Dr. NASSER AGHAZADEH

Professor of Applied Mathematics

Professor in Applied Mathematics
Image Processing Laboratory
Department of Applied Mathematics
Azarbaijan Shahid Madani University
Tabriz 53751 71379, Iran

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www.azaruniv.ac.ir/~aghazadeh
sites.google.com/view/aghazadeh

+98 914 11 66 859 (with WhatsApp)

BRIEF BIOGRAPHY

I was born in Heris, a city in East Azerbaijan, Iran, on February 9, 1976. Heris is very well-known for its perfect handmade carpets worldwide. After finishing high school (Mathematics & Physics) at Heris on June 1994, I entered "*University of Tabriz*" and began studying Applied Mathematics as a BSc student in September 1994 and graduated in September 1998.

I entered "*Iran University of Science & Technology*" and began studying Applied Mathematics (Numerical Analysis) as a M.Sc. student in September 1998. I got my M.Sc. in Applied Mathematics (Numerical Analysis) from "*Iran University of Science & Technology*" under supervision of Professor Dr. "Khosrow Maleknejad" in November 2000. The title of my MSc dissertation was "*Modified Taylor Series Expansion Method for a Class of Second Kind Integral Equations".*

I entered "Iran *University of Science & Technology*" and began studying Applied Mathematics as a PhD student in September 2003. I got my PhD in Applied Mathematics from" Iran *University of Science & Technology*" under supervision of Professor Dr. "Khosrow Maleknejad" in June 2007. The title of my PhD thesis was "*Numerical Solution of Integral Equations of the First and Second kind by Using Wavelets*".

I began teaching and researching as an assistant professor at Department of Applied Mathematics, Azarbaijan Shahid Madani University (ASMU), Tabriz, Iran in June 2007. On Feb 5, 2013, I became an associate professor there. At the present, I am a professor of applied mathematics at "Azarbaijan Shahid Madani University" (from 5 February 2018).

I am very much interested in nature, mathematics, computer, and literature.

EDUCATION

Doctor of Philosophy (PhD),

Applied Mathematics: June 2007
Iran University of Science & Technology,
Tehran, Iran
Thesis title: *Numerical Solution of Integral Equations of the First and Second kind by Using Wavelets*
Adviser: Prof. Dr. K. Maleknejad
GPA: 19/20

Master of Science,

Applied Mathematics: November 2000
Iran University of Science & Technology
Tehran, Iran
Dissertation: *Modified Taylor Series Expansion Method for a Class of Second Kind Integral Equations*
Adviser: Prof. Dr. K. Maleknejad
GPA: 19.5/20

Bachelor of Science,

Applied Mathematics: September 1998
University of Tabriz,
Tabriz, Iran
GPA: 16.31/20

CURRENT RESEARCH INTERESTS

My research focuses on the following topics:

- Wavelet analysis and its applications
- Numerical solution of differential equations
- Mathematical image processing, in particular, image segmentation, edge detection, image restoration, medical image processing

REFEREED JOURNAL PAPERS (ACCORDING TO WEB OF SCIENCE)

Chebyshev-Quasilinearization Method for Solving Singular Nonlinear Fractional Lane-Emden Equations

Authors: Amir Mohammadi, Ghader Ahmadnezhad, Nasser Aghazadeh
Will be Published in: Communications in Mathematics

On time fractional modified Camassa-Holm and Degasperis-Procesi equations by using the Haar wavelet iteration method

Authors: N. Aghazadeh, Ghader Ahmadnezhad, Shahram Rezapour
Will be Published in: Iranian Journal of Mathematical Sciences and Informatics

Existence of Solution of Functional Integral Equations by Measure of Noncompactness and Sinc Interpolation to Find Solution

Authors: Mohsen Rabbani, Reza Arab, Bipan Hazarika and Nasser Aghazadeh
Published: Feb 1, 2022, in Fixed Point Theory 23(1) (2022) 331-350.
DOI: 10.24193/fpt-ro.2022.1.21

Solving partial fractional differential equations by using the Laguerre wavelet-Adomian method

Authors: Nasser Aghazadeh, Amir Mohammadi, Ghader Ahmadnezhad, Shahram Rezapour
Published: 01 May 2021 in Advances in Difference Equations 2021 2021:231.

A Three-Stage Shearlet-based algorithm for vessel segmentation in medical imaging

Authors: Mirzafam, Mahdi; Aghazadeh, Nasser
Published: Oct 6, 2020, in Pattern Analysis and Applications 24 (2021) 591-610.
DOI: 10.1007/S10044-020-00915-3

Wavelet-Picard iterative method for solving singular fractional nonlinear partial differential equations with initial and boundary conditions

Authors: Amir Mohammadi, Nasser Aghazadeh, Shahram Rezapour
Published: 2020 in Computational Methods for Differential Equations 8(4) (2020) 610-638
DOI: 10.22034/cmde.2020.31627.1479

Comparison of lumbar segmental stabilization and general exercises on clinical and radiologic criteria in grade-I spondylolisthesis patients: A double-blind randomized controlled trial

Authors: Mohammadimajd, Elaheh; Lotfinia, Iraj; Salahzadeh, Zahra; Aghazadeh, Nasser; et al
Published: Jul 2020 in Physiotherapy Research International 2020; e1843
DOI: 10.1002/PRI.1843

Haar wavelet iteration method for solving time fractional Fisher's equation

Authors: Ahmadnezhad, Ghader; Aghazadeh, Nasser; Rezapour, Shahram
Published: 2020 in Computational Methods for Differential Equations 8(3) (2020) 505-522
DOI: 10.22034/CMDE.2020.31527.1475

