

**SAEED SALEHI, Ph.D.**

Associate Professor of Mathematics

(Logic &amp; Computer Sciences)



Research Institute for Fundamental Sciences,  
University of Tabriz, 29 Bahman Boulevard,  
P.O.Box 51666–16471, Tabriz, IRAN.

School of Mathematics, IPM, Tehran.

web: <http://SaeedSalehi.ir/>  
email: [root@SaeedSalehi.ir](mailto:root@SaeedSalehi.ir)  
email: [saeedsalehi@ipm.ir](mailto:saeedsalehi@ipm.ir)  
tel: +98 41 3339 3930  
fax: +98 41 3325 0399

## Positions & Affiliations

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### • Teaching:

- Associate Professor of Mathematics (Logic & Computer Science) at the [University of Tabriz](#), Tabriz, IRAN (2013—Present).
- Assistant Professor of Mathematics (Logic & Computer Science) at the [University of Tabriz](#), Tabriz, IRAN (2007—2013).

### • Research:

- Associate Researcher ([non-resident](#)) at the Logic Group, School of Mathematics, Institute for Research in Fundamental Sciences ([IPM](#)), Tehran, IRAN (2010—Present).

## Education & Degrees

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### • Postgraduate Studies:

- Ph.D. in *Theoretical Computer Science*, from University of Turku, Turku, FINLAND (2005) under the supervision of Professor [MAGNUS STEINBY](#).  
Dissertation: *Varieties of Tree Languages*.
- Ph.D. in *Mathematical Logic*, from Polish Academy of Sciences, Warsaw, POLAND (2002) under the supervision of Professor [ZOFIA ADAMOWICZ](#).  
Dissertation: *Herbrand Consistency in Arithmetics with Bounded Induction*.

### • Undergraduate Studies:

- B.Sc. in Pure Mathematics, from [Sharif University of Technology](#), Tehran, IRAN (1997).  
*Summa Cum Laude* & The First Rank in the Mathematical Olympiad of University Students 1997.

## Publications

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### • Journal Papers:

