

Curriculum Vitae

Dr. Akbar Zada
Assistant Professor
Department of Mathematics
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1 Personal Information:

Nationality: Pakistani

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2 Qualification:

1. **PhD**, Abdus Salam School of Mathematical Sciences, GCU, Lahore, Pakistan.
Title of Dissertation: Asymptotic behavior of solutions for a class of semi-linear differential systems in finite dimensional spaces.
Defense Date: 5th October, 2010
Supervisor: Prof. Dr. Constantin Buse, West University of Timisoara, Romania
Supervisor E-mail: buse@tim1.math.uvt.ro, buse1960@gmail.com
2. **M. Sc** (2003, 1st division), University of Peshawar, Peshawar, Pakistan.
3. **B. Sc** (2001, 1st division), University of Peshawar, Peshawar, Pakistan.
4. **F. Sc** (1999, 1st division), Govt. Post graduate Jahanzeb college, Saidu Sharif, Swat, Pakistan.
5. **Matriculation** (1997, 1st division), Govt. High school Ingarodherai, Saidu Sharif, Swat, Pakistan.

3 Research Fields and Interest:

- Qualitative properties of classical and fractional boundary value problems
- Qualitative properties of evolution equations
- Autonomous and non-autonomous linear and nonlinear systems: Asymptotic theory, exponential stability, exponential dichotomy, Hyers Ulam stability
- Theory of periodic, almost periodic and asymptotically almost periodic functions and non-autonomous linear evolution equations
- Autonomous and non-autonomous linear evolution equations on time scale
- Mathematical Biology: Bifurcation theory, asymptotic behavior of trajectories
- Control Theory, linear switching systems
- Spectral and Operator Theory
- Fixed Point Theory and Applications
- Difference and Functional Equations

4 Supervision:

Under my supervision, 02 PhD, 20 M.Phil/MS and 09 BS research scholars completed their thesis.

Papers in 2019

1. **Akbar Zada**, Bakht Zada, Hyers–Ulam stability and exponential dichotomy of discrete semigroup, *Applied Mathematics E–Notes*, **in press**. [ESCI]

2. S. O. Shah, **Akbar Zada**, A. E. Hamza, Stability analysis of the first order non-linear impulsive time varying delay dynamic system on time scales, *Qual. Theory Dyn. Syst.*, DOI: 10.1007/s12346-019-00315-x. **in press**. [ISI, IF=1.019]
3. S. O. Shah, **Akbar Zada**, Hyers-Ulam Stability of non-linear Volterra integro-Delay Dynamic System with Fractional Integrable Impulses on Time Scales, *Iranian journal of mathematical sciences and informatics*, (2019), **in press**. [ESCI]
4. Xiaoming Wang, Muhammad Arif, **Akbar Zada**, β -Hyers-Ulam-Rassias stability of semilinear nonautonomous impulsive system, *Symmetry*, **11**(2)(2019), 231. [ISI, IF=1.256]
5. **Akbar Zada**, W. Ali and C. Park, Ulam's type stability of higher order nonlinear delay differential equations via integral inequality of Grönwall-Bellman-Bihari's type, *Appl. Math. Comput.*, **350**(2019), 60–65. [ISI, IF=2.300]
6. Peiguang Wang, Dhaou Lassoued, Syed Abbas, **Akbar Zada** and Tongxing Li, On almost periodicity of solutions of second-order differential equations involving reflection of the argument, *Advances in Difference Equations*, **2019**, 2019:4. [ISI, IF=1.06]
7. A. Zada, S. Shaleena and T. Li, Stability analysis of higher order non-linear differential equations in β -normed spaces, *Math. Meth. App. Sci.*, **42**(4)(2019), 1151–1166. [ISI, IF=1.18]

Papers in 2018

8. **Akbar Zada**, U. Riaz and F.U. Khan, Hyers-Ulam stability of impulsive integral equations, *Boll. Unione Mat. Ital.*, (2018). <https://doi.org/10.1007/s40574-018-0180-2> **in press** [ESCI]
9. Zeeshan Ali, **Akbar Zada** and Kamal Shah, On Ulam's stability for a coupled systems of nonlinear implicit fractional differential equations, *Bulletin of the Malaysian Mathematical Sciences Society*, **in press**. [ISI, IF=0.720]

