

# Curriculum-Vitae

|                                                                                                                                                                                                                   |                                                                                                                                              |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>DR. KISHOR D. KUCCHE</b><br>Professor,<br>Department of Mathematics,<br>Shivaji University,<br>Kolhapur- 416004,<br>Maharashtra, India.<br><br><b>Educational Qualifications:</b><br>M.Sc., B.Ed., SET, Ph. D. | <b>Email:</b><br>kdkucche@gmail.com,<br>kdk_maths@unishivaji.ac.in<br><br><b>Phone:</b> (Office) 0231-2609218,<br><b>Mob:</b> +91 9890129305 |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

**Teaching Experience:** 21 Years

| Teaching Experience | University/Institute                        | Designation         | From         | To           |
|---------------------|---------------------------------------------|---------------------|--------------|--------------|
| Post Graduate       | Shivaji University,<br>Kolhapur             | Professor           | 22/08/2025   | Till Today   |
|                     |                                             | Associate Professor | 12/08/2022   | 21/08/2025   |
|                     |                                             | Assistant Professor | 23/05/2008   | 11/08/2022   |
| Under Graduate      | M. I. T. Engineering<br>College, Aurangabad | Lecturer            | Dec 16, 2003 | May 22, 2008 |

## Research Profile:

1. Google Scholar profile:  
<https://scholar.google.co.in/citations?user=0ieK5xUAAAAJ&hl=en&oi=ao>
2. Research Gate profile:  
<https://www.researchgate.net/profile/Kishor-Kucche>
3. Scopus profile:  
<https://www.scopus.com/authid/detail.uri?authorId=37002751600>

## Research Interest:

1. Fractional Differential Equations
2. Dynamic Equations on Time Scales
3. Integral Inequalities
4. Abstract Differential Equations

## Research Projects:

| Sr. No. | Title                                                                           | Funding Agency                          | Funds in Rupees | Status / Period                         | PI / Co-PI             |
|---------|---------------------------------------------------------------------------------|-----------------------------------------|-----------------|-----------------------------------------|------------------------|
| 1       | Nonlinear Differential Equations with Generalized Hilfer Fractional Derivatives | Anusandhan National Research Foundation | Rs. 20,18,764/- | Ongoing<br>26/02/2024 to 25/02/2027     | Principal Investigator |
| 2       | Analysis of $\psi$ -Hilfer fractional differential equations                    | Science and Engineering Research Board  | Rs. 17,58,000/- | Completed<br>22/02/2019 to 21/02/2022   | Principal Investigator |
| 3       | On nonlinear mixed functional integrodifferential equations in Banach spaces    | University Grants Commission            | Rs. 1,97,000/-  | Completed<br>01/04/ 2013 to 31/03/ 2015 | Principal Investigator |

## Research Work Guidance:

1. Ph.D. Students (Awarded) : 04
2. Ph.D. Students (Working) : 04

## Ph.D. Supervision – Awarded Candidates

| Sr. No. | Research Scholar            | Title of Thesis                                                                                  | Date of Award |
|---------|-----------------------------|--------------------------------------------------------------------------------------------------|---------------|
| 1       | Smt. Kharde Jyoti Pramod    | Analysis of Fractional Differential Equations Involving Generalized Hilfer Fractional Derivative | 31/07/2023    |
| 2       | Smt. Mali Ashwini Dhondiram | A Study of Nonlinear Generalized Hilfer Fractional Differential Equations                        | 06/01/2022    |
| 3       | Mr. Sutar Sagar Tanaji      | Studies on Nonlinear Differential Equations of Fractional Order                                  | 01/04/2021    |
| 4       | Smt. Shikhare Pallavi Uttam | A Study of Nonlinear Integrodifferential Equations in Banach Spaces                              | 24/02/2020    |

### International Research Collaborations (Individual):

1. Imecc-Unicamp, Brazil.
2. Federal University of ABC, Brazil.
3. Universidad de La Laguna, Spain.
4. University of Santiago de Compostela, Spain
5. Xidian University, China.
6. Eastern Mediterranean University, Turkey
7. Prince Sultan University, Saudi Arabia

### Roles in Statutory Authorities:

1. Chairperson, Board of Studies in Mathematics, Shivaji University, Kolhapur (From 06 March 2023 to 31 August 2027)
2. Ex-officio Member, Academic Council, Shivaji University, Kolhapur (From 06 March 2023 to 31 August 2027)
3. Member, Faculty of Science and Technology, Shivaji University, Kolhapur (Academic Year: 2018-19 to 2021-22)
4. Member, Faculty of Science and Technology, Solapur University, Solapur (Academic Year: 2018-19 to 2019-20)
5. Member, Board of Studies in Mathematics, Shivaji University, Kolhapur (Academic Year: 2018-19 to 2021-22, )
6. Member, Board of Studies in Mathematics, Solapur University, Solapur (Academic Year: 2018-19 to 2019-20, 2022-23 to 2026-27)
7. Member, Board of Studies in Mathematics, Vivekanand College, Kolhapur (Academic Year: 2017-18 to 2019-20)
8. Member, Board of Studies in Mathematics, Tuljaram Chaturchand College, Baramati (Academic Year: 2022-23 to 2024-25 )
9. Member, Board of Studies in Mathematics, Government College of Engineering, Karad.