Newfangled Procedures Using X-ray to Determine the Cobb Angle in Patients with Scoliosis: An Updated Systematic Review

Authors: Moftian, Nazila; Hachesu, Peyman Rezaei; Pourfeizi, Hojjat Hossein; Samad-Soltani, Taha; Aghazadeh, Nasser; et al
Published: Nov 2019 in Current Medical Imaging 2019, 15(10) 922-932
DOI: 10.2174/1573405614666180531073300

Haar wavelet collocation method for solving singular and nonlinear fractional time-dependent Emden-Fowler equations with initial and boundary conditions

Authors: Mohammadi, Amir; Aghazadeh, Nasser; Rezapour, Shahram
Published: Aug 2019 in Mathematical Sciences 13(3) 255-265
DOI: 10.1007/S40096-019-00295-8

Joint Image Deconvolution and Separation Using Mixed Dictionaries

Authors: Siadat, Medya; Aghazadeh, Nasser; Akbarifard, Farideh; Brismar, Hjalmar; Öktem Ozan
Published: 2019 in IEEE Transactions on Image Processing 28(8) (2019) 3936-3945
DOI: 10.1109/TIP.2019.2903316

EXISTENCE RESULTS AND NUMERICAL SOLUTIONS FOR A MULTI-TERM FRACTIONAL INTEGRO-DIFFERENTIAL EQUATION

Authors: Aghazadeh, N.; Ravash, E.; Rezapour, Sh.
Published: 2019 in Kragujevac Journal of Mathematics 43(3) (2019) 413–426

Reordering for improving global Arnoldi-Tikhonov method in image restoration problems

Authors: Siadat, Medya; Aghazadeh, Nasser; Öktem, Ozan
Published: 2018 in Signal, Image and Video Processing (2018) 12(3) 497-504
DOI: 10.1007/S11760-017-1185-5

New denoising and edge detection scheme based on rationalized Haar functions (in Persian)

Authors: Nasser Aghazadeh; Parisa Noras
Published: 2018 in Journal of Machine Vision and Image Processing 5(1) (2018) 99-111

Directional Schemes for Edge Detection Based on B-spline Wavelets

Authors: Noras, Parisa; Aghazadeh, Nasser
Published: 2018 in Circuits, Systems, and Signal Processing (2018) 37(9) 3973-3994
DOI: 10.1007/S00034-018-0753-4

A New Multiphase Segmentation Method Using Eigenvectors Based on K Real Numbers

Authors: Ladan Sharafyan Cigaroudy; Nasser Aghazadeh
Published: 2017 in Circuits Systems and Signal Processing 36(4) (2017) 1445-1454
DOI: 10.1007/S00034-016-0359-7

A multiphase segmentation method based on binary segmentation method for Gaussian noisy image

Authors: Ladan Sharafyan Cigaroudy; Nasser Aghazadeh
Published: 2017 in Signal Image and Video Processing (2017) 11(5) 825-831
DOI: 10.1007/S11760-016-1028-9

Two-parameter generalized Hermitian and skew-Hermitian splitting iteration method

Authors: Nasser Aghazadeh; Davod Khojasteh Salkuyeh; M. Bastani
Published: 2016 in International Journal of Computer Mathematics 93(7) (2016) 1119–1139
DOI: 10.1080/00207160.2015.1019873

A restoration-segmentation algorithm based on flexible Arnoldi-Tikhonov method and Curvelet denoising

Authors: Aghazadeh, Nasser; Akbarifard, Farideh; Cigaroudy, Ladan Sharafyan
Published: 2016 in Signal, Image and Video Processing (2016) 10(5) 935–942
DOI: 10.1007/S11760-015-0843-8

Convergence of an Approach for Solving Fredholm Functional Integral Equations

Authors: Nasser Aghazadeh; Somayeh Fathi
Published: 2016 in Iranian Journal of Mathematical Sciences and Informatics (2016) 11(1) 35-46
DOI: 10.7508/IJMSI.2016.01.004

Generalized Hermitian and skew-Hermitian splitting iterative method for image restoration

Authors: Nasser Aghazadeh; Mehdi Bastani; Davod Khojasteh Salkuyeh
Published: 2015 in Applied Mathematical Modelling 39(20) (2015) 6126-6138
DOI: 10.1016/J.APM.2015.01.042

Edge Detection with Hessian Matrix Property Based on Wavelet Transform

Authors: Nasser Aghazadeh; Yaser Gholizade atani
Published: 2015 in Journal of Sciences, Islamic Republic of Iran 26(2) 163-170 (2015)

Projection Methods for Solving Urysohn Integral Equations with Multiwavelet Bases

Authors: Nasser Aghazadeh
Published: 2015 in Malaysian Journal of Mathematical Sciences 9(1) 111-125 (2015)

Combining Compact Finite Difference Schemes with Filters for Image Restoration

Authors: Nasser Aghazadeh; Farideh Akbarifard
Published: 2016 in Computational Mathematics and Modeling (2016) 27(2) 206-216
DOI: 10.1007/s10598-016-9315-4

The Legendre Wavelet Method for Solving Singular Integro-differential Equations

Authors: Nasser Aghazadeh, Yaser Gholizade atani, Parisa Noras
Published: 2014 in Computational Methods for Differential Equations

Solving nonlinear two-dimensional Volterra integro-differential equations by block-pulse functions

Authors: Nasser Aghazadeh; Amir Ahmad Khajehnasiri
Published: 2013 in Mathematical Sciences
DOI: 10.1186/2251-7456-7-3