10. Zeeshan Ali, **Akbar Zada** and Kamal Shah, Ulam stability results for the solutions of nonlinear implicit fractional order differential equations, *Hacettepe Journal of Mathematics and Statistics*, **in press**. [ISI, IF=0.413]
11. Zeeshan Ali, **Akbar Zada** and Kamal Shah, Ulam stability to a toppled systems of nonlinear implicit fractional order boundary value problem, *Boundary Value Problems*, [ISI, IF=1.156]
12. A. Khan, M. I. Syam, **Akbar Zada**, H. Khan, Stability analysis of nonlinear fractional differential equations with Caputo and Riemann-Liouville derivatives, *European Physical Journal Plus*, 2018, 133:264. [ISI, IF=2.240]
13. **Akbar Zada** and Bakht Zada, On uniform exponential stability of linear switching system, *Math. Meth. App. Sci.*, **42** (2) (2018), 717–722. [ISI, IF=1.18]
14. **Akbar Zada** and S. Ali, Stability Analysis of Multi-point Boundary Value Problem for Sequential Fractional Differential Equations with Non-instantaneous Impulses, *Int. J. Nonlinear Sci. Numer. Simul.*, **19** (7) (2018), 763–774. [ISI, IF=1.162]
15. **Akbar Zada**, Mohammad Yar and Tongxing Li, Existence and stability analysis of nonlinear sequential coupled system of Caputo fractional differential equations with integral boundary conditions, *Ann. Univ. Paedagog. Crac. Stud. Math.*, **17** (2018), 103–125. [ESCI]
16. Jinrong Wang, **Akbar Zada** and Wajid Ali, Ulam’s-Type Stability of First-Order Impulsive Differential Equations with Variable Delay in Quasi-Banach Spaces, *Int. J. Nonlinear Sci. Numer. Simul.*, **19**(5)(2018), 553–560. [ISI, IF=1.162]
17. **Akbar Zada** and Syed Omar Shah, Hyers-Ulam stability of first-order non-linear delay differential equations with fractional integrable impulses, *Hacettepe Journal of Mathematics and Statistics*, **47**(5) (2018), 1196–1205. [ISI, IF=0.413]
18. **Akbar Zada**, Rahim Shah, A fixed point approach to the stability of a nonlinear volterra integrodifferential equation with delay, *Hacettepe*

Journal of Mathematics and Statistics, **47** (3) (2018), 615– 623. [ISI, IF=0.413]

19. **Akbar Zada**, Tongxing Li, Muhammad Arif and Dhaou lassoued, Criteria for the Exponential Stability of Linear Evolution Difference Equations, *IMA journal of Mathematical Control and Information*, **35**(1)(2018), 25–34. [ISI, IF=0.75]
20. Naveed Ahmad, Zeeshan Ali, Kamal Shah, **Akbar Zada** and Ghaos ur Rahman, Analysis of Implicit Type Nonlinear Dynamical Problem of Impulsive Fractional Differential Equations, *Complexity*, Vol. 2018 (2018), Article ID 6423974, 15 pages. DOI10.1155/2018/6423974[ISI, IF=4.621]
21. Peiguang Wang, **Akbar Zada**, Rahim Shah and Tongxing Li, Some common fixed point theorems for two pairs of self maps in dislocated metric spaces, *Journal of Computational Analysis and Applications*, **25** (2018), 1410–1424 [ISI, IF=0.609]
22. **Akbar Zada**, Shahid Saifullah, Sumbel Begum, Zhenhua Ma, A-Type Contractive mapping in G-Metric Space Satisfying Contractive Condition of Integral Type, *Journal of Fixed Point Theory*, **2018**, 2018: 5.
23. **Akbar Zada** and Sartaj Ali, Stability analysis of periodic and almost-periodic discrete switched linear system, *Matrices Sains Mathematic*, **2** (2018), 01–06.

