

ALI ALILOOEE

Department of Mathematics and Statistics
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EDUCATION

Dalhousie University, Halifax, Nova Scotia

- Ph.D., Mathematics, August 2015
 - Dissertation Topic: “Algebraic Properties of Squarefree Monomial Ideals”
 - Advisor: Sara Faridi

Amirkabir University, Tehran, Iran

- Ph.D., Mathematics, 2007-2010
- M.A., Mathematics, September 2004
 - Dissertation Topic: “The Covers on Noetherian Modules”
 - Advisor: Farhad Rahmati
- B.A., Mathematics, June 2001

RESEARCH

Research Interests:

- Commutative Algebra, Combinatorics, Algebraic Geometry.

POSITION HELD

Visiting Assistant Professor. University of Wisconsin-Stout, Menomonie, WI, June 2016-present.

Visiting Assistant Professor. Western Illinois University, Macomb, IL, August 2015-May 2016.

Program Associate. Mathematics Science Research Institute, Berkeley, CA, August-December 2012.

HONORS AND AWARDS

- **Killam Predoctoral Scholarship**, Dalhousie University, 2013-2015.
- **Atlantic Algebra Center**, Annual Graduate Prize, Second place, November 2012.
- **Atlantic Algebra Center**, Annual Graduate Prize, Third place, November 2011.
- **Top ranking student in PhD entrance competition**, Amirkabir University, Iran, 2008.
- **Top Ranking Student in Master’s program**, Amirkabir University, Iran, 2002.

PUBLICATIONS

Published.

- On the resolution of path ideals of cycles (with S. Faridi).
Communications in Algebra, Volume 43, Issue 12 (2015), 5413(20 pages).
- When is a squarefree monomial ideal of linear type? (with S. Faridi).
Commutative Algebra and Noncommutative Algebraic Geometry II, MSRI Publications, Volume 68 (2015), 1(18 pages).

- Graded Betti numbers of path ideals of cycles and lines (with S. Faridi).
Journal of Algebra and Its Applications, Volume 16, No. 11 (2018), 1850011(17 pages).
- Powers of edge ideals of regularity three bipartite graphs (with A. Banerjee).
Journal of Commutative Algebra, Volume 9, Number 4 (Winter 2017).

Submitted or Accepted for Publication.

- Generalized multiplicities of edge ideals (with I. Soprunov and J. Validashti).
To appear in *Journal of Algebraic Combinatorics*.
- Regularity of powers of unicyclic graphs (with S. Beyarslan and S. Selvaraja).
Submitted for publication, 2017.

In Progress.

- An optimal upper bounds on regularity of powers of edge ideals (with A. Banerjee, S. Beyarslan, T. H. Há). In progress.

TEACHING EXPERIENCE (CANADA AND USA)

Instructor.

- MATH 151, Calculus with Precalculus II, UW-Stout, Fall 2017.
- MATH 153, Calculus I, UW-Stout, Fall 2017.
- MSCS 280, Graph Theory with Applications in Computer Science, UW-Stout, Fall 2017.
- MATH 250, Differential Equations With Linear Algebra, UW-Stout, Spring 2017.
- MATH 151, Calculus with Precalculus II, UW-Stout, Spring 2017.
- MATH 150, Calculus with Precalculus I, UW-Stout, Spring 2017.
- MATH 120, Introductory College Mathematics I, UW-Stout, Fall 2016.
- MATH 121, Introductory College Mathematics II, UW-Stout (three classes), Fall 2016.
- MATH 100, College Algebra, Western Illinois University (two classes), Spring 2016.
- MATH 128, PreCalculus Algebra, Western Illinois University (two classes), Spring 2016.
- MATH 128, PreCalculus Algebra, Western Illinois University (two classes), Fall 2015.
- MATH 137, Applied Calculus I, Western Illinois University (two classes), Fall 2015.
- MATH 1290, Engineering Math II, Dalhousie University, Summer 2014.