Aitken extrapolation and epsilon algorithm for an accelerated solution of weakly singular nonlinear Volterra integral equations

Authors: H Mesgarani; Nasser Aghazadeh; P Parmour
Published: 2010 in Physica Scripta 81(2) (2010) 025006 (7pp)
DOI: 10.1088/0031-8949/81/02/025006

A wavelet Petrov-Galerkin method for solving integro-differential equations

Authors: K. Maleknejad; M. Rabbani; Nasser Aghazadeh; M. Karami
Published: 2009 in International Journal of Computer Mathematics 86(9), 1572-1590, 2009
DOI: 10.1080/00207160801923056

Computational projection methods for solving Fredholm integral equation

Authors: M. Rabbani; K. Maleknejad; N. Aghazadeh; R. Mollapourasl
Published: Aug 2007 in Applied Mathematics and Computation 191(1) (2007), 140-143
DOI: 10.1016/J.AMC.2007.02.071

Numerical computational solution of the Volterra integral equations system of the second kind by using an expansion method

Authors: M. Rabbani; K. Maleknejad; Nasser Aghazadeh
Published: 2007 in Applied Mathematics and Computation 187(2) (2007) 1143–1146
DOI: 10.1016/J.AMC.2006.09.012

Numerical solution of Fredholm integral equation of the first kind with collocation method and estimation of error bound

Authors: K. Maleknejad; N. Aghazadeh; R. Mollapourasl
Published: Aug 2006 in Applied Mathematics and Computation 179(1) (2006) 352–359
DOI: 10.1016/J.AMC.2005.11.159

Numerical solution of second kind Fredholm integral equations system by using a Taylor-series expansion method

Authors: Maleknejad, K; Aghazadeh, N; Rabbani, M
Published: 2006 in Applied Mathematics and Computation 175(2) (2006) 1229–1234
DOI: 10.1016/J.AMC.2005.08.039

Numerical solution of Volterra integral equations of the second kind with convolution kernel by using Taylor-series expansion method

Authors: K. Maleknejad; Nasser Aghazadeh
Published: 2005 in Applied Mathematics and Computation 161(3) (2005) 915–922
DOI: 10.1016/J.AMC.2003.12.075

Numerical solution of Hammerstein equations via an interpolation method

Authors: K. Maleknejad; M. Karami; Nasser Aghazadeh
Published: 2005 in Applied Mathematics and Computation 168(1) (2005) 141–145
DOI: 10.1016/J.AMC.2004.08.031

OTHER REFEREED PAPERS

Convergence of Wavelet Galerkin Method for Fredholm Integral Equation of the First Kind

Authors: K. Maleknejad and N. Aghazadeh
Published: 2015 in Acta Universitatis Apulensis 41 (2015) 131-140

An Approach for Solving Functional Integral Equations

Authors: N. Aghazadeh and E. Ravash
Published: 2012 in Acta Universitatis Apulensis 29 (2012) 347-352

A Modified Homotopy Perturbation Method for Solving Linear and Nonlinear Integral Equations

Authors: N. Aghazadeh and S. Mohammadi
Published: 2012 in International Journal of Nonlinear Science 13(3) (2012) 308-316

Semiorthogonal Quadratic B-Spline Wavelet Approximation for Integral Equations

Authors: M. Rabbani and N. Aghazadeh
Published: 2009 in Mathematical Sciences, 3(1), 99-110, 2009

Solving Non-linear Fredholm Integro-differential Equations

Authors: N. Aghazadeh and H. Mesgarani
Published: 2009 in World Applied Sciences Journal 7 (Special Issue for Applied Math) (2009) 50-56

CONFERENCE PAPERS (SELECTED)

Authors: Ladan Sharafyan Cigaroudy; Nasser Aghazadeh
A Binary Segmentation Algorithm Based on Shearlet Transform and Eigenvectors
Published: 2015 in 2ND INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION AND IMAGE ANALYSIS (IPRIA)
DOI: 10.1109/PRIA.2015.7161618

Authors: Nasser Aghazadeh
Solving Nonlinear Hammerstein Integral Equations by Using B-spline Scaling Functions
Published: 2009 in WORLD CONGRESS ON ENGINEERING 2009, VOLS I AND II

Authors: Nasser Aghazadeh, Yaser Gholizade atani and Parisa Noras
An Edge Detection Scheme with Legendre Multiwavelets
Proceeding of the 46th Annual Iranian Mathematics Conference (AIMC46), 1322-1325.
25-28 August 2015, Yazd University, Yazd, Iran

Authors: Ladan Sharafyan Cigaroudy and Nasser Aghazadeh
A binary-segmentation algorithm based on Shearlet transform and eigenvectors
The 2ndconference on Pattern Recognition and Image Analysis (IPRIA2015),
March 11-12, 2015, Guilan University, Rasht, Iran.

Authors: Mehdi Bastani and Nasser Aghazadeh
On the generalized Hermitian and Skew-Hermitian Splitting Iterative Method for Image Restoration
Caucasian Mathematics Conference, CMC I, Tbilisi, Georgia, September 5 and 6, 2014.

Authors: Yaser Gholizade atani and Nasser Aghazadeh
Edge Detection Based on Wavelet and Direction of Gradient
Caucasian Mathematics Conference, CMC I, Tbilisi, Georgia, September 5 and 6, 2014.

Authors: Mehdi Bastani and Nasser Aghazadeh
GHSS iterative method for image restoration
Proceeding of the 43rdthe Workshop on Electrical and Computer Engineering Subfields, Istanbul, Turkey, August 2014, 190-193.

