

# CURRICULUM VITAE\*

ALI SADEGH DAGHIGHI

## Contact Information.

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## Education.

- Ph.D., Set Theory (September 2017)  
Amirkabir University of Technology, Tehran  
Dissertation: *Interactions of large cardinal axioms, generalized continuum hypothesis and forcing*  
Supervisor: Massoud Pourmahdian
- M.Sc., Mathematical Logic (September 2011)  
Amirkabir University of Technology, Tehran  
Thesis: *Extending partial automorphisms in graphs and metric spaces*  
Supervisor: Massoud Pourmahdian
- B.Sc., Pure Mathematics (September 2009)  
Sharif University of Technology, Tehran.

## Research Interests.

- Main: Mathematical logic, especially set theory including forcing, large cardinals, tree property, non-well founded set theory.
- Secondary: Topology, philosophy of mathematics.

## Professional Experience.

- Non-resident researcher: Institute for Research in Fundamental Sciences (IPM) (March 2019 - Present).
- Member of the board of directors: Iranian Association for Logic (IAL) (January 2019 - Present).
- Chief Editor: News Bulletin of the Iranian Association for Logic (IAL) (August 2016 - August 2017).
- Research Assistant: Institute for Research in Fundamental Sciences (IPM) (January 2014 - December 2015).
- Coordinator: Logic Group at Amirkabir University of Technology (March 2012 - January 2015).

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\*Last Update: July 2019.

**Journal Papers.**

- *On Some Properties of Shelah Cardinals*, with Massoud Pourmahdian, Bulletin of the Iranian Mathematical Society, 2018, Volume 44, Issue 5, pp 1117 - 1124.
- *The definable tree property for successors of cardinals*, with Massoud Pourmahdian, Archive for Mathematical Logic, 2016, Volume 55, Issue 5, pp 785 - 798.
- *The foundation axiom and elementary self-embeddings of the universe*, with Mohammad Golshani, Joel David Hamkins, and Emil Jerabek, Infinity, computability, and metamathematics: Festschrift celebrating the 60th birthdays of Peter Koepke and Philip Welch, S. Geschke, B. Lowe, and P. Schlicht, Eds., Coll. Publ., London, 2014, vol. 23, pp. 89 - 112.

**Conference Papers.**

- *Shelah Cardinals: A Fleeting Glimpse*, 5th Annual Conference of the Iranian Association for Logic, Amirkabir University of Technology, Tehran, December 2017.
- *On Large Cardinal Strength of Definable Tree Property*, 3rd Annual Conference of the Iranian Association for Logic, Tarbiat Modares University, Tehran, December 2015.
- *On the Independent Nature of Global and Well-founded Universes of Mathematics*, 2nd Annual Conference of the Iranian Association for Logic, University of Tehran, Tehran, December 2014.

**Books.**

- *Research Trends in Contemporary Logic: A Modern Update to the Handbook of Mathematical Logic*, College Publications, London, 2020, In preparation. (co-edited with Melvin Fitting, Dov Gabbay, Massoud Pourmahdian, and Adrian Rezus)
- *Logic Around the World*, Andisheh and Farhang-e Javidan Publishing, Tehran, 2017, ISBN: 978-600-6386-99-7. (co-edited with Massoud Pourmahdian)

**Invited Lectures.**

- *Forcing and multiverse theory in mathematics*, Logic Seminars, May 2019, Institute for Research in Fundamental Sciences - Isfahan branch, Isfahan, Iran.
- *On Khayyam's Innovations in Mathematics*, National Mathematics Day Celebrations, May 2019, University of Isfahan, Isfahan, Iran.
- *On the History and Future of Advanced Research in Set Theory*, General Lecture Series, May 2019, Mathematics House of Isfahan, Isfahan, Iran.

- *Multiverse Conceptions in Set Theory*, Lecture Series in Philosophy of Mathematics, December 2018, Sharif University of Technology, Tehran, Iran.
- *On Epistemological Foundations of Mathematics and Science*, Think Tank Lecture Series, October 2018, National Library of Iran, Tehran, Iran.

