# Yaghoub Jalilian

Associate Professor of Mathematics, Razi University, 2012-present

## Contacts

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Razi Unversity, Kermanshah, Iran

## Research Interests

- Mathematical Biology Modeling and Analysis
- Bifurcation Theory
- Variational and Topological Methods in Nonlinear Analysis
- Fractional Differential Equations

## Education

**B.Sc.**
Pure Mathematics
Razi University
2002-2006

**M.Sc.**
Pure Mathematics
Sharif University of Technology
2006-2008
Thesis: Application of the Wavelet Galerkin Method to Partial Differential Equations with Variable Coefficients
Supervisor: Professor M. Hesaaraki

**Ph.D.**
Pure Mathematics
Iran University of Science & Technology
2008-2012
Thesis: Measure of Noncompactness and Its Applications in Functional Integral Equations
Supervisor: Professor A. Aghajani

**Sabbatical Leave**
Stockholm University Sweden 2011
Supervisor: Professor A. Szulkin

## Honors

- **Ranked 11th**, among nearly 10,000 participants in the National University Entrance Exam for M.Sc. in Mathematics, 2006.

## Publications

- Y. Jalilian, M. Ghasemi, Existence and Numerical Simulation of Solutions for a Caputo-Fabrizio Fractional Differential Equation, Analytical and Numerical Solutions for Nonlinear Equations 10 (1) (2025) 17-34
- M. Farshid, Y. Jalilian, Existence and stability of steady-state bifurcations in a prey–predator system with a nonmonotonic functional response. International Journal of Biomathematics 18 (06) (2025) 2450016

- Y. Jalilian , M. Farshid, Hopf bifurcation and Turing instability in a cross-diffusion prey-predator system with group defense behavior, Computational Methods for Differential Equations 13 (1), (2025) 294-306
- M. Farshid, Y. Jalilian, Steady-state bifurcation and Hopf bifurcation in a cross-diffusion prey–predator system with Ivlev functional response, Mathematical Methods in the applied Science 46(5) (2023) 5328-5348
- M. Farshid, Y. Jalilian, Turing instability in a modified cross-diffusion Leslie–Gower predator–prey model with Beddington–DeAngelis functional response, Boundary Value Problems 20 (2022) 2022.
- Y. Jalilian
  Existence and Multiplicity of Solutions for a Coupled System of Kirchhoff Type Equations, Acta Mathematica Scientia 40 (2020) 1831-1848.
- Y. Jalilian
  Infinitely many solutions for a class of quasilinear Schrödinger equations involving sign-changing weight functions APPLICABLE ANALYSIS, 98 (2019) 1347-1366.
- Y. Jalilian, M. Ghasemi,
  On the Solutions of a Nonlinear Fractional Integro-Differential Equation of Pantograph Type, Mediterr. J. Math. (2017) 14:194
- M. Ghasemi, Y. Jalilian and J. J. Trujillo
  Existence and numerical simulation of solutions for nonlinear fractional pantograph equations, International Journal of Computer Mathematics 94 (10), 2041-2062
- Y.Jalilian,
  Fractional integral inequalities and their applications to fractional differential equations, Acta Mathematica Scientia 2016,36B(5):1317–1330
- Y. Jalilian
  Infinitely many solutions for a bi-nonlocal equation with sign-changing weight functions, Bull. Iranian Math. Soc., 42(3) (2016) 611-626.
- Y. Jalilian
  On the existence and multiplicity of solutions for a class of singular elliptic problems, Computers and Mathematics with Applications 68 (2014) 664–680.
- Y. Jalilian, A. Szulkin
  Infinitely many solutions for semilinear elliptic problems with sign-changing weight functions, Applicable Analysis 93(2014) 756-770 .
- Y. Jalilian, R. Jalilian
  Existence of solution for delay fractional differential equations, Mediterr. J. Math. 10 (2013) 1731–1747.
- A. Aghajani, Y. Jalilian, K. Sadarangani
  On the existence of solutions for mixed Volterra-Fredholm integral equations, Electronic Journal of Differential Equations 2012 (2012) 1–12 .
- A. Aghajani, Y. Jalilian, J. J. Trujillo
  On the existence of solutions of fractional integro-differential equations, Fractional Calculus & Applied Analysis, Volume 15 Number 1 (2012) .
- A. Aghajani, J. Banas, Y. Jalilian
  Existence of solutions for a class of nonlinear Volterra singular integral equations , Computers and Mathematics with Applications 62 (2011) 1215–1227 .
- A. Aghajani, Y. Jalilian, V. Roomi,
  Oscillation theorems for the generalized Liénard system, Mathematical and Computer Modelling 54 (2011) 2471–2478.
- A. Aghajani, Y.Jalilian
  Existence of nondecreasing positive solutions for a system of singular integral equations**,** Mediterranean Journal of Mathematics 4 (2011) 563-576.
- A. Aghajani, Y. Jalilian
  Existence and global attractivity of solutions of a nonlinear functional integral equation**,** Commun Nonlinear Sci Numer Simulat 15 (2010) 3306–3312.

- A. Aghajani, Y. Jalilian
  On the existence and global attractivity of solutions of a functional integral equation, International Journal of Mathematical and Statistical Sciences 1:3 2009.

**Technical Skills**

- Programming languages and mathematical packages: Matlab, Maple, Python.