### Administrative Roles at the University Level:

1. Coordinator, SWAYAM
2. Coordinator, UGC Schemes of Remedial Coaching
3. Coordinator, Plagiarism Check, Computational Sciences
4. Member, Lapses Committee (21 August 2018 to 15 September 2023)
5. Member, Plagiarism Committee
6. Member, Standing Committee (Special Cell, University Administration and Postgraduate Departments)
7. Member, Caste-Based Discrimination Prevention Committee
8. Member, IQAC – Criteria-wise Committee for NAAC and AQAR

### **Administrative Roles at the Department Level:**

1. Coordinator, NAAC
2. Training and Placement Officer
3. Chairman, Ph.D. Entrance and Theory Examinations
4. Coordinator, Examinations, M.Sc. Mathematics and M.Sc. Tech. Mathematics
5. Member, Research Advisory Committee (RAC)
6. Member, Departmental Research Committee (DRC)
7. Member, Departmental Academic Integrity Panel (DAIP)

### **Memberships in Research Committees:**

1. Member, Research Advisory Committee (RAC), Shivaji University, Kolhapur
2. Member, Research Advisory Committee (RAC), Punyashlok Ahilyadevi Holkar Solapur University, Solapur.
3. Member, Departmental Research Committee (DRC), Shivaji University, Kolhapur
4. Member, Departmental Research Advisory Committee (DRC), YCIS, Satara

### **Memberships in Professional Bodies:**

1. Life member, Indian Mathematical Society (IMS)
2. Life member, The Indian Society for Technical Education (ISTE)
3. Life member, Shivaji University Mathematical Society (SUMS)
4. Life member, Marathwada Mathematical Society (MMS)
5. Secretary, Shivaji University Mathematical Society (SUMS)

### **Research Publications:**

**56.** S.A. Kalloli , J. V. C. Sousa, **K. D. Kucche**, On the  $\Phi$ -Hilfer iterative fractional differential equations, *CUBO, A Mathematical Journal*, 27 (1) (2025), 93-117.

<https://doi.org/10.56754/0719-0646.2701.093>

**(Impact Factor: 0.5)**

**55.** J. V. C. Sousa, **K. D. Kucche**, A. R. G. Plata, Regularity of weak solutions to generalized quasilinear elliptic obstacle problems, *Journal of Differential Equations*, 434 (2025), Article 113317, 1-28.

<https://doi.org/10.1016/j.jde.2025.113317>

**(Impact Factor: 2.4)**

**54.** J. V. C. Sousa, **K. D. Kucche**, V. Govindaraj, L. S. Tavares, Fractional Kirchhoff type equations involving Neumann conditions, *Discrete and Continuous Dynamical Systems - Series S*, 18(8) (2025), 2319-2338

[doi:10.3934/dcdss.2025047](https://doi.org/10.3934/dcdss.2025047).

**(Impact Factor: 1.3)**

**53.** A. D. Mali, **K. D. Kucche**, J. V. C. Sousa, Calculus of k-fractional derivative with respect to monotonic functions, *Journal of Pseudo-Differential Operators and Applications*, 16 (2025), Article 19, 1-35.

<https://doi.org/10.1007/s11868-025-00678-7>

**(Impact Factor: 0.9)**

**52. A. D. Mali, K. D. Kucche**, On the boundary value problems of  $\Psi$ -Hilfer fractional differential equations, *Kyungpook Mathematical Journal*, 64(4) (2024) , 669-702.

<https://doi.org/10.5666/KMJ.2024.64.4.669>

**(Impact Factor: 0.6)**

**51. K. D. Kucche**, S. T. Sutar, K.S. Nisar, Analysis of nonlinear implicit fractional differential equations with the Atangana-Baleanu derivative via measure of non-compactness, *AIMS Mathematics*, 9 (10) (2024), 27058–27079.

DOI: 10.3934/math.20241316

**(Impact Factor: 1.8)**

**50. J. V. C. Sousa, K. D. Kucche**, Juan J. Nieto, Existence and multiplicity of solutions for fractional  $K(\xi)$ -Kirchhoff-type equation, *Qualitative Theory of Dynamical Systems*, 23(1) (2024), 1-21.

<https://doi.org/10.1007/s12346-023-00877-x>

**(Impact Factor: 1.9)**

**49. V. Vijayakumar, C. Ravichandran, K. S. Nisar, K. D. Kucche**, New discussion on approximate controllability results for fractional Sobolev type Volterra-Fredholm integro-differential systems of order  $1 < r < 2$ , *Numerical Methods for Partial Differential Equations* , 40 (2) 2024, 1–19 .

<https://doi.org/10.1002/num.22772>

**(Impact Factor: 2.1)**

**48. J. P. Kharade, K. D. Kucche**, On the  $(k, \Psi)$ -Hilfer nonlinear impulsive fractional differential equations, *Mathematical Methods in the Applied Sciences* , 46(15)(2023), 16282-16304.

DOI 10.1002/mma.9450.

**(Impact Factor: 3.007)**

**47. K. D. Kucche**, A. D. Mali, A. Fernandez, H. M. Fahad, On tempered Hilfer fractional derivatives with respect to functions and the associated fractional differential equations, *Chaos, Solitons and Fractals*, 163 (2022), Article number 112547, 1-9.

<https://doi.org/10.1016/j.chaos.2022.112547>

**(Impact Factor: 9.922)**

**46. A. D. Mali, K. D. Kucche**, A. Fernandez, H. M. Fahad, On tempered fractional calculus with respect to functions and the associated fractional differential equations, *Mathematical Methods in the Applied Sciences* , 45(17) (2022) , 11134-11157.

<https://doi.org/10.1002/mma.8441>

**(Impact Factor: 3.007)**

**45. K. D. Kucche**, A. D. Mali, On the nonlinear  $\Psi$ -Hilfer hybrid fractional differential equations, *Computational and Applied Mathematics*, 41, (2022), Article 86, 1-23.