Papers Published in 2017

24. **Akbar Zada**, Sartaj Ali and Yongjin Li, Ulam-type stability for a class of implicit fractional differential equations with non-instantaneous integral impulses and boundary condition, *Advances in Difference Equations*, **2017**, 2017:317. DOI 10.1186/s13662-017-1376-y [ISI, IF=0.335]
25. Shizheng Li, **Akbar Zada**, Rahim Shah and Tongxing Li, Fixed point theorems in dislocated quasi-metric spaces, *Journal of Nonlinear Sciences and Applications*, **10** (2017), 4695–4703. doi:10.22436/jnsa.010.09.12. [ISI, IF=1.34]

26. Tongxing Li, **Akbar Zada**, Yang-Cong Qiu, and Shuhong Tang, Existence of nonoscillatory solutions to nonlinear third-order neutral dynamic equations on time scales, *Journal of Nonlinear Sciences and Applications*, **10** (2017), 4352–4363. doi:10.22436/jnsa.010.08.28 . [**ISI**, **IF=1.34**]
27. Yang-Cong Qiu, **Akbar Zada**, Haiyong Qin and Tongxing Li, Oscillation criteria for nonlinear third-order neutral dynamic equations with damping on time scales, *Journal of Function Spaces*, Vol. 2017, Article ID 8059578, 8 pages. <https://doi.org/10.1155/2017/8059578>. [**ISI**, **IF=0.587**]
28. **Akbar Zada**, Bakht Zada, Jinde Cao and Tongxing Li, Uniform Exponential Stability of Periodic Discrete Switched Linear System, *Journal of the Franklin Institute*, Vol. 354 (2017), 6247–6257. [**ISI**, **IF=3.139**]
29. **Akbar Zada**, Syed Omar Shah, Samreen Ismail and Tongxing Li, Hyers–Ulam Stability in Terms of Dichotomy of First Order Linear Dynamic Systems, *Punjab University Journal of Mathematics*, Vol. 49 (2017), 37–47. [**National**, **HEC approved**, **X Category**]
30. **Akbar Zada**, Peiguang Wang, Dhaou Lassoued and Tongxing Li, Connections between Hyers–Ulam stability and uniform exponential stability of 2-periodic linear nonautonomous systems, *Advances in Difference Equations*, Vol. 2017 (2017), 192, <https://doi.org/10.1186/s13662-017-1248-5>. [**ISI**, **IF=IF=0.335**]
31. **Akbar Zada**, Wajid Ali and Syed Farina, Hyers–Ulam Stability of Nonlinear Differential Equations With Fractional Integrable Impulses, *Mathematical Methods in the Applied Sciences*, Vol. 40 (2017), 5502–5514. DOI: 10.1002/mma.4405 [**ISI**, **IF=1.017**]
32. **Akbar Zada**, Shah Faisal and Yongjin Li, Hyers–Ulam–Rassias stability of non-linear delay differential equations, *The Journal of Nonlinear Science and Applications*, Appl., Vol. 10 (2017), 504–510. <http://dx.doi.org/10.22436/jnsa.010.02.15> [**ISI**, **IF=1.34**]
33. **Akbar Zada**, Farhanullah Khan, Usman Riaz, Tongxing Li, Hyers–Ulam Stability of Linear Summation Equations, *Punjab University*

Journal of Mathematics, Vol. 49 (2017), 19–24. [National, HEC approved, X Category]