Online Teaching.

- STAT-130, Elementary Statistics, UW-Stout, Winter 2018.

Graduate Teaching Assistant.

- MATH 1290, Engineering Math II, Dalhousie University, Spring 2015.
- MATH 1280, Engineering Math I, Dalhousie University, Spring 2012.
- Math Learning Center, January 2011-April 2013.

TEACHING EXPERIENCE (IRAN)

- Algebra and Probability, Koswar high school, 2006-2010.
- Complex Analysis, Amirkabir University, Fall 2009.
- Geometry, high school, 2007-2008.
- Differential Equations, Azad Abhar University, Winter 2007.
- Calculus I, Calculus II, Azad Abhar University, Fall 2006.
- Statistic and Probability, Azad Ghazvin University, Fall 2006.
- Calculus I, Azad Ghazvin University, Fall 2006.
- Statistic and Probability, Elmi Karbordi Tehran, Fall 2003, Winter 2004.

PROGRAMMING SKILLS AND OPEN SOURCE TEACHING RESOURCES

- Hands-on experience in: WebWork and R.
- Familiar with: C, Java, HTML and CSS.

ONLINE COURSES

I have been taking the following online courses

- Programming Foundations with JavaScript, HTML and CSS, Duke University for Coursera.
- R Programming, Johns Hopkins University for Coursera.
- Getting and Cleaning Data, Johns Hopkins University for Coursera.
- Exploratory Data Analysis, Johns Hopkins University for Coursera.
- Statistical Inference, Johns Hopkins University for Coursera.

CONFERENCE PRESENTATIONS

- **CMS Winter Meeting.** Special Session on Recent Advances in Commutative Algebra, Niagara Falls, ON , December 2-5, 2016, *talk: Regularity of unicyclic graphs.*
- **Colloquium Talk.** University of Wisconsin-Stout, Menomonie, WI, November 18, 2016, *talk: Regularity of powers of edge ideals.*
- **Colloquium Talk.** Purdue University, West Lafayette, IN, October 28, 2016, *talk: Regularity of unicyclic graphs.*

- **JMM Special Session on Commutative Algebra and Its Interactions with Algebraic Geometry.** Seattle, WA, January 8-9, 2016, *talk: An optimal upper bound on the regularity of powers of edge ideals.*
- **Colloquium Talk.** Western Illinois University, Macomb, IL, October 22, 2015, *talk: An optimal upper bound on the regularity of powers of edge ideals.*
- **12th Annual Meeting of Combinatorial Algebra meets Algebraic Combinatorics,** Queen's University, Kingston, ON, January 23-25, 2015, *talk: j -multiplicity of edge ideals*
- **CMS Winter Meeting.** Special Session on Commutative Algebra: Interactions with Algebraic Combinatorics, Algebraic Geometry, and Representation Theory, Hamilton, ON, December 5-8, 2014, *talk: When is a Squarefree monomial ideal of linear type ?*
- **Colloquium Talk.** Tulane University, New Orleans, LA, November 13, 2014, *talk: j -multiplicity of edge ideals.*
- **Fall Eastern Sectional Meeting.** Special Session on Commutative Algebra and Its Interactions with Algebraic Geometry, Dalhousie University, Halifax, Canada, October 18-19, 2014, *talk: Powers of edge ideals of regularity three bipartite graphs.*
- **CMS Summer Meeting.** Special Session on Commutative Algebra and Combinatorics, Dalhousie University/Saint Mary's University, Halifax, NS, June 2013, *talk: Rees algebra of squarefree monomial ideals.*
- **Grad Students Talks.** MSRI, Berkeley, CA, November 2012, *talk: Rees algebra of square-free monomial ideals.*
- **15 Minutes Talks.** MSRI, Berkeley, CA, September 2012, *talk: Cycles in higher dimension.*
- **Combinatorial Algebra meets Algebraic Combinatorics.** Ninth Annual Meeting, Université du Québec à Montréal, Montreal, QC, January 2012, *talk: The graded Betti numbers of the path ideal of a cycle.*
- **MONomial Ideals, Computations and Applications.** CIEM, Castro Urdiales (Cantabria), Spain, July 2011, *talk: Betti numbers of path ideal of a cycle.*
- **CMS Winter Meeting.** Special Session on Commutative Algebra and Combinatorics, University of British Columbia, Vancouver, BC, December 7-10, 2010, *talk: The graded Betti numbers of the path ideal of a cycle.*