<https://doi.org/10.1007/s40314-022-01800-x>

**(Impact Factor: 2.998)**

44. P. U. Shikhare , **K. D. Kucche**, J. V. C. Sousa, On the nonlinear impulsive Volterra-Fredholm integrodifferential equations, *International Journal of Nonlinear Analysis and Applications*, 13 (1) (2022), 523-537.  
[https://ijnaa.semnan.ac.ir/article\\_5527.html](https://ijnaa.semnan.ac.ir/article_5527.html)

43. J. V. C. Sousa, **K. D. Kucche**, E. C. de Oliveira, Stability of mild solutions of the fractional nonlinear abstract Cauchy problem, *Electronic Research Archiv*, 30(1) (2021), 272-288.  
<https://www.aimspress.com/article/doi/10.3934/era.2022015>  
**(Impact Factor: 1.604)**

42. **K. D. Kucche**, A. D. Mali, On the nonlinear  $(k, \Psi)$ -Hilfer fractional differential equations, *Chaos, Solitons and Fractals*, 152 (2021): Article number 111335, 1-14.  
<https://doi.org/10.1016/j.chaos.2021.111335>  
**(Impact Factor: 9.922)**

41. M. S. Abdo, T. Abdeljawad, **K. D. Kucche**, K. D. Alqudah, S. M. Ali, M. B. Jeelani, On nonlinear pantograph fractional differential equations with Atangana-Baleanu-Caputo derivative, *Advances in Difference Equations*, 2021 (2021): 65.  
<https://doi.org/10.1186/s13662-021-03229-8>  
**(Impact Factor: 3.1)**

40. J. V. C. Sousa, **K. D. Kucche**, Existence, uniqueness and stability of fractional impulsive functional differential inclusions, *São Paulo Journal of Mathematical Sciences*, 15 (2021), 839-857.  
<https://doi.org/10.1007/s40863-021-00259-8>  
**(Impact Factor: 0.4)**

39. S. T. Sutar, **K. D. Kucche**, Existence and data dependence results for fractional differential equations involving Atangana-Baleanu derivative, *Rendiconti del Circolo Matematico di Palermo Series 2*, 71 (2022). 647-663.  
<https://doi.org/10.1007/s12215-021-00622-w>  
**(Impact Factor: 0.9)**

38. A. D. Mali, **K. D. Kucche**, J. V. C. Sousa, On coupled system of nonlinear  $\Psi$ -Hilfer hybrid fractional differential equations, *International Journal of Nonlinear Sciences and Numerical Simulation*, (2021), Article number: 000010151520210012, 1-21  
<https://doi.org/10.1515/ijnsns-2021-0012>  
**(Impact Factor: 2.156)**

37. **K. D. Kucche**, S. T. Sutar, Analysis of nonlinear fractional differential equations involving Atangana-Baleanu-Caputo derivative, *Chaos, Solitons and Fractals*, 143 (2021): Article number 110556, 1-9.  
<https://doi.org/10.1016/j.chaos.2020.110556>  
**(Impact Factor: 9.922)**

**36. S. T. Sutar, K. D. Kucche**, On nonlinear hybrid fractional differential equations with Atangana-Baleanu-Caputo derivative, *Chaos, Solitons and Fractals*, 143 (2021), Article number 110557, 1-11.

<https://doi.org/10.1016/j.chaos.2020.110557>

**(Impact Factor: 9.922)**

**35. K. D. Kucche, J. P. Kharade**, Analysis of impulsive  $\phi$ -Hilfer fractional differential equations, *Mediterranean Journal of Mathematics*, 17 (5) (2020), Article number 163, 1-23.

<https://doi.org/10.1007/s00009-020-01575-7>

**(Impact Factor: 1.305)**

**34. A. D. Mali, K. D. Kucche**, Nonlocal boundary value problem for generalized Hilfer implicit fractional differential equations, *Mathematical Methods in the Applied Sciences*, 43 (15) (2020), 8608-8631.

<https://doi.org/10.1002/mma.6521>

**(Impact Factor: 3.007)**

**33. K. D. Kucche, J. P. Kharade**, Global existence and Ulam-Hyers stability of  $\Psi$ -Hilfer fractional differential equations, *Kyungpook Mathematical Journal*, 60 (3) (2020), 647-671.

<https://doi.org/10.5666/KMJ.2020.60.3.647>

**(Impact Factor: 0.6)**

**32. P. U. Shikhare, K. D. Kucche, J. V. C. Sousa**, Analysis of Volterra integrodifferential equations with nonlocal and boundary conditions via Picard operator, *Computational and Applied Mathematics*, 39 (3) (2020), Article number 208, 1-18.

<https://doi.org/10.1007/s40314-020-01234-3>

**(Impact Factor: 2.998)**

**31. K. D. Kucche, J. P. Kharade, J. V. C. Sousa**, On the nonlinear impulsive  $\Psi$ -Hilfer fractional differential equations, *Mathematical Modelling and Analysis*, 25 (4) (2020), 642-660.

<https://doi.org/10.3846/mma.2020.11445>

**(Impact Factor: 1.6)**

**30. K. D. Kucche, P. U. Shikhare**, On impulsive delay integrodifferential equations with integral impulses, *Mediterranean Journal of Mathematics*, 17 (4) (2020), Article number 103, 1-22.

<https://doi.org/10.1007/s00009-020-01541-3>

**(Impact Factor: 1.305)**

**29. K. D. Kucche, A. D. Mali**, Initial time difference quasilinearization method for fractional differential equations involving generalized Hilfer fractional derivative, *Computational and Applied Mathematics*, 39 (1) (2020), Article number 31, 1-33.

