Curriculum Vitae

Name: Rahim ZAARE-NAHANDI

Birth and Marital Status: 1948, Tabriz, Iran; Married

Positions:

Professor, School of Mathematics, Statistics and Computer Science, University of Tehran, 1992.

Emeritus Professor, University of Tehran, since 2018/3/18.

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Home Address:

Kargar Shomali Avenue, 16th (Farshi Moghaddam) Street, No. 11, Tehran 1438866148, Iran.

Education:

Ph.D. (1982), University of Minnesota (thesis supervisor: Joel Roberts, thesis title: Seminormality of certain generic projections).

M.Sc. (1973), University of Tehran, Iran.

B.Sc. (1971), University of Tehran, Iran.

Administrative Experience:

Vice Dean, Faculty of Science, University of Tehran, 1982-83.

Head, Department of Mathematics, Statistics and Computer Science, University of Tehran, 1988-1990.

President Elect of the Iranian Mathematical Society, 1989-1990 and 1995-96.

Director of Graduate Studies, Department of Mathematics, University of Tehran, 1996-2001.

Member Elect, University Promotion Committee, University of Tehran, 2001-2003 and 2007-2009.

Coordinator, Institute of Mathematics, Institute of Advanced Studies in Basic Sciences, Zanjan, Iran, 2004-2005.

Dean, School of Mathematics, Statistics and Computer Science, 2008-2011.

Head, Department of Mathematics, University of Tehran, 2011-2017.

Coordinator of the Mathematics Prizes of the Iranian Mathematical Society, 2017-2021.

Governing Board, Center for Pure and Applied Mathematics (CIMPA), Nice, France, 2025-2030.

Scholarships and Positions at other Institutes:

Visiting Scholar, University of Bologna, Supported by the Italian CNR, 1988-89.

Associate Member, the Third World Academy of Science (Trieste) and Istituto Matematica Pura e Aplicada (IMPA, Rio de Janeiro), Supported by TWAS and IMPA via Brazilian Cnpq, 1995-1998.

Visiting Scholar, Michigan State University, 1995-96.

Regular Associate Member, the Abdus Salam International Centre for Theoretical Physics, 1995-2002.

Member, Scientific Council, Institute of Physics and Mathematics (IPM), Tehran, Iran, 2000-2009.

Member, Committee for Young Iranian Researcher Prize in Mathematics, IPM, Tehran, Iran, 2001-2002.

Editor-in-Chief, Bulletin of the Iranian Mathematical Society, 2001-2007.

Editor, Bulletin of the Iranian Mathematical Society, 2011-2019.

Head, Stirring Committee for Khwarizmi International Prize, 2004.

Chairman, Committee for Young Iranian Researcher Prize in Mathematics, IPM, Tehran, Iran, 2005.

Invited Visiting Professor, Universite Pierre et Marie Curie, Institut de Mathematiques de Jussieu, Paris, France, March 2006.

Visiting Scientist, IHES (Institut des Hautes Etudes Sientifiques), Paris, France, April-June 2006.

Associate Member, Iranian Academy of Science (Mathematics Branch), 2022-.

Visiting Scholar, University of Genova, Italy, November 2016-February 2017.

Recipient of the Pedagogical Distinction Award of University of Tehran, February 2018.

Member, Center International de Mathématiques Purés et Appliques (CIMPA), approved by the General Assembly on June 28th, 2019.

Member, Advisory Board of the Bulletin of the Iranian Mathematical Society, December 2020-.

Individual Member of the Governing Board of CIMPA (Centre International de Mathématiques Pures et Appliquées), June 2023-June 2028.

Supervised Ph.D. Students with their thesis title:

Hassan Haghighi, Some Properties of Finite Morphisms on Double Points, 1998.

Sead Varsaie, Complex Supermanifolds with Boundary, and, Kahlerian Supermanifolds, 1999.

Rashid Zaare-Nahandi, Groebner Basis and Free Resolution of the Ideal of 2-Minors of a $2\times n$ Matrix of Linear Forms, 1999.

Mohammad Moghaddam, Construction of Valuations by Generalized Quasi Series and MacLane's Key Polynomials, 2007 (joint supervision with Bernard Teissier, Universite Pierre et Marie Curie, Institut de Mathematiques de Jussieu, Paris).

Razieh Ahmadian, Toroidalization of locally toroidal morphisms of 3-folds, 2015 (joint with Steven Dale Cutkosky, University of Missouri).