CONFERENCES ATTENDED

- **Mini conference CA+, Minnesota.** University of Minnesota, Minneapolis, MN, September 22-23, 2017.
- **RTG Workshop on the Homological Conjectures in Commutative Algebra.** University of Illinois at Chicago, Chicago, IL, November 19-20, 2016.
- **Upper Midwest Commutative Algebra Colloquium.** University of Wisconsin, Madison, WI, November 14, 2015.
- **AMS Special Session on Combinatorial and Computational Algebra.** Loyola University, Chicago, IL, October 3-4, 2015.

- **2014 AARMS Summer School.** Dalhousie University, Halifax, NS, July 21-Aug. 15, 2014.
- **11th Annual Meeting of Combinatorial Algebra meets Algebraic Combinatorics.** Dalhousie University, Halifax, NS, January 24-26, 2014.
- **JMM Special Session on Homological and Characteristic p Methods in Commutative Algebra.** Baltimore, MD, 2014 Joint Mathematics Meeting, January 16-17, 2014.
- **International Workshop in Combinatorial Algebra.** Dalhousie University/Saint Mary's University, Halifax, NS, June 1-4, 2013.
- **10th Annual Meeting of Combinatorial Algebra meets Algebraic Combinatorics,** Fields Institute, Toronto, ON, January 25-27, 2013.
- **Combinatorial Commutative Algebra and Applications.** MSRI, Berkeley, CA, December 3-7, 2012.
- **Joint Introductory Workshop: Cluster Algebras and Commutative Algebra.** MSRI, Berkeley, CA, August 27, 2012 - September 7, 2012.
- **Commutative Algebra and Its Interactions with Algebraic Geometry, Representation Theory, and Physics.** CIMAT, Guanajuato, Mexico, May 14 - 25, 2012
- **Workshop on Connections Between Algebra and Geometry.** University of Regina, Regina, SK, May 29-June 1, 2012.
- **CMS Summer Meeting.** Special Session on Interactions Between Algebraic Geometry and Commutative Algebra, University of Regina, Regina, SK , June 2-4, 2012.
- **Combinatorial Algebra meets Algebraic Combinatorics.** Eighth Annual Meeting, Lakehead University, Thunder Bay, ON, January 21-23, 2011.
- **The First Seminar on Combinatorial Commutative Algebra.** IPM, Tehran, Iran, February 10, 2010.
- **The First Conference on Algebraic Combinatorics.** Tabriz University , Tabriz, Iran, November 2009.

PROFESSIONAL MEMBERSHIPS

American Mathematical Society
Canadian Mathematical Society

REFERENCES

- (1) Sara Faridi, Dalhousie University
 - **Email:** faridi@mathstat.dal.ca
 - **Telephone:** (902) 494-2658.
- (2) Huy Tái Há, Tulane University
 - **Email:** tai@math.tulane.edu
 - **Telephone:** (504) 862-3429.
- (3) Adam Van Tuyl, McMaster University
 - **Email:** vantuy1@math.mcmaster.ca

- **Telephone:** (905) 525-9140.
- (4) Christopher Bendel, University of Wisconsin-Stout (teaching)
- **Email:** bendelc@uwstout.edu
 - **Telephone:** (715) 232-2682.
- (5) Iraj Kalantari, Western Illinois University (teaching)
- **Email:** I-Kalantari@wiu.edu
 - **Telephone:** (309) 298-1238.