

CURRICULUM VITAE



Personal Information

- **First name:** *Ali*
- **Last name:** *Zakeri*
- **Date of birth:** *21/09/1972*
- **Activity & Award**
 - ❖ *Associate Professor, Faculty of Mathematics, K. N. Toosi University of Technology, Tehran, Iran, 2014-present.*
 - ❖ *Assistant Professor, Department of Mathematics, K. N. Toosi University of Technology, Tehran, Iran, 2006-2014.*
 - ❖ *Faculty Member of Ministry of Science, Research and Technology, Iran, 1996-2006.*
- **Institute: E-mail:** azakeri@kntu.ac.ir

Educational History

- **B. Sc.:** University of Birjand, Iran (1990- 1994)
- **M. Sc.:** Iran University of Science and Technology, Iran, (1994-1996)
- **Ph. D.:** Iran University of Science and Technology, Iran, (1999-2004).

Research interest

➤ **Numerical Analysis**

❖ Bivariate Interpolation

- Bivariate B-Spline
- Curve and Surface interpolation with T-Spline

➤ **Numerical Integrals**

➤ **Numerical methods for partial differential equations**

- ❖ Finite difference method
- ❖ Finite volume method
- ❖ Finite element method
- ❖ Spectral element method
- ❖ Boundary element method

➤ **Numerical methods for nonlinear partial differential equations**

- ❖ Splitting method for solving nonlinear problems

➤ **Inverse problems in partial differential equations**

- ❖ Regularization methods
- ❖ Quasi solutions
- ❖ Mollification method

Teaching Courses

➤ Graduate Courses

- ❖ Advanced Numerical Analysis
- ❖ Numerical Linear Algebra
- ❖ Numerical Ordinary Differential Equations
- ❖ Numerical Partial Differential Equations
- ❖ Inverse Parabolic Partial Differential Equations
- ❖ PDEs in mathematical physics

➤ Undergraduate Courses

- ❖ Calculus
- ❖ Introduction to partial Differential Equations
- ❖ Numerical Ordinary Differential Equations
- ❖ Differential equations
- ❖ Numerical Analysis
- ❖ Mathematical Software
- ❖ Linear Algebra
- ❖ Fractional Calculus

Publications

Books

- Zakeri Ali, Jannati Ghodsieh, Numerical Analysis, 20, ISBN:
- Zakeri Ali, Jannati Ghodsieh, Foundations of Numerical Analysis 2016, ISBN: 978-600-7867-32-7.
- Neisi Abdolsadeh, Zakeri Ali, Numerical Calculus in Science and Engineering, 2012, ISBN: 978-964-217-063-0.

Paper in Journals

- [38] A, Zakeri, Q. Jannati, “**Reproducing kernels and their applications to solving some nonlinear diffusion problems**”, Submitted to Journal.
- [37] S. Bodaghi, A. Zakeri and A. Amiraslani, “**Discrete mollification in Bernstein basis for an inverse to phase one-dimensional Stefan problem**”, Submitted to Journal.
- [36] A. Heydari, A. Zakeri and M. Karami, “**Legendre-collocation method to solve the second kind Cauchy integral equation**”, Submitted to Journal.
- [35] A. H. Salehi Shayegan, A. Zakeri, S. Bodaghi and M. Heshmati, “**Identification of the diffusion coefficient in a time fractional diffusion equation**”, Submitted to Journal.
- [34] A. Fahs, A. Zakeri and A. Wanko, “**An optimal parameter for the CSG method in solving unconstrained problems**”, Submitted to Journal.
- [33] A. Fahs, A. Zakeri and A. Wanko, “**Spectral time-dependent solutions for natural convection in saturated porous medium problem**”, Submitted to Journal.
- [32] M. Mohammadi, A. Zakeri and M. Karami, “**Hybrid functions method for solving 2D-Nonlinear Fredholm integral equations**”, Submitted to Journal.
- [31] M. Mohammadi, A. Zakeri and M. Karami, “**An approximate solution of bivariate nonlinear Fredholm integral equations using hybrid block-pulse functions with Chebyshev polynomials**”, Submitted to Journal.