- SAEED SALEHI & MOHAMMADSALEH ZARZA, [First-Order Continuous Induction, and a Logical Study of Real Closed Fields](#), to appear in *Bulletin of the Iranian Mathematical Society*. DOI: 10.1007/s41980-019-00252-0
- KAAVE LAJEVARDI & SAEED SALEHI, [On the Arithmetical Truth of Self-Referential Sentences](#), in *Theoria*, Volume 85, No. 1 (2019) pages 8–17.
- ZIBA ASSADI & SAEED SALEHI, [On Decidability and Axiomatizability of Some Ordered Structures](#), in *Soft Computing*, Volume 23, No. 11 (2019) pages 3615–3626.
- SAEED SALEHI & PAYAM SERAJI, [On constructivity and the Rosser property: a closer look at some Gödelean proofs](#), in *Annals of Pure and Applied Logic*, Vol. 169, No. 10 (2018) pages 971–980.
- SAEED SALEHI, [On Axiomatizability of the Multiplicative Theory of Numbers](#), in *Fundamenta Informaticæ*, Vol. 159, No. 3 (2018) pages 279–296.
- PARVIN SAFARI & SAEED SALEHI, [Kripke Semantics for Fuzzy Logics](#), in *Soft Computing*, Vol. 22, No. 3 (2018) pages 839–844.
- SAEED SALEHI & PAYAM SERAJI, [Gödel-Rosser’s Incompleteness Theorem: generalized and optimized for definable theories](#), in *Journal of Logic and Computation*, Vol. 27, No. 5 (2017) pages 1391–1397.
- AHMAD KARIMI & SAEED SALEHI, [Diagonal Arguments and Fixed Points](#), in *Bulletin of the Iranian Mathematical Society*, Vol. 43, No. 5 (2017) pages 1073–1088.
- SAEED SALEHI, [Gödel’s Incompleteness Phenomenon—Computationally](#), in *Philosophia Scientiæ*, Vol. 18, No. 3 (2014) pages 23–37.
- SAEED SALEHI, [Herbrand Consistency of Some Finite Fragments of Bounded Arithmetical Theories](#), in *Archive for Mathematical Logic*, Vol. 52, No. 3–4 (2013) pages 317–333.
- SAEED SALEHI, [Herbrand Consistency of Some Arithmetical Theories](#), in *The Journal of Symbolic Logic*, Vol. 22, No. 3 (2012) pages 807–827.
- SAEED SALEHI, [Separating Bounded Arithmetical Theories by Herbrand Consistency](#), in *Journal of Logic and Computation*, Vol. 77, No. 3 (2012) pages 545–560.
- SAEED SALEHI & MAGNUS STEINBY, [Varieties of Many-Sorted Recognizable Sets](#), in *Pure Mathematics and Applications*, Vol. 18, No. 3–4 (2007) pages 319–343.
- SAEED SALEHI & MAGNUS STEINBY, [Tree Algebras and Varieties of Tree Languages](#), in *Theoretical Computer Science*, Vol. 377, No. 1–3 (2007) pages 1–24.
- TATJANA PETKOVIĆ & SAEED SALEHI, [Positive Varieties of Tree Languages](#), in *Theoretical Computer Science*, Vol. 347, No. 1 (2005) pages 1–35.
- SAEED SALEHI, [Polynomially Bounded Recursive Realizability](#), in *Notre Dame Journal of Formal Logic*, Vol. 46, No. 4 (2005) pages 407–417.
- SAEED SALEHI, [Congruence Preserving Functions of Wilke’s Tree Algebras](#), in *Algebra Universalis*, Vol. 53, No. 4 (2005) pages 451–470.
- SAEED SALEHI, [Varieties of Tree Languages Definable by Syntactic Monoids](#), in *Acta Cybernetica*, Vol. 17, No. 1 (2005) pages 21–41.
- SAEED SALEHI, [Provably Total Functions of Basic Arithmetic](#), in *Mathematical Logic Quarterly*, Vol. 49, No. 3 (2003) pages 316–322.
- MOHAMMAD ARDESHIR & WIM RUITENBURG & SAEED SALEHI, [Intuitionistic Axiomatizations for Bounded Extension Kripke Models](#), in *Annals of Pure and Applied Logic*, Vol. 124, No. 1–3 (2003) pages 267–285.

- SAEED SALEHI, [Decidable Formulas of Intuitionistic Primitive Recursive Arithmetic](#), in *Reports on Mathematical Logic*, Vol. 36 (2002) pages 55–61.
- **Books:**
  - SAEED SALEHI, [A Structural Theory for Varieties of Tree Languages: an algebraic study of the theory of formal tree languages and tree automata](#), VDM Verlag Dr. Müller, Germany (2010). ISBN: 9783639230550.
- **Conference Papers:**
  - SAEED SALEHI, [Axiomatizing Mathematical Theories: Multiplication](#), in: A. Kamali-Nejad (ed.) *Proceedings of Frontiers in Mathematical Sciences*, Fundamental Education Publications (IRAN 2012) pages 165–176.
  - SAEED SALEHI, [Computation in Logic and Logic in Computation](#), in: B. Sadeghi-Bigham (ed.), *Proceedings of the Third International Conference on Contemporary Issues in Computer and Information Sciences*, Brown Walker Press (USA 2012) pages 580–583.
  - SAEED SALEHI, [A Completeness Property of Wilke’s Tree Algebras](#), in: B. Rován & P. Vojtáš (eds.) *Proceedings of the Mathematical Foundations of Computer Science 2003*, Lecture Notes in Computer Science 2747, Springer–Verlag (GERMANY 2003) pages 662–670.
  - SAEED SALEHI, [Unprovability of Herbrand Consistency in Weak Arithmetics](#), in: Kristina Striegnitz (ed.) *Proceedings of the Student Session of the 6th European Summer School in Logic Language and Information* (FINLAND 2001) pages 265–274.
- **Preprints:**
  - SAEED SALEHI, [Theorems of Tarski’s Undefinability and Gödel’s Second Incompleteness—Computationally](#), arXiv:1509.00164 (01.06.2017).
  - AHMAD KARIMI & SAEED SALEHI, [Theoremizing Yablo’s Paradox](#), arXiv:1406.0134 (01.06.2014).