34. Syed Omar Shah and **Akbar Zada**, Uniform Exponential Stability for Time Varying Linear Dynamic Systems over Time Scales, *J. Ana. Num. Theor.*, Vol. 05 (2017), 115–118.
35. **Akbar Zada** and Usman Riaz, Kallman–Rota type inequality for discrete evolution families of bounded linear operators, *Fractional Differential Calculus*, Vol. 07 (2017), 311–324. DOI:10.7153/fdc-07-14
36. Zeeshan Ali, **Akbar Zada** and Kamal Shah, Existence and Stability Analysis of Three Point Boundary Value Problem, *International Journal of Applied and Computational Mathematics*, Vol. 2017 (2017).
<https://doi.org/10.1007/s40819-017-0375-8>.
37. Rahim Shah and **Akbar Zada**, Coupled fixed point theorems involving contractive condition of integral type in generalized metric spaces, *Journal of Linear and Topological Algebra*, Vol. 06 (2017), 45–53.
<http://jlta.iauctb.ac.ir/>
38. Shuhong Tang, **Akbar Zada**, Habiba Khalid and Tongxing Li , Asymptotic behavior of discrete semigroups of bounded linear operators over Banach spaces, *J. Math. Computer Sci.*, Vol. 17 (2017), 301–307.
doi:10.22436/jmcs.017.02.12
39. Rahim Shah and **Akbar Zada**, Fixed Point Theorems for Expansive Mappings in G-metric Spaces, *Turkish Journal of Analysis and Number Theory*, Vol. 5 (2017): 57–62. doi: 10.12691/tjant-5-2-3.
40. **Akbar Zada**, Rahim Shah and Shahid Saifullah, Some Fixed Point Theorems in Multiplicative Cone b-Metric Spaces, *J. Ana. Num. Theor.*, Vol. 5 (2017), 35–39. doi:10.18576/jant/050106

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41. Shuhong Tang, **Akbar Zada**, Shah Faisal, M. M. A. El-Sheikh and Tongxing Li, Stability of higher-order nonlinear impulsive differential equations, *Journal of Nonlinear Science and Applications*, Vol. 9 (2016), 4713–4721. [ISI, IF= 1.34]

42. Tongxing Li and **Akbar Zada**, Connections between Hyers-Ulam stability and uniform exponential stability of discrete evolution families of bounded linear operators over Banach spaces, *Advances in Difference Equations*, Vol. 2016 (2016), Article ID 8164978.[**ISI**, **IF=0.335**]
43. **Akbar Zada**, Rahim Shah and Tongxing Li, Integral Type Contraction and Coupled Coincidence Fixed Point Theorems for Two Pairs in G -metric Spaces, *Hacettepe University Bulletin of Natural Sciences and Engineering Series B: Mathematics and Statistics*, Vol. 45 (2016), 1475–1484. DOI : 15672/HJMS.20164514280 [**ISI**, **IF=0.413**]
44. **Akbar Zada**, Shah Faisal and Yongjin Li, On the Hyers–Ulam Stability of First-Order Impulsive Delay Differential Equations, *Journal of Function Spaces*, Vol. 2016 (2016), Article ID 8164978.[**ISI**, **IF=0.587**]
45. T. Li, **Akbar Zada**, and S. Faisal, Hyers–Ulam stability of n th order linear differential equations *The Journal of Nonlinear Science and Applications*, Vol. 9 (2016), 2070–2075.[**ISI**, **IF=0.94**]
46. **Akbar Zada**, Shahid Saifullah, and Zhenhua Ma, Common fixed point theorems for G -contraction in C^* -algebra-valued metric spaces, *International Journal of Analysis and Applications*, Vol. 11 (2016), 23–27.
47. **Akbar Zada**, Tongxing Li, Samreen Ismail and Omar Shah, Exponential Dichotomy of Linear Autonomous Systems Over Time Scale, *Differential Equations and Applications*, Vol. 8, (2016), 123–134.
48. Rahim Shah, **Akbar Zada**, and Tongxing Li, New Common Coupled Fixed Point Results of Integral Type Contraction in Generalized Metric Spaces, *Journal of Analysis and Number Theory*, Vol. 4 (2016), 145–152.
49. Rahim Shah and **Akbar Zada**, Some Fixed Point and Common Fixed Point Theorems in Generalized D^* -metric Spaces, *Sohag J. Math.*, Vol. 3 (2016), 97–104. <http://dx.doi.org/10.18576/sjm/030302>
50. **Akbar Zada**, Rahim Shah and Tongxing Li, Fixed point theorems in ordered cone b -metric spaces,*Scientific Studies and Research Series Mathematics and Informatics*, Vol. 26 (2016), 109–120.