Authors: Mehdi Bastani, Farideh Akbarifard and Nasser Aghazadeh

An application of a compact finite difference method in image denoising

Proceeding of the 43rdAnnual Iranian Mathematics Conference, University of Tabriz, Tabriz, Iran, 27-30 August 2012, 534-537.

Authors: Nasser Aghazadeh and Amir Ahmad Khajehnasiri

Solving high-order nonlinear Volterra integro-differential equations by using block-pulse functions

Proceeding of the 43rdAnnual Iranian Mathematics Conference, University of Tabriz, Tabriz, Iran, 27-30 August 2012, 1284-1287.

Authors: Nasser Aghazadeh and Medya Siadat

Galerkin Method for Solving Functional Integral Equations of Mixed Type

Proceeding of the 2ndInternational Conference on Mathematical Applications in Engineering (ICMAE2012) KL, Malaysia, 1-3 July, 2012, 342-345.

Authors: Nasser Aghazadeh and Mehrdad Lakestani

Solving Nonlinear Fredholm-Hammerstein Integral Equations by Using Cardinal Legendre Functions

4th Congress of the Turkic World Mathematical Society (TWMS) Baku, Azerbaijan, 1-3 July, 2011.

Authors: Khosrow Maleknejad and Nasser Aghazadeh

Solving Hammerstein Integral Equations by Using B-Spline Scaling Functions

Proceedings of the World Congress on Engineering 2009 Vol I, WCE 2009, July 1-3, 2009, London, U.K.

Authors: Nasser Aghazadeh

Using B-Spline Scaling Functions for Solving Integro-Differential Equations

14thConference on Difference Equations and Applications (ICDEA2008), July 21-25, 2008, Istanbul, Turkey.

Authors: Nasser Aghazadeh and Khosrow Maleknejad

Using Quadratic B-Spline Scaling Functions for Solving Integral Equations

International Conference, Dynamical Systems and Applications, July 1-6, 2007, Selcuk, Kusadasi, Izmir, Turkey.

Authors: Nasser Aghazadeh and Khosrow Maleknejad

Treatment of the First Kind Integral Equation by Projection Method with Wavelet Basis

International Congress of Mathematicians, 22-30 August 2006, Madrid, Spain.

PROJECTS

Nasser Aghazadeh

Numerical Solution of Some Functional Integral Equations

Azarbaijan Shahid Madani University, Tabriz, Iran (2016)

Nasser Aghazadeh and Medya Siadat

Solving Urysohn Integral Equations Using Wavelets

Azarbaijan Shahid Madani University, Tabriz, Iran (2016)

Nasser Aghazadeh

Using B-Spline Wavelets for Solving Linear and Nonlinear Integro-Differential Equations

Azarbaijan Shahid Madani University, Tabriz, Iran (2012)

Mohsen Rabbani and Nasser Aghazadeh

Using B-Spline Wavelet for Solving Integral Equation

Islamic Azad University, Sari Branch, Sari, Iran (2007)

Mohsen Rabbani and Nasser Aghazadeh

Using wavelet basis and finding an error bound for convergence in solving integral equations of the first kind

Islamic Azad University, Sari Branch, Sari, Iran (2006)

Mohsen Rabbani and Nasser Aghazadeh

Numerical Solution of Integral Equations and System of Integral Equations by Using Modified Taylor-Series Expansion Method

Islamic Azad University, Sari Branch, Sari, Iran (2005)

TEACHING EXPERIENCES

My years of teaching and lecturing can be divided into two periods. The period before ASMU and the period at ASMU.

Since 2007, I have been teaching some courses for several years at ASMU. These are the courses I have been teaching during these years. Also, I added my "teacher qualification" results (ME) in those years compared to the university average (UNI) results. (According to the official documents from the university; the documents are in *Persian* and can be translated upon any request).

Spring 2022: **ME**: N/A – **UNI**: N /A

- Math-16512414 Mathematical English for math students
- Math-16512103 Introduction to Numerical Analysis
- Math-19223108 Wavelet and its Applications Graduate

Fall 2021: **ME**: 19.43 – **UNI**: 18.73 **ONLINE TEACHING** due to COVID-19

- Math-19223107 Approximation Theory Graduate
- Math-19213102 Advance Numerical Analysis Graduate

Spring 2021: **ME**: 19.74/20 – **UNI**: 18.62 /20 **ONLINE TEACHING** due to COVID-19

- Math-19424102 Numerical Linear Algebra Graduate
- Math-19223108 Wavelet and its Applications Graduate

Fall 2020: **ME**: 19.07 – **UNI**: 18.56

- Math-19424007 Spectral Methods Graduate

- Math-19223001 Advance Numerical Analysis Graduate
- Math-16512406 Numerical Analysis

Spring 2020: **ME**: 18.73/20 – **UNI**: 18.04/20

- Math-16512415 Bachelor Project
- Math-19424102 Numerical Linear Algebra Graduate
- Math-19223108 Wavelet and its Applications Graduate
- Math-16512103 Introduction to Numerical Analysis

Fall 2019: **ME**: 19.49/20 – **UNI**: 18.87 /20

- Math-19424007 Spectral Methods Graduate
- Math-19223107 Approximation Theory Graduate
- Math-19213102 Advance Numerical Analysis Graduate
- Math-16512406 Numerical Analysis

Spring 2019: **ME**: 19.42/20 – **UNI**: 18.85/20

- Math-19424102 Numerical Linear Algebra Graduate
- Math-19223108 Wavelet and its Applications Graduate
- Math-16512103 Introduction to Numerical Analysis
- Math-16512415 Bachelor Project