- [30] T. Nasiri, A. Aminataei and A. Zakeri, “**Quasi solution of an inverse time-fractional stochastic partial differential equation of parabolic type with multiplicative noise**”, Submitted to Journal.
- [29] T. Nasiri, A. Aminataei and A. Zakeri, “**Existence and uniqueness theorems for a quasi solution of a time-fractional stochastic backward parabolic equation**”, Submitted to Journal.
- [28] S. Parvaz, A. Zakeri and A. Aminataei, “**A quasi solution for a nonlinear inverse stochastic partial differential equation of parabolic type**”, Submitted to Journal.
- [27] S. Parvaz, A. Zakeri and A. Aminataei, “**Existence theorem for quasi solution of some nonlinear inverse stochastic parabolic problems**”, Submitted to Journal.
- [26] A. Zakeri, F. Abdolabadi and A. Amiraslani, “**A charge-preserving compact splitting method for solving the coupled stochastic nonlinear Schrodinger equations**”, Submitted to Journal.
- [25] A. H. Salehi Shayegan, A. Zakeri, and S. M. Hosseini, “**A Numerical method for solving two-dimensional nonlinear parabolic problems based on a preconditioning operator**”, Submitted to Journal.
- [24] A. H. Salehi Shayegan, A. Zakeri, “**A preconditioned iterative method for solving two-dimensional nonlinear parabolic problems**”, Submitted to Journal.
- [22] A. Fahs, A. Zakeri and A. Wanko, “**Spectral time-dependent solutions for Darcy model of natural convection in a porous enclosure**”, Numerical Heat Transfer, Part B: Fundamentals, 2019, <https://doi.org/10.1080/10407790.2019.1665450>.
- [21] A. H. Salehi Shayegan, A. Zakeri, “**Quasi solution of a backward space fractional diffusion equation**”, Journal of Inverse and Ill-posed Problems, 2019, <https://doi.org/10.1515/JIllp-2018-0042>.
- [20] A. H. Salehi Shayegan, A. Zakeri and T. Nikazad, “**Quasi solution of a nonlinear inverse parabolic problem**”, Bulletin of the Iranian Mathematical Society, 2018, <https://doi.org/10.1007/s41980-0115-9>.
- [19] S. Moazzezi, A. H. Salehi Shayegan and A. Zakeri, “**A spectral element method for solving backward parabolic problems**”, International Journal of Computational Methods in Engineering Science and Mechanics, 2018, <https://doi.org/10.1080/15502287.2018.1502838>.
- [18] A. H. Salehi Shayegan, A. Zakeri, “**A numerical method for determining a quasi-solution of a backward time-fractional diffusion equation**”, Inverse Problems in Science and Engineering, 2017.

- [17] S. Bodaghi, A. Zakeri, "**A regularization method for solving a nonlinear backward inverse heat conduction problem using discrete mollification method**", International Journal of Mathematical Modelling & Computations, Vol. 07, No. 02, 2017, pp. 159-173.
- [16] A. Zakeri, A. H. Salehi Shayegan, and F. Asadollahi, "**A numerical method for solving nonlinear partial differential equations based on Sinc-Galerkin method**", Journal of Mathematical Modeling, Vol. 5, No. 1, 2017, pp. 27-40.
- [15] S. Bodaghi, A. Zakeri, "**A mollified solution of a nonlinear inverse heat conduction problem**", Communications in Nonlinear Analysis, Vol. 2, 2016, pp. 129-138.
- [14] A. Zakeri, Q. Jannati, and A. Amiri, "**A numerical scheme for solving nonlinear backward parabolic problems**", Bull. Iranian Math. Soc. Vol. 41, No. 6, 2015, pp. 1453-1464.
- [13] Q. Jannati, A. Zakeri, "**On convergence and stability conditions of homotopy perturbation method for an inverse heat conduction problem**", Iranian Journal of Numerical Analysis and optimization, vol. 5, No. 2, 2015, pp. 75-93.
- [12] A. Zakeri, Q. Jannati and Abdoreza Amiri, "**A numerical scheme for solving nonlinear backward parabolic problems**", Bulletin of the Iranian Mathematical Society, Vol. 41 (2015), No. 6, pp. 1453-1464.
- [11] Q. Jannati, A. Zakeri, "**On convergence and stability conditions of homotopy perturbation method for an inverse heat conduction problem**", Iranian Journal of Numerical Analysis and Optimization, Vol. 5, No. 2, 2015, pp. 75-93.
- [10] A. Zakeri, A. H. Salehi Shayegan, "**Gradient WEB-spline finite element method for solving two-dimensional quasilinear elliptic problems**", Applied Mathematical Modelling, Vol. 38, 2014, pp. 775-783.
- [9] A. Zakeri, M. Masjed-Jamei, and Amir Hossein Salehi Shayegan, "**A Numerical Method for Optimal Control-State Problem with Bivariate B-Spline Basis**", Journal of mathematics and computer science, Vol. 8, 2014, pp. 335-342.
- [8] A. Zakeri, M. Asadi, "**Solving an Elliptic Optimal Control Problem with BEM and FEM**", The Journal of Mathematics and Computer Science, Vol. 4, 2012, pp. 448-454.
- [7] A. Zakeri, A. Aminataei and Q. Jannati, "**Application of He's homotopy perturbation method for Cauchy problem of ill-posed nonlinear diffusion equation**", Hindawi Publishing Corporation, Discrete Dynamics in Nature and Society, Vol. 2010, Article ID 780207, 11 pages, doi:10.1155/2010/780207.

