**, M. Mallika Arjunan and C. Ravichandran, Existence results for non-densely defined impulsive neutral functional differential inclusions with state-dependent delay, *International Journal of Nonlinear Science*, 13(4)(2012), 422-437.
16. **V. Kavitha**, M. Mallika Arjunan and C. Ravichandran, Existence results for a second order impulsive neutral functional integrodifferential inclusions in Banach spaces with infinite delay, *The Journal of Nonlinear Science and Applications*, 5:5(2012), 321-333.
17. M. Mallika Arjunan, **V. Kavitha** and S. Selvi, Existence Results for Impulsive Differential Equations with Nonlocal Conditions via Measures of Non-compactness, *Journal of Nonlinear Science and Applications*, 5(2012), 195-205.
18. **V. Kavitha** and M. Mallika Arjunan, Existence results for impulsive quasi-linear mixed Volterra-Fredholm type integrodifferential systems in Banach spaces., *International Journal of Mathematical Sciences & Applications*, 2(1)(2012), 377-385.
19. Yong-Kui Chang, M. Mallika Arjunan, G.M.N'Guerekata and **V. Kavitha**, On global Existence results for semilinear fractional functional differential equations with state dependent delay, *Advances in Systems Science and Applications*, 11(1-2)(2011), 27-41. (**Scopus Indexed**).
20. M. Mallika Arjunan and **V. Kavitha**, Controllability of impulsive fractional evolution integrodifferential equations in Banach spaces, *Journal of Korean Society for Industrial and Applied Mathematics*, 15(3)(2011), 177-190.
21. Yong-Kui Chang, M. Mallika Arjunan, G.M.N'Guerekata and **V. Kavitha**, On global solutions to fractional functional differential equations with infinite delay in Frechet spaces, *Computers and Mathematics with Applications*, 62(3)(2011), 1228-1237. (**Elsevier-SCI, Impact Factor: 3.370**).

22. Y.-K. Chang, M. MallikaArjunan and **V. Kavitha**, Existence results for neutral functional integrodifferential equations with infinite delay via fractional operators, *Journal of Applied Mathematics and Computing*, 36(1-2)(2011), 201-218.[Springer-Verlag(Scopus Indexed)].
23. **V. Kavitha** and M. MallikaArjunan, Controllability of impulsive quasi-linear fractional mixed Volterra-Fredholm integrodifferential equations in Banach spaces, *The Journal of Nonlinear Science and Applications*, 4(2)(2011), 152-169.
24. **V. Kavitha** and M. Mallika Arjunan, Existence and uniqueness of solutions to impulsive mixed Volterra-Fredholm integrodifferential equations with nonlocal conditions, *Advances in Theoretical and Applied Mathematics*, 6(2)(2011), 233-254.
25. **V. Kavitha**, M. Mallika Arjunan and C. Ravichandran, Existence results for impulsive systems with nonlocal conditions in Banach spaces, *The Journal of Nonlinear Science and Applications*, 4:1(2011), 86-89.
26. **V. Kavitha** and M. Mallika Arjunan, Controllability of nondensely defined impulsive neutral functional differential systems with infinite delay in Banach spaces, *Nonlinear Analysis: Hybrid Systems*, 4(3)(2010), 441-450. (SCI-Elsevier). Impact Factor: 5.881.
27. Y.-K. Chang, **V. Kavitha** and M. Mallika Arjunan, Existence results for impulsive neutral differential and integrodifferential equations with nonlocal conditions via fractional operators, *Nonlinear Analysis: Hybrid Systems*, 4(1)(2010), 32-43. (SCI-Elsevier) [Top 25 hottest article: October-December 2009]. Impact Factor: 5.881.
28. Y.-K. Chang, **V. Kavitha** and M. Mallika Arjunan, Existence and uniqueness of mild solutions to a semilinear integrodifferential equation of fractional order, *Nonlinear*



*Analysis Theory, Methods & Applications*, 71(11)(2009), 5551-5559. **Impact Factor: 1.587. (Elsevier).**

29. B. Selvaraj, M. Mallika Arjunan and **V. Kavitha**, Existence of solutions of impulsive nonlinear differential equations with nonlocal conditions, *Journal of Korean Society for Industrial and Applied Mathematics*, 13(3)(2009), 203-215.
30. Y.-K. Chang, M. Mallika Arjunan and **V. Kavitha**, Existence results for a second order impulsive functional differential equation with state-dependent delay, *Differential Equations & Applications*, 1(3)(2009), 525-539.
31. M. Mallika Arjunan and **V. Kavitha**, Existence results for impulsive neutral functional differential equations with state-dependent delay, *Electronic Journal of Qualitative Theory of Differential Equations*, No. 26 (2009), 1-13. **SCI- Impact Factor 1.827.**

#### **Delivered Lecture:**

1. Delivered lecture “**Differential Equations and its Applications**” on 11.11.2020 in one day online workshop “Applications of Differential Equations” organized by Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore.
2. Delivered online lecture “**How to write an effective Mathematics research paper**” on 14.07.2020 in the National webinar organized by Rathinam Techzone, Coimbatore .
3. Delivered online lecture “**What is research and how to publish articles**” on 12.6.20 in online value added course-Mathematics for Competitive Examinations(CSIR\_NET,SET & GATE)from 6.6.20 to 19.6.20 organized by Karunya Institute of Technology and Sciences, Coimbatore.

#### **Conferences:**

##### **Papers presented in the National / International level Conferences:**

1. **V. Kavitha**, Existence results for semilinear fractional differential equations with state-dependent delay, *The 4<sup>th</sup> International IMBIC Conference MSAST 2010*, held on 19-21

December 2010, in IMBIC, Kolkatta.