Fall 2018: **ME**: 19.79/20 – **UNI**: 18.96/20

- Math-19424007 Spectral Methods Graduate
- Math-19223107 Approximation Theory Graduate
- Math-19223001 Advance Numerical Analysis Graduate

Spring 2018: **ME**: 19.92/20 – **UNI**: 18.81/20

- Math-19014104 Operator Theory I Graduate
- Math-19014537 Some Topics on Operator Theory Graduate
- Math-19223108 Wavelet and its Applications Graduate

Fall 2017: Visiting Professor

Technische Universität Berlin, Deutschland

Spring 2017: Visiting Professor

Technische Universität Berlin, Deutschland

Fall 2016: **ME**: 20/20 – **UNI**: 18.81/20

- Math-19014015 Advanced Linear Algebra Graduate
- Math-19014104 Operator Theory I Graduate

Spring 2016: **ME**: 18.20/20 – **UNI**: 18.86/20

- Math-19014104 Operator Theory I Graduate

Fall 2015: **ME**: 19.13/20 – **UNI**: 18.92/20

ME: my evaluation results according to the results extracted from the forms filled out by the students at my courses; scores are from 20.

UNI: the university average evaluation results according to the results extracted from the forms filled out by all students at the university; scores are from 20.

- Math-19014516 Partial Differential Equations Graduate
- Math-19014524 Integral Equations Graduate

Spring 2015: **ME**: 19.82/20 – **UNI**: 18.96/20

- Math-19014106 Special Topics on Operator Theory Graduate
- Math-19223206 Approximation Theory Graduate

Fall 2014: **ME**: 18.11/20 – **UNI**: 18.97/20

- Math-19014524 Integral Equations Graduate
- Math-19113412 Advance Numerical Analysis Graduate

Spring 2014: **ME**: 19.91/20 – **UNI**: 18.83/20

- Math-19014516 Partial Differential Equations Graduate
- Math-19223206 Approximation Theory Graduate

Fall 2013: **ME**: 18.90/20 – **UNI**: 18.93/20

- Math-19014524 Integral Equations Graduate
- Math-19223001 Advance Numerical Analysis Graduate

Spring 2013: **ME**: 19.76/20 – **UNI**: 18.75/20

- Math-31328200 Bachelor Project
- Math-19014516 Partial Differential Equations Graduate
- Math-19223206 Approximation Theory Graduate

Fall 2012: **ME**: 19.75/20 – **UNI**: 18.74/20

- Math-31328200 Bachelor Project
- Math-19213204 Numerical Solution of Integral Equations Graduate
- Math-19014524 Integral Equations Graduate

Spring 2012: **ME**: 19.17/20 – **UNI**: 18.61/20

- Math-31328200 Bachelor Project
- Math-19014516 Partial Differential Equations Graduate
- Math-19223206 Approximation Theory Graduate

Fall 2011: **ME**: 18.42/20 – **UNI**: 18.4/20

- Math-31921711 Numerical Analysis I
- Math-19213204 Numerical Solution of Integral Equations Graduate
- Math-19014524 Integral Equations Graduate

Spring 2011: **ME**: 18.76/20 – **UNI**: 18.42/20

- Math-19213102 Advance Numerical Analysis I Graduate
- Math-31920510 Differential Equations
- Math-31328200 Bachelor Project
- IT-13812003 Differential Equations
- Math-31920510 Differential Equations

Fall 2010:

- Math-31328901 Mathematics Laboratory I
- Math-31921711 Numerical Analysis I
- Math-19213102 Advance Numerical Analysis I Graduate
- Math-31328200 Bachelor Project
- Math-19213206 Approximation Theory Graduate

Spring 2010:

- Math-31921711 Numerical Analysis I
- Math-31328200 Bachelor Project
- Math-19213203 Numerical Solution of ODEs Graduate
- IT-13812001 Calculus I
- Chem-33020101 Calculus I
- Math-31921210 Introduction to Computer and Programming
- Math-19014524 Integral Equations Graduate
- Math-31920510 Differential Equations

Fall 2009:

- Math-31328901 Mathematics Laboratory I
- Math-31224012 Numerical Analysis II (group A)
- Math-31224012 Numerical Analysis II (group B)
- Phys -32220050 Differential Equations
- Chem-33020300 Differential Equations
- Math-19223206 Approximation Theory Graduate

Spring 2009:

- Math-31328901 Mathematics Laboratory I (group A)
- Math-31328901 Mathematics Laboratory I (group B)
- Math-31328901 Mathematics Laboratory I (group C)
- Math-31921711 Numerical Analysis I
- Math-19213204 Numerical Solution of Integral Equations Graduate
- Math-19223206 Approximation Theory Graduate

Fall 2008:

- Math-31328901 Mathematics Laboratory I (group A)
- Math-31328901 Mathematics Laboratory I (group B)
- Math-31921711 Numerical Analysis I
- Math-19213102 Advanced Numerical Analysis Graduate
- Math-19213204 Numerical Solution of Integral Equations Graduate
- Civil-14522600 Numerical Computation

Spring 2008:

- Math-31920510 Differential Equations (group A)
- Math-31920510 Differential Equations (group B)
- Math-31921210 Introduction to Computer and Programming (group A)
- Math-31921210 Introduction to Computer and Programming (group B)

- Math-31328901 Mathematics Laboratory I

Fall 2007:

- Civil-14522600 Numerical Computation (group A)
- Civil-14522600 Numerical Computation (group B)
- Chem-33020300 Differential Equations
- Mech Calculus I

