

# Andrew Gainer-Dewar

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## Education

- 2007–2012 **Ph.D. (Mathematics)**, *Brandeis University*, Waltham, MA.  
Thesis: “ $\Gamma$ -species, quotients, and graph enumeration”  
Supervisor: Ira M. Gessel
- 2003–2007 **B.S. (Mathematics) & B.A. (Philosophy)**, *Mercer University*, Macon, GA.

## Professional appointments

- 2012–2014 **Visiting asst. prof. of mathematics**, *Carleton College*, Northfield, MN.

## Research interests

Enumerative combinatorics, combinatorial graph theory, combinatorial species, computer algebra.

## Professional memberships and recognition

- 2013–2014 **MAA National Project NExT Fellow**.
- 2013– **Member, Mathematical Association of America**.
- 2008– **Member, American Mathematical Society**.

## Teaching

- 2012–2014 **Carleton College**, 5/yr.  
Calculus I, Calculus II, Linear Algebra, Graph Theory (indep. study)  
“The Mathematics of Democracy” (first-year seminar)
- 2008–2010 **Brandeis University (graduate instructor)**, 2/yr.  
Precalculus, Calculus I, Calculus II, Linear Algebra

## Undergraduate scholarship supervised

- 2013–2014 **Boolean numbers and graph-induced sequences**, *Carleton*.  
Four students, planned
- 2012–2013 **On the species of bipartite point-determining graphs**, *Carleton*.  
Four students, independent original research

## Selected presentations

- 2014 **Enumeration of bipartite graphs and blocks**, *Joint Mathematics Meetings*, Baltimore.
- 2013 **Making strategy count: combinatorial game theory and the surreal numbers**, *Carleton*, General (pre-major) audience.
- 2013  **$\Gamma$ -species and the enumeration of  $k$ -trees**, *Joint Mathematics Meetings*, San Diego.
- 2012 **Contemporary graph enumeration and  $k$ -trees**, *Brandeis*, Ph.D. defense.
- 2012 **Arrow’s Theorem and the impossibility of democracy**, *Carleton & Brandeis*, General audiences.

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## Service

- 2013– Department newsletter “Problem of the Week” editor, *Carleton*.
- 2013 JMM-2014 panel sessions coordinator, *Project NExT*.
- 2013 Sophomore writing portfolio reader, *Carleton*.
- 2013– Contributor to Sage computer algebra system, trac: agd.
- 2013– JMM Undergraduate Poster Session Judge.
- 2012– Department social coordinator, *Carleton*.
- 2012–2013 Math GRE preparation coordinator, *Carleton*.
- 2008–2012 Graduate student representative and social coordinator, *Brandeis*.

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## Grants

- 2013–2014 **L<sup>A</sup>T<sub>E</sub>X workshop**, *Carleton Future Learning Technologies Group*, pending.  
Will develop and run series of short workshops on L<sup>A</sup>T<sub>E</sub>X with supporting materials (templates, demonstrations, etc.), allowing faculty to require its use in their courses.

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## Publications and preprints

- [1] **2013**. *Enumeration of labeled and unlabeled  $k$ -gonal and polygonal 2-trees and succulents by vertices*. Preprint. arXiv: 1309.4481 [math.CO].
- [2] **2013a** (with Ira Gessel). *Counting unlabeled  $k$ -trees*. Submitted to the Journal of Combinatorial Theory, Series A. arXiv: 1309.1429 [math.CO].
- [3] **2013b** (with Ira Gessel). *Enumeration of bipartite graphs and bipartite blocks*. Submitted to the Electronic Journal of Combinatorics. arXiv: 1304.0139 [math.CO].
- [4] **2012a**. “T-species and the enumeration of  $k$ -trees”. In: *The Electronic Journal of Combinatorics* 19.4, P45. arXiv: 1208.5993 [math.CO].
- [5] **2012b**. “T-species, quotients, and graph enumeration”. PhD thesis. Brandeis University. arXiv: 1204.1402 [math.CO].