

September 9, 2022

Curriculum Vita

Personal

Leila Sharifan

Birth: 1982- Sabzevar- Iran.

Education:

PhD in mathematics, September 2009.

Amirkabir university of technology, Tehran, Iran.

Thesis: Associated graded rings of numerical semigroup rings.

Advisor: Farhad Rahmati, Rashid Zaare Nahandi.

Msc: Amirkabir university of technology, Tehran, Iran.

Bachelor: Amirkabir university of technology, Tehran, Iran.

Position:

Associated Professor, Department of mathematics, Hakim Sabzevari University, Sabzavar, Iran.

Research Interests:

- 1) Commutative algebra
- 2) Algebraic geometry
- 3) Finite dynamical systems
- 4) Graph theory

Papers:

- 1) *Fixed points in generalized parallel and sequential dynamical systems induced by a minterm or maxterm Boolean functions*, Aledo Juan A.; Barzouni Ali; Malekbala Ghazaleh; Sharifan Leila; Valverde Jose C, Journal of Computational and Applied Mathematics, 408 (2022), 114070

- 2) *On the dynamics of semilattice networks.* Malekbala Ghazaleh, Musavizadeh Jazaeri Leila, Sharifan Leila, Taha Maryam, Journal of Symbolic Computation 113 (2022), 53–73.
- 3) *Existence, coexistence and uniqueness of fixed points in parallel and sequential dynamical systems over directed graphs.* Aledo Juan A.; Barzanouni Ali; Malekbala Ghazaleh; Sharifan Leila; Valverde Jose C. Commun. Nonlinear Sci. Numer. Simul. 103 (2021), Paper No. 105966, 15 pp.
- 4) *Closed neighborhood ideal of a graph.* Sharifan Leila; Moradi Somayeh. Rocky Mountain J. Math. 50 (2020), no. 3, 1097–1107.
- 5) *Consecutive cancellations in filtered free resolutions.* Sharifan Leila, Bull. Korean Math. Soc. 56 (2019), no. 4, 1077–1097.
- 6) *Refined algorithm to compute minimal H -bases.* Hashemi Amir; Javanbakht Masoumeh; Sharifan Leila, Bull. Math. Soc. Sci. Math. Roumanie (N.S.) 62(110) (2019), no. 3, 277–294.
- 7) *Algebraic invariants of certain projective monomial curves.* Javanbakht Masoumeh; Sharifan Leila, Beitr. Algebra Geom. 60 (2019), no. 4, 783–795.
- 8) *Primary decomposition of ideals of lattice homomorphisms.* Sharifan Leila; Estaji Ali Akbar; Malekbala Ghazaleh, Electron. J. Combin. 25 (2018), no. 3, Paper No. 3.8, 16 pp.
- 9) *Ideals with (d_1, \dots, d_m) -linear quotients,* L. Sharifan, J. Algebr. Syst. 6 (2018), no. 1, 29–42.
- 10) *Minimal free resolution of monomial ideals by iterated mapping cone.* L. Sharifan, Bull. Iranian Math. Soc. 44 (2018), no. 4, 1007–1024.
- 11) *An Intriguing Ring Structure On The Set Of D -Forms,* Jürgen Herzog, Leila Sharifan, AND Matteo Varbaro. Commutative Algebra and Noncommutative Algebraic Geometry (II) MSRI Publications Volume 68, 2015.
- 12) *On m -closed graphs,* Leila Sharifan, Masoumeh Javanbakht, the electronic journal of combinatorics, Vol 21, P4.26 (17 pages). Nov 2014.
- 13) *Minimal Path Cover Sets And Monomial Ideals,* L. Sharifan, M. Nasernejad and K. Khashyarmanesh, Journal of Algebra and Its Applications Vol. 14, No. 2 (2015) 1550014 (14 pages) (Published 18 September 2014).

