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DEJAN DELIC

PERSONAL INFORMATION

Date of Birth: October 11, 1969

Citizenship: Canadian

EDUCATION

1994 - 1998 University of Waterloo, Waterloo, Canada

PhD (Pure Mathematics)

1993 - 1994 University of Novi Sad, Novi Sad, Yugoslavia

MMath (Algebra and Logic)

1989-1992 University of Novi Sad, Novi Sad, Yugoslavia

BMath (Pure Mathematics)

PROFESSIONAL EXPERIENCE

Jul. 2013 – present Department of Mathematics, Ryerson University,
Toronto, ON, Canada

Interim Chair

Jul. 2007 – present Department of Mathematics, Ryerson University,
Toronto, ON, Canada

Associate Professor

Aug. 2001 – Jul., 2007 Department of Mathematics, Ryerson University,
Toronto, ON, Canada

Assistant Professor

Sept. 2000 – Aug. 2001 Department of Mathematics, Vanderbilt
University, Nashville, TN, USA

NSERC Postdoctoral Fellow

Sept. 1999 – Aug. 2000 Department of Mathematics and Statistics,
McMaster University, Hamilton, ON, Canada

NSERC Postdoctoral Fellow

Sept. 1998 – Aug. 1999 Department of Pure Mathematics, University of Waterloo, Waterloo, ON, Canada

Postdoctoral Fellow

Sept. 1998 – May 1999 Department of Mathematics, Wilfrid Laurier University, Waterloo, ON, Canada

Part-time Instructor

Sept. 1994 – Aug. 1998 Department of Pure Mathematics, University of Waterloo, Waterloo, ON, Canada

Teaching/Research Assistant

Jan. 1993 – Aug. 1994 Institute for Mathematics, University of Novi Sad, Novi Sad, Serbia, Yugoslavia

Junior Assistant

OTHER PROFESSIONAL SERVICES

Member and Chair of the Scholarships and Fellowships Committee for Mathematics, Natural Sciences and Engineering Research Council of Canada

Reviewer for NSERC Discovery Grant applications in Pure Mathematics.

Reviewer for *Mathematical Reviews*

Reviewer for *Annales Mathematicae et Informaticae*

Reviewer for *Discrete Mathematics*

Reviewer for *Algebra Universalis*

Reviewer for *Acta Math. Sci. (Szeged)*

Reviewer for *International Journal of Algebra and Computation*

Reviewer for *Mathematical Logic Quarterly*.

Reviewer for *Discussiones Mathematicae Graph Theory*

Reviewer for *Mathematica Bobemica*.

Reviewer for *Journal of Combinatorial Mathematics and Combinatorial Computing*.

Reviewer for *Contributions to Discrete Mathematics*.

Textbook reviewer for *Prentice-Hall Publishing* and *Pearson Canada*

PUBLICATIONS

J. Bulin, D. Delić, M. Jackson, T. Niven, On the reduction of CSP dichotomy to digraphs, Proceedings of The 19th International Conference on Principles and Practice of Constraint Programming, CP2013, Uppsala, Sweden

A. Bonato, D. Delić, C. Wang, The structure and automorphisms of semi-directed graphs, accepted to the *Journal of Multiple-Valued Logic and Soft Computing* (to appear in 2013.)

D. Delić, C. Wang, The global connected domination in graphs, with C. Wang to appear in *Ars Combinatoria*.

A. Bonato, D. Delić, Distinguishing homomorphisms of infinite graphs, *Contributions to Discrete Mathematics*, 7 (2012) 44-53.

D. Delić, C. Wang, Upper signed k-domination in a general graph, *Information Processing Letters* 110 (2010), 662-665.

A. Bonato, D. Delić, Distinguishing number and adjacency properties, *Journal of Combinatorics* 1 (2010), 141-148

A. Bonato, D. Delić, I. Dolinka, All countable monoids embed into the monoid of the infinite random graph, *Discrete Mathematics* 310 (2010) 373-375.