### Attended Events.

- Workshop on the history of logic by Piergiorgio Odifreddi, February 2019, Institute for Research in Fundamental Sciences, Tehran, Iran.
- 6th Annual Conference of the Iranian Association for Logic, January 2019, Shahid Beheshti University, Tehran, Iran.
- Short course on model theory of separably closed valued fields by Martin Hils, Institute for Research in Fundamental Sciences, Tehran, Iran, November 2018.
- IPM Conference on Model Theory of Valued Fields, Institute for Research in Fundamental Sciences, Tehran, Iran, October 2018.
- Workshop on Limits to Set-theoretic Definability of Constructions by Wilfrid Hodges, Institute for Research in Fundamental Sciences, Tehran, Iran, June 2018.
- Short course on Forcing, forcing axioms and a hope for having them at cardinals other than  $\aleph_1$  by Mirna Džamonja, Institute for Research in Fundamental Sciences, Tehran, Iran, December 2017.
- Short course on Forcing with symmetric systems as side condition and adding few new reals by David Aspero, Institute for Research in Fundamental Sciences, Tehran, Iran, December 2017.
- 5th Annual Conference of the Iranian Association for Logic, Amirkabir University of Technology, Tehran, Iran, December 2017.
- Workshop on Creature Forcing by Heike Mildenberger, Institute for Research in Fundamental Sciences, Tehran, Iran, April 2017.
- 4th Annual Conference of the Iranian Association for Logic, Sharif University of Technology, Tehran, Iran, December 2016.
- 3rd Annual Conference of the Iranian Association for Logic, Tarbiat Modarres University, Tehran, Iran, December 2015.
- IPM Conference on Set Theory and Model Theory, Institute for Research in Fundamental Sciences, Tehran, Iran, October 2015.
- Workshop on Forcing by Kai Hauser, Institute for Research in Fundamental Sciences, Tehran, Iran, January 2015.
- Workshop on Descriptive Set Theory by Vladimir Kanovei, Institute for Research in Fundamental Sciences, Tehran, Iran, January 2015.
- 2nd Annual Conference of the Iranian Association for Logic, University of Tehran, Tehran, Iran, December 2014.
- IMS Graduate Summer School in Logic, National University of Singapore, Singapore, June 2014.

- 4th Annual National Conference on Mathematical Logic and its Applications, Shahid Beheshti University, Tehran, Iran, November 2013.
- 3rd Annual National Conference on Mathematical Logic and its Applications, Shahid Bahonar University, Kerman, Iran, November 2012.
- Logic Conference on Algebra, Combinatorics and Model Theory, Koc University, Istanbul, Turkey, August 2011.
- 2nd Annual National Conference on Mathematical Logic and its Applications, University of Isfahan, Isfahan, Iran, November 2011.
- 1st Annual National Conference on Mathematical Logic and its Applications, University of Tabriz, Tabriz, Iran, March 2011.

**Honors.**

- Member of the Iranian National Elites Foundation, July 2018.
- 2nd Rank Graduated Master Student of Mathematics, Amirkabir University of Technology, September 2011.
- The Recognized Member by the Office for Exceptional Talents at Amirkabir University of Technology, September 2011.
- The Graduated Student of the National Organization for Development of Exceptional Talents (NODET), Mirza Kuchak Khan NODET High School, Rasht, Iran, 2000-2004.

**Professional Affiliations.**

- Institute for Research in Fundamental Sciences (IPM), March 2019 - Present.
- European Set Theory Society (ESTS), January 2016 - Present.
- Iranian Association for Logic (IAL), December 2014 - Present.
- Amirkabir Logic Group (AUTLG), March 2012 - Present.

**Skills.**

- Language Skills: Native in Persian. Fluent in English. Familiar with Arabic, Latin, and Italian.
- Computer Skills: LaTeX, Powerpoint, Mathematica, Maple, Java.

**Personal Interests.**

- Classical Music, Classical Literature, Languages, Writing, Movies, Architecture, Astronomy.

**References.**

- Massoud Pourmahdian  
Head of the School of Mathematics, Institute for Research in Fundamental Sciences (IPM)  
Faculty Member at Department of Mathematics and Computer Science, Amirkabir University of Technology  
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