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Affiliation and Positions

- *University of Tabriz*, Tabriz, Iran (since 2007). Associate Professor (since 2013).
- (Volunteer) Member of the Scientific Committee of *Tabriz Math House*, Tabriz, Iran (since 2014).
- An Editor of the *Journal of the Iranian Mathematical Society* (2019–2025).
- (Elected) Member of the Board of Directors of the *Iranian Association for Logic* (2019–2022).
- Researcher (Grantee) at the *Institute for Research in Fundamental Sciences* (IPM), Tehran, Iran (2010–2020).

Education and Degrees

Postgraduate Studies

- (2005) PhD in *Theoretical Computer Science*, from University of Turku (UTU), Turku, Finland.
- Supervisor: M. STEINBY. ◦ Awarded study funds by Turku Centre for Computer Science (TUCS).
 - Dissertation: *Varieties of Tree Languages*.
- (2002) PhD in *Mathematical Logic*, from Polish Academy of Sciences (PAN), Warsaw, Poland.
- Supervisor: Z. ADAMOWICZ. ◦ Awarded study funds by the Institute of Mathematics (IMPAN).
 - Dissertation: *Herbrand Consistency in Arithmetics with Bounded Induction*.

Undergraduate Studies

- (1997) BSc in *Pure Mathematics*, from Sharif University of Technology, Tehran, Iran.
- Graduated with Distinction, and the First Rank in the National Mathematical Olympiad 1997.

Research Interests

Mathematics: *Mathematical Logic* (Completeness, Decidability, and Axiomatizability).

Computer Science: *Computability and Complexity Theory* (and relations with Logic).

Philosophy: *Philosophy of Mathematics* (Constructivity, Intuitionism, and Incompleteness).

Publications

Journal Papers and Book Chapters

- (2024) Proving concurrency by loci, *International J. Math. Education in Sci. & Tech.* (forthcoming).
- (2023) On Gödel's "much weaker" assumption, *History and Philosophy of Logic* (forthcoming).
- (2023) A reunion of Gödel, Tarski, Carnap, and Rosser, *Journal of Logic and Computation* (forthcoming).
- (2022) Axiomatic (and non-axiomatic) mathematics, *Rocky Mountain Journal of Mathematics* 52(4):1157–76.
- (2022) [with Z. ASSADI]; Gödelian sentences, Rosserian sentences and truth, *J. Logic & Comput.* 32(4):729–40.
- (2022) Tarski's undefinability theorem and the diagonal lemma, *Logic Journal of the IGPL* 30(3):489–98.
- (2022) 'Sometime a paradox', now proof: Yablo is not first order, *Logic Journal of the IGPL* 30(1):71–7.
- (2021) [with K. LAJEVARDI]; There may be many arithmetical Gödel sentences, *Philosophia Math.* 29(2):278–87.
- (2021) From intuitionism to many-valued logics through Kripke models, in: M. Mojtahedi, et al. (eds.), *Mathematics, Logic, and their Philosophies: Essays in Honour of Mohammad Ardeshir*, Springer, pp. 339–48.
- (2020) Gödel's second incompleteness theorem: how it is derived and what it delivers, *The Bulletin of Symbolic Logic* 26(3-4):241–56.