A. Bonato, D. Delic, C. Wang, Universal random semi-directed graph, proceedings of the conference ROGICS '08, Mahdia, (Tunisia), May 12-14, 2008

Decidable locally finite discriminator varieties arising from dihedral varieties of groups, *Journal of Pure and Applied Algebra* **198** (2005), 75-92

A. Bonato, D. Delic, A note on orientations of the infinite random graph, *European Journal of Combinatorics* **25** (2004), 921-926

D. Delic, I. Dolinka, The endomorphism monoid of the random graph has uncountably many ideals, *Semigroup Forum* **69** (2004), 75-79

A. Bonato, D. Delic, On a problem of Cameron's on inexhaustible graphs, *Combinatorica* **24** (2004), 35-51

A. Bonato, P. Cameron, D. Delic, and S. Thomassé Generalized

pigeonhole properties of graphs and oriented graphs, *European Journal of Combinatorics* **23** (2002), 257-274.

Finite equational bases for flat graph algebras, *Journal of Algebra* **246** (2001), 453-469.

A finitely axiomatizable undecidable equational theory with recursively solvable word problems, *Transactions of the American Mathematical Society* **352** (2000) 3065-3101.

The monoid of the random graph (with A. Bonato), *Semigroup Forum*, **61** (2000) 138-148.

A. Bonato, P. Cameron, D. Delic, Tournaments and orders with the pigeonhole property, *Canadian Mathematical Bulletin*, **43** (2000) 397-405.

Solution to a problem of Kublanovsky and Sapir, *International Journal of Algebra and Computation*, **11** (2001), 489-495

A. Bonato, D. Delic, A pigeonhole principle for relational structures, *Mathematical Logic Quarterly*, **45** (1999) 409-413

A. Bonato, D. Delic, The model companion of width-two orders, *Order*, **14** (1998), no. 2, 87-99.

S. Crvenkovic, D. Delic, Different levels of word problems for some varieties, *Novi Sad Journal of Mathematics* **26** (1996), 93-102.

S. Crvenkovic, D. Delic, A variety with locally solvable but globally unsolvable word problem, *Algebra Universalis* **35** (1996), 420-424.

Articles Submitted to Refereed Journals

J. Bulin, D. Delić, M. Jackson, T. Niven, On the reduction of CSP dichotomy to digraphs, submitted, ArXiv 1305:2039

D. Delić, Homomorphism dichotomy for oriented trees, submitted

D. Delić, P. Wegier, Oriented trees with a commutative binary operation have tree duality, submitted

D. Delić, Decidable discriminator varieties with solvable group stalks, submitted

Non-refereed Contributions

D. Delic, P. Idziak, R. McKenzie, M. Valeriote, Strong solvability in finitely decidable varieties (in preparation), 58 pages

D. Delic, M. Jackson, Decidable locally finite discriminator quasivarieties arising from semigroups, (in preparation) 15 pages

PRESENTATIONS

Research Presentations at Conferences

Polymorphisms of Binary Treelike Structures, Fall Southeastern Sectional Meeting, Louisville, KY, October 5-6, 2013

Expressibility of graph homomorphism obstructions in the logic LFP+Rank (Joint work with C. Heggerud), *The 4th Novi Sad Algebraic Conference*, NSAC2013, Novi Sad (Serbia), June 4-9, 2013

Expressibility of digraph homomorphisms in the logic LFP+Rank, AAA85, Luxembourg (Luxembourg), January 31- February 2, 2013

Algebraic Reduction of CSP to Digraphs (Joint work with J. Bulin, M. Jackson, and T. Niven), Conference on Universal Algebra and Lattice Theory, Szeged (Hungary), June 21-25, 2012.

CSP Dichotomy And H-Bipartite Graphs (Joint work with J. Bulin, M. Jackson, and T. Niven), AAA83, Novi Sad (Serbia), March 15-18, 2012

Reduction of CSP dichotomy to digraphs (Joint work with J. Bulin, M. Jackson, and T. Niven), *Workshop on Algebra and CSP*, Fields Institute, Toronto (Canada), 2011

Commutativity implies treewidth-1 duality for oriented trees (Joint work with P. Wegier), AAA82, Potsdam (Germany), June 2011

Homomorphism Testing Strategies For Oriented Trees, *10th Nordic Combinatorial Conference*, Reykjavik (Iceland), May 26-28, 2010

Smoothly Approximated Structures and Decidability in Discriminator Varieties, AAA78, Berne (Switzerland), June 11-14, 2009

CSP dichotomy for oriented trees (with C. Wang), *Robert Woodrow 60th Birthday Conference*, University of Calgary, December 10-12, 2008

Universal random semi-directed graph (with A. Bonato and C. Wang), *ROGICS'08*, Mahdia (Tunisia), May 12-17, 2008