<https://doi.org/10.1007/s40314-019-1004-4>

**(Impact Factor: 2.998)**

28. J. P. Kharade, **K. D. Kucche**, On the impulsive implicit  $\Psi$ -Hilfer fractional differential equations with delay, *Mathematical Methods in the Applied Sciences*, 43 (4) (2020), 1938-1952.  
<https://doi.org/10.1002/mma.6017>  
**(Impact Factor: 3.007)**
27. **K. D. Kucche**, J. J. Nieto, V. Venktesh, Theory of nonlinear implicit fractional differential equations, *Differential Equations and Dynamical Systems*, 28 (1) (2020), 1-17.  
<https://doi.org/10.1007/s12591-016-0297-7> (Published online: 27 May 2016)  
**(Impact Factor: 0.8)**
26. P. U. Shikhare, **K. D. Kucche**, Existence, Uniqueness and Ulam stabilities for nonlinear hyperbolic partial integrodifferential equations, *International Journal of Applied and Computational Mathematics*, 5 (6) (2019), Article number 156, 1-21  
<https://doi.org/10.1007/s40819-019-0742-8>
25. S. T. Sutar, **K. D. Kucche**, On fractional Volterra integrodifferential equations with fractional integrable impulses, *Mathematical Modelling and Analysis*, 24 (3) (2019), 457-477.  
<https://doi.org/10.3846/mma.2019.028>  
**(Impact Factor: 1.6)**
24. **K. D. Kucche**, A. D. Mali, J. V. C. Sousa, On the nonlinear  $\Psi$ -Hilfer fractional differential equations, *Computational and Applied Mathematics*, 38 (2) (2019), Article number 73, 1-25. <https://doi.org/10.1007/s40314-019-0833-5>  
**(Impact Factor: 2.998)**
23. J. V. C. Sousa, **K. D. Kucche**, E. C. de Oliveira, On the Ulam-Hyers stabilities of the solutions of  $\Psi$ -Hilfer fractional differential equation with abstract Volterra operator, *Mathematical Methods in the Applied Sciences*, 42 (9) (2019), 3021-3032.  
<https://doi.org/10.1002/mma.5562>  
**(Impact Factor: 3.007)**
22. J. V. C. Sousa, **K. D. Kucche**, E. C. de Oliveira, Stability of  $\psi$ -Hilfer impulsive fractional differential equations, *Applied Mathematics Letters*, 88 (2019), 73-80.  
<https://doi.org/10.1016/j.aml.2018.08.013>  
**(Impact Factor: 4.397)**
21. J. V. C. Sousa, E. C. de Oliveira, **K. D. Kucche**, On the fractional functional differential equation with abstract Volterra operator, *Bulletin of the Brazilian Mathematical Society, New Series*, 50 (4) (2019), 803-822.  
<https://doi.org/10.1007/s00574-019-00139-y>  
**(Impact Factor: 1.246)**
20. **K. D. Kucche**, P. U. Shikhare, Ulam stabilities for nonlinear Volterra delay integro-differential equations, *Journal of Contemporary Mathematical Analysis*, 54 (5) (2019), 276-287.  
<https://doi.org/10.3103/S1068362319050042>  
**(Impact Factor: 0.494)**

**19. K. D. Kucche**, P. U. Shikhare, Ulam stabilities for nonlinear Volterra-Fredholm delay integrodifferential equations, *International Journal of Nonlinear Analysis and Applications*, 9 (2) (2018), 145-159.  
<https://doi.org/10.22075/IJNAA.2018.12688.1647>

**18. K. D. Kucche**, P. U. Shikhare, Ulam-Hyers stability of integrodifferential equations in Banach spaces via Pachpatte's inequality, *Asian-European Journal of Mathematics*, 11 (2) (2018), Article number 1850062, 1-19.  
<https://doi.org/10.1142/S1793557118500626>  
**(Impact Factor: 0.5)**

**17. K. D. Kucche**, P. U. Shikhare, Ulam stabilities via Pachpatte's inequality for Volterra-Fredholm delay integrodifferential equations in Banach spaces, *Note di Matematica*, 38 (1) (2018), 67-82.  
<https://doi.org/10.1285/i15900932v38n1p67>  
**(Impact Factor: 0.2)**

**16. K. D. Kucche**, S. T. Sutar, On existence and stability results for nonlinear fractional delay differential equations, *Boletim da Sociedade Paranaense de Matemática*, 36 (4) (2018), 55-77.  
<https://doi.org/10.5269/bspm.v36i4.33603>  
**(Impact Factor: 0.4)**

**15. K. D. Kucche**, J. J. Trujillo, Theory of system of nonlinear fractional differential equations, *Progress in Fractional Differentiation and Applications*, 3 (1) (2017), 7-18.  
<http://dx.doi.org/10.18576/pfda/030102>

**14. K. D. Kucche**, Y.-K. Chang, C. Ravichandran, Results on non-densely defined impulsive Volterra functional integrodifferential equations with infinite delay, *Nonlinear Studies*, 23 (4) (2016), 651-664.  
<http://nonlinearstudies.com/index.php/nonlinear/article/view/1415>

**13. S. T. Sutar, K. D. Kucche**, Global existence and uniqueness for implicit differential equation of arbitrary order, *Fractional Differential Calculus*, 5 (2) (2015), 199-208.  
<http://dx.doi.org/10.7153/fdc-05-17>

**12. K. D. Kucche**, M. B. Dhakne, On second order mixed functional integrodifferential equations, *Azerbaijan Journal of Mathematics*, 5 (1) (2015), 29-43.  
<https://azjm.org/volumes/0501/0501-3.pdf>  
**(Impact Factor: 0.6)**

**11. K. D. Kucche**, Existence and controllability results for mixed functional integrodifferential equations with infinite delay, *Demonstratio Mathematica*, 47 (4) (2014), 893-909.  
<https://doi.org/10.2478/dema-2014-0072>  
**(Impact Factor: 2.093)**



10. C. Ravichandran, N. Valliammal, **K. D. Kucche**, Controllability of neutral functional integrodifferential equations via resolvent operators in Banach spaces, *International Journal of Applied Engineering Research*, 9 (23) (2014), 19751-19766.  
<https://www.ripublication.com/Volume/ijaerv9n23.htm>

9. **K. D. Kucche**, M. B. Dhakne, Existence of solution via integral inequality of Volterra-Fredholm neutral functional integrodifferential equations with infinite delay, *International Journal of Differential Equations*, 2014 (2014), Article number 784956, 1-13 .  
<https://doi.org/10.1155/2014/784956>

**(Impact Factor: 1.4)**

8. **K. D. Kucche**, M. B. Dhakne, Sobolev-type Volterra-Fredholm functional integrodifferential equations in Banach spaces, *Boletim Sociedade Paranaense de Matematica*, 32 (1) (2014), 239-255.

