

# Andrew H. Hoefel

CURRICULUM VITÆ

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## EDUCATION

- Ph.D. Dalhousie University, Mathematics, August 2011 (pending approval).  
Supervised by Dr. Sara Faridi.  
Thesis entitled *Hilbert Functions of Monomial Algebras*.
- M.Sc. Dalhousie University, Mathematics, May 2007.  
Supervised by Dr. Sara Faridi.  
Thesis entitled *A Survey of Monomial Resolutions*.
- B.Math. University of Waterloo, Honours Pure Mathematics, June 2005.  
Co-operative Program, Computer Science Minor.  
With Distinction, Dean's Honours List.

## AWARDS

- Postgraduate Scholarship**, NSERC, 2009 – 2011.
- Izaak Walton Killam Memorial Scholarship**, Dalhousie University, 2007 – 2011.
- President's Award**, Dalhousie University, 2007 – 2009.
- Professor Michael Edelstein Memorial Graduate Prize**, Dalhousie University, 2007.
- Graduate Student Scholarship**, Dalhousie University, 2005 – 2007.
- Undergraduate Student Research Award**, NSERC, Summer 2004.
- Senate Scholarship**, University of Waterloo, 2001 – 2005.

## PAPERS

- A.H. Hoefel**, J. Mermin, *Squarefree Gotzmann Ideals*. arXiv:1010.3194.
- A.H. Hoefel**, *Gotzmann Edge Ideals*, to appear in Communications in Algebra. arXiv:0908.1946.
- C.A. Francisco, **A.H. Hoefel**, A. Van Tuyl, *EdgeIdeals: a package for (hyper)graphs*. The Journal of Software for Algebra and Geometry **1** (2009) 1-4.

## TEACHING

### **Mathematics Instructor**

Dalhousie University. Math 2030, Linear Algebra. 2008.

### **Tutorial Instructor**

Dalhousie University. Math 1000 & Math 1010, Calculus I & II. 2006 – 2008.

### **Mathematics Tutor**

Mathematics Resource Center, Dalhousie University. 2005 – 2010.

**Computer Science Tutor**

Instructional Support Group, University of Waterloo. Full-time duties included office hours, assignment and marking scheme construction, TA management, and teaching tutorials.

- Winter 2001 ◦ CS130, Introduction to Object Oriented Programming
- Fall 2001 ◦ CS114/130, Principles of Computer Science (Tutor/Practicum Instructor)
- Spring 2002 ◦ CS134, Principles of Computer Science
- Winter 2003 ◦ CS240, Data Structures and Data Management
- Fall 2003 ◦ CS134, Principles of Computer Science

**Private Tutor**

University of Waterloo's Office of Persons with Disabilities. 2002.

**Volunteer Tutor**

Halifax Community Learning Network. 2010.

**Calculus Review Instructor**

Dalhousie Mathematics and Statistics Graduate Society. 2006 – 2009.

## TALKS

**Gotzmann Squarefree Monomial Ideals,**

AMS Special Session on Commutative Algebra and Algebraic Geometry, Syracuse University, Fall 2010, 20 min.

**Gotzmann Graphs and Clutters,**

East Coast Combinatorics Conference, Saint Mary's University, Spring 2010, 20 min.

**Gotzmann Edge Ideals,**

AMS Special Session on Graded Resolutions, Florida Atlantic University, Fall 2009, 20 min.

**Gotzmann Edge Ideals,**

Computational and Combinatorial Commutative Algebra Seminar, Cornell University, Fall 2009, 1 hr.

**Betti Numbers of Chordal Edge Ideals,**

APICS/AARMS Conference on Algebra and Combinatorics, University of New Brunswick, Fall 2007, 30 min.

**Chordal Edge Ideals,**

COCOA International School on Computer Algebra, Research Institute for Symbolic Computation, Summer 2007, poster.

**Monomial Relations and Supported Resolutions,**

Dalhousie Graduate Student Seminar, Fall 2006, 1 hr.

**Betti Numbers of Edge Ideals,**

Dalhousie Graduate Student Seminar, Spring 2006, 1 hr.

**Extremal Graph Theory, Groups and Integer Equations,**

University of Waterloo Combinatorics URA Seminar, Spring 2004, 30 min.

**On Set Theory Axioms,**

Mathematics Society of Waterloo SASMS, Winter 2002, 30 min.

## CONFERENCES ATTENDED

**AMS Sectional Meeting and Special Session on Commutative Algebra and Algebraic Geometry,**

Syracuse University, October 2 – 3, 2010.

**East Coast Combinatorics Conference,**

Saint Mary's University, April 29 – 30, 2010.

**Combinatorial Algebra meets Algebraic Combinatorics,**

Queen's University, January 22 – 24, 2010.

**AMS Sectional Meeting and Special Session on Graded Resolutions,**

Florida Atlantic University, October 30 – November 1, 2009.

**Combinatorial Algebra meets Algebraic Combinatorics,**

Memorial University, January 16 – 18, 2009.

**Route 81: Algebraic Geometry and Commutative Algebra,**

Queen's University, October 18, 2008.

**Macaulay 2 Workshop,**

Snowbird Resort in Utah, June 28 – July 3, 2008.

**Commutative Algebra: Connections with Algebraic Topology and Representation Theory,**

University of Nebraska-Lincoln, May 18 – 22, 2008.

**Combinatorial Algebra meets Algebraic Combinatorics,**

Dalhousie University, January 18 – 20, 2008.

**APICS & AARMS conference on Algebra and Combinatorics,**

University of New Brunswick, October 12 – 14, 2007.

**COCOA International School on Computer Algebra,**

Research Institute for Symbolic Computation, June 18 – 22, 2007.

**Valuation Theory and Integral Closures in Commutative Algebra,**

University of Ottawa, July 3 – 22, 2006.

**Workshop on Computational and Combinatorial Commutative Algebra,**

The Fields Institute, July 24 – August 4, 2006.

**Workshop on Combinatorial Inverse Systems,**

The Field Institute, January 13 – 15, 2006.

## DEPARTMENTAL SERVICE AND OUTREACH

**Nova Scotia Math League,**

Problem construction, Programming, Event Volunteer (2008 – 2009).

**Lett Bursary Committee Member,**

Department of Mathematics and Statistics (2007, 2010).

**Dalhousie Mathematics and Statistics Graduate Society,**

Computer Resource Representative (2006), President (2007), Vice-President (2008).