

Contact Information

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Personal Data

Citizenship: Iranian/Canadian
Marital Status: Single

Languages:
English, German, Spanish, Persian

Current Status

Postdoctoral Researcher at Universidad de Los Andes, July 2014-July 2016

Previous Employment

- Visiting Postdoctoral researcher, NIMS Thematic Program on Applied Algebraic Geometry, May-July 2014, Daejeon, South Korea.
- Lecturer, *University of Windsor*, Windsor, ON, Canada, Jan 2012 - Apr 2014
- Limited duties Assistant Professor/Visiting Scholar, *Western University*, Sep 2011 - Aug 2012, May 2013-Aug 2013
- Postdoctoral Fellow, *Western University*, May-Aug 2011

Education

2006–2011	PhD (April 2011)	Mathematics	Western University (London, Canada)
2003–2006	M.Sc.	Mathematics	University of Tehran (Tehran, Iran)
1999–2003	B.Sc.	Mathematics	Teacher Training University (Tehran, Iran)

Theses

PhD Characteristic Polynomial of Arrangements and Multiarrangements
MSc Minimal Free Resolution of Co-Artinian Modules
BSc The Automorphism Group of a Graph

PhD Advisor: Dr. Graham Denham (contact: gdenham@uwo.ca)

Publications

1. *Minimum distance of linear codes and the α -invariant*, joint with Stefan Tohneanu, *Advances in Applied Mathematics* 71 (2015), 190-207, [arXiv:1507.03286 \[math.AC\]](https://arxiv.org/abs/1507.03286).
2. *Modular decomposition of the Orlik-Terao algebra of a hyperplane arrangement*, joint with G. Denham and S. Tohaneanu, [arXiv:1211.4562 \[math.AC\]](https://arxiv.org/abs/1211.4562), *Annals of Combinatorics*, June 2014, Volume 18, Issue 2, pp 289-312.
3. *A Geometric Deletion-Restriction Formula*, with Graham Denham and Mathias Schulze, *Advances in Mathematics* (230), Jul-Aug 2012, Pages 1979-1994, <http://dx.doi.org/10.1016/j.aim.2012.04.003>
4. *Characteristic Polynomial of Arrangements and Multiarrangements*, electronic version published at <http://ir.lib.uwo.ca/etd/142/>, PhD Thesis, 110 pages.

Works in Progress

1. *The Dressian of a graphical matroid*, joint with Tristram Bogart
2. *Pseudograph associahedra, matroidal rank tests and the submodular cone*, joint with Vissarion Fisikopoulos.
3. *The Rees algebra of a hyperplane arrangement*, joint with Graham Denham, Stefan Tohaneanu and Aron Simis

Areas of Research Interest

Primary: Commutative algebra and algebraic geometry with emphasis on combinatorics, hyperplane arrangements and matroids, algebraic methods in coding theory.

Secondary: (Koszul) Operads, intersection theory, maximum likelihood degrees and tropical geometry.

Teaching

- Graduate Course: Computational Algebraic Geometry, Fall 2015, Universidad de los Andes.
- Integral Calculus, Fall 2015, Universidad de los Andes.
- Algebra Abstracta, Winter 2015, Universidad de los Andes.
- Algebra Lineal, Winter 2015, Universidad de los Andes.
- Calculo diferencial and Calculo integral, Fall 2014, Universidad de los Andes.
- *Differential Equations 216* at the University of Windsor, Winter 2014.
- *Integral Calculus 141* at the University of Windsor, Winter 2014.
- *Differential Calculus 140* at the University of Windsor, Fall 2013. (2 sections)
- *Calculus 1301* (as sole instructor) at the Western University, Summer 2013. This is the second part of calculus for science students.
- *Integral Calculus 141* at the University of Windsor, ON, Canada, Jan 2013-Apr 2013. (3 sections)
- *Differential Calculus 140* at the University of Windsor, ON, Canada, Sep 2012-Dec 2012. (2 sections)
- *Linear Algebra I* at the University of Windsor, ON, Canada, Sep 2012-Dec 2012.
- *Finite Mathematics* (as the sole instructor) at the Western University, Summer 2012. This course covers topics such as counting, probability and random variables.

- *Linear Algebra I* (as the sole instructor) at the Western University, Summer 2012. This is a semi-advanced course on linear algebra.
- *Integral Calculus 141* at University of Windsor, Winter 2012. This course covers the second half of the single variable calculus by Stewart.
- *Differential Equations 216* at the University of Windsor, Winter 2012.
- *Methods of Matrix Algebra 1229B* (as the sole instructor) at Western University Winter 2012. This is an introductory linear algebra course for social science students.
- *Calculus 1000A* at Western University, Fall 2011. This is a university level single variable calculus with applications.
- *Methods of Matrix Algebra Math 1229A* at the Western University, Fall 2011.