2. **V. Kavitha**, Global existence and controllability to fractional functional differential systems with infinite delay in Frechet spaces, ***National Conference on Recent Frontiers in Applied Dynamical Systems***, held on 21-22 January 2011, in Karunya University, Coimbatore.
3. **V. Kavitha**, Existence results for impulsive quasi-linear mixed Volterra-Fredholm type integrodifferential systems in Banach spaces, ***1<sup>st</sup> International Conference on Mathematical Sciences and Applications***, held on December 18, 2011 in India International Center, New Delhi.
4. **V. Kavitha**, PC WEIGHTED PSEUDO ALMOST AUTOMORPHIC SOLUTION OF SECOND ORDER IMPULSIVE FRACTIONAL DIFFERENTIAL EQUATION, ***Modern Mathematical Methods and High Performance Computing in Science & Technology*** held on January 09-11, 2020 in Inderprastha Engineering College, Ghaziabad, 201010 UP INDIA.

**National Conference/Workshops/FDP:**

**National/ International level Workshops and Conferences participated:**

1. Participated in the 6 day national webinar “Applications of Mathematics” held on July 6-11, 2020 organized by KPR Institute of Engineering and Technology, Coimbatore.
2. Participated in the international webinar “Fractional differential Equations with perturbations of linear matrices” held on 6/7/2020 organized by Department of Mathematics, Hindusthan Institute of Technology, Coimbatore.
3. Participated in the National workshop on “Machine Learning, Deep Learning, Data Science and Artificial Intelligence” held on 2<sup>nd</sup> December 2019 at Department of Mathematics, Karunya Institute of Technology and Sciences, Coimbatore.
4. Participated in 3 day Faculty Development Program “Introduction to Python programming” conducted by ICT Academy on 05/12/2019 to 07/12/2019 at Karunya Institute of Technology and Sciences, Coimbatore.

5. Participated in the National workshop on Machine Learning, Computer Vision and Image Processing: Theories and Applications conducted on 18.12.2018.
6. Participated in the Training “Research proposal writing conducted” by KCDC from May 28-30, 2018.
7. Participated in the workshop “Question Paper Setting” by KCDC from June 11-12, 2018 at Karunya Institute of Technology and Sciences, Coimbatore.
8. Participated in the workshop “Mentoring the Mentors” by KCDC on June 18, 2018 Karunya Institute of Technology and Sciences, Coimbatore.
9. Participated in the workshop “Fourier Transform using MATLAB” held on 15.3.2018 at karunya University, coimbatore.
10. Participated in the workshop “Improving effectiveness of teaching and quality of education” held on 24.6.2016 at karunya University, coimbatore.
11. Participated in the Faculty Development Program “Lecture Capturing” held on 24.6.2018 at karunya University, coimbatore.
12. Participated in the seminar “Application of graph theory in Engineering” held on 28.4.2017 at karunya University, coimbatore.
13. Participated in the national seminar “Networks and Algorithm with Application” held on September 8-9, 2017 at karunya University, coimbatore.
14. Nominated as an internal expert for a Ph.D scholar Mrs. G.Infant Sujitha(Reg. No: RP15MA001) in the Department of Mathematics, Karunya University during the year 2015.
15. Nominated as an internal expert for a Ph.D scholar Mr. T.Gunasekar(Reg. No: RP10MA001) in the Department of Mathematics, Karunya University during the year 2013.
16. Participated in “*National Conference on Mathematical Sciences and Applications*” held on March 14-15, 2013 at Department of Mathematics, Karunya University, Coimbatore-114.

17. One day seminar on “*Recent advances in Soft computing Theory and Matlab*” held on Oct 29, 2012 in Karunya Univesity, Coimbatore-114.
18. A Faculty Development Programme on “*Recent Trends in Applied Mathematics*” held on February 26-27, 2010 at Department of Mathematics, Karunya University, Coimbatore-114.
19. A National Conference on “*Discrete and Fuzzy Mathematics*” held on December 9-10, 2009 at Department of Mathematics, Karunya University, Coimbatore- 114.
20. A Faculty Development Programme on “*Pedagogic Traning*” held on July 30 to August 3, 2007 in Karunya University, Coimbatore-114.
21. A workshop on “*Revamping the Mathematics Syllabus*” held on September 2007 at Department of Mathematics, Karunya University, Coimbatore- 114.

#### **REVIEWER AND REFEREES**

1. Reviewer for **Mathematical Reviews** (American Mathematical Society).
2. Serving as one of the referees for the following reputed International Journals:
  - (i) **International Journal of Nonlinear Science** ( World Academic Union)
  - (ii) **British Journal of Mathematics & Computer Science** ( Science Domain International)
  - (iii) **Mathematical Modelling and Analysis** (International)
  - (iv) **Journal of Advanced Research in Pure Mathematics**
  - (v) **Journal of Mathematics Research**
  - (vi) **Abstract and Applied Analysis**
  - (vii) **Journal of Applied Mathematics and Computing(Springer-Verlag)**
  - (viii) **International Journal of Partial Differential Equations**

#### **CO-CURRICULAR ACTIVITIES**

1. I have been served as one of the ***N.S.S. Program officer*** in Karunya University from **June 2007-June 2012.**
2. I am serving as one of the **Program officer in Youth Red Cross** in Karunya Institute of

Technology and Sciences from June 2019 onwards.

**SOFTWARE PROFICIENCY:**

- Latex –Mathematics Software(Windows)
- MS – Office
- C Language