BENJAMIN D. SEAMONE

DAWSON COLLEGE

2009–   Permanent faculty
2005–2009 Contract faculty

Department of Mathematics
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UNIVERSITÉ DE MONTRÉAL

2015–   Professeur associé
2012–2014 Postdoctoral Fellow

Department of Computer Science and
    Operations Research
CP 6128 succ Centre-Ville
Montréal, QC, CANADA, H3C 3J7
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EDUCATION

2012   **Ph.D, Applied Mathematics**
CARLETON UNIVERSITY, Ottawa ON

2005   **M.Math, Combinatorics & Optimization**
UNIVERSITY OF WATERLOO, Waterloo ON

2003   **B.Sc (First Class Honours, with distinction), Mathematics**
MOUNT ALLISON UNIVERSITY, Sackville NB

CURRENT RESEARCH

Interests

Structural graph theory	Hamiltonian cycles and paths	Graph searching
Extremal graph theory	Graph colouring and labelling	Games on graphs

Current grants

2017 - 22	NSERC[1] Discovery Grant, *How do forbidden induced subgraphs impact global phenomena in graphs?*	
2017 - 20	FRQNT[2] Research grant, *New directions in thev "cops and robbers" graph searching model.*	
2014 - 18	FRQNT Research grant, *A study on path and cycle based properties of graphs.*	

AUTHORED WORK

In preparation

- Eternal domination in strong grids (with A. Hassler, J. Huang, A. Gagnon, A. Krim-Yee, F. Mc Inerney, V. Virgélot, A. Zacarías)
- Eternal domination with multiple attacks (with A. Krim-Yee, F. Mc Inerney, V. Virgélot)
- On some conjectures related to eternal domination in graphs (with A. Hassler, J. Huang, A. Gagnon, A. Krim-Yee, F. Mc Inerney, V. Virgélot, A. Zacarías)
- Fully active cops and robbers (with I. Gromovikov, B. Kinnersley)
- Edge clique covers in graphs with independence number 2 (with P. Charbit, G. Hahn, M. Kamiński, M. Lafond, N. Lichiardopol, R. Naserasr, R. Sherkati)
- Non-extendible cycles in strongly chordal graphs (with M. Lafond, R. Sherkati)
- Extending cycles in claw-light graphs

In refereed journals

2015 Hamiltonian chordal graphs are not cycle extendible, *SIAM J. Disc. Math*, **29**:2, 877–887 (with M. Lafond).

2015 On uniquely Hamiltonian claw-free and triangle-free graphs, *Discuss. Math. Graph Theory*, **35**:2, 207–214.

2014 Bounding the monomial index and $(1,l)$-weight choosability of a graph, *Discrete Math. Theor. Comput. Sci.*, **16**:3, 173–188.

2013 Sequence variations of the 1-2-3 Conjecture and irregularity strength. *Discrete Math. Theor. Comput. Sci.*, **15**:1, 15–28 (with B. Stevens).

2012 Vertex-colouring edge-weightings with two edge weights. *Discrete Math. Theor. Comput. Sci.*, **14**:1, 1–20 (with M. Khatirinejad, R. Naserasr, M. Newman, B. Stevens).

2012 Spanning Trees with Specified Differences in Cayley Graphs. *Discrete Math.*, **312**:17, 2561–2565 (with B. Stevens)

2012 $\pi/2$-Angle Yao Graphs are Spanners. *Internat. J. Comput. Geom. Appl.*, **22**:1, 61-82 (with P. Bose, M. Damian, K. Douïeb, J. O'Rourke, M. Smid, S. Wuhrer).

2011 Digraphs are 2-weight choosable. *Electron. J. Combin.*, **18**, #P21 (with M. Khatirinejad, R. Naserasr, M. Newman, B. Stevens).

2007 Independent dominating sets and hamiltonian cycles. *J. Graph Theory* **54**:3, 233-244 (with P. Haxell, J. Verstraëte).

In refereed conference proceedings

2010 $\pi/2$-Angle Yao Graphs are Spanners. *Algorithms and Computation, Part II*, 446–457, Lecture Notes in Comput. Sci., 6507, Springer, Berlin (with P. Bose, M. Damian, K. Douïeb, J. O'Rourke, M. Smid, S. Wuhrer).