- [6] A. Zakeri, Q. Jannati, “**An Inverse Problem for Parabolic Partial Differential Equations with Nonlinear Conductivity Term**”, Scholarly Research Exchange, 2009, Article ID 468570 doi:10.3814/2009/468570.
- [5] A. Shidfar, A. Zakeri, “**A Numerical Solution for an Inverse Heat Conduction Problem**”, Mashhad R. J. Math. Sci., Vol. 1, 2008, pp. 1 51-58.
- [4] A. Shidfar, A. Zakeri, “**A numerical method for backward inverse heat conduction problem with two unknown functions**”, IUST International Journal of Engineering Science, Vol. 17, 2006, pp. 71-74.
- [3] A. Shidfar, A. Zakeri, “**A numerical technique for backward inverse heat conduction problems in one dimensional space**”, International of Journal of Applied Mathematics and Computation, Vol. 171, 2005, pp. 1016-1024.
- [2] A. Shidfar, A. Zakeri, and A. Neisy, “**A two-dimensional inverse heat conduction problem for estimating heat source**”, International Journal of Mathematics and Mathematical Sciences, Vol. 10, 2005, pp. 1633-1641.
- [1] A. Shidfar, A. Zakeri, “**Asymptotic solution for an inverse parabolic problem**”, Mathematica Balkanica, Vol. 18, 2004, pp. 475-483.

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Paper in Conferences

- [20] A. Zakeri, M. Karami and M. Mohammadi, “**Numerical solutions of two-dimensional nonlinear Volterra integral equations using hybrid block-pulse functions and Bernstein polynomials**”, The 50th Annual Iranian mathematics conference, Shiraz University, August 26-29, 2019.
- [19] M. Mohammadi, A. Zakeri and M. Karami, “**Hybrid functions method for solving two-dimensional nonlinear Fredholm integral equations**”, International conference on recent achievements in mathematical science, Yazd University, January 14-18, 2019.

- [18] A. H. Salehi Shayeghan, A. Zakeri, “**An analysis of three different time-dependent backward problems for PDEs**”, The 9th International Conference “Inverse Problems: Modeling and Simulation, (IPMS-2018), Malta, May 21-25, 2018.
- [17] T. Nasiri, A. Aminataei, and A. Zakeri, “**method for time-fractional stochastic heat equation**”, The 49th Annual Iranian mathematics conference, IUST, August 23-26, 2018.
- [16] A. H. Salehi Shayeghan, A. Zakeri, “**Analysis of the quasi solution of the backward time fractional diffusion equation**”, The 8th International Conference Inverse Problems: Modeling and Simulation”, IPMS-2016, Fethiye, Turkey, May 23 - 28, 2016.
- [15] A. H. Salehi Shayeghan, A. Zakeri, “**Existence of the quasi solution of the backward space fractional diffusion equation**”, The 4th Seminar on Functional Analysis and its Applications,” Ferdowsi University of Mashhad, Iran, March 2-3, 2016.
- [14] Ali Zakeri, A. H. Salehi Shayeghan, “**Perturbation analysis for linear system of equation corresponding to some numerical methods based on WEB-FEM**”, The 8th seminar on linear algebra and its applications, 2015.
- [13] S. Bodaghi, A. Zakeri, “**Discrete mollification method and its application to solving backward nonlinear cauchy problem**, 46th Annual Iranian Mathematics Conference, Yazd University, August 25-28, 2015.
- [12] A. Zakeri, A. H. Salehi Shayeghan, S. Sakaki, “**Regularized Sinc-Galerkin method for solving a two-dimensional nonlinear inverse parabolic problem**”, 46th Annual Iranian Mathematics Conference, Yazd University, August 25-28, 2015.
- [11] A. H. Salehi Shayeghan, A. Zakeri, “ **Perturbation analysis for linear system of equation corresponding to some numerical methods based on WEBFEM**”, The 8th Seminar on Linear Algebra and its Applications, University of Kurdistan, Iran, May 13-14, 2015.
- [10] A. Zakeri, A. H. Salehi, “**Approximation of a Linear Source Term for an Inverse Parabolic Problem**”, The 45nd Annual Iranian Mathematics Conference, 2014.
- [9] A. Zakeri, A. H. Salehi, “**A preconditioned iterative method with WEB-spline finite element method and Helmholtz preconditioner**”, The 4th Conference on Mathematical Analysis and its Applications, 2013.
- [8] A. Zakeri, Q. Jannati, “**Application of reproducing kernel method to a nonlinear parabolic partial differential equations problem**”, The 44nd Annual Iranian Mathematics Conference, 2013.
- [7] A. Zakeri, Masom Farhadi, “**The radial basis function collocation method for delay parabolic partial differential equations**”, Seminar on Differential Equations and Dynamic Systems, November 6-7, 2013.