From 2004 till 2007, exactly before securing a position at ASMU, I had been teaching at the following universities as a part-time lecturer:

Iran University of Science and Technology, Tehran, Iran 2004-2005

Numerical Computation	undergraduate

Shahid Rajaee University, Tehran, Iran 2005-2007

Numerical Computation	undergraduate
Numerical Analysis	undergraduate
Calculus I	undergraduate
Mathematics Laboratory	undergraduate

Islamic Azad University, South Tehran Branch 2005-2007

Numerical Computation	undergraduate
Calculus I	undergraduate
Differential Equations	undergraduate

University of Applied Science and Technology, Tehran, Iran 2004-2006

Numerical Computation	undergraduate
Calculus I	undergraduate
Computer Laboratory	undergraduate
Introduction to Computer	undergraduate

Payame Noor University, Tabriz, Iran 2008-2009

Advanced Numerical Analysis	graduate

PHD CANDIDATES

Accurate diagnosis of breast tissue masses in mammographic images using fuzzy logic in image quality enhancement, image segmentation and lesions border detection processes

Leila Pourreza Bavil
PhD candidate
2nd-superviser: Dr. Mehdi Hashemzadeh

An image compression method based on combining of deep learning and classic methods

Roya Roshan
PhD candidate
2nd-superviser: Dr. Nasser Farajzadeh
Co-adviser: Dr. Parisa Noras

Segmentation of Mammographic Images Using Fractional Hessian Matrix and Fractional Order Derivative Based Active Contour Model

Ruhollah Moatemedi
PhD candidate
2nd-superviser: Dr. Mehdi Hashemzadeh
Co-adviser: Dr. Parisa Noras

Iris Detection Based on Contour Features Extraction by Bendlets

Mandana Abbassi
PhD candidate
Co-adviser: Dr. Parisa Noras

Solving some fuzzy equations using some numerical-analytical methods by using the generalized Hukuhara Derivative

Alireza Alizadediz
PhD candidate
2nd-superviser: Dr. Asghar Ahmadkhanlu

A Geometric Method for Degraded Medical Image Inpainting by Using Digital Shearlet Transform

Abdollah Sarafraz
PhD candidate
2nd-superviser: Dr. Mehdi Hashemzadeh
Co-adviser: Dr. Parisa Noras

The Investigation of Multiresolution Approaches for Chest X-ray Images Based COVID-19 Detection

Sevda Moghadasi
PhD candidate
Co-adviser: Dr. Parisa Noras

Brain MRI Image Segmentation with Energy Function based on region

Paria Moradi
PhD candidate

Co-adviser: Professor Giovanna Castellano (University of Bari, Italy), Dr. Parisa Noras

Extracting the Target Regions of Pulmonary CT-Scan Images Using Regional-Based Active Contours

Reza Mousavi Moghadam
PhD candidate
Co-adviser: Professor Hadi Seyedarabi (University of Tabriz, Tabriz, Iran), Dr. Parisa Noras

PHD STUDENTS SUPERVISED

Segmentation of Magnetic Resonance Angiography Images for Extraction of Blood Vessels Based on Shearlets

Mehdi Mirzafam, PhD
PhD completed on: October 13, 2020
Co-adviser: Professor M. Poureisa (Tabriz University of Medical Sciences, Tabriz, Iran)

Edge Detection of Medical Images Based on Shearlets

Parisa Noras, PhD
PhD completed on: September 17, 2019

Numerical solutions of fractional Camassa-Holm and Fisher equations by using wavelet

Ghader Ahmadnezhad, PhD
PhD completed on: September 17, 2019
2nd-superviser: Professor Shahram Rezapour

Numerical solution of some singular fractional partial differential equations by using wavelet

Amir Mohammadi, PhD
PhD completed on: September 17, 2019
2nd-superviser: Professor Shahram Rezapour

Analysis and treatment of fractional differential and integro-differential equations with multiwavelets method

Elahe Ravash, PhD
PhD completed on: June 19, 2018
Co-adviser: Professor Shahram Rezapour

Edge detection using B-spline wavelets

Yaser Gholizade atani, PhD
PhD completed on: January 24, 2017

Application of mixed representation systems in image separation

Medya Siadat, PhD
PhD completed on: October 4, 2017
Co-adviser: Professor Ozan Öktem (KTH Royal Institute of Technology, SE-100 44, Stockholm, Sweden)

Image segmentation with some mathematical methods for extraction of target objects

Ladan Sharafyan Cigaroudy, PhD
PhD completed on: July 5, 2016

Application of some numerical methods in image restoration with different boundary conditions

Farideh Akbarifard, PhD
PhD completed on: September 22, 2015

Image restoration by solving linear system of equations based on HSS iterative method

Mehdi Bastani, PhD
PhD completed on: April 15, 2015
Co-adviser: Prof. D. Khojasteh Salkuyeh (University of Guilan, Rasht, Iran)

MASTER STUDENTS SUPERVISED

Elham Mahinjafarzadeh

Automatic and fast segmentation of medical images based on level set method using fuzzy clustering and split Bergman method

(in progress)

Nader Belalzadeh

Multiscale Edge Detection Using First-Order Derivative of Anisotropic Gaussian Kernels

MSc completed on: September 9, 2020

Arezu Najafi Moghadam

Binary Spherical Image Segmentation Using Directional Wavelets

MSc completed on: Oct 22, 2019

Zahra Salim

A New Class of Wavelet-Based Metrics for Image Similarity Assessment
MSc completed on: Oct 22, 2019