- (2020) On the diagonal lemma of Gödel and Carnap, *The Bulletin of Symbolic Logic* 26(1):80–8.
- (2020) On rudimentarity, primitive recursivity and representability, *Reports on Mathematical Logic* 55:73–85.
- (2020) [with M. ZARZA]; First-order continuous induction, and a logical study of real closed fields, *Bulletin of the Iranian Mathematical Society* 46(1):225–43.
- (2019) [with K. LAJEVARDI]; On the arithmetical truth of self-referential sentences, *Theoria: A Swedish Journal of Philosophy* 85(1):8–17.
- (2019) [w. Z. ASSADI]; On decidability and axiomatizability of some ordered structures, *Soft Comp.* 23(11):3615–26.
- (2018) [with P. SERAJI]; On constructivity and the Rosser property: a closer look at some Gödelean proofs, *Annals of Pure and Applied Logic* 169(10):971–80.
- (2018) On axiomatizability of the multiplicative theory of numbers, *Fundamenta Informaticae* 159(3):279–96.
- (2018) [with P. SAFARI]; Kripke semantics for fuzzy logics, *Soft Computing* 22(3):839–44.
- (2017) [with P. SERAJI]; Gödel-Rosser’s incompleteness theorem: generalized and optimized for definable theories, *Journal of Logic and Computation* 27(5):1391–7.
- (2017) [with A. KARIMI]; Diagonal arguments and fixed points, *Bulletin Iranian Math. Soc.* 43(5):1073–88.
- (2014) Gödel’s incompleteness phenomenon—computationally, *Philosophia Scientiae* 18(3):23–37.
- (2013) Herbrand consistency of some finite fragments of bounded arithmetical theories, *Archive for Mathematical Logic* 52(3-4):317–33.
- (2012) Herbrand consistency of some arithmetical theories, *The Journal of Symbolic Logic* 22(3):807–27.
- (2012) Separating bounded arithmetical theories by Herbrand consistency, *J. Logic & Comp.* 77(3):545–60.
- (2007) [with M. STEINBY]; Varieties of many-sorted recognizable sets, *Pure Math. & Applications* 18(3-4):319–43.
- (2007) [with M. STEINBY]; Tree algebras and varieties of tree languages, *Theoretical Computer Sci.* 377(1-3):1–24.
- (2005) [with T. PETKOVIĆ]; Positive varieties of tree languages, *Theoretical Computer Science* 347(1):1–35.
- (2005) Varieties of tree languages definable by syntactic monoids, *Acta Cybernetica* 17(1):21–41.
- (2005) Congruence preserving functions of Wilke’s tree algebras, *Algebra Universalis* 53(4):451–70.
- (2005) Polynomially bounded recursive realizability, *Notre Dame Journal of Formal Logic* 46(4):407–17.
- (2003) Provably total functions of Basic Arithmetic, *Mathematical Logic Quarterly* 49(3):316–22.
- (2003) [with M. ARDESHIR & W. RUITENBURG]; Intuitionistic axiomatizations for bounded extension Kripke models, *Annals of Pure and Applied Logic* 124(1-3):267–85.
- (2002) Decidable formulas of intuitionistic primitive recursive arithmetic, *Reports on Math. Logic* 36:55–61.

Conference Papers

- (2012) Axiomatizing mathematical theories: multiplication, in: A. Kamali-Nejad (ed.), *Proceedings of Frontiers in Mathematical Sciences*, Fundamental Education Publications (Iran), pp. 165–76.
- (2012) Computation in logic and logic in computation, in: B. Sadeghi-Bigham (ed.), *Proceedings of the 3rd Contemporary Issues in Computer and Information Sciences (CICIS’12)*, Brown Walker Press (USA), pp. 580–3.
- (2003) A completeness property of Wilke’s tree algebras, in: B. Rovan & P. Vojtáš (eds.), *Proceedings of the Mathematical Foundations of Computer Science (MFCS’03)*, LNCS 2747, Springer, pp. 662–70.
- (2001) Unprovability of Herbrand consistency in weak arithmetics, in: K. Striegnitz (ed.), *Proceedings of European Summer School in Logic, Language and Information (ESSLLI’01)*, Student Session, pp. 265–74.

Publications in Persian

- (2019) [with P. SAFARI]; Truth values and connectives in some non-classical logics, *Journal of New Researches in Mathematics* 5(19):31–6.
- (2010) Logical number theory, *Newsletter of the Iranian Mathematical Society* 32(3-4):16.

Manuscripts

- (2023) On Chaitin’s Heuristic Principle and Halting Probability, [arXiv:2310.14807](https://arxiv.org/abs/2310.14807).