Homogeneity in congruence modular varieties, AAA 74, Tampere (Finland), June 7-10, 2007

Universality of graphs modelling massive networks (joint work with A. Bonato and P. Cameron), *Novi Sad Algebraic Conference NSAC '05*

Finitely decidable locally finite varieties, AAA 68, Dresden (Germany), June 2004

Hereditarily homogeneous locally finite groups, *CMS Winter 2003 Meeting*, Vancouver (BC, Canada), December 2003

Homogeneity and decidability of discriminator equational theories, *Novi Sad Algebraic Conference NSAC '03*, Novi Sad (Serbia), August 2003

Embeddings into the monoid of the random graph (with A. Bonato and I. Dolinka), *Fifth Slovenian International Conference on Graph Theory*, Bled (Slovenia), June 2003

Embeddings into the monoid of the random graph (with A. Bonato and I. Dolinka), *Lattices, Universal Algebra, and Applications*, Lisbon (Portugal), May 2003

Endomorphism monoid of random graph (with A. Bonato), *Conference on Universal Algebra and Lattice Theory*, Szeged (Hungary), July 2002

Discriminator varieties with group stalks, *First Joint Meeting of the AMS and UMI*, Pisa (Italy), June 2002

Decidability of discriminator varieties with group stalks, *International Conference on Modern Algebra*, Nashville (Tennessee, U.S.A.), May 2002

Finitely decidable varieties, *A Course in Tame Congruence Theory – Workshop*, Budapest (Hungary), July 2001, invited talk.

(joint work with R. McKenzie and P. Markovič) Badly structured classes of algebras, *AAA 62 Workshop on General Algebra*, Johannes Kepler University, Linz, (Austria), June 2001.

(joint work with R. McKenzie and P. Markovič) Structure of subdirectly irreducible algebras in finitely decidable locally finite varieties, *Special Session on General Algebraic Systems, AMS Sectional Meeting*, University of South Carolina, Columbia (South Carolina, U.S.A.), March 2001.

(joint work with M. Valeriote) Subdirectly irreducibles with the monolith of type 1 in finitely decidable varieties, *Workshop on Universal Algebra and Ordered Sets*, Vanderbilt University, Nashville (Tennessee, U.S.A.), May 2000.

Locally finite discriminator varieties with group stalks, *First South African Summer School in Logic, Universal Algebra, and Theoretical Computer Science*, Witwatersrand University, Johannesburg (South Africa), December 1999.

Solution to a problem of Kublanovsky and Sapir, *Workshop in Universal Algebra*, Bolyai Institute, Szeged (Hungary), August 1998, invited talk.

Lecturer, *International Workshop on Universal Algebra, Logic, and Computer Science*, Beijing (P. R. of China), July 1998, invited lecturer

Finite bases for graph M-algebras, *Special Session on Semigroups, Algorithms, and Universal Algebra, AMS Sectional Meeting*, University of Louisville, Louisville (Kentucky, U.S.A.), March 1998.

A finitely based pseudorecursive variety with locally solvable word problem, *Conference in Universal Algebra and Lattice Theory*, Bolyai Institute, Szeged, July 1996.

Some algorithmic problems for varieties, *6th McLogic Meeting*, Fields Institute, Toronto (Canada), July 1996.

Pseudorecursive varieties and their word problems, *Conference in Modern Algebra and Its Applications*, Vanderbilt University, Nashville (Tennessee, U.S.A.), May 1996.

Presentations in Research Seminars

Constraint satisfaction problems for oriented trees, Mathematics Seminar, Ryerson University, 2008.

Endomorphism monoid of copying graphs, Mathematics Seminar, Ryerson University, 2006.

Relative freeness of the monoid of the random graph, Seminar for Discrete Mathematics, Wilfrid Laurier University, January 2003.

Homogeneous groups, Universal Algebra Seminar, Institute of Mathematics, University of Novi Sad, Novi Sad (Yugoslavia), July 2002.

Endomorphism monoid of the random graph, Universal Algebra Seminar, Institute of Mathematics, University of Novi Sad, Novi Sad (Yugoslavia), June 2001.

Discriminator varieties with group stalks, Universal Algebra Seminar, Institute of Mathematics, University of Novi Sad, Novi Sad (Yugoslavia), June 2001.

There is only one interesting countable graph, Universal Algebra Seminar, Vanderbilt University (Nashville, U.S.A.), October 2000.