Other authored work

2012	The 1-2-3 Conjecture and related problems: a survey, `https://arxiv.org/abs/1211.5122`
2012	Derived Colourings of Graphs, *Ph.D. Thesis*
2004	Sheehan's Conjecture and Parity Results on Regular, Hamiltonian Graphs, *M.Math Thesis*
2002	Skolem Tree Labeling. Research Report, Mount Allison University
2001	Extended near-Skolem sequences. Research Report, Mount Allison University

TEACHING

Dawson College (2005–present, professor)

Calculus I (First Choice Science)	F11, F13, F16, F17
Calculus I (Science)	F06 (x2), F10, W11, F15 (x2)
Calculus I (Lab. Tech.)	W06
Calculus I (Social Science)	F06, W08
Calculus II (Science)	W06 (x2), S06, W08, W12, W13, W14, W15, W16, W17
Calculus III	W15
Linear Algebra (Science)	S05
Probability & Statistics (Science)	S07
Probability & Statistics (Bus. Admin.)	F06, F07
Business Mathematics	F07 (x2)
College Algebra	F05, W06, S09
Functions & Trigonometry	W06, S07, W08, S10

Carleton University (2008–2010, teaching assistant)

Calculus I (Honours)	Linear Algebra (Science)	Algebra
Calculus I (Engineering)	Linear Algebra (Business)	Introduction to Geometry

University of Waterloo (2003–2004, teaching assistant)

Mathematics for Accounting	Calculus I (Hon. Math)	Calculus II (Hon. Math)

Mount Allison University (2001–2003, teaching assistant)

Sets, Functions and Relations	Calculus I	Calculus II

CONFERENCES & TALKS

Conference organization

2017	Beauty of Discrete Mathematics, Montreal, QC
2017	AMQ^3 Mathematics Summer Camp, Montreal, QC
2016	AMQ Mathematics Summer Camp, Montreal, QC
2015	4th Graph Searching in Canada Workshop, Montreal, QC
2015	Joint meeting of the 7th Workshop on Graph Searching, Theory and Applications and the 5th workshop on Moving And Computing, Montreal, QC

Invited talks

2016	Introduction to graph colouring, *AMQ Summer Camp*, Montreal, QC (with P. Bose)
2016	Fully active cops and robbers, *5th Graph Searching in Canada Workshop*, Halifax, NS
2015	On Hendry's Conjecture: Extending cycles in chordal graphs, *Dawson College Mathematics Seminar*, Montreal, QC
2015	Probabilistic methods in discrete mathematics: the Lovasz Local Lemma and Ramsey numbers, *Dawson College Mathematics Seminar*, Montreal, QC
2015	Hendry's Conjecture: counterexamples and new open problems, *5th Canadian Discrete and Algorithmic Mathematics Conference*, Regina, SK
2014	Cycle extendibility in Hamiltonian chordal graphs, *Graphs @ Ryerson Seminar*, Toronto, ON
2013	Forbidden subgraphs and sufficient conditions for cycle extendibility in graphs, *4th Canadian Discrete and Algorithmic Mathematics Conference*, St. John's, NFLD
2013	A general bound on the weight choosability number of a graph, *4th Canadian Discrete and Algorithmic Mathematics Conference*, St. John's, NFLD
2012	Bounding a graph's weight choosability, *Carleton-Ottawa Discrete Mathematics Seminar*, Ottawa, ON
2009	Graph Spanners, *Carleton University Algorithms Seminar*, Ottawa, ON

Contributed talks

2016	Edge clique covers in graphs with independence number 2, *4th Bordeaux Graph Workshop*, Bordeaux, France
2014	Hamiltonian chordal graphs are not cycle extendible, *9th International Colloquium on Graph Theory and Combinatorics*, Grenoble, France
2011	Colourings Derived from Weightings, *23rd British Combinatorial Conference*, Exeter, UK
2011	Variations of the $1, 2, 3$-Conjecture, *3rd Canadian Discrete and Algorithmic Mathematics Conference*, Victoria, BC
2011	Graph colourings derived from graph weightings, *Discrete Math Days*, Ottawa, ON