- (2023) [with K. LAJEVARDI]; Soundness does not come for free (if at all), arXiv:2310.13422.
 (2023) [with K. LAJEVARDI]; On a fallacy concerning I-am-unprovable sentences, arXiv:2311.06568.
 (2015) Theorems of Tarski's undefinability & Gödel's 2nd incompleteness–computationally, arXiv:1509.00164.
 (2014) [with A. KARIMI]; Theoremizing Yablo's paradox, arXiv:1406.0134.

Editorial Services

Reviewer for

- *Zentralblatt MATH* (zbMATH) of the European Mathematical Society (EMS). *Distinguished Reviewer 2014*.
- *Mathematical Reviews* (MR) of the American Mathematical Society (AMS).

Referee for

- *The Journal of Symbolic Logic* (JSL of the Association for Symbolic Logic).
- *Annals of Pure and Applied Logic* (APAL of Elsevier).
- *Journal of Logic and Computation* (JLC of the Oxford University Press).
- *Theoretical Computer Science* (TCS of Elsevier).
- *The Review of Symbolic Logic* (RSL of the Association for Symbolic Logic).
- *Philosophia Mathematica* (PhilMath of the Oxford University Press).
- *Logic Journal of the Interest Group in Pure and Applied Logics* (IGPL of the Oxford University Press).
- *ACM Transactions on Computational Logic* (TOCL of the Association for Computing Machinery).
- *International Journal of Foundations of Computer Science* (IJFCS of the World Scientific).
- *Bulletin of the Iranian Mathematical Society* (BIMS of Springer).
- *Journal of Logic, Language and Information* (JLLI of Springer).
- *Discussiones Mathematicae—General Algebra and Applications* (DMGAA of the University of Zielona Góra).
- *Notre Dame Journal of Formal Logic* (NDJFL of the University of Notre Dame).
- (Proceedings of the) Conferences: (i) WoLLIC 2017, (ii) AFL 2011, (iii) ICALP 2004.
- Iran National Science Foundation (INSF).
- *Iranian Journal of Mathematical Sciences and Informatics* (IJMSI of Tarbiat Modares University).
- *Mathematical Culture and Thought* (MCT of the Iranian Mathematical Society, *in Persian*).

Conferences and Visits

Organization (a selection)

- (2023) A Member of the Scientific Committee of the 10th Annual Conference of the Iranian Association for Logic (IAL'23), Amirkabir University of Technology, Tehran, Iran, 22–23 February 2023.
 (2019) A Member of the Scientific Committee of the 6th Annual Conference of the Iranian Association for Logic (IAL'19), Shahid Beheshti University, Tehran, Iran, 21–22 January 2019.
 (2017) A Member of the Scientific Committee of the 5th Annual Conference of the Iranian Association for Logic (IAL'17), Amirkabir University of Technology, Tehran, Iran, 22–25 November 2017.
 (2010) Chair of *Tabriz Seminar on Mathematical Logic*, University of Tabriz, Iran, 27–28 October 2010.
 (2007) A member of the Scientific Committee of the 38th Annual Iranian Mathematics Conference (AIMC'38), Zanjan University, Zanjan, Iran, 3–6 September 2007.

Invited Talks (a selection)

- (2021) International Workshop on Gödel's Incompleteness Theorems [online] (Wuhan'21), Wuhan University, Wuhan, China, 16–20 August 2021. • Title: *Some Fairies in the Incompleteness Wonderland*.
 (2021) Celebrating 90 Years of Gödel's Incompleteness Theorems [online and on-site] (Tübingen'21), Carl Friedrich von Weizsäcker Center, Nürtingen, Germany, 5–9 July 2021.
 • Title: *The Diagonalization Lemma – Demystified Hopefully*.