Other Teaching Experience

- Running tutorials for Linear Algebra 1600 (Fall 2009) and Calculus 1501 (Winter 2010) at UWO (Western University), and Algebra II (Galois Theory, Winter 2004) and Analysis II (Lebesgue Integration, Fall 2005) at University of Tehran.
- Running help centers for various first and second year math courses and other TA duties at the Western University from Sep 2006 to Dec 2010.
- Design and creation of an online course about teaching mathematics with the help of a colleague for international students in the mathematics department at the Western University during the Winter term 2009.
- Successfully passed the following teaching courses of the *Teaching Support Center* at the Western University:
 - Teaching in the Canadian Classroom
 - Common Expressions in Teaching
 - Pronunciation in the Canadian Classroom

Past/Future Presentations

- *The First Colombian Workshop on Coding Theory (CWC)*, November 24-27, 2015, Barranquilla, Colombia. I will be giving a talk on Nov 25 under the title *The Fitting Module of a Linear Code*.
- *Arrangements with quadratic complete intersection Orlik-Terao algebras*, 16 January 2014, AMS meeting, Baltimore, USA.
- *Modular decomposition of the Orlik-Terao algebra*, 11 June 2013, CIME-CIRM Summer School, Combinatorial Algebraic Geometry, Levico Terme, Italy.

- Koszul algebras arising from hyperplane arrangements, International Workshop in Combinatorial Algebra, 1 June 2013, Dalhousie University.
- *The omnipresent characteristic polynomial of hyperplane arrangements*, Colloquium at the University of Windsor, Windsor, ON, Canada, March 2, 2012.
- *On the Koszulity of the Algebra of Reciprocal Forms*, 25 Jan 2013, Western University Algebra Seminar.
- Koszul algebras and operads, 10 Dec 2012, U. Windsor Algebra Seminar.
- *A random walk around Koszul algebras*, 11 Nov 2011, Western University Algebra Seminar.
- *Long exact sequences of logarithmic modules and beyond*, Hyperplane Arrangements and Applications, PIMS, University of British Columbia, Vancouver, Canada, 8 August 2011.
- *A Geometric Proof for the Solomon-Terao Formula*, The Algebraic Geometry and Topology of Hyperplane Arrangements, Special Session at the AMS Spring Eastern Section Meeting, Worcester, MA, USA, 10 April 2011.
- *Multiarrangements and Critical Points*, Configuration Spaces: Geometry, Combinatorics and Topology, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, 10 June 2010.
- Topological Approaches to Robotic Navigation, Public Comprehensive Exam Presentation at the Western University, 12 August 2008

Research Periods and Workshops

- Summer 2014: NIMS Thematic Program on Applied Algebraic Geometry, May-July 2014, Daejeon, South Korea. (visiting postdoc)
- Summer 2013: CIME-CIRM Summer School, Combinatorial Algebraic Geometry, Levico Terme, Italy. (with partial financial support)
- Summer 2010: Configuration Spaces: Geometry, Combinatorics, Topology, Centro De Giorgi, Pisa, Italy. (with full financial support)
- Spring 2006: The Special Semester on Gröbner Bases and Applications, RICAM and RISC, Austria, February - March. (with full financial support)

Conferences Attended

- Hyperplane arrangements and applications (conference in honor of Hiroaki Terao), University of British Columbia, Canada, 8-12 August 2011.
- Special Session at the AMS Spring Eastern Section Meeting, Worcester, USA, April 9 and 10, 2011

- The Algebraic Geometry and Topology of Hyperplane Arrangements, Northeastern University, Boston, USA, April 8 and 11, 2011
- Mathematical Society of Japan (MSJ) Seasonal Institute (SI) 2009 on Arrangements of Hyperplanes, Hokkaido University, Sapporo, Japan, August 1-13, 2009 (with full financial support)
- Combinatorial, Enumerative and Toric Geometry, MSRI, Berkeley, USA, March 23-27, 2009 (with partial financial support)
- Conference in honor of Peter Orlik, Fields Institute, Toronto, Canada, August 19-22, 2008 (with full financial support)
- Second Canada-France Congress 2008, Université du Québec à Montréal, Québec, Canada, June 1-5, 2008 (helped at the registration desk)
- PIMS algebra summer school, University of Alberta, Canada, July 30-August 8, 2008 (with full financial support)
- CMS Winter 2007 Meeting, December 8-10, 2007, London, Canada (helped with the organization and at the registration desk)
- CIMPA School on Gröbner bases and applications, IASBS, Zanjan, Iran, Summer 2005

Awards

- *Western Graduate Thesis Award* from the Western University to support attending a conference in Japan, Summer 2009.
- *Western Graduate Research Scholarship* from the Western University to support graduate studies, Sep 2006-Aug 2010.
- *Society of Graduate Students Travel Award*, Western University, Sep 2010.

References

Name	Email	Phone*	Affiliation
<i>Dr. Graham Denham</i>	gdenham@uwo.ca	x 86527	PhD advisor
<i>Dr. Tristram Bogart</i>	tc.bogart22@uniandes.edu.co		Postdoc advisor
<i>Dr. Lex Renner</i>	lex@uwo.ca	x 86515	thesis examiner
<i>Dr. Ján Mináč</i>	minac@uwo.ca	x 86519	graduate mentor
<i>Dr. Hiroaki Terao</i>	hterao00@za3.so-net.ne.jp	011-706-4499	external reference (Hokkaido U., Japan)

* For internal references, the phone number is (+1)519-661-2111.