Papers Published in 2015

51. **Akbar Zada**, Omar Shah, Rahim Shah, Hyers–Ulam stability of non-autonomous systems in terms of bounded-ness of Cauchy problems, *Applied Mathematics and Computation*, Vol. 271 (2015), pp. 512–518.[**ISI**, **IF=1.55**]
52. **Akbar Zada**, Muhammad Arif, Habiba Khalid, Asymptotic behavior of linear and almost periodic discrete evolution systems on Banach Space $\mathcal{AAP}_r^0(\mathbb{Z}_+; \mathcal{X})$, *Qualitative Theory of dynamical Systems*, DOI 10.1007/s12346-015-0177-5.[**ISI**, **IF=0.766**]
53. **Akbar Zada**, Habiba Khalid, Nisar Ahmad, Uniform Exponential Stability of Discrete Semigroup and Space of Asymptotically Almost Periodic Sequences, *ZEITSCHRIFT FUR ANALYSIS UND IHRE ANWENDUNGEN*, 34 (2015), pp. 477-484.[**ISI**, **IF=0.51**]
54. **Akbar Zada**, Tongxin Li, Muhammad Arif, Asymptotic behavior of linear evolution difference system, *Punjab University Journal of Mathematics* Vol. 47 (2015), 119-125. [**National**, **HEC approved**, **X Category**]
55. **Akbar Zada**, Sadia Arshad, Gul Rahmat and Aftab Khan, On the Dichotomy of Non-Autonomous Systems Over Finite Dimensional Spaces, *Appl. Math. Inf. Sci.* Vol. 9 (2015), 1-6. [**ISI**, **IF=1.2**, **during submission of the paper**]
56. **Akbar Zada**, Nisar Ahmad, Ihsan Ullah Khan and Faiz Muhammad Khan, On the The Exponential stability of Discrete Semigroups, *Qual. Theory Dyn. Syst*, Vol. 14 (2015), 149-155. [**ISI**, **IF=0.51**]
57. Rahim Shah, **Akbar Zada**, and Ishfaq Khan, Some Fixed Point Theorems of Integral Type Contraction in Cone b -metric Spaces, *Turkish Journal of Analysis and Number Theory*, Vol. 3, (2015), 165–169.
58. **Akbar Zada**, Tongxing Li, Muhammad Arif, Evolution Semigroups and Exponential Stability of Periodic Difference Evolution Equations, *International Journal of Difference Equations*, Vol. 10, No. 2,(2015), pp. 233–240 .

59. **Akbar Zada**, Ihsan Ullah Khan, T. Hussian , Nisar Ahmad, On Uniform Exponential Stability Of Self-adjoint Evolution Family: By Weak Rolewicz Type Approach, *Research Journal of recent Sciences*, Vol. 4(2)(2015), pp.1–6.

Papers Published in 2014

60. Yongfang Wang, **Akbar Zada**, Nisar Ahmad, Dhaou Lassoued, and Tongxing Li, Uniform Exponential Stability of Discrete Evolution Families on Space of p-Periodic Sequences, *Abstract and Applied Analysis*, Vol. 2014 (2014), Article ID 784289.[ISI, IF=1.274]
61. **Akbar Zada**, Tongxin Li, , Rohul Amin and Gul Rahmat, A survey on the recent results of the characterizations of exponential stability and dichotomy over finite dimensional spaces, *Eurasian Mathematical Journal* Vol 5, No 4 (2014), pp. 113–133 .
62. Nisar Ahmad, **Akbar Zada**, Ihsan Ullah Khan, Discrete Characterization of Exponential Stability of Evolution Family Over Hilbert Space, *Acta Universitatis Apulensis*, Vol. 39 (2014), 281–291.
63. R. P. Agarwal, **Akbar Zada**, Nisar Ahmad and Dhaou Lassoued, Criterion for the exponential stability of discrete evolution family over Banach Spaces, *Nonlinear Functional Analysis and Applications*, Vol. 19 (2014), 547–561.
64. **Akbar Zada**, R. Amin, G. A. Khan, M. Asif, A Characterization of Dichotomy for Autonomous Discrete Systems, *Journal of Advanced Research in Dynamical and Control Systems*, Vol, 6 (2014), 48–55

Papers Published in 2013

65. **Akbar Zada**, Ruhul Amin, Tahir Hussian and M. Muhammad Asif, Discrete Characterization of Dichotomy of Evolution Family over finite dimensional spaces, *World Applied Sciences Journal*, Vol. 27,

(2013),1630–1636.