2010	Spanning Trees with Specified Differences in Cayley Graphs, *8th French Combinatorial Conference*, Orsay, France
2010	Spanning Trees with Specified Differences in Cayley Graphs, *SIAM[4] Conference on Discrete Mathematics*, Austin, TX
2009	Edge weightings that induce proper vertex colourings, *Discrete Math Days*, Ottawa, ON
2003	How to Win at Nim and Other Impartial Combinatorial Games, *University of Waterloo Graduate Student Colloquim*, Waterloo, ON
2002	Skolem Sequences, Variations, and Applications, *Canadian Undergraduate Mathematics Conference*, Calgary, AB (with J. McDonald)
2002	Skolem Labelling of Trees, *Coast Conference on Discrete Mathematics*, Charlottetown, PEI
2002	Skolem Labelling of Trees, *Atlantic Provinces Council on the Sciences Mathematics Conference*, Sackville, NB

Other conferences, schools and workshops

(* = by invitation; + = by application)

2017	*6th Canadian Discrete and Algorithmic Mathematics Conference*, Toronto, ON
2016	*13th Workshop on Algorithms and Models for the Web Graph*, Centre de recherches mathématiques, Montréal, QC
2016	*SIAM Conference on Discrete Mathematics*, Atlanta, GA
2015	*CMS[5] Winter Meetings*, Montréal, QC
2014	*40th International Workshop on Graph-Theoretic Concepts in Computer Science*, Orleans, France
2013 *	*Cycle Double Cover Conjecture and Related Problems*, Université de Montréal, QC
2013	Erdős Centennial, Budapest, Hungary
2013 *	*2nd Graph Searching in Canada Workshop*, Ryerson University, ON
2012 *	*5th Workshop on Graph Searching, Theory and Applications*, Banff International Research Station, Banff, AB
2012 *	*Graphs and Applications*, Bellairs Research Institute, Barbados
2012	*SIAM Conference on Discrete Mathematics*, Halifax, NS
2010 +	*First Montreal Spring School in Graph Theory*, McGill University
2010	*Ottawa-Carleton Discrete Mathematics Days*, Ottawa, ON
2009	*2nd Canadian Discrete and Algorithmic Mathematics Conference*, Montreal, QC
2009 *	*Fields Institute Workshop on Discrete and Computational Geometry*, Gatineau, QC
2008	*CMS Winter Meetings*, Ottawa, ON
2008	*Ottawa-Carleton Discrete Mathematics Days*, Carleton University
2003 +	*Summer School of the Atlantic Association for Research in the Mathematical Sciences*, Memorial University

STUDENT SUPERVISION

Graduate Students

2017 - pres.	Virgile Virgélot (Université de Montréal), MSc

Undergraduate & College Students

2017 - pres.	Aaron Krim-Yee (Dawson College)
	• FRQNT Bourses de stages d'été, Summer 2017
Summer 2017	Jerry Huang (Dawson College)
2016 - 2017	Alexander Hassler (Dawson College)
	• FRQNT Bourses de stages d'été, Summer 2016
Summer '16 & '17	Alizée Gagnon (Université de Montréal)
2014 - 15	Ilya Gromovikov (Dawson College)

Visiting Students

Summer 2017	Fionn Mc Inerney (PhD, Université Côte d'Azur, France)
Summer 2017	Andrés Mejía Zacarías (BSc, Universidad Nacional Autónoma De México)
	• MITACS Globalink Research Internship
Summer 2015	Rezvan Sherkati (BSc, Sharif Univeristy of Technology, Iran)
Summer 2013	Valentin Giboulot (BSc, Université Blaise Pascal, France)

Directed studies courses

Winter 2016	Alexander Hassler (Dawson College), Daniel Seyahek (Dawson College), Simon Sehayek (McGill University), *Graph colouring and planar graphs.*
2014 - 15	Ilya Gromovikov (Dawson College), *Graphs and their structures.*

