Emran Tohidi

Curriculum Vitae

Department of Mathematics, *Faculty of Basic Science and Engineering,* *Kosar University of Bojnord,* *Bojnord, Iran* *Tell: +98 5832262861* *Email Address: emrantohidi@gmail.com* *Last date of update: 24 September 2017*	*Google Scholar h-index: 13* *Scopus h-index: 11* *Scopus ID:* **54880964000** **Number of coauthors: 30**	

Education:

Sept. 2011– January 2015, **Doctor of philosophy**, *Numerical analysis*, Ferdowsi University of Mashhad, Iran.

Sept. 2009–July 2011 **Master of science**, *Optimal control and optimization*, Ferdowsi University of Mashhad, Iran.

Sept. 2005–July 2009 **Bachelor of science**, *Applied Mathematics*, Ferdowsi University of Mashhad, Iran.

Awards:

1. *Outstanding Rank (12) among 13000 students in Master entrance examination in Iran, 2009.*
2. *Outstanding member of the Mathematics Olympiad team of Ferdowsi University of Mashhad, Iran, 2009.*
3. *Outstanding Rank (1) in graduated Master students, among 53 students, in Ferdowsi University of Mashhad, 2011.*
4. *Outstanding Rank (1) in Ph. D. entrance examination in Ferdowsi University of Mashhad, 2011.*
5. *Winner of Shahid Alamolhoda Scholarship in Ferdowsi University of Mashhad, 2013.*
6. *Winner of Kazemi Ashtiyani Award from the Elite National Foundation in Iran, 2017.*

Position Records:

1. *Head of Department of Mathematics, Kosar University of Bojnord, 2015-2016.*
2. *Director of Research and Technology, Kosar University of Bojnord, 2016-2017.*

Teaching Experiences:

1. Ferdowsi University of Mashhad, 2012-2013: Numerical analysis, Ordinary differential equations.
2. Imam Reza International University, 2012-2015: Calculus I and II, Numerical analysis, Ordinary differential equations, Applications of Mathematics in Managements.
3. Kosar University of Bojnord, 2015-2017: Calculus I and II, Numerical analysis, Ordinary differential equations, Complex functions, Partial differential equations, Numerical methods for differential equations, Mathematics expert language, Mathematics history, Nonlinear optimization.

Thesis under guidance:

1. *Supervisor of Ms. Leili Rahnama, **Master Thesis**, "Numerical solution of some classes of Pantograph type ODEs via the spectral collocation methods and convergence analysis", 2011-2012: Salman institute of higher education, Iran.*
2. Advisor of Mrs. Zahra Asgari, ***Ph. D. Thesis***, "Numerical approximation of integral equations via Krylov subspace methods", 2016-present: Kharazmi University, Iran.
3. Advisor of Mr. Mohsen Haddadian, ***Ph. D. Thesis***, "Numerical solution of shallow water equations via spectral volume method", 2017-present: Shahid Beheshti University, Iran.

Publications: *Papers in Journals*

[1] M. H. N. Skandari, E. Tohidi, Numerical Solution of a Class of Nonlinear Optimal Control Problems Using Linearization and Discretization, Applied Mathematics, 2 **(2011)** 646-652.

[2] E. Tohidi, O. R. N. Samadi, M. H. Farahi, Legendre Approximation for Solving a Class of Nonlinear Optimal Control Problems, Journal of Mathematical Finance, 1 **(2011)** 8-13.

[3] R. Aliakbari, E. Tohidi, Decrease of the Penalty Parameter in Differentiable Penalty Function Methods, Theoretical Economics Letters, 1, **(2011)** 8-14.

[4] J. Saberi-Nadjafi, O. R. N. Samadi, E. Tohidi, Numerical Solution of Two-Dimensional Volterra Integral Equations by Spectral Galerkin Method, Journal of Applied Mathematics and Bioinformatics, vol.1, no.2 **(2011)** 159-174.

[5] E. Tohidi, M. H. N. Skandari, A New Approach for a Class of Nonlinear Optimal Control Problems Using Linear Combination Property of Intervals, Journal of Computations and Modelling, vol.1, no.2, **(2011)** 145-156.

[6] E. Tohidi, M. Shirazian, Numerical Solution of Linear HPDEs Via Bernoulli Operational Matrix of Differentiation and Comparison with Taylor Matrix Method, Mathematics Science Letters, 1, **(2011)** 61-70.

[7] F. Soleymani, Rajni Sharma, Xiaowu Li, E. Tohidi, An optimized derivative-free form of the Potra-Ptak method, Mathematical and Computer Modelling 56 **(2012)** 97-104. **(ISI)**

[8] E. Tohidi, Legendre Approximation for Solving Linear HPDEs and Comparison with Taylor and Bernoulli Matrix Methods, Applied Mathematics, 3 **(2011)** 410-416.

[9] E. Tohidi, O. R. N. Samadi, Optimal Control of Nonlinear Volterra Integral Equations via Legendre Polynomials, IMA Journal of Mathematical Control and Information 30 (1), 67-83. **(ISI)**

[10] O. R. N. Samadi, E. Tohidi, The Spectral Method for Solving Systems of Volterra Integral Equations, Journal of Applied Mathematics and Computing 40 **(2012)** 477-497.

[11] A. H. Bhrawy, E. Tohidi, F. Soleymani, A new Bernoulli matrix method for solving high-order linear Fredholm integro-differential equations with piecewise intervals, Appl. Math. Comput. 219 **(2012)** 482-497. **(ISI)**

[12] E. Tohidi, A. H. Bhrawy, K. Erfani, A collocation method based on Bernoulli operational matrix for numerical solution of generalized pantograph equation, Appl. Math. Model, 37 **(2013)** 4283-4294. **(ISI)**

[13] E. Tohidi, Bernoulli Matrix Approach for Solving Two Dimensional Linear Hyperbolic Partial Differential Equations with Constant Coefficients, American Journal of Computational and Applied Mathematics 2 **(2013)**, 136-139.

[14] E. Tohidi, S. Lotfi Noghabi, An efficient Legendre Pseudospectral Method for Solving Nolnlinear Quasi Bang-Bang Optimal Control Problems, Journal of Applied Mathematics, Statistics and Informatics 8 **(2013)**, 73-85.

[15] E. Tohidi, A. Kilicman, A Collocation Method Based on the Bernoulli Operational Matrix for Solving Nonlinear BVPs Which Arise from the Problems in Calculus of Variation, Mathematical Problems in Engineering, Volume 2013 **(2013),** Article ID 757206. **(ISI)**

[16] E. Tohidi, Kh. Erfani, M. Gachpazan, and S. Shateyi, A New Tau Method for Solving Nonlinear Lane-Emden Type Equations via Bernoulli Operational Matrix of Differentiation, Journal of Applied Mathematics Volume 2013 **(2013),** Article ID 850170.

[17] F. Toutounian, E. Tohidi, A. Kilicman, Fourier Operational Matrices of Differentiation and Transmission: Introduction and Applications, Abstract and Applied Analysis Volume 2013 **(2013)**, Article ID 198926.

[18] F. Toutounian, E. Tohidi, S. Shateyi, A Collocation Method Based on the Bernoulli Operational Matrix for Solving High-Order Linear Complex Differential Equations in a Rectangular Domain, Abstract and Applied Analysis, Volume 2013 **(2013)**, Article ID 823098.

[19] E. Tohidi, F. Soleymani, A. Kilicman, Robustness of Operational Matrices of Differentiation for Solving State-Space Analysis and Optimal Control Problems, Abstract and Applied Analysis, Volume 2013 **(2013)**, Article ID 535979.

[20] A. H. Bhrawy, L. M. Assas, E. Tohidi, M. A. Alghamdi, A Legendre-Gauss collocation method for neutral functional-differential equations with proportional delays, Advances in Difference Equations, Volume 2013 **(2013)**, 1-16. **(ISI)**

[21] F. Toutounian, E. Tohidi, A new Bernoulli matrix method for solving second order linear partial differential equations with the convergence analysis, Appl. Math. Comput, 223 **(2013)** 298-310. **(ISI)**

[22] E. Tohidi, A. Pasban, A. Kilicman, S. Lotfi Noghabi, An Efficient Pseudospectral Method for Solving a Class of Nonlinear Optimal Control Problems, Abstract and Applied Analysis Volume 2013 **(2013)**, Article ID 357931.

[23] E. Tohidi, F. Toutounian, Convergence analysis of Bernoulli matrix approach for one-dimensional matrix hyperbolic equations of the first order, Comput. Math. Appl, 68 **(2014)** 1-12. **(ISI)**

[24] E. Tohidi, A. Kilicman, An Efficient Spectral Approximation for Solving Several Types of Parabolic PDEs with Nonlocal Boundary Conditions, Mathematical Problems in Engineering Volume 2014 **(2014)**, Article ID 369029. **(ISI)**

[25] E. Tohidi, H. Saberi Nik, A Bessel collocation method for solving fractional optimal control problem, Appl. Math. Model, 39 **(2015)** 455-465. **(ISI)**

[26] E. Tohidi, M. M. Ezadkhah, S. Shateyi, Numerical Solution of Nonlinear Fractional Volterra Integro-differentialEquations Via Bernoulli Polynomials, Abstract and Applied Analysis, Volume 2014 **(2014)**, Article ID 162896.

[27] R. Behzadi, E. Tohidi, F. Toutounian, Numerical solution of weakly singular Fredholm integral equations via generalization of the Euler-Maclaurin summation formula, J. Taibah. Univ. Sci, 8 **(2014)** 199-205.

[28] E. Tohidi, F. Toutounian, Numerical solution of time-dependent diffusion equations with nonlocal boundary conditions via a fast matrix approach, J. Egyptian. Math. Society, DOI: 10.1016/j.joems.2014.06.018.

[29] E. Tohidi, O. R. N. Samadi, S. Shateyi, Convergence Analysis of Legendre Pseudospectral Scheme for Solving Nonlinear Systems of Volterra Integral Equations, Advances. Math. Physics, Volume 2014 (**2014**), Article ID 307907. (**ISI**)

[30] E. Tohidi, Taylor matrix method for solving linear two-dimensional Fredholm integral equations with Piecewise Intervals, Comput. Appl. Math, DOI: 10.1007/s40314-014-0166-3. (**ISI**)

[31] E. Tohidi, O. R. N. Samadi, Legendre Spectral Collocation Method for Approximating the Solution of Shortest Path Problems, Sys. Sci. Cont. Eng, DOI: 10.1080/21642583.2014.986305.

[32] F. Soleymani, E. Tohidi, S. Shateyi, F. Kh. Haghani, Some matrix iterations for computing matrix sign function, J. Appl. Math, Volume 2014 (**2015**), Article ID 425654.

[33] E. Tohidi, Application of Chebyshev collocation method for solving two classes of non-classical parabolic PDEs, Ain Shams Engineering Journal, 6 (**2015**) 373-379.

[34] F. Mirzaee, S. Bimesl, E. Tohidi, Solving nonlinear fractional integro-differential equations of Volterra type using novel mathematical matrices, Journal of Computational and Nonlinear Dynamics, 10 (**2015**) 10-16. (**ISI**)

[35] E. Tohidi, M. Kh. Zak, A New Matrix Approach For Solving Second-Order Linear Matrix Partial Differential Equations, Mediterr. J. Math, DOI: 10.1007/s00009-015-0542-2. (**ISI**)

[36] F. Ahmad, E. Tohidi, J. A. Carrasco, A parameterized multi-step Newton method for solving systems of nonlinear equations, Numer. Algor, DOI 10.1007/s11075-015-0013-7. (**ISI**)

[37] F. Ahmad, E. Tohidi, M. Z. Ullah, J. A. Carrasco, Higher order multi-step Jarratt-like method for solving systems of nonlinear equations: Application to PDEs and ODEs, Comput, Math, Appl, DOI: /10.1016/j.camwa.2015.05.012. (**ISI**)

[38] B. Zogheib, E. Tohidi, A new matrix method for solving two-dimensional time-dependent diffusion equations with Dirichlet boundary conditions, Appl. Math. Comput. 291 (**2016**) 1-13. (**ISI**)

[39] F. Mirzaee, S. Bimesl, E. Tohidi, A numerical framework for solving high-order pantograph-delay Volterra integro-differential equations, Kuwait Journal of Science, 43 (**2016**) 1-10. (**ISI**)

[40] S. Singh, V. K. Patel, V. K. Singh, E. Tohidi, Numerical solution of nonlinear weakly singular partial integro-differential equation via operational matrices, Applied Mathematics and Computation 298 (**2017**) 310-321. (**ISI**)

[41] B. Zogheib, E. Tohidi, An Accurate Space-Time Pseudospectral Method for Solving Nonlinear Multi-Dimensional Heat Transfer Problems, Mediterranean Journal of Mathematics 14 (**2017**), 1-19. (**ISI**)

[42] B. Zogheib, E. Tohidi, S. Shateyi, Bernoulli Collocation Method for Solving Linear Multidimensional Diffusion and Wave Equations with Dirichlet Boundary Conditions, Advances in Mathematical Physics 2017, DOI: 10.1155/2017/5691452. (**ISI**)

Conference Papers:

[43] F. Toutounian, R. Behzadi, E. Tohidi, Numerical Solution of Weakly Singular Fredholm Integral Equations Via Generalization of the Euler-Maclaurin summation Formula, September 2013, University of Bu Ali Sina, Hamedan, Iran.

[44] E. Tohidi, H. Beiglo, A Robust Legendre Approximation for Solving Shortest Path Problems, September 2013, University of Bu Ali Sina, Hamedan, Iran.

[45] M. KH. Zak, F. Toutounian, E. Tohidi, New Iterative Solution for Linear Systems With Dominant Skew-Symmetric Part, The 7th Seminar on Linear Algebra and its Applications 26-27th Feb. 2014, Ferdowsi University of Mashhad, Iran.

Computer skills:

1- *Basic: LATEX, EXCELL, MICROSOFT WORD.*
2- Advanced: MATLAB, MAPLE, R.