- 14) *Binomial Edge Ideals With Special Set Of Associated Primes*, Leila Sharifan, Communications in Algebra, 43: 503–520, 2015 (Published online: 25 Aug 2014).
- 15) *The Possible Extremal Betti Numbers Of A Homogeneous Ideal*, Jurgen Herzog, Leila Sharifan, And Matteo Varbaro, Proc. Amer. Math. Soc. 142 (2014), 1875–1891.
- 16) *A Class Of Artinian Local Rings Of Homogeneous Type*, Leila Sharifan, Bulletin of the Iranian Mathematical Society, 40 , No. 1, pp. 157–181, (2014).
- 17) *Hilbert Function Of Binomial Edge Ideals*, Fatemeh Mohammadi And Leila Sharifan, Communications in Algebra, 42: 688–703, (2014).
- 18) *Rigid Resolution Of A Finitely Generated Module Over A Regular Local Ring*, L. Sharifan And F. Rahmati, Bulletin of the Iranian Mathematical Society Vol. 36 No. 2 (2010), pp 85–97.
- 19) *Consecutive Cancellations In Betti Numbers Of Local Rings*, Maria Evelina Rossi And Leila Sharifan, Proceedings Of The American Mathematical Society Volume 138, Number 1, January 2010, Pages 61–73.
- 20) *Minimal free resolution of the associated graded ring of monomial curves of generalized arithmetic sequences*, Leila Sharifan, Rashid Zaare-Nahandi, Journal of Pure and Applied Algebra 213 (2009) 360–369.
- 21) *Minimal free resolution of a finitely generated module over a regular local ring*, Maria Evelina Rossi , Leila Sharifan, Journal of Algebra 322 (2009) 3693–3712.
- 22) *Graded Betti Numbers Of Ideals With Linear Quotients*, Leila Sharifan - Matteo Varbaro, Le Matematiche Vol. Lxiii (2008) - Fasc. II, pp. 257–265.

Conference papers:

- 1) Minimal Free Resolution of a Finitely Generated Module over a Regular Local Ring, L. Sharifan and M. E. Rossi, . Extended Abstracts of the 21st Algebra Seminar of Iran, Tabriz, Iran, (2010), pp 227–229.
- 2) A Class Of Monomial Curves Of Homogeneous Type, L. Sharifan and R. Zaare-Nahandi, Extended Abstracts of the 22nd Iranian Algebra Seminar,

Sabzevar, Iran, (2012), pp 255–258.

3) On the minimal free resolution of max - path ideals of rooted trees, L. Sharifan, Extended Abstracts of the 25th Iranian Algebra Seminar, Sabzevar, Iran, (2016).

4) On the Minimal Primary Decomposition of Ideals of Lattice Homomorphisms, Ghazaleh Malekbala, Leila sharifan, 49th Annual Iranian Mathematics Conference, Tehran- Iran (2018).

5) Parallel dynamical systems over directed dependency graphs, Barzanouni Ali, Malekbala Ghazaleh, Sharifan Leila, First Annal National Conference on Biomathematics, Neyshabour, Iran (2019)

6) On the dynamics of lattice networks, Malekbala Ghazaleh, Sharifan Leila, The 3rd Conference on Dynamical systems and Geometric Theories, Sabzevar, Iran (2022).

7) Coexistence of periods in Majority Parallel Dynamical systems over directed graphs, Musavizadeh Jazaeri Leila, Sharifan Leila. The 3rd Conference on Dynamical systems and Geometric Theories, Sabzevar, Iran (2022).

Research Experience

Non-resident Researcher, School of mathematics, IPM, Tehran, Iran, Summer 2011- Summer 2013, Summer 2015-Summer 2018.

Visiting University of Genoa, Genoa Italy. Under supervision Professor M. E. Rossi. 1.10.2007-15.3.2008. and 1.5.2008- 1.8.2008.

Visiting IASBS, Zanjan, Iran. Under supervision Professor Rashid Zaare-Nahandi, 1.10.2006-1.4.2007.

Awards:

Special facilities for top students from Amirkabir University of technology. 2000-2004.

Special scholarship for top students from Iran science ministry. 2002-2006.

Skills:

C++

CoCoA

Singular

Macaulay 2

Invited talks:

Short Course on *Free Resolutions of Modules over a Local Ring* (2 Sessions), IPM, Tehran, Iran (2009).

Commutative algebra webinar, Closed Neighborhood Ideal of a Graph (2022).

Contributed Talks:

1) *On the Minimal Free Resolution of Graded Ideals*, The 13th Seminar on Commutative Algebra and Related Topics, IPM, Tehran, Iran (2016).