## Referee & Review

- **Referee for:**
  - Theoretical Computer Science ([TCS](#) of Elsevier).
  - Notre Dame Journal of Formal Logic ([NDJFL](#)).
  - International Journal of Foundations of Computer Science ([IJFCS](#) of World Scientific).
  - Bulletin of the Iranian Mathematical Society ([BIMS](#) of Springer).
  - *Discussiones Mathematicæ—General Algebra and Applications* ([DMGAA](#)).
  - Proceedings of the 24<sup>th</sup> International Workshop on Logic, Language, Information, and Computation ([WoLLIC 2017](#)) 18–21 July 2017, London, UK (LNCS 10388, Springer 2017).
  - Proceedings of the 13<sup>th</sup> International Conference on Automata and Formal Languages ([AFL’11](#)) 17–22 August 2011, Debrecen, HUNGARY (edited by Pál Dömösi & Szabolcs Iván and published by the Institute of Mathematics and Computer Science of Nyíregyháza College).
  - Proceedings of the 31<sup>st</sup> International Colloquium on Automata, Languages and Programming ([ICALP’04](#)) 12–16 July 2004, Turku, FINLAND (LNCS 3142, Springer–Verlag 2004).
  - Iran National Science Foundation ([INSF](#)).
  - Iranian Journal of Mathematical Sciences and Informatics ([IJMSI](#)).
- **Reviewer for:**
  - Mathematical Reviews ([MR](#)) of the American Mathematical Society (AMS).
  - Zentralblatt MATH ([Zbl](#)) of the European Mathematical Society (EMS).

## Conferences & Visits

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- **Organization:**

- Chair of *Tabriz Seminar on Mathematical Logic*, Univ. of Tabriz, IRAN, 27–28 October 2010.
- A member of the Scientific Committee of *the 38<sup>th</sup> Annual Iranian Mathematics Conference (AIMC'38)*, Zanjan University, Zanjan, IRAN, 3–6 September 2007.

- **Invited Talks/Lectures:**

- *Workshop on Proof Theory, Modal Logic and Reflection Principles (Wormshop 2017)*, Steklov Mathematical Institute, Moscow, RUSSIA, 17–20 October 2017.  
Title: *Diagonal-Free Proofs of the Diagonal Lemma*.
- *Meta-Arithmetical Results and their Philosophical Meaning (Swamplandia 2016)*, Faculty of Arts and Philosophy, Ghent University, BELGIUM, 30 May 30 – 1 June 2016.  
Title (Tutorial): *Gödel's Incompleteness Theorem: Constructivity of its Various Proofs*.  
Title (Talk): *Theoremizing Paradoxes: Turning Puzzles into Proofs*.
- *IPM-Isfahan Workshop on Various Aspects of Modality (Isfahan 2016)*, IPM-Isfahan Branch, Isfahan, IRAN, 12 May 2016.  
Title: *Turning Yablo's Paradoxes into Modality Theorems*.
- *The 10<sup>th</sup> International Tbilisi Summer School in Logic and Language (Tbilisi 2014)*, Ivane Javakhishvili Tbilisi State University, Tbilisi, GEORGIA, 22–27 September 2014.  
Title: *Axiomatic Mathematics: Issues of Decidability in Logic*.
- *The 3<sup>rd</sup> International Conference on Contemporary Issues in Computer and Information Sciences (CICIS 2012)*, the Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, IRAN, 29–31 May 2012. Title: *Computation in Logic and Logic in Computation*.
- *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: *Logics in Computer Science*.
- *IPM Logic Conference (IPM-LC'07)*, IPM, Tehran, IRAN, 10–15 June 2007.  
Title: *Modal Logic of Herbrand Consistency in Weak Arithmetics*.
- *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:**