PAST GRANTS & AWARDS

Research

2012 - 14	NSERC Postdoctoral Fellowship
2012 - 14	FQRNT Postdoctoral Fellowship (declined)
2010 - 12	NSERC Alexander Graham Bell Canadian Graduate Scholarship
2009 - 11	FQRNT Graduate Scholarship (declined 2010-11)
2008 - 13	Carleton University Research Assistantship (declined 2012-13)
2003 - 04	NSERC Postgraduate Scholarship

2002	NSERC Undergraduate Research Award
2001	NSERC Undergraduate Research Award

Academic

2010	Koningstein Scholarship for Excellence in Science & Engineering (Carleton)
2009	Ontario Graduate Scholarship (declined)
2008 - 13	Graduate Scholarship (Carleton) (declined in 2012-13)
2008	Dean of Graduate Studies Entrance Scholarship (Carleton)
2003 - 04	Graduate Incentive Award (Waterloo)
2003 - 04	Faculty of Mathematics Graduate Award (Waterloo)
2003	Math and Computer Science Departmental Award (Mount Allison)
2003	David K. Pickard Memorial Prize in Mathematics (Mount Allison)
2002	Percy Simpson Bailey Scholarship (Mount Allison)
2001	Nathaniel Morgan Scholarship (Mount Allison)
1999 - 2003	Entrance Scholarship (Mount Allison)
1999 - 2003	Dean's Honour List (Mount Allison)

Leadership & Teaching

2003, 2004	Finalist, Outstanding Teaching Assistant Award (Waterloo)
2003	Don Norton Memorial Award [6] (Mount Allison)
2003	University Leadership Certificate (Mount Allison)
2002, 2003	President's Certificate for Leadership Development (Mount Allison)
1999	Students' Administrative Council Leadership Award (Mount Allison)

CONTRIBUTIONS & SERVICE

Memberships and appointments

2017 - pres.	Centre de recherches mathématiques, Montréal, QC
2017 - pres.	Institut des sciences mathmatiques, Montréal, QC
2015 - pres.	Canadian Mathematical Society
2013 - 14	Concordia Computational Combinatorial Optimization Laboratory
2009 - 12	Society of Industrial and Applied Mathematics (student membership)
2003 - 04	American Mathematical Society (student membership)

Selected institutional service

2016 - pres.	Computer Science Program Committee, Dawson College
2016 - pres.	Mathematics Department Hiring Committee, Dawson College

2015 - 2017   Board of Governors, Dawson College
2015 - pres. Science Program Committee, Dawson College
2014 - pres. Judicial Committee, Dawson College
2014 - 2015   Strategic Research Plan Development Committee, Dawson College
2013 - pres. Science Program Curriculum Committee, Dawson College

Selected teaching service

2016   Course co-ordinator, Calculus 2 (Science, winter semester), Dawson College
2012   Course co-ordinator, Calculus 2 (Science, winter semester), Dawson College
2011   Course co-ordinator, Calculus 1 (Science, winter semester), Dawson College
2007   Course co-ordinator, Prob. and Statistics (Bus. Admin., winter semester), Dawson College

Selected leadership activities

2013 - 2015   Board of Directors, Centre de la petite enfance Dawson
2002 - 03   Vice President Academic Affairs, Student's Admin. Council, Mount Allison University
2002 - 03   Co-organized student-run international development project *Youth Partnership with Jamaica*, Mount Allison University
2002   Delegate to Canadian Academic Round Table, York University, Toronto, ON

Referee and review contributions

- AMS Mathematical Reviews (x10)
- Journal of Graph Theory (x2)
- Discrete Applied Mathematics (x2)
- Contributions to Discrete Mathematics (x2)
- Discrete Mathematics
- Electronic Journal of Combinatorics
- Journal of Combinatorial Optimization
- Bulletin of the Institute of Combinatorics and its Applications
- European Conference on Combinatorics, Graph Theory and Applications 2013
- Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS) 2015

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[1]Natural Sciences and Engineering Research Council of Canada
[2]Fonds de recherche du Québec Nature et technologies
[3]Association mathématique du Québec
[4]Society of Industrial and Applied Mathematics
[5]Canadian Mathematics Society
[6]Greatest overall contribution to university life by a male student