Courses Taught:

Series of courses in Algebraic Geometry, Commutative Algebra, Homological Algebra, Advanced Algebra, at graduate level; and some courses in Elementary Algebraic Geometry, Elementary Commutative Algebra, Number Theory, Group Theory, Linear Algebra and Calculus, at undergraduate level.

Short courses offered at international institutes:

A short course entitled ``A Brief Introduction to Computational Commutative Algebra" (six lectures), CIMPA Research Summer School, Galatasaray University, Istanbul, Turkey, June 2-10, 2014.

Short Course on Algebra and Introduction to Algebraic Geometry by Michel Waldschmidt (Sorbonne Université) (21 lectures) and Rahim Zaare-Nahandi (University of Tehran) (21 lectures), CIMPA Pre-Ph D courses, Arba Minch University, Arba Minch, Ethiopia, 21 January - 8 February 2019.

Translated Books:

Undergraduate Algebraic Geometry, Miles Reid, translated to Persian, Nashre Daneshgahi, 1996.

An Invitation to Algebraic Geometry, Karen Smith et al, translated to Persian, Nashre Daneshgahi, 2006.

Naming Infinity, Loren Graham and Jean-Michel Kantor, translated to Persian, Fatemi Publishers, First Edition 2014, Second Edition 2015.

Research Interests:

Algebraic structures of generic singularities of algebraic varieties, Weakly normal varieties, Ideals of minors of matrices, Groebner bases of ideals of minors and defining ideals of certain varieties, Minimal free resolutions of monomial ideals, Stanley-Reisner ring of simplicial complexes and graphs, computational and combinatorial aspects of commutative algebra and algebraic geometry.

Languages:

English (fluent), Italian (some), Persian (national language), Turkish (native language).

Selected Papers:

Seminormality of certain generic projections, Compositio Matematica 52 (1984) 245--274, MR 86g:14001, ZM 575.14002.

Transversality of generic projections and seminormality of the image hypersurfaces, Copositio Mathematica 52 (1984) 211--220, (with Joel Roberts), MR 86g:1438, ZM 575.14001.

A basic family of iteration functions for polynomial root finding and its characterizations, Comput. Appl. Math 80 no. 2 (1997) 209--226, (with Bahman Kalantari and Iraj Kalantari), MR 98d:65066.

Some properties of finite morphisms on double points, Compositio Mathematica 121 no. 1 (2000) 35--53, (with Hassan Haghighi and Joel Roberts). MR 2001d:14017.

Groebner basis and free resolution of the ideal of 2-minors of a $2 \times n$ matrix of linear forms, Communications in Algebra 28 no. 9 (2000) 4433--4453, (with Rashid Zaare-Nahandi), MR 2001f:13020.

On the ideals of minors of pluri-circulant matrices, Communications in Algebra 30 no. 8 (2002) 3953--3975, MR 2003i:13018.

The minimal free resolution of a class of square-free monomial ideals, Journal of Pure and Applied Algebra 189 (2004) 263--278, (with Rashid Zaare-Nahandi), MR 2005e:13021.

Ideals of minors defining generic singularities and their Groebner bases, Communications in Algebra 33(8) (2005), 2725--2747, (with Paolo Salmon).

A depth formula for generic singularities and their weak normality, Communications in Algebra 35(12) (2007).

Sequentially S_2 simplicial complexes and sequentially S_2 graphs, Proceedings of American Mathematical Society 139, No. 6 (2011) 1993--2005, (with Hassan Haghighi, Naoki Terai and Siamak Yassemi).

A generalization of k-Cohen-Macaulay simplicial complexes, Arkiv for Matematik 50 (2012) 279--290, (with Hassan Haghighi and Siamak Yassemi).

Cohen-Macaulay bipartite graphs in arbitrary codimension, Proceedings of American Mathematical Society. 143 No. 5 (2015) 1981--1989 (with Hassan Haghighi and Siamak Yassemi).

A generalization of Eagon-Reiner's theorem and a characterization of bi-CM_t bipartite and chordal graphs, Communications in Algebra No. 9 (2018) 3889--3898 (with Hassan Haghighi, S. Amin Seyed Fakhari and Siamak Yassemi).

Simplicial complexes of small codimension, Proceedings of American Mathematical Society 147, No. 8 (2019) 3347--3355, arXiv:1806.05107v1 (with Matteo Varbarao).