Ziba Kolahduzi pour

Image Segmentation by a Novel Binary Level Set Variational Model
MSc completed on: Oct 22, 2019

Mohamad Habibi

An optimization approach to detecting continuous, thin and smooth edges in noisy images
MSc completed on: Oct 9, 2018

Zeinab Abdollahi

Some Mathematical Methods for Medical Image Segmentation
MSc completed on: May 12, 2018

Abdollah Sarafraz

A Shearlet approach to image edge analysis and detection
MSc completed on: Sep 6, 2016

Ahmad Meihami

Comparison of various Edge Detection Techniques used in Image Processing
MSc completed on: Aug 22, 2016

Saleh Sharifi

Accurate Subpixel Edge Location based on Partial Area Effect
MSc completed on: Aug 22, 2016

Zahra Rezai Shamasbi,

An edge-preserving multilevel method for deblurring, Denoising and segmentation
MSc completed on: Sep 6, 2016

Zahra Safari

New model for image restoration with different boundary conditions
MSc completed on: 28 February 2016

Roqaye Alipour

Embedded techniques for choosing the parameter in Tikhonov regularization
MSc completed on: 28 February 2016

Paria Moradi

Image processing with Shearlet systems
MSc completed on: 6 October 2015

Reza Mousavi Moghadam

Image processing with curvelet transforms
MSc completed on: 22 September 2015

Afsaneh Ghasemkhani

Kronecker Product and SVD approximations in image restoration
MSc completed on: 17 February 2015

Sajad Ektesabi

Sylvester Tikhonov- regularization methods in image restoration
MSc completed on: December 2014

Elaheh Ebrahimi

Kronecker Product Approximations for Image Restoration with Anti Reflective Boundary Condition
MSc completed on: September 2014

Reyhaneh Naghipour

Box Spline Wavelet Frames for Image Edge Analysis
MSc completed on: September 2014

Fatemeh Azarnia

Taylor polynomial solutions of nonlinear Volterra–Fredholm integral equations
MSc completed on: February 2014 (Islamic Azad University)

Roya Roshan

A New Direct Method for Solving Nonlinear Volterra-Fredholm-Hammerstein Integral Equations via Optimal Control Problem
MSc completed on: December 2013 (Payame Noor University)

Mohammad Reza Gholypour

A random integral quadrature method for numerical analysis of the second kind of Volterra integral equation
MSc completed on: October 2013

Leila Safakish

Cubic Spline Wavelets with Complementary Boundary Conditions
MSc completed on: September 2013 (Islamic Azad University)

Sakineh Nasrollahi

Legendre approximation solution for a class of higher order integro-differential equation
MSc completed on: July 2013

Parisa Noras

The Legendre wavelet method for solving initial value problems of Bratu-type
MSc completed on: June 2013

Maryam Norouzi

New algorithms for the numerical solution of nonlinear Fredholm and Volterra integral equations using Haar wavelets
MSc completed on: June 2013

Elham Nikjoo

Fast wavelet Galerkin methods for solving integral equations of the second kind
MSc completed on: February 2013

Reyhaneh Ghiasi

Fast Multiresolution Algorithms and Their Related Variational Problems for Image Denoising
MSc completed on: February 2013

Mehdi Mirzafam

Trigonometric Hermite wavelet approximation for the integral equation of second kind with weakly singular kernel
MSc completed on: October 2012

Amir Mohammadi

Multi-projection methods for Fredholm integral equations of the second kind
MSc completed on: October 2012

Safoura Hashemi

Numerical Solutions of Some Linear and Nonlinear Fredholm Integral Equations Using Bernstein Polynomials
MSc completed on: September 2012 (Islamic Azad University)

Fatemeh Mahmoudi

Solving Some Volterra Integral Equations with Smooth and Weakly Singular kernel
MSc completed on: September 2012 (Islamic Azad University)

Mitra Mashayekhi

Derivatives of Bernstein Polynomials and their Application for solving High Even-Order Differential Equations
MSc completed on: September 2012 (Islamic Azad University)

Nayyer Gholestani

Hybrid function method for solving Fredholm and Volterra integral and integro-differential equations
MSc completed on: July 2012

Mansoureh Esmaili

Sinc-Galerkin solution for nonlinear two-point boundary value problems with applications to chemical reactor theory

MSc completed on: July 2012 (Payame Noor University)

Amir Ahmad Khajehnassiri

A fast numerical solution method for two dimensional Fredholm integral equations of the second kind

MSc completed on: April 2012 (Payame Noor University)

Sedigheh Mohammadi

Homotopy perturbation method with some modifications for solving some integral and differential equations and comparison with homotopy analysis method

MSc completed on: September 2011

Azadeh Omidi

Some numerical methods for second kind Fredholm integral equations on the real semiaxis

MSc completed on: September 2011

Farhad Ghorbani

Numerical solution of integral equations by means of the Sinc collocation method based on the double exponential transformation

MSc completed on: September 2011

Ghader Ahmadnezhad

Using variational iteration method for solving some kind of integral and differential equation

MSc completed on: September 2011

Shirin Khezri

Wavelet Numerical Solutions for Weakly Singular Fredholm Integral Equations of the Second Kind

MSc completed on: September 2010

Medya Siadat

Wavelet applications to the Petrov-Galerkin method for Hammerstein equation

MSc completed on: July 2010

Mina Shokraie

Approximation of Parabolic Integro-Differential Equations Using Wavelet-Galerkin Technique