- [6] A. Zakeri, Q. Jannati, "Stability of homotopy perturbation technique for an inverse diffusion problem", The 42nd Annual Iranian Mathematics Conference, 2011.
- [5] A. Zakeri, Q. Jannati, "Semi-analytical solution with homotopy perturbation method for IHCP'S", The 41th Iranian International Conference on Mathematics, 2010.
- [4] A. Zakeri, Q. Jannati, "An inverse problem for parabolic partial differential equations with nonlinear conductivity term in one dimensional space", The 39th Annual Iranian Mathematics Conference, 2009.
- [3] A. Zakeri, "Application of the WKB estimation method for determining heat flux on the boundary", The 14th International Conference on difference equations and Applications, 2008.
- [2] A. Shidfar, A. Zakeri, "A numerical method for backward inverse heat conduction problem with two unknown functions", The 35th Annual Iranian Mathematics Conference, Ahvaz, Iran, Jan 27-30, 2005.
- [1] A. Shidfar, A. Zakeri, "A numerical solution for an inverse heat conduction problem", Proceeding of 33th Annual Iranian Mathematics Conference, Mashhad, Iran, August 27-30, 2002.

[۱] علی ذاکری، سهیلا بداعی، اسما احسانی وفا، "روش مولیفیکیشن و کاربرد آن برای حل مساله هدایت گرمایی پیشرو-پسرو"، سیزدهمین سمینار بین المللی معادلات دیفرانسیل، سیستم‌های دینامیکی و کاربردها، دانشگاه صنعتی اصفهان، ۲۳-۲۵ تیر ۱۳۹۵.

[۲] علی ذاکری، میلاد میقانی، "روش برون‌یاب مجزا شده در حل معادلات دیفرانسیل جزئی با استفاده از B- اسپیلاین‌های وزن دار در فضای دوبعدی"، سیزدهمین سمینار بین المللی معادلات دیفرانسیل، سیستم‌های دینامیکی و کاربردها، دانشگاه صنعتی اصفهان، ۲۳-۲۵ تیر ۱۳۹۵.

[۳] سمانه پرواز، علی ذاکری، "تحلیل پایداری عددی روش اسپیلاین‌های چندبعدی در حل مساله پواسن"، چهل و هشتمین کنفرانس ریاضی ایران، همدان، ۱۳۹۶.

[۴] سمانه پرواز، علی ذاکری، "یک روش نیمه تحلیلی برای حل مساله پسروی سهموی تصادفی در فضای یک بعدی"، چهل و نهمین کنفرانس ریاضی ایران، تهران، دانشگاه علم و صنعت، ۱-۴ شهریور ۱۳۹۷.

[۵] آرزو حیدری، علی ذاکری، مجید کرمی، "حل عددی معادلات انتگرال کوشی نوع دوم به روش هم‌محلی با استفاده از چندجمله‌ای‌های لژاندر"، چهل و نهمین کنفرانس ریاضی ایران، تهران، دانشگاه علم و صنعت، ۱-۴ شهریور ۱۳۹۷.

[۶] علی ذاکری، فاطمه عبدل‌آبادی، "کاربرد روش جداسازی در حل عددی معادلات شرودینگر غیرخطی جفت شده"، چهل و نهمین کنفرانس ریاضی ایران، تهران، دانشگاه علم و صنعت، ۱-۴ شهریور ۱۳۹۷.

Ph.D Thesis Supervisor

- Jannati Ghodsieh, (2009-2014)
- Salehi Shayeghan Amirhossein, (2011-2016)
- Bodaghi Soheila, (PhD student-in progress)
- Parvaz Samaneh, (PhD student- in progress)
- Fahs Amin, (PhD student- in progress)
- Abdolabadi Fatemeh, (PhD student- in progress)
- Mohammadi Maryam, (PhD student- in progress)
- Heydari Arezoo, (PhD student- in progress)

Ph.D Thesis Advisor

- Nasiri Tayebbeh, (PHD student- in progress)
- Mirzaei Fatemeh, (PhD student- in progress)

M.Sc Thesis Supervisor

- Jamalpoor Moslem (in progress)
- Ryazi Fereshteh (in progress)
- Miraslani Vahid (in progress)
- Kanani Amir Hossein (2018-2020)
- Jangravi Pourya (2018-2020)
- Rezaei Parisa (2016-2017)
- Abdolabadi Fatemeh (2016-2017)
- Joghataei Samira (2016-2017)
- Mousavi Ramin (2016-2017)
- Meighani Milad (2015-2016)

- Keshvarz Mina (2015-2016)
- Ehsanivafa Samaneh (2015-2016)
- Saramian Zahra (2015-2016)
- Noroozi Zahra (2014-2015)
- Sakkaki Saman (2014-2015)
- Vahedi Mozhgan (2014-2015)
- Dehdarvand Zeynab (2013-2014)
- Damirchi Mahsa (2013-2014)
- Bagheri Ashana Maryam (2013-2014)
- Abolhassani Samaneh (2013-2014)
- Fayyazfar Zeynab (2012-2013)
- Moazzezi Setareh (2012-2013)
- Parvaz Samaneh (2012-2013)
- Asadollahi Fatemeh (2012-2013)
- Salehi Shayeghan Amirhossein (2011-2012)
- Radban Tehrani Hoda (2011-2012)
- Amiri Abdolreza (2011-2012)
- Ahfadi Leyla (2011-2012)
- Moradi Sarkeshti Saeid (2010-2011)
- Banei Syamak (2010-2011)
- Soltani Sima (2010-2011)
- Rabei Kobra (2009-2010)
- Dehghan Zahra (2009-2010)
- Maddah Motahhere (2009-2010)
- Noroozi Majid (2008-2009)
- Shahbazi Mohammad (2008-2009)
- Mosallinezhad Ehsan (2008-2009)

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- Pourkhanali Ramin (2012-2013)
- Gholami Ashraf (2012-2013)
- Nasiri Tayebeh (2011-2012)
- Khabazpour Salehi Fatemeh (2011-2012)
- Manavi Mahdyeh (2010-2011)
- Abdollahi Asl Nazdar (2010-2011)
- Hallaj Hosseinabadi Motahhereh (2010-2011)
- Shahahebi Fayeze (2010-2011)
- Mirza Ghafour Nafiseh (2009-2010)
- Zandi Mehrdad (2009-2010)
- Hosseini Fatemehzahra (2009-2010)
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- Jodaki Sahar (2008-2009)
- Shirazi Rostami Razieh (2008-2009)
- Hariri Sanor (2008-2009)
- Rasti Mohammad (2007-2009)
- Jannati Ghodsieh (2007-2008)

Activity Administrative

- Vice Chair for Research Affairs, Faculty of Mathematics, KNTU (2016-2020)
- Dean of Research Affairs, KNTU (2015-2016)
- Chair of Faculty of Mathematics, KNTU (2014-2015)
- Chair of Faculty of Science, KNTU (2012-2013)
- Member of E-Learning Council, KNTU (2008-2011)
- Member of University Council, KNTU (2008-2010)
- Dean of Academic Planning, KNTU (2007-2010)
- Advisor to Dean of Higher Education Development, Ministry of Science, Research and Technology (2007-2009)
- Member of Experts Committee, Payam Noor University (2005-2009)
- Manager of Private Higher Education Institutes, Higher Education Development Office, Ministry of Science, Research and Technology (2006-2007)
- Member of the Board of Trustees of University of Applied Science and Technology (2002-2007)
- ERP Manager, Higher Education Development Office, Ministry of Science, Research and Technology (2002-2005)
- Member of the Committee for Developing Private Higher Education Institutes, Ministry of Science, Research and Technology (2001-2005)
- Secretary of Veterinary Medicine, Agriculture committee, Ministry of Science, Research and Technology (1997-2005)
- Secretary of the Committee for Academic Planning of the Agriculture and Veterinary Medicine Group, Ministry of Science, Research and Technology (1997-2005)
- Member of the Agriculture and Veterinary Medicine Committee, Ministry of Science, Research and Technology (1997-2005)