- *The 5<sup>th</sup> World Congress and School on Universal Logic*, University of Istanbul, Istanbul, TURKEY, 20–30 June 2015. Title: *Theorems of Tarski and Gödel's Second Incompleteness—Computationally*.
- *Frontiers in Mathematical Sciences*—The Second Conference, Sharif University of Technology, Tehran, IRAN, 25–27 December 2013.  
Title: *Diagonalizing Out by Fixed-Points and Self-Reference*.
- *Frontiers in Mathematical Sciences*—A Conference in Honor of Siavash Shahshahani, Sharif University of Technology, Tehran, IRAN, 25–27 December 2012.  
Title: *Axiomatizing Mathematical Theories: Multiplication*.
- *The 14<sup>th</sup> Congress of Logic, Methodology and Philosophy of Science (CLMPS'2011)*, Nancy, FRANCE, 19–26 July 2011. Title: *Gödel's Incompleteness Phenomenon from Computational Viewpoint*.
- *The ASL European Summer Meeting, Logic Colloquium (LC'11)*, Barcelona, SPAIN, 11–16 July 2011. Title: *On Herbrand Consistency of Bounded Arithmetics*.
- *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  $I\Delta_0$  and  $I\Delta_0 + \Omega_1$* .

- *The 28<sup>th</sup> International Symposium on Mathematical Foundations of Computer Science (MFCS'03)*, Hotel Sorea, Bratislava, SLOVAKIA, 25–29 August 2003.  
Title: *A Completeness Property of Wilke's Tree Algebras*.
- *The 10<sup>th</sup> International Conference on Automata and Formal Languages (AFL'02)*, Hotel Aranybika, Debrecen, HUNGARY, 13–18 August 2002. Title: *Tree Algebras*.
- The Student Session of *the 13<sup>th</sup> European Summer School in Logic, Language and Information (ESSLLI'01)*, Helsinki, FINLAND, 13–24 August 2001.  
Title: *Unprovability of Herbrand Consistency in Weak Arithmetics*.
- *The ASL European Summer Meeting, Logic Colloquium (LC'01)*, Vienna, AUSTRIA, 6–11 August 2001. Title: *Unprovability of Herbrand Consistency in Weak Arithmetics*.
- *The ASL European Summer Meeting, Logic Colloquium (LC'00)*, Paris, FRANCE, 23–31 July 2000. Title: *A Generalized Realizability for Constructive Arithmetics*.
- *The ASL European Summer Meeting, Logic Colloquium (LC'99)*, Utrecht, THE NETHERLANDS, 1–6 August 1999. Title: *Intuitionistic Axiomatization of End-Extension Kripke Models*.
- **Poster Presentations:**
  - *The Fourth European Congress of Mathematics (4ECM)*, Stockholm, SWEDEN, 27 June – 2 July 2004. Title: *A Model-Theoretic Proof of an Incompleteness Theorem*.
- **Post-doctoral Visits:**
  - October 2006—September 2007: Department of Mathematics, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, IRAN.
  - September 2006: *Research Group for Theoretical Computer Science and Logic*, Institute of Computer Science and Applied Mathematics, Universität Bern, Bern, SWITZERLAND.
  - April 2006: *Department of Philosophy*, Universiteit Utrecht, Utrecht, THE NETHERLANDS.