- (2017) Workshop on Proof Theory, Modal Logic and Reflection Principles (*Wormshop'17*), Steklov Mathematical Institute, Moscow, Russia, 17–20 October 2017. • Title: *Diagonal-Free Proofs of the Diagonal Lemma*.
- (2016) Meta–arithmetical Results and their Philosophical Meaning (*Swamplandia'16*), Faculty of Arts and Philosophy, Ghent University, Ghent, Belgium, 30 May–1 June 2016.
• Title (Tutorial): *Gödel's Incompleteness Theorem: Constructivity of its Various Proofs*.
• Title (Talk): *Theoremizing Paradoxes: Turning Puzzles into Proofs*.
- (2015) The 3rd Annual Conference of the Iranian Association for Logic (*IAL'15*), Tarbiat Modares University, Tehran, Iran, 22–23 December 2015.
• Title: *Logic and Computation: A Constructive Look at Proofs of Gödel's Incompleteness Theorem*.
- (2014) The 10th International Tbilisi Summer School in Logic and Language (*Tbilisi'14*), Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia, 22–27 September 2014.
• Title (Tutorial): *Axiomatic Mathematics: Issues of Decidability in Logic*.
- (2012) The 3rd International Conference on Contemporary Issues in Computer and Information Sciences (*CICIS'12*), the Institute for Advanced Studies in Basic Sciences, Zanjan, Iran, 29–31 May 2012.
• Title: *Computation in Logic and Logic in Computation*.
- (2008) Foundations and Trends in Computer Science (*FTCS'08*), Winter School by IPM School of Computer Science and United Nations University, IPM, Tehran, Iran, 31 January–10 February 2008.
• Title (Tutorial): *Logics in Computer Science*.
- (2007) IPM Logic Conference (*IPM-LC'07*), IPM, Tehran, Iran, 10–15 June 2007.
• Title: *Modal Logic of Herbrand Consistency in Weak Arithmetics*.
- (2006) Algebraic Theory of Automata and Logic (*ATAL'06*), a satellite event of the conference Computer Science Logic (*CSL'06*), Szeged, Hungary, 30 September–1 October 2006.
• Title: *Characterizing Families of Tree Languages by Syntactic Monoids*.

Contributed Talks (a selection)

- (2015) The 5th World Congress on Universal Logic (*UniLog'15*), University of Istanbul, Turkey, 20–30 June 2015.
• Title: *Theorems of Tarski and Gödel's Second Incompleteness—Computationally*.
- (2013) Frontiers in Mathematical Sciences—The Second Conference (*Front'13*), Sharif University of Technology, Tehran, Iran, 25–27 December 2013. • Title: *Diagonalizing Out by Fixed-Points and Self-Reference*.
- (2012) Frontiers in Mathematical Sciences—A Conference in Honor of Siavash Shahshahani (*Front'12*), Sharif University of Technology, Tehran, Iran, 25–27 December 2012.
• Title: *Axiomatizing Mathematical Theories: Multiplication*.
- (2011) The 14th Congress of Logic, Methodology and Philosophy of Science (*CLMPS'2011*), Nancy, France, 19–26 July 2011. • Title: *Gödel's Incompleteness Phenomenon from Computational Viewpoint*.
- (2011) The ASL European Summer Meeting, Logic Colloquium (*LC'11*), Barcelona, Spain, 11–16 July 2011.
• Title: *On Herbrand Consistency of Bounded Arithmetics*.
- (2010) The International Workshop on Logical Approaches to Barriers in Computing and Complexity (*LABCC'10*), Alfried Krupp Wissenschaftskolleg, Greifswald, Germany, 17–20 February 2010.
• Title: *Herbrand Consistency of $\text{I}\Delta_0$ and $\text{I}\Delta_0 + \Omega_1$* . [On a travel grant].
- (2004) The Fourth European Congress of Mathematics (*4ECM*), Stockholm, Sweden, 27 June–2 July 2004.
• Title: *A Model-Theoretic Proof of an Incompleteness Theorem* (poster). [On a travel grant].
- (2003) The 28th International Symposium on Mathematical Foundations of Computer Science (*MFCS'03*), Bratislava, Slovakia, 25–29 August 2003. • Title: *A Completeness Property of Wilke's Tree Algebras*.
- (2002) The 10th International Conference on Automata and Formal Languages (*AFL'02*), Debrecen, Hungary, 13–18 August 2002. • Title: *Tree Algebras*.
- (2001) The (6th) Student Session of the (13th) European Summer School in Logic, Language and Information (*ESSLLI'01*), Helsinki, Finland, 13–24 August 2001.
• Title: *Unprovability of Herbrand Consistency in Weak Arithmetics*. [On a Travel Grant].