<https://doi.org/10.5269/bspm.v32i1.19901>

**(Impact Factor: 0.4)**

7. **K. D. Kucche**, M. B. Dhakne, Controllability of Non-densely Defined Functional Mixed Integrodifferential Equations in Banach Spaces, *Communications on Applied Nonlinear Analysis*, 20 (4) (2013), 17-32.

6. **K. D. Kucche**, M. B. Dhakne, On existence results and qualitative properties of mild solution of semilinear mixed Volterra-Fredholm functional integrodifferential equations in Banach spaces, *Applied Mathematics and Computation*, 219 (22) (2013), 10806-10816.  
<https://doi.org/10.1016/j.amc.2013.05.005>

**(Impact Factor: 4.091)**

5. **K. D. Kucche**, M. B. Dhakne, Controllability of non-densely defined abstract mixed Volterra-Fredholm neutral functional integrodifferential equations, *Asian-European Journal of Mathematic*, 6 (2) (2013), 1350025, 1-7.

<https://doi.org/10.1142/S1793557113500253>

**(Impact Factor: 0.5)**

4. **K. D. Kucche**, M. B. Dhakne, Controllability results for second order abstract mixed Volterra-Fredholm functional integrodifferential equations, *Pan American Mathematical Journal*, 22 (4) (2012), 109-121.

3. M. B. Dhakne and **K. D. Kucche**, Global existence for abstract nonlinear Volterra-Fredholm functional integrodifferential equation, *Demonstratio Mathematica*, 45 (1) (2012), 117-127.

<https://doi.org/10.1515/dema-2013-0349>

**(Impact Factor: 2.093)**

2. M. B. Dhakne, **K. D. Kucche**, On mild solution of second order functional integrodifferential equation with nonlocal condition, *Communications on Applied Nonlinear Analysis*, 18 (3) (2011), 79-88.

1. M. B. Dhakne, **K. D. Kucche**, Existence of mild solution of mixed Volterra-Fredholm functional integrodifferential equation with nonlocal condition, *Applied Mathematical Sciences*, 5 (8) (2011), 359-366.  
<http://www.m-hikari.com/ams/ams-2011/ams-5-8-2011/kuccheAMS5-8-2011.pdf>

### Conference / Seminar Proceedings:

2. M. B. Dhakne, **K. D. Kucche**, On mild solutions of abstract nonlinear mixed Volterra-Fredholm functional integrodifferential equations, *Proceedings of the International conference on mathematical sciences in honor of Professor A. M. Mathai*, (2011), 113-126.
1. **K. D. Kucche**, M. B. Dhakne, Existence results for semilinear Volterra-Fredholm functional integrodifferential equations, *e-proceeding of International Conference on Advances in Modeling, Optimization and Computing (AMOC - 2011)*. (ISBN-81-86224-71-2).

### Chapters Contributed to Edited Books:

1. Monotone Iteration Principle in the Theory of Hadamard Fractional Delay Differential Equations, Chapter 5, In: *Frontiers in Fractional Calculus*, Editors: Sachin Bhalekar, Bentham Science Publishers, ISBN (Online): 978-1-68108-599-9, ISBN(Print): 978-1-68108-600-2, (2018).

### Books Co-Authored:

8. M. T. Gophane, **K. D. Kucche**, G. D. Shelke, J. P. Kharade, *Research Methodology*, Shivaji University Press, 2025, (ISBN: 978-93-49570-90-0).
7. C. T. Aage, **K. D. Kucche**, *Complex Analysis*, Yashwantrao Chavan Maharashtra Open University, 2022, (ISBN: 978-93-95855-32-7).
6. S. H. Thakar, **K. D. Kucche**, *Functional Analysis*, Shivaji University Press, 2015, (ISBN: 978-81-8486-667-4).
5. S. R. Chaudhari, U. H. Naik, **K. D. Kucche**, *Complex Analysis*, Shivaji University Press, 2014, (ISBN: 978-81-8486-136-5).
4. S. H. Thakar, **K. D. Kucche**, *Differential Equations*, Shivaji University Press, 2013, (ISBN: 978-81-8486-261-2).
3. M. S. Chaudhary, **K. D. Kucche**, *Integral Equations*, Shivaji University Press, 2009, (ISBN: 978-81-8486-261-4).
2. S. R. Khillare, **K. D. Kucche**, *Engineering Mathematics-III*, Vidyarthi Prakashan, Aurangabad, 2013. (ISBN: 978-81-930896-5-1).

1. S. R. Khillare, **K. D. Kucche**, A. C. Dabhole, G. C. Lomte, Engineering Mathematics-I, Vidyarthi Prakashan, Aurangabad, 2011. (ISBN: 978-81-930896-3-7).

## Invited Talks at Conferences, Seminars, and Workshops

### ❖ Invited Talks (International)

9. International Conference on Mathematical Analysis and Its Applications (ICMAA-MH-2025), June 28-30, 2025, Karnatak University, Dharwad, Karnatak, India: *The calculus of tempered fractional derivatives with respect to monotonic functions*

8. International Conference on Advancement and Emerging Trends in Sciences (ICAETS-2025), January 08-10, 2025, Rayat Shikshan Sanstha's Dahiwadi College Dahiwadi, Maharashtra, India: *Time Scale Calculus*

7. International Conference on Mathematics and Its Applications in Science and Technology (ICMAST-2024), August 30-31, 2024, Shri Ram Murti Smarak College of Engineering and Technology, Bareilly, Uttar Pradesh, India:  *$\Psi$ -Tempered Hilfer Fractional Derivative and Associated Differential Equations*

6. International Conference on Mathematical Analysis and Its Applications (ICMAA-2024), August 02-04, 2024, Department of Mathematics, Karnatak University, Dharwad, India: *The Calculus of Tempered Fractional Derivatives with respect to Monotonic Functions*

5. International Conference on Emerging Trends in Computational mathematics and data science (ICETCMDs-24), 10-11 January, 2024, Sri Krishna Arts and Science College, Kuniamuthur, Coimbatore, Tamilnadu: *Analysis of tempered Hilfer differential equations.*