- 66. Aftab Khan, Gul Rahmat and **Akbar Zada**, On Uniform Exponential Stability and Exact Admissibility of Discrete Semigroups, *International Journal of Differential equations*, 05(2013), Article ID 268309, 4 pages, 2013.
- 67. **Akbar Zada**, Gul Rahmat, Afsha Tabassum, and Gohar Ali, Characterizations of stability for discrete semigroups of bounded linear operators, *International Journal of Mathematics and soft computing*, Vol.3, 3 (2013), 15–19.
- 68. **Akbar Zada**, Gulzar Ali Khan, Muhammad Asif and Ruhul Amin, On dichotomy of autonomous systems and boundedness of some Cauchy Problems, *International Journal of Research and reviews in Applied Sciences*, 14(3) 2013.

Papers Published in 2012

- 69. **Akbar Zada**, Sadia Arshad, Gul Rahmat and Ruhul Amin, Connections between the Dichotomy of Poincare map and bounded-ness of some Cauchy sequences, *Appl. math. E-Notes*, 12(2012), 14–22
- 70. U. A. Rozikov, **Akbar Zada**, I-Volterra quadratic stochastic operators, Lyapunve functions, Trajectories, *Appl. Math. Inf. Sci.* 6, No. 2, 329-335 (2012).[ISI, IF=0.508]

Papers Published in 2011

- 71. A. Mahmood, N. A. Khan, I. Siddique, **Akbar Zada**, A. U. Awan, A note on the unsteady torsional sinusoidal flow of fractional viscoelastic

fluid in an annular cylinder, *Journal of King Saud University-Sciences*, No. 23,(2011), 341–347.

72. U. A. Rozikov, **Akbar Zada**, On a class of Separable quadratic stochastic operators, *Lobachevskii Jour.Math*, Vol. 32. No. 4, (2011), pp 385–394.
73. Sadia Arshad, C Buse, Ammara Nosheen, **Akbar Zada**, Connections between the stability of Poincare map and bounded-ness of certain associate sequences, *E. J. Qualitative Theory of Diff. Equ*, No, 16 (2011), pp 1-12.[ISI, IF=0.817]

Papers Published in 2010

74. U. A. Rozikov, **Akbar Zada**, On Dynamics of l-Volterra quadratic stochastic operators, *International Journal of Biomathematics*. Vol 3, 143-159(2010).[ISI, IF=1.667]
75. V. Lupulescu, **Akbar Zada**, On Linear impulsive dynamic systems on time scale, *E. J. Qualitative Theory of Diff. Equ*, 11, 1-30 (2010).[ISI, IF=0.817]

Papers Published in 2009

76. C. Buse, **Akbar Zada**, Bounded-ness and exponential stability for periodic time dependent systems, *E. J. Qualitative Theory of Diff. Equ*, Vol. 37 (2009), 1-9 .[ISI, IF=0.817]
77. U. A. Rozikov, **Akbar Zada**, On l-Volterra quadratic stochastic operators, *Doklady Math*, Vol. 79 (2009), 32-34.[ISI, IF=0.162]
78. C. Buse, **Akbar Zada**, Dichotomy and bounded-ness of solutions for some discrete Cauchy problems, *Operator Theory advances and applications*. Vol 203 (2009), 165–174.

Papers Published in 2008

79. **Akbar Zada**, A characterization of dichotomy in terms of boundedness of solutions for some Cauchy problems, *Electronic Journal of Differential Equations*. Vol. 94 (2008), 1-5.[ISI, IF=0.427]
80. **Akbar Zada** [Dissertation] Asymptotic Behavior of solutions for a class of Semi-Linear differential systems in finite dimensional spaces, Higher Education Commission of Pakistan (HEC).
<http://pr.hec.gov.pk/Thesis/516S.pdf>

References:

1. **Prof. Dr. Constantin Buse**
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