Pigeonhole property for relational structures, Colloquium, Department of Mathematics, University of Pretoria (South Africa), December 1999.

Pseudorecursive varieties and word problems, Seminar of Database Research Group, Korean Advanced Institute for Science and Technology,

Taejon (Korea), December 1998.

Computational complexity of problems in universal algebra, Colloquium, Department of Computer Science, Korean Advanced Institute for Science and Technology, Taejon (Korea), December 1998.

Finitely based M-graph algebras, Logic and Universal Algebra Seminar, McMaster University, November 1997.

A finitely based pseudorecursive variety, Universal Algebra Seminar, University of Waterloo, April-May 1996.

Series of lectures in tame congruence theory, Universal Algebra Seminar, University of Waterloo, January-March 1995.

COURSES TAUGHT

MTH617 Algebra, Ryerson University, Winter 2013

AM8002 Discrete Mathematics (graduate course), Ryerson University, Winter 2010, fall 2012

MTH110 Discrete Mathematics I, Ryerson University, Winter 2009, Fall 2011, Fall 2012

MTH714 Logic & Computability, Ryerson University, Fall 2006, Fall 2007, Fall 2008., Fall 2009

MTH 314 Discrete Mathematics for Engineers, Ryerson University, Winter 2006, Winter 2007, Winter 2008, Winter 2009, Winter 2012

MTH 501 Numerical Analysis, Ryerson University, Fall 2005

MTH 140 Calculus I for Engineers, Ryerson University, Winter 2005, Winter 2006

MTH 207 Calculus and Computational Methods I, Ryerson University, Winter 2002, Winter 2003, Winter 2004, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009

MTH 240 Calculus II for Engineers, Ryerson University, Winter 2002, Winter 2003, Winter 2004

MTH 340 Calculus III for Civil Engineering, Ryerson University, Fall 2004

MTH 310 Calculus with Computational Methods II, Ryerson University, Fall 2001, Fall 2002, Fall 2003, Winter 2005

MTH141 Linear Algebra, Ryerson University, Fall 2001, Fall 2002, Fall 2003

MA 194 Linear Algebra for Engineering Students, Vanderbilt University, Spring 2001

MA 170A Calculus III, Vanderbilt University, Fall 2000

M4EE3 Commutative Algebra and Algebraic Geometry, McMaster University, Winter 2000

MATH 138 Calculus II, University of Waterloo, Winter 1999

MA 130 Business Calculus, Wilfrid Laurier University, Winter 1999

MA 121 Introduction to Logic and Algebra, Wilfrid Laurier University, Winter 1999, Fall 1998

MATH 125 Applied Linear Algebra, University of Waterloo, Fall 1998

PMATH 330 Introduction to Mathematical Logic, University of Waterloo, Spring 1998, Spring 1997, Spring 1996

TRAINING OF HIGHLY QUALIFIED PERSONNEL

Marc Lozier, master's student, September 2013 - present

Angel Alladina, Master's student, September 2013 - present

Aklilu Habte, Master's student, September 2013- present

Christopher Heggerud, NSERC USRA, May – August 2013

Dr. Robert Bailey, postdoctoral fellow, August 2012 – July 2013 (supported by NSERC Discovery Grants of A. Bonato, P. Danziger, and D. Delic)

Fionn McInerney, summer undergraduate research assistant, May 2012- August 2012

Muhanda Stella Mbaka Muzala, Master's student, September 2010-August 2012 (co-supervised with P. Danziger)

Dr. Graeme Kemkes, postdoctoral fellow, August 2010- July 2011 (supported by NSERC Discovery Grants of A. Bonato and D. Delic)

Piotr Wegier, summer undergraduate research assistant, June-August 2008, June – August 2009 (supported by NSERC Discovery Grant of D. Delic)

Dr. Changping Wang, postdoctoral fellow, August 2007-July 2010 (supported by NSERC Discovery Grants of A. Bonato and D. Delic)

Kelda-Ann Sholdice, NSERC USRA, May-August 2007.

Kelda-Ann Sholdice, undergraduate research assistant (supported by NSERC Discovery Grant of D. Delic), May-August 2006

Dr. Boza Tasic, collaborative work on results included in Ph.D. Thesis

ADDITIONAL PROFESSIONAL ACTIVITIES

Graduate student fellow of the Fields Institute in the academic year 1996-1997 (Program: Algebraic Model Theory)

Representative of the