4. International Conference on Mathematical Modelling, Analysis and Computing (IC-MMAC 2023), 21-22 October, 2023, Holy Cross college, Tirupattur, Tamilnadu: *Analysis of  $(k, \psi)$  Hilfer fractional differential equations.*

3. International Conference on Multidisciplinary Research-2022, 22-24 November 2022, Sharnabasva University, Kalburgi, Karnataka: *Ulam Stabilities of Integrodifferential Equations.*

2. International Conference on Fractional Calculus - 2022, 18-19 January 2022, School of Mathematics and Statistics, University of Hyderabad: *Calculus of Generalized Hilfer Fractional Derivatives*

1. Seventh International Conference on Dynamical Systems and Applications & Fifth International Conference on Neural, Parallel and Scientific Computation, May 27-30, 2015, Morehouse College, Atlanta, Georgia, USA: *Non Densely Defined Impulsive Functional Differential Equations with Infinite Delay.*

## ❖ Invited Talks (National)

20. National Seminar on Fractional Calculus and Dynamical Systems, February 13-15, 2025, Department of Mathematics, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, Maharashtra, India, : *Fractional Derivatives with respect to Monotonic Function: Tempered Approach*

19. National Workshop on Differential Equations Dynamical Systems, February 13-15, 2025, School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded , Maharashtra, India, : *Advances in Fractional Calculus*

18. National Conference on Nonlinear Analysis and Applications (NCNAA-25), January 30-31, 2025, Department of Mathematics, Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhaji Nagar, Maharashtra, India, : *Investigation of Differential Equations Involving  $(k, \Psi)$ -Hilfer Fractional Derivative*

17. National Conference on Recent Trends in Mathematical Sciences(NCRTMS-2024), 18-19 March 2024, Department of Mathematics, Yashwantrao Chavan Institute of Science, Satara (Autonomous), India: *Tempered Hilfer fractional derivative and associated differential equations.*

16. National Conference on Recent Developments in Fractional Calculus and its Applications, 18-19 November 2022, SASTRA Deemed to be University, Thanjavur, Tamil Nadu: *Calculus of  $(k, \psi)$ -Hilfer Fractional Derivative.*

15. Online One Day National Conference on Recent Advances in Mathematics -2022 (NCRAM-2022) - 27th May 2022, Dattajirao Kadam Arts, Science and Commerce College, Ichalkaranji: *Riemann Liouville and Caputo Fractional Derivatives: A Review.*

14. One day online National Conference on Recent Trends In Mathematics, 27 August 2021, IQAC and Department of Mathematics, Shri Pancham Khemraj Mahavidyalaya Sawantwadi: *Differential Equations Involving Generalized Fractional Derivative*

13. National Conference on Recent Frontiers in Fractional Calculus Theory and its Applications (NCFCTA 2021), March 7-8, 2021, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai, Tamilnadu, India: *Nonlinear Fractional Dynamical Systems: Recent Developments, Challenges and Applications.*

12. National Conference on Recent Developments in Pure and Applied Mathematics (NCRDPAM-2019), February 26-27, 2019, Yashwantrao Chavan Institute of Science, Satara, Maharashtra, India (Autonomous): *Analysis of Cauchy Problem Involving Generalized Fractional Derivative.*

11. Two days state level seminar on Emerging Trends in IT, January 18-19, 2019, Arts , Commerce and Science College, Landewadi, Bhosari, Pune, Maharashtra, India: *Introduction to Latex.*

10. National Conference on Algebra, Analysis and Number Theory, January 13-14, 2018, School of Mathematical Sciences, North Maharashtra University, Jalgaon, Maharashtra, India: *Ulam Stabilities for Volterra Delay Integrodifferential Equations*.
9. National Workshop on Fractional Calculus and its Applications, March 23-25, 2017, School of Mathematical Sciences Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India: *Theory of Nonlinear Fractional Differential Equations*.
8. 24<sup>th</sup> Annual Conference of SUMS on Recent Trends in Mathematics and Student's Carnival; March 18, 2017 Raje Ramrao, Mahavidyalaya, Jath-Sangli, Maharashtra, India: *Fractional Derivatives: Riemann-Liouville versus Caputo Derivatives*.
7. Symposium on "Integral Inequalities and Applications" of 82<sup>nd</sup> Annual Conference of the Indian Mathematical Society, December 27-30, 2016, Kalyani University, Kalyani, West Bengal, India: *Role of Integral Inequalities in the Study of Differential and Integro-differential Equations*.
6. National Conference on Numerical Methods and its Applications in Science and Engineering, April 2-3, 2016, Karnataka Arts, Science and Commerce, College, Bidar, Karnataka, India: *Existence and Qualitative Properties of Implicit Fractional Differential Equations*.
5. National Seminar on Recent Trends in Differential Equations and its Applications, January 30-31, 2016, Changu Kana Thakur, Arts Commerce and Science College, New Panvel, Maharashtra, India: *Implicit Differential Equations Involving Caputo Fractional Derivative*.
4. National Conference on Recent Advances in Mathematics, January 21-23, 2016, Mrs. KSK Alias Kaku Arts, Science and Commerce College, Beed, Maharashtra, India: *Basic Theory of Nonlinear Fractional Differential Equations*.
3. National Conference on Recent Trends in Mathematics, December 18-19, 2015, Deshbhakta Anandrao Balawantrao Naik Arts and Science College, Chikhali, Sangli, Maharashtra, India: *On a Class of Nonlinear Fractional Differential Equations with Caputo Derivative*.
2. National Conference on Recent Analysis and Applications in Discrete Mathematics, February 13-14, 2015, Raja Lakhamgauda Science Institute, Belgavi, Karnataka, India: *Semigroup Theory and Abstract Cauchy Problem*.
1. National Conference on Algebra, Analysis and Fuzzy Mathematics, January 20-23, 2014, Department of Mathematics, North Maharashtra University, Jalgaon, Maharashtra, India: *Existence and Controllability Results for Mixed Functional Integrodifferential Equations with Infinite Delay*.