MSc completed on: July 2010

Elahe Ravash

Using Petrov-Galerkin Method for Solving Integral Equation of the Second Kind

MSc completed on: July 2009

VERIFIED REVIEWS (ACCORDING TO PUBLONS)

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Journals (listed according to the number of reviews):

Machine Vision and Applications, Signal, Image and Video Processing, Journal of Computational and Applied Mathematics, Journal of Machine Vision and Image Processing (in Persian), Computational Methods for Differential Equations, Mathematical Sciences, Biomedical Signal Processing and Control, IEEE Access, EURASIP Journal on Image and Video Processing, International Journal of Computer Mathematics, Progress in Artificial Intelligence, Mathematical Modeling and Analysis, Abstract and Applied Analysis, Applied Mathematics and Computation, Applied Numerical Mathematics, International Journal of Systems Science, Journal of Advance Research in Scientific Computing, Journal of Applied Mathematics and Computing, Journal of Mathematical Modeling, Journal of Taibah University of Science, Sahand Communication in Mathematical Analysis, Thai Journal of Mathematics, Walailak Journal of Science and Technology, Mathematical Reviews, International Journal of Mathematical Modelling & Computations, Journal of Mathematics

PROFESSIONAL EXPERIENCES

Feb 5, 2018 – Present	**Full Professor** Azarbaijan Shahid Madani University, Tabriz, Iran
Dec 09, 18 – Mar 20, 21	**Member of Board of Auditors** Azarbaijan Shahid Madani University, Tabriz, Iran
Dec 10, 2016 – Dec 10, 2017	**Visiting Professor** Technische Universität Berlin, Berlin 10623, Germany
July 20-21, 2016	Member of scientific committee The 6th Seminar on Numerical Analysis and Its Applications University of Maragheh, Maragheh, Iran
May 27-29, 2015	Member of scientific committee 12th seminar on differential equations and dynamical systems, University of Tabriz, Tabriz, Iran
Feb 5, 2013 – Feb 4, 2018	**Member of Specialized Commission of the Board of Auditors** Mathematics and Physics sections Azarbaijan Shahid Madani University, Tabriz, Iran

August 26 - 29, 2014	Member of scientific committee 33rd annual conference of Iranian Mathematics Society, University of Semnan, Semnan, Iran
Feb 5, 2013 – Feb 4, 2018	**Associate Professor** Azarbaijan Shahid Madani University, Tabriz, Iran
August 27-30, 2012	Member of scientific committee 34th annual conference of Iranian Mathematics Society, University of Tabriz, Tabriz, Iran
July 11-13, 2012	Member of scientific committee 9th seminar on differential equations and dynamical systems, Azarbaijan Shahid Madani University, Tabriz, Iran
July 11-13, 2012	Chair of organizing committee 9th seminar on differential equations and dynamical systems, Azarbaijan Shahid Madani University, Tabriz, Iran
2012 – Present	Member of Research Group of Processing and Communication Azarbaijan Shahid Madani University, Tabriz, Iran
July 18-19, 2011	Chair of organizing committee 1st Regional seminar of mathematics students, Azarbaijan Shahid Madani University, Tabriz, Iran
2008-2009	Part-time lecturer Payame Noor University, Tabriz, Iran
Aug 2007 - Feb 2013	**Assistant Professor** Azarbaijan Shahid Madani University, Tabriz, Iran
2005-2007	Part-time lecturer Islamic Azad University, South Tehran Branch, Tehran, Iran
2005-2007	Part-time lecturer Shahid Rajaee University, Tehran, Iran
2004-2006	Part-time lecturer University of Applied Science and Technology, Tehran, Iran
2004-2005	Part-time lecturer Iran University of Science and Technology, Tehran, Iran

ADMINISTRATIVE EXPERIENCES

Feb 3, 20 – June 21, 21	**Head of Education Department** Azarbaijan Shahid Madani University, Tabriz, Iran
Jan 23, 19 – April 07, 20	**Head of Department** Department of Mathematics Azarbaijan Shahid Madani University, Tabriz, Iran

Aug 11, 18 – Jan 23, 19	**Head of Department** Department of Applied Mathematics Azarbaijan Shahid Madani University, Tabriz, Iran
Oct 2014 – May 2016	**Vice-Chancellor of Administrative Staff and Financial Affairs** Azarbaijan Shahid Madani University, Tabriz, Iran
Jan 2014 – Oct 2014	**Dean of Faculty of Basic Sciences** Azarbaijan Shahid Madani University, Tabriz, Iran
Nov 2011 – Jan 2014	**Head of Research Department** Azarbaijan Shahid Madani University, Tabriz, Iran
Nov 2010 - Nov 2011	**Head of Industrial Relations Department** Azarbaijan Shahid Madani University, Tabriz, Iran
Nov 2010 - Jan 2011	**Co-Head of Department of Mathematics** Azarbaijan Shahid Madani University, Tabriz, Iran
2007	**Member of National Arbitration Committee** Kharazmi Festival, Tehran, Iran
2006	Member of the Department of Mathematics and Informatics Organization for Educational Research and Planning, Ministry of Education, Iran
2007 - 2013	Local Representative of the Iranian Mathematical Society Azarbaijan Shahid Madani University, Tabriz, Iran

TEACHING EXPERIENCES

Graduate	Integral equations; Advanced Numerical analysis; Approximation theory, Wavelets; Mathematical Image Processing
Undergraduate	Numerical analysis; Differential equations; Mathematics Lab; Linear Algebra Computer Programming; Calculus, Mathematical English for math students

LANGUAGES

Turkish (Azeri)	Native
Persian	Native
English	Advanced
Deutsch	Beginner

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