## Teaching & Supervising

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- **Taught Courses:**
  - (Post-)Graduate Courses:  
*Advanced Mathematical Logic . Recursion Theory . Proof Theory . Modal Logic . Topics in Mathematical Logic . Logic and Computation . Topics in Set Theory . Universal Algebra . Logical Number Theory . Advanced Computability Theory . Complexity Theory . Expert Systems and Knowledge Engineering . Symbolic Computing . Theory of Computer Science . Logic and Methodology of Research . Logic Programming*
  - Undergraduate Courses:  
*The Foundations of Mathematics . Mathematical Logic . Theory of Sets . Theory of Automata and Formal Languages . Theory of Computability . Coding Theory . English for Mathematics . Calculus I . Calculus II . Foundations of Combinatorics . Foundations of Logic and Set Theory*
- **Supervised Ph.D. Theses:**
  - ZAHRA SHEIKHOESLAMI (in progress) *Studying the Induction Principle and the Structure of Rational Numbers in Different Languages*.
  - MOHAMMADSALEH ZARZA (in progress) *Axiomatizations of Subfields of the Real Numbers*.
  - ZIBA ASSADI (2019) *Decidability of the Multiplicative and Order Theory of Numbers*.
  - PARVIN SAFARI (2017) *Investigating Kripke Semantics for Fuzzy Logics*.
  - PAYAM SERAJI (2016) *Rosserizing and Effectivizing Some Proofs of the First Incompleteness Theorem*.
  - AHMAD KARIMI (2014) *Innovative Types in Unified Diagonal Argument*.

- **Supervised M.Sc. Theses:**

- ELAHEH ROKNI (2018) *Bounded Relations and their Relation to Primitive Recursive Relations.*
- YUSEF NOBAKHT (2017) *Necessary and Sufficient Conditions for Undecidability of Gödel Sentence and its Truth.*
- SHIVA KHELEGHI (2017) *Standard Proofs for Gödel's Second Incompleteness Theorem.*
- MOHAMMADAMIN TAREEGHEE (2016) *Yablo's Paradox in Second-Order Logic.*
- VALI DELARAMOGHANLOO (2015) *Yablo's Paradox and Gödel's Incompleteness Theorems.*
- SAJAD GHANIZADEHZARE (2015) *Kolmogorov Complexity and Characteristic Constants of Formal Theories of Arithmetic.*
- SONIA SARVARI MEHRABAD (2015) *On Proofs of the Incompleteness Theorems Based on Berry's Paradox.*
- MEHRNOOSH SAHAHI (2015) *The Incompleteness Theorems of Gödel and Rosser.*
- HOJJAT SHIRZADEH (2014) *The Shortest Definition of a Number in Peano Arithmetic.*
- PARINAZ GHAEMI (2014) *The Surprise Examination Paradox and the Second Incompleteness Theorem.*
- SHOKOUFEH SADEGHI BIGHAM (2014) *Undecidability of First-Order Logic.*
- MINA MOHAMMADIAN (2013) *Incompleteness in a General Setting.*
- SAFDAR ESMATI MEHRABANI (2012) *Nonstandard Models that are Definable in Peano Arithmetic.*
- FATEME AZARPEYVAND (2012) *Heterologicality and Incompleteness.*
- NAYYER JANGI BAHADOR (2012) *An Interpolation Theorem in First-Order Logic.*
- MARYAM SALEH MOHAMMADZED (2012) *A New Method for Service Discovery in Pervasive Computing Environment Using Active Databases.*
- MOHAMMAD JAVAD SHEIKHZADEH (2011) *An Optimized OMR Solution for Recognizing Multi-Choice Questionnaires.*
- TAHMURAS NOHEKHAN SHISHAVAN (2010) *A Dynamic Date Replication Method to Increase the Performance of Data Grids.*
- MAHDI ABEDINI (2010) *A Universal Approach to Self-Referential Paradoxes, Incompleteness and Fixed Points.*
- FARZAD ELMI (2010) *A Study of Algebraic Structures By Logical Tools.*

- **Supervised B.Sc. Theses:**

- AMIN ESMAILZADEH (2012) *The Philosophy and Logic of Mathematics.*
- MEHDI REZAYATI (2011) *Mathematical Logic and Set Theory.*
- MASOUD JAFARI (2011) *The Foundations of Mathematical Sciences and Set Theory.*
- FATEMEH KARIMI (2010) *The Foundations of Mathematics and their Problems.*

## Internet Links & Identities

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- GOOGLE SCHOLAR: [xI4on2oAAAAJ](#)
- arXiv.org ID: [salehi\\_s\\_1](#)
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