### ❖ Invited Talk (State)

2. Two Days Regional Conference on Advances in Mathematics along with Student Carnival, February 01-02, 2019, Padmabhushan Dr. Vasantraodada Patil Mahavidyalaya, Tasgaon, Maharashtra, India: *Ulam type Stabilities for Differential and Integrodifferential Equations*.
1. State level Seminar on Applications of Advanced Mathematics and Research Methodologies in Mathematical Sciences, October 16-17, 2014, Shri Vijay Sinha Yadav Arts and Science College, Pet Vadgaon, Dist. Kolhapur, Maharashtra, India: *Functional Integrodifferential Equations with Finite Delay*.

### Invited Talks in Refresher Courses, FDPs, and Orientation Programs:

3. Refresher Course in Mathematics and Computational Sciences, February 15-28, 2025, Savitribai Phule Pune University UGC-Malaviya Mission Teacher Training Centre, Pune, Maharashtra, India;: *Calculus on the Time Scale*
2. Refresher Course – MOOCs, E-Content Development and Open Educational Resources, May 06-18, 2024 organised by UGC – Malaviya Mission Teacher Training Centre, Sant Gadge Baba Amravati University, Amravati, Maharashtra, India: *Online Learning through SWAYAM*
1. Two Weeks Faculty Development Programme on Advances in Applied Mathematics, December 11-22, 2017, Government College of Engineering, Karad, Maharashtra, India: *Basics of Fractional Calculus*.

### Research Paper Presented at Conferences:

#### ❖ Research Papers Presented at International Conferences:

15. International Symposium on Mathematical Analysis of Fractals and Dynamical Systems – 2023 (ISMAFDS-2023), 24-25 August 2023, Vellore Institute of Technology Vellore, Tamil Nadu:  *$\Psi$ -Hilfer fractional differential equations with boundary conditions*.
14. International Conference on PDE & Applications, Modeling and Simulation (ICPAMS' 21), June 2- 3, 2021, Beni Mellal, Morocc:  *$\psi$  -Hilfer Hybrid Fractional Differential Equations*.
13. International conference Methods of Nonlinear Analysis in Differential and Integral Equations which held in May 15-16 and May 22-23, 2021, Rzeszów University of Technology, Poland: *Impulsive  $\Psi$ -Hilfer Fractional Differential Equations*.
12. International e-Conference on Pure And Applied Mathematical Sciences (ICPAMS-2021), 7-10 June 2021, Tunisia - Saudi Arabia: *( $k$ ;  $\Psi$ ) -Hilfer Fractional Derivative*.
11. International Conference on Special Functions and Applications (ICSFA-2020), December 22-23, 2020, Babu Banarasi Das University, Lucknow, Uttar Pradesh, India: *On the Atangana-Baleanu Nonlinear Fractional Differential Equations*.

10. 3<sup>rd</sup> International Conference on Mathematical Modelling, Applied Analysis and Computation-2020, August 7-9, 2020, JECRC University Jaipur, Rajasthan, India: *On the ABC-Nonlinear Fractional Differential Equations*.
9. 2<sup>nd</sup> International Conference on Mathematical Modelling, Applied Analysis and Computation-2019, August 8-10 2019, JECRC University Jaipur, Rajasthan, India: *Analysis of Nonlinear  $\Psi$ -Hilfer Fractional Differential Equations*.
8. International Conference on Mathematical Sciences-2015, Sadguru Gadge Maharaj College, Karad, September 15-16, 2015: *Non Densely Defined Impulsive Volterra Functional Integrodifferential Equations*.
7. International Conference on Emerging Trends in Mathematical Sciences (ICETMS-2014), Department of studies in Mathematics, Vijayanagara Sri Krishnadevaraya University, Bellary, Karnataka, July 25-26, 2014: *Existence Results via Resolvent Operators for Mixed Functional Integrodifferential Equations with Infinite Delay in Abstract Spaces*.
6. International Conference on Recent Advances in Mathematics (ICRAM 2014), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, January 20-23, 2014: *Controllability of Non-densely Defined Abstract Mixed Volterra-Fredholm Neutral Functional Integrodifferential Equations*.
5. 18<sup>th</sup> annual cum 3<sup>rd</sup> International Conference of Gwalior Academy of Mathematical Sciences (GAMS), Maulana Azad National Institute of Technology, (MA NIT) Bhopal, M. P. India, September 22-26, 2013: *Existence Results and Qualitative Properties of Mild Solution of Semilinear Mixed Volterra-Fredholm Functional Integrodifferential Equations in Banach Spaces*.
4. International Conference on Mathematical Sciences, Science College, Congress Nagar, Nagpur, India, December 28-31, 2012: *Volterra-Fredholm Functional Integrodifferential Equations with Infinite Delay in Abstract Spaces*.
3. International conference on mathematical sciences in honor of Professor A. M. Mathai, St. Thomas College, Pala, Kottayam, Kerla, January 3-5, 2011: *On Mild Solution of Mixed Volterra-Fredholm Functional Integrodifferential Equation*.
2. International Conference on Advances in Modeling, Optimization and Computing (AMOC - 2011), IIT Roorkee, India, December 5-7, 2011: *Existence Results for Semilinear Volterra-Fredholm Functional Integrodifferential Equations*.
1. International congress of Mathematicians, Department of Mathematics and Statistics, University of Hyderabad, Hyderabad, August 19-27, 2010: *Global Existence for Volterra-Fredholm Functional Integrodifferential Equations*.

### ❖ Research Papers Presented at National Conferences:

7. 78<sup>th</sup> Annual Conference of Indian Mathematical Society, Banaras Hindu University (BHU), Varanasi-221 005 (UP), January 22-25, 2013: *Controllability Results for Second Order Nonlinear Mixed Neutral Functional Integrodifferential Equations in Abstract spaces.*

6. National Conference on Current Practices in Mathematics, Statistics and Actuarial Science, School of Mathematical Sciences, North Maharashtra University, Jalgaon, March 7-8, 2013: *Sobolev-type Volterra-Fredholm Functional Integrodifferential Equations in Banach Spaces.*

5. National Conference on Mathematical Sciences (NCMS-2012), School of Mathematical Sciences, North Maharashtra University, Jalgaon, March 5, 2012: *Controllability of non-densely defined abstract mixed Volterra-Fredholm functional integrodifferential equations.*

4. National Conference on Evolution Equations: Theory Methods and Applications (NCEETMA-2012), IIT Kanpur, Uttar Pradesh, December 07-08, 2012: *On Second Order Mixed Functional Integrodifferential Equations.*

3. National conference on Recent Frontiers in Applied Dynamical Systems, Department of Mathematics, Karunya University, Coimbatore, Tamilnadu, January 21-22, 2011: *Global Existence for Second Order Mixed Volterra-Fredholm Functional Integrodifferential Equation.*

1. 77<sup>th</sup> Annual Conference of Indian Mathematical Society, S. R. T. M. University, Nanded, December 27-30, 2011: *Controllability of Second Order Abstract Mixed Volterra-Fredholm Functional Integrodifferential Equation.*

1. National Conference in Mathematics (NCM-2005), Yashwantrao Chavan Institute of Science, Satara, December 22 - 24, 2005: *Circle as a Vector.*

### Academic Development Programs Attended:

10. *50 years of Functional Differential Equations at ICMC*, 02-06 August, 2021, Institute of Mathematics and Computer Sciences, University of São Paulo, São Carlos, Brazil.

9. *Online Two - Week Refresher Course in Mathematical Sciences*, 14-28 June, 2021, Teaching Learning Centre, Ramanujan College, University of Delhi, Under the aegis of Ministry Of Education Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching.

8. *Faculty Development Programme on Educational Video Creation (E-content Development)*, 05-10 June 2020, Bharati Vidhapeeth's College of Engineering, Kolhapur.

7. *Two Weeks Faculty Development Programme on MANAGING ONLINE CLASSES and CO-CREATING MOOCS: 2.0*, 18 May – 03 June, 2020, Teaching Learning Centre, Ramanujan College, University of Delhi, Sponsored by Ministry Of Education Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching.



6. *One Week National Online Faculty Development Program, ICT tools for Effective Teaching Learning*, 27 April 2020 to 02 May 2020, Swami Ramanand Teerth Marathwada University, Nanded.

5. *Faculty Development Program on Cyber Security*, 01-17 July 2019, Vivekananda College Kolhapur, conducted by FDC PMMMNMTT.

4. *Special Winter School in Computational Mathematics*, 06-26 November 2017, UGC-HRDC, Savitribai Phule Pune University, Pune.

3. *National Workshop on Evolution Equations: Theory Methods and Applications (NCEETMA-2012)*, December 02-06, 2012, IIT Kanpur, Uttar Pradesh.

2. *UGC Sponsored Refresher course in the subject Research Methodology*, 09-29 November 2010, UGC-Academic Staff College., Dr. Babasaheb Ambedkar Marathwada University .

1. *"UGC Sponsored Orientation Course"* 22 June - 18 July 2009, UGC-Academic Staff College, Osmania University, Hyderabad.

#### **Organization of Conferences, Seminars, and Workshops:**

14. Convener, *One-Day Workshop on Differential Equations: Analytical and Numerical Approaches*, January 15, 2025, Department of Mathematics, Shivaji University, Kolhapur.

13. Organizing Secretary, *National Conference on Applicable Mathematics-2025*, March 03-04, 2025, Department of Mathematics, Shivaji University, Kolhapur.

12. Convener, *National Conference on Mathematical Analysis and Applications-2022 (NCMAA-2022)*, March 21-22, 2022, Department of Mathematics, Shivaji University, Kolhapur.

11. Co-Convener, *Mini-Symposium on Fractional Calculus Applications in Science & Engineering*, December 21-22, 2021, Department of Mathematics, Sant Longowal Institute of Engineering & Technology, Longowal, Punjab.

10. Organizer, *One Day Workshop on Fractional Differential Equations: Analysis and Applications*, March 09, 2020, Department of Mathematics, Shivaji University, Kolhapur.

9. Organizing Secretary, *National Seminar on Algebra-2020*, February 14-15, 2020, Department of Mathematics, Shivaji University, Kolhapur.

8. Organizing Secretary, *CSIR sponsored National Workshop on Linear Algebra and its Applications -2018*, February 28 -March 05, 2018, Department of Mathematics, Shivaji University, Kolhapur.

7. Convener, *UGC-SERB-CSIR sponsored National Seminar on Differential Equations and Dynamical Sytemes-2017*, February 27-28, 2017, Department of Mathematics, Shivaji University, Kolhapur.
6. Convener, *UGC-SERB sponsored National Conference on Differential Equations-2015*, January 29-30, 2015, Department of Mathematics, Shivaji University, Kolhapur.
5. Organizing Secretary, *UGC-NBHM sponsored National Workshop on Algebra-2015*, Department of Mathematics, Shivaji University, Kolhapur, December 21-26, 2015.
4. Organizing Secretary, *National Mathematics Day, Sponsored by NCSTC, DST- Govt. of India and Rajiv Gandhi Science and Technology Commission*, Department of Mathematics, Shivaji University, Kolhapur, December 22, 2014 to March 05, 2015.
3. Organizing Secretary, *UGC-DST sponsored National Conference on Dynamical Systems-2013*, December 23-24, 2014, Department of Mathematics, Shivaji University, Kolhapur.
2. Coordinator, *UGC Sponsored NET/SET workshop for the student of M. Sc. (Mathematics)*, February 11-16, 2013, Department of Mathematics, Shivaji University, Kolhapur.
1. Coordinator, *UGC Sponsored NET/SET workshop for the student of M. Sc. (Mathematics)*, August 12-20, 2012, Department of Mathematics, Shivaji University, Kolhapur.