2) *On the minimal free resolution of max - path ideals of rooted trees*, 25th Iranian Algebra Seminar, Sabzevar, Iran (2016).

3) *Extended stretched Artinian local rings*, The 9th Seminar on commutative Algebra and Related Topics, Mashhad, Iran (2012).

4) *A class of Monomial curves of homogeneous type*, 22nd Iranian Algebra Seminar, Sabzevar, Iran (2012).

5) *Binomial Edge Ideals of some Classes of Graphs*, 8th Seminar on Commutative Algebra and Related Topics, IPM, Tehran, Iran (2011).

6) *Minimal Free Resolution of a Finitely Generated Module over a Regular Local Ring*, 21th Algebra Seminar of Iran, Tabriz, Iran (2010).

7) *Graded Betti numbers of ideals with linear quotients*, The Second Conference on Algebraic Combinatorics, Ferdowsi University of Mashhad, Iran (2010).

8) *Consecutive Cancellations in Betti Numbers of Local Rings*, 6th Seminar on Commutative Algebra and Related Topics, IPM, Tehran, Iran (2009).

9) *External Betti Numbers of Filtered Modules over a Local Regular Ring*, 5th Seminar on Commutative Algebra and Related Topics, Isfahan University of

Technology Isfahan, Iran (2008).

10) *The linear quotients ideals are componentwise linear and computation of their Betti numbers*, Pragmatic 2008 School, Catania, Italy, (2008).

Scientific activities

Organizer of the 22nd Iranian Algebra seminar (2012).

Organizer of the 25th Iranian Algebra seminar (2016).

Organizer of International women in Mathematics day in Sabzevar (2021).

Organizer of the 11th Seminar on Linear Algebra and its Applications (2022).

Organizer of the 18th Seminar on Commutative Algebra and Related Topics (2022).

Organizer of the workshop on Differential Graded Algebra Techniques in Commutative Algebra (2022).

Conferences and Schools:

RSCAAG: Algebra, Combinatorics and Geometry of Monomials, IASBS, Zanjan, Iran (2017).

Combinatorial Commutative Algebra Workshop, Amirkabir University of technology, Tehran, Iran (2017).

The 2nd Seminar on Combinatorial Commutative Algebra, IPM, Tehran, Iran (2012)

School and Workshop on Local Rings and Local Study of Algebraic Varieties, ICTP, Trieste, Italy (2010).

Genova-Barcelona Workshop on Commutative Algebra and Applications, Genova, Italy, (2008).

Cimpa School and International conference on commutative algebra, IIT-Bombay, Mumbai, India (2008).

3th Seminar on Commutative Algebra and Related Topics, IPM, Iran (2007).

2nd Seminar on Commutative Algebra and Related Topics, IPM, Iran, (2005).

CIMPA School on grobner bases and application. IASBS. Zanzan, Iran (2005).

35th Annual Iranian mathematics conference, Ahvaz University, Ahvaz, Iran (2005).

Workshop on Commutative Algebra and Related Topics School of Mathematics, IPM Tehran, Iran Nov. 24-25, 2004.

Teaching Experience:

a) Undergraduate course:

Fundamentals of Mathematics– Calculus (Math. 1 and Math. 2)– Linear Algebra– Algebra 1,2,3– Elementary Algebraic Geometry– Graph Theory.

b) Graduate course:

Advanced Algebra, Advanced graph theory, Algebraic Geometry, Geometry of manifolds, Commutative Algebra I, II, Special topics in commutative algebra, Special topics in combinatorics.

MSc Graduated Students:

Effat Gholami (2021), Mahdi Najjarzadeh (2017), Fatemeh Kazemi moghadam (2017), Fatemeh Shamsabadi(2016), Narges Tanha (2016). Asqar Cheshomi (2015) , Monireh Aliabadi (2015), Samira Kalateh (2015), Fatemeh IZanloo (2014),Zohre Farzi (2013), Fatemeh Sadat Hosseini (2012), Tayebeh Rahimi Tashi (2012).

PHD Students:

- 1) Mehrdad Nasernejad (Payamenoor University, Tehran, Iran), 2014.
- 2) Ma'asoomeh Javanbakht (2019).
- 3) Ghazaleh Malekbala (2021)

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