- (2001) The ASL European Summer Meeting, Logic Colloquium (LC'01), Vienna, Austria, 6–11 August 2001.
 • Title: *Unprovability of Herbrand Consistency in Weak Arithmetics*. [On an ASL Student Travel Grant].
- (2000) The ASL European Summer Meeting, Logic Colloquium (LC'00), Paris, France, 23–31 July 2000.
 • Title: *A Generalized Realizability for Constructive Arithmetics*. [On an ASL Student Travel Grant].
- (1999) The ASL European Summer Meeting, Logic Colloquium (LC'99), Utrecht, The Netherlands, 1–6 August 1999. • Title: *Intuitionistic Axiomatization of End-Extension Kripke Models*. [On an ASL Travel Grant].

Other Visits (a selection)

- (2007) Post-doctoral (funded) visit to Department of Mathematics, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, October 2006–September 2007.
- (2006) Post-doctoral (funded) visit to Research Group for Theoretical Computer Science and Logic, Institute of Computer Science and Applied Mathematics, Universität Bern, Bern, Switzerland, September 2006.
- (2006) Post-doctoral (funded) visit to Department of Philosophy, Universiteit Utrecht, Utrecht, The Netherlands, April 2006.
- (2003) Participation (on a grant) at Summer School on Structural Theory of Automata, Semigroups and Universal Algebra, NATO Advanced Study Institute and Université de Montréal, Montreal, Canada, 7–18 July 2003.
- (2003) Participation (on a grant) at Summer School and Workshop on Proof Theory, Computation and Complexity, Technische Universität Dresden, Dresden, Germany, 23 June–4 July 2003.

Teaching and Supervising

Taught Courses (a selection)

- Postgraduate Courses
Advanced Computability Theory • Complexity Theory • Logical Number Theory • Logic and Computation • Recursion Theory • Proof Theory • Modal Logic • Advanced Mathematical Logic • Universal Algebra.
- Undergraduate Courses
Foundations of Mathematics • Mathematical Logic • Set Theory • Discrete Mathematics • Number Theory • Theory of Automata and Formal Languages • English as Lingua Franca for Mathematics • Calculus.

Supervised PhD Theses

- Department of Mathematics, University of Tabriz, Tabriz, Iran (in Persian):
- (2019) M. ZARZA, *Axiomatizations of Subfields of the Real Numbers*.
- (2019) Z. ASSADI, *Decidability of the Multiplicative and Order Theory of Numbers*.
- (2017) P. SAFARI, *Investigating Kripke Semantics for Fuzzy Logics*.
- (2016) P. SERAJI, *Rosserizing and Effectivizing Some Proofs of the First Incompleteness Theorem*.
- Department of Mathematics, Tarbiat Modares University, Tehran, Iran (in Persian):
- (2014) A. KARIMI, *Innovative Types in Unified Diagonal Argument*.

Supervised MSc Theses

- Department of Mathematics, University of Tabriz, Tabriz, Iran (in Persian):
- (2018) E. ROKNI, *Bounded Relations and their Relation to Primitive Recursive Relations*.
- (2017) Y. NOBAKHT, *Necessary and Sufficient Conditions for Undecidability of the Gödel Sentence and its Truth*.
- (2017) SH. KHALEGHI, *Standard Proofs for Gödel's Second Incompleteness Theorem*.
- (2016) M. A. TAREEGHEE, *Yablo's Paradox in Second-Order Logic*.
- (2015) V. DELARAMOGHANLOO, *Yablo's Paradox and Gödel's Incompleteness Theorems*.
- (2015) S. GHANIZADEH, *Kolmogorov Complexity and Characteristic Constants of Formal Theories of Arithmetic*.
- (2015) S. SARVARI MEHRABAD, *On Proofs of the Incompleteness Theorems Based on Berry's Paradox*.
- (2015) M. SAHAHI, *The Incompleteness Theorems of Gödel and Rosser*.

