Andrew Gainer-Dewar

Education

2007–2012 **Ph.D. (Mathematics)**, *Brandeis University*, Waltham, MA.
Thesis: "Γ-species, quotients, and graph enumeration"
Supervisor: Ira M. Gessel

2003–2007 **B.S. (Mathematics) & B.A. (Philosophy)**, *Mercer University*, Macon, GA.

Professional appointments

2014–2015 **Visiting asst. prof. of mathematics**, *Hobart and William Smith Colleges*, Geneva, NY.

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

Research interests

Enumerative combinatorics, combinatorial graph theory, combinatorial species.

Professional memberships and recognition

2014 **AMS-MRC participant**, *Algebraic and Geometric Methods in Applied Discrete Mathematics.*

2013–2014 **MAA National Project NExT Fellow**.

2013– **Member, Mathematical Association of America**.

2008– **Member, American Mathematical Society**.

Teaching

2014–2015 **Hobart and William Smith Colleges**, *4/yr.*
Calculus I, Calculus II, "Discovering in Mathematics"

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 **The graph algorithm for the boolean number of a Coxeter system**, *Carleton.*
Four students, independent original research

2012–2013 **On the species of bipartite point-determining graphs**, *Carleton.*
Four students, independent original research

Presentations and talks

Research (invited)

2014 **Γ-species and the enumeration of unlabeled bipartite blocks**.

- St. Olaf College Math, Statistics, and Computer Science research seminar
- Minnesota State University Mankato mathematics seminar
- University of Minnesota combinatorics seminar

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againerdewar

Research (other)

2014 **Enumeration of bipartite graphs and blocks**, *Joint Mathematics Meetings*, Baltimore.

2013 **Γ-species and the enumeration of k-trees**, *Joint Mathematics Meetings*, San Diego.

2012 **Contemporary graph enumeration and k-trees**, *Brandeis*, Ph.D. defense.

Undergraduate

2014 **The mathematics of democracy**, *Carleton.*

2013 **Making strategy count: combinatorial game theory and the surreal numbers**, *Carleton.*

2012 **Arrow's Theorem and the impossibility of democracy**, *Carleton & Brandeis.*

Pedagogy

2014 **A&I: not just for humanists anymore**, *Carleton Learning and Teaching Center*, panelist.
Panel discussion of approaches for running first-year seminars outside the humanities

Service

2013–2014 **Department LaTeX workshop developer and coordinator**, *Carleton.*

2013–2014 **Department newsletter "Problem of the Week" editor**, *Carleton.*

2013 **JMM-2014 panel sessions coordinator**, *Project NExT.*

2013 **Sophmore writing portfolio reader**, *Carleton.*

2013– **Contributor to Sage computer algebra system**, trac: agd.

2013– **JMM Undergraduate Poster Session Judge**.

2012–2014 **Department social coordinator**, *Carleton.*

2012–2013 **Math GRE preparation coordinator**, *Carleton.*

2008–2012 **Graduate student representative and social coordinator**, *Brandeis.*

Publications and preprints

Mathematical research

2014 **[1]** (with Ira Gessel). "Counting unlabeled k-trees". In: *Journal of Combinatorial Theory, Series A* 126, pp. 177–193. DOI: 10.1016/j.jcta.2014.05.002. arXiv: 1309.1429 [math.CO].

[2] (with Ira Gessel). "Enumeration of bipartite graphs and bipartite blocks". In: *The Electronic Journal of Combinatorics* 21.2, P40. arXiv: 1304.0139 [math.CO].

2012 **[3]**. "Γ-species and the enumeration of k-trees". In: *The Electronic Journal of Combinatorics* 19.4, P45. arXiv: 1208.5993 [math.CO].

[4]. "Γ-species, quotients, and graph enumeration". PhD thesis. Brandeis University. arXiv: 1204.1402 [math.CO].

Preprints

2014 **[5]**. *Enumeration of labeled and unlabeled k-gonal and polygonal 2-trees and succulents by vertices.* Preprint. arXiv: 1309.4481 [math.CO].

[6]. *Species with an equivariant group action.* Preprint. arXiv: 1401.6202 [math.CO].

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