

# **CURRICULUM VITAE**

**PROF. TOFIGH ALLAHVIRANLOO**

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## Personal Information

Nationality: Iranian, Azerbaijan, KHOY

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## **BIOGRAPHICAL SUMMARY**

Tofigh Allahviranloo holds a PhD in applied mathematics from the Science and Research branch of IAU. He holds a BSc in pure mathematics and an MSc in applied mathematics. He has been placed by Thomson Reuters among the world top 1% scientists and right now his h-indexes are 26 and 39 in SCOPUS and Google Scholar, respectively.

His research mainly is focused on

Uncertain Dynamical Systems (Continuous and discrete)

Uncertain Linear Systems

Decision Support Systems under uncertainty

Fuzzy Neural Network and Its Applications

His main research interest are on Dynamical Systems, Decision Support Systems and Linear System under uncertainty.

## **EDUCATION**

Aug 1998 - Aug 2002	PhD, Applied Mathematics, Science & Research Branch, Islamic Azad University, Tehran, Iran.
Sep 1995 - Sep 1999	MSc, Applied Mathematics, (Operation Research), Lahijan Branch, Islamic Azad University, Iran.
Sep 1990 - Sep 1994	BSc, Pure Mathematics, Tabriz University, Iran.

## **ACADEMIC POSITIONS**

2019- Present	Member of academic staffs in BAU, Bahcesehir University, Istanbul, Turkey.
2017- 2019	Head of the department of Mathematics and statistics, IAU, Science and research branch, Tehran, Iran.
2013- 2017	Member of Program Committee of IFSA World Congress NAFIPS Annual Meeting.
2013- 2014	Researcher and Professor in Izmir University, Izmir, Turkey.
1998 - 2019	Member of academic staffs in IAU, Science and research branch, Tehran, Iran.

#### **EDITORIAL BOARD OF JOURNALS**

2019- Present	Member of editorial board of journal of Fuzzy sets and systems, Elsevier.
2017- Present	Associate editor in charge of Mathematical Science, Springer.
2012- Present	Associate editor in charge of journal of Intelligent and fuzzy systems, IOS Press.
2009- Present	Editor in chief of International journal of industrial mathematics.

#### **PUBLISHED JOURNAL PAPERS: 195**

- FUZZY DIFFERENTIAL EQUATIONS: 60

S. Abbasbandy, T. Allahviranloo, "Numerical Solution of Fuzzy Differential Equation by Runge-Kutta Method of Order 2", in J.S.I.A.U., Vol.11, No.41, Fall 2001, pp. 3176-3188.

S. Abbasbandy, T. Allahviranloo, "Numerical Solutions of Fuzzy Differential Equations By Taylor Method", in Journal of Computational Methods in Applied Mathematics, Vol. 2, 2002, No.2, pp. 113-124.

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S. Abbasbandy, T. Allahviranloo, Oscar Lopez-Pouso, Juan J. Nieto, "Numerical Methods for Fuzzy Differential Inclusions", in Journal of Computer and Mathematics With Applications, Vol./Issue, 48/10-11, 2004, pp. 1633-1641. (ISI)

T. Allahviranloo, N. Ahmady, E. Ahmady, "Two step method for fuzzy differential equations", in journal of International Mathematical journal, Vol. 1, 2006, no. 17-20, 823 - 832.

T. Allahviranloo, N. Ahmady, E. Ahmady, "Numerical solution of fuzzy differential equations by Predictor-Corrector method", in journal of Information Science, Vol 177/7, 2007, pp 1633-1647. (ISI)

T. Allahviranloo, E. Ahmady, N. Ahmady, "A method for solving N-th order fuzzy differential", in journal of International journal of computer mathematics, 2007, Volume 86, Issue 4, First published 2009, Pages 730 – 742. (ISI)

- T. Allahviranloo, E. Ahmady, N. Ahmady, "Nth-order fuzzy linear differential equations", in *Journal of Information Science*, 178 (2008) 1309-1324. (ISI)
- T. Allahviranloo, E. Ahmady, N. Ahmady, "Erratum to 'Numerical solution of fuzzy differential equations by predictor-corrector method'", [*Inform. Sci.* 177 (7) (2007) 1633-1647]", in *Journal of Information Science*, 178 (2008) 1780-1782. (ISI)
- T. Allahviranloo, S. Abbasbandy, N. Ahmady, E. Ahmady, "Improved predictor-corrector method for solving fuzzy initial value problems", in *Journal of Information Science*, 179 (2009) 945-955. (ISI)
- T. Allahviranloo, N. A. Kiani, N. Motamedi, "Solving Fuzzy Differential equations by Differential Transformation Method", in *Journal of Information Science*, 179 (2009) 956-966. (ISI)
- T. Allahviranloo, N. A. Kiani, M. Barkhordari, "Toward the Existence and Uniqueness of Solutions of Second- Order Fuzzy Differential Equations", in *Journal of Information Science*, 179 (2009) 1207-1215. (ISI)
- T. Allahviranloo, M. Barkhordari, "Fuzzy laplace transforms", in *Journal of Soft Computing*, (2010) 14:235-243. (ISI)
- T. Allahviranloo, M. Shafeei, Y. Nejatbakhsh, "A note on "Fuzzy differential equations and the extension principle" ", in *Journal of Information Science*, Vol. 179 (2009) 2049-2051. (ISI)
- T. Allahviranloo, A. Panahi, H. Rouhparvar, "A computational method to find an approximate analytical solution for fuzzy differential equations", in *Journal of Analele Stiintifice ale Universitatii Ovidius Constanta*, Vol. 17(1), 2009, 5-14. (ISI)
- T. Allahviranloo, S. Khezerloo, M. Mohammadzaki, "Numerical solution of fuzzy differential inclusion by Adomian decomposition method", in *Journal of Applied Mathematics*, IAU of Lahijan, Vol. 5, No17, Summer 2008.
- T. Allahviranloo, L. Jamshidi, "Solution of fuzzy differential equations under generalized differentiability by Adomian decomposition method", in *Iranian Journal of Optimization*, 1 (2009), 57-75.
- H. Rouhparvar, S. Abbasbandy, T. Allahviranloo, "Existence and uniqueness of solution an uncertain characteristic Cauchy reaction-diffusion equation by Adomian decomposition method", in *Journal of Mathematical & Computational Applications (MCA)*, Vol. 15, No. 3, pp. 404-419, 2010. (ISI)
- T. Allahviranloo, S. Salahshour, "Euler method for solving hybrid fuzzy differential equation", in *Soft Computing*, *Soft Comput* (2011) 15:1247-1253. (ISI)
- T. Allahviranloo, S. Abbasbandy, S. Salahshour, A. Hakimzadeh", "A new method for solving fuzzy linear differential equations", in *Computing*, Vol. 92, No. 2, Pages 181-197, 2011. (ISI)
- S. Abbasbandy, T. Allahviranloo, P. Darabi, O. Sedaghatfar, "Variational iteration method for solving n-th order differential equations ", in *Journal of*

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T. Allahviranloo, S. Salahshour, L. Avazpour, "On the fractional Ostrowski inequality with uncertainty", in Journal of Mathematical Analysis and Applications, 395 (2012) 191-201. (ISI)

S. Salahshour, T. Allahviranloo, "Applications of fuzzy Laplace transforms", in journal of Soft computing, (2013) 17:145–158. (ISI)

S. Salahshour, T. Allahviranloo, S. Abbasbandy, Dumitru Baleanu, "Existence and uniqueness results for fractional differential equations with uncertainty", in journal of Advances in Difference Equations, 2012, 2012:112 (19 July 2012). (ISI)

T. Allahviranloo, S. Gholami, "Note on "Generalized Hukuhara differentiability of interval-valued functions and interval differential equations"", in Journal of Fuzzy Set Valued Analysis, Volume 2012, Year 2012 Article ID jfsva-00135, 4 pages doi:10.5899/2012/jfsva-00135.

S. Abbasbandy, T. Allahviranloo, M. R. Balooch Shahryari, "Fuzzy laplas transforms method for solving fuzzy sequential fractional differential equations", in Journal of Wulfenia, Volume 19, Iss. 10. (ISI)

T. Allahviranloo, L. Hooshangian, "Fuzzy Generalized H-Differential and Applications to Fuzzy Differential Equations of Second-Order", in Journal of Intelligent and Fuzzy Systems, DOI: 10.3233/IFS-130874. (ISI)

T. Allahviranloo, Z. Gouyandeh, A. Armand, "Fuzzy fractional differential equations under generalized fuzzy Caputo derivative", in Journal of Intelligent and Fuzzy Systems, Journal of Intelligent & Fuzzy Systems 26 (2014) 1481–1490, DOI: 10.3233/IFS-130831. (ISI)

T. Allahviranloo, S. Abbasbandy, M. R. Balooch Shahryari, S. Salahshour, Dumitru Baleanu, "On solutions of linear fractional differential equations with

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M. Chehlabi, T. Allahviranloo, "Concreted solutions to fuzzy linear fractional differential equations" *Applied soft computing*, Volume 44, July 2016, Pages 108–116, doi:10.1016/j.asoc.2016.03.011. (ISI)

Z. Gouyandeh, T. Allahviranloo, S. abbasbandy, A. Armand "A Fuzzy Solution of Heat Equation Under Generalized Hukuhara Differentiability by Fuzzy Fourier Transform", *Fuzzy sets and systems*, Volume 309, 15 February 2017, Pages 81-97, (ISI)

Sh. Sadigh Behzadi, Behnam Vahdani, T. Allahviranloo, S. Abbasbandy, "Application of fuzzy Picard Method for Solving Fuzzy Quadratic Riccati and Fuzzy Painlevé I Equations" *Applied mathematical models*, 40 (2016) 8125–8137, (ISI)

Sh. Sadigh Behzadi, T. Allahviranloo, "SOLVING FUZZY DIFFERENTIAL EQUATIONS BY USING PICARD METHOD", *Iranian journal of fuzzy systems*, Vol. 13, No. 3, (2016) pp. 71-81, (ISI)

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Z. Noei Aghdam, T. Allahviranloo, J. J. Nieto, q-Fractional Differential Equations with Uncertainty, in *journal of soft computing*, <https://doi.org/10.1007/s00500-019-03830-w>. (ISI)

N. Gholami, T. Allahviranloo, S. Abbasbandy, N. Karamikabir, The fuzzy generalized Taylor's expansion with application in fractional differential equations, *Iranian journal of fuzzy systems*, Volume 16, Number 2, (2019), pp. 57-72. (ISI)

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- FUZZY LINEAR SYSTEM OF EQUATIONS: 40

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- T. Allahviranloo, "The Adomian decomposition for fuzzy system of linear equations", in *Journal of Applied Mathematics and Computations*, 2005, Vol 163/2 pp 553-563. (ISI)
- T. Allahviranloo, M. Afshar, "Cramer's rule for fuzzy system of linear equations", in *Journal of Nonlinear Studies*, Volume 14, Number 4, 2007, 381-387.
- T. Allahviranloo, M. Afshar, "Solution of fuzzy system of linear equations", in *Journal of Applied Mathematics and Computations*, Volume 175, Issue 1, 1 April 2006, Pages 519-531. (ISI)
- T. Allahviranloo, N. Ahmadi, E. Ahmadi, Kh. Shams Alketabi, "Block Jacobi two-stage method with Gauss-Sidel inner iterations for fuzzy system of linear equations", in *Journal of Applied Mathematics and Computations*, Volume 175, Issue 2, 15 April 2006, Pages 1217-1228. (ISI)
- S. Abbasbandy, T. Allahviranloo, R. Ezzaty, "A method for solving general fuzzy linear systems", in the *Journal of fuzzy mathematics*, Vol. 15, No. 4, 2007, Los Angeles.
- T. Allahviranloo, N. A. Kiani, M. Barkhordari, M. mosleh, "Homomorphic Solution of Fully Fuzzy Linear System", in *Journal of Computational Mathematics and Modeling*, Vol. 19, No. 3, 282-293, 2008, Springer. (ISI)
- T. Allahviranloo, N. Mikaeilvand, N. A. Kiani, R. Mastani, "Signed Decomposition of Fully Fuzzy Linear Systems", in *Journal of Applications and Applied Mathematics: A International Journal (AAM)*, Vol. 3, No. 1 (June 2008) pp. 77 – 88.
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- T. Allahviranloo, N. Mikaeilvand, F. Hosseinzadeh Lotfi and M. Khorasany Kiasari "Fully fuzzy linear programming problem with positive or negative core ", in *Far East Journal of Applied Mathematics*, Volume 33 No. 3 (2008), pp. 337-350.
- T. Allahviranloo, N. Mikaeilvand, "Positive Solutions of Fully Fuzzy Linear Systems", in *Journal of Applied Mathematics*, IAU of Lahijan, Vol. 3, NO. 11, Winter 2006.

T. Allahviranloo, N. Mikaeilvand, M. Barkhordary "Fuzzy Linear Matrix Equation", in journal of Fuzzy Optimization and Decision Making , Volume 8, Issue2 (2009), Page 165. (ISI)

Panahi, T. Allahviranloo, H. Rouhparvar, "Solving fuzzy linear systems of equations", in journal of ROMAI J. , 4, 1 (2008), 207-214.

T. Allahviranloo, N. Mikaeilvand, "Non-zero solutions of the fully fuzzy linear Systems", in International Journal Of Applied and Computational Mathematics, V.10, N.2, 2011, pp.271-282. (ISI)

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T. Allahviranloo, N. Mikaeilvand, "Fully fuzzy linear systems solving using MOLP", in Journal of World Applied Science Journal, 12 (12): 2268-2273, 2011. (ISI)

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- RANKING FUZZY NUMBERS AND APPROXIMATION OF FUZZY NUMBERS: 12

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## **TEACHING**

### **UNDERGRADUATE**

Numerical Analysis I  
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Operations Research I  
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Graph Theory  
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Number Theory  
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Numerical Computations  
Linear Programming  
Mathematics Basics

### **POSTGRADUATE**

Advanced Numerical Analysis  
Approximation Theory  
Numerical Methods in Linear Algebra  
Numerical Solution of Differential Equations (ODE)  
Numerical Solution of Partial Differential Equations (PDE)  
Numerical Solution of Integral Equations  
Numerical Software

### **PHD**

Advanced Numerical Analysis  
Fuzzy Ordinary Differential Equations  
Fuzzy Partial Differential Equations