- (2014) H. SHIRZADEH, *The Shortest Definition of a Number in Peano Arithmetic*.
 (2014) P. GHAEMI, *The Surprise Examination Paradox and the Second Incompleteness Theorem*.
 (2014) SH. SADEGHI BIGHAM, *Undecidability of First-Order Logic*.
 (2013) M. MOHAMMADIAN, *Incompleteness in a General Setting*.
 (2012) S. ESMATI, *Nonstandard Models that are Definable in Peano Arithmetic*.
 (2012) F. AZARPEYVAND, *Heterologicality and Incompleteness*.
 (2012) N. JANGI BAHADOR, *An Interpolation Theorem in First-Order Logic*.
 (2010) M. ABEDINI, *A Universal Approach to Self-Referential Paradoxes, Incompleteness and Fixed Points*.
 ◦ Department of Mathematics, Institute for Advanced Studies in Basic Sciences, Zanjan, Iran (in Persian):
 (2010) F. ELMI, *A Study of Algebraic Structures By Logical Tools*.

Supervised BSc Theses

- Department of Mathematics, University of Tabriz, Tabriz, Iran (in Persian):
 (2014) S. HOSSEINKHANI, *A Mathematical Introduction to Logic*.
 (2013) A. ESMAILZADEH, *The Philosophy and Logic of Mathematics*.
 (2012) M. JAFARI, *The Foundations of Mathematical Sciences and Set Theory*.
 (2011) M. REZAYATI, *Mathematical Logic and Set Theory*.
 (2010) F. KARIMI, *The Foundations of Mathematics and Its Problems*.

Honors and Awards

Grant Acquisition as PI (a selection)

- National Elites Foundation (BMN), Tehran, Iran (2008–2009).
 ◦ Iran National Science Foundation (INSF), Tehran, Iran (2018).
 ◦ Institute for Research in Fundamental Sciences (IPM), Tehran, Iran (2007, 2010–2017, 2019).
 ◦ University of Tabriz, Tabriz, Iran (2017–2020).

Honors (a selection)

- (2014) Distinguished Reviewer of *Zentralblatt MATH*.
 (1997) The first rank in the national Mathematical Olympiad of University Students
 (in both of the 1st and the 2nd/final rounds), Iran.
 (1997) The first ranked graduate of Mathematics from Sharif University of Technology, Tehran, Iran.

Awards (a selection)

- Grant for participating at
 * LABCC'10, Greifswald, Germany, 17–20 February 2010 (with delivering a talk).
 * 4ECM, Stockholm, Sweden, 27 June–2 July 2004 (with presenting a poster).
 * SMS-NATO ASI 2003, Université de Montréal, Montreal, Canada, 7–18 July 2003.
 * PT-Event, Technische Universität Dresden, Dresden, Germany, 23 June–4 July 2003.
 * ESSLLI'01, Helsinki, Finland, 13–24 August 2001 (with delivering a talk).
 ◦ ASL Student Travel Grants for participating and delivering talks at LOGIC COLLOQUIUMS in
 1999 (Utrecht, The Netherlands), 2000 (Paris, France), and 2001 (Vienna, Austria).
 ◦ Grants for PhD Studentship from IMPAN (Poland, 1999–2000) and TUCS (Finland, 2000–2005).

Miscellanea

Some Internet Links

GoogleScholar: xI4on2oAAAAJ	PhilPapers: Saeed Salehi	Publons: Y-3287-2019	arXiv: salehi_s_1
ResearchGate: Saeed-Salehi-2	Math.Genealogy: 93048	MathSciNet: 714784	DBLP: pid/95/520
ORCID: 0000-0001-6961-5749	Academia: SaeedSalehi	Scopus: 9277111900	zbMATH: 10864
SemanticScholar: 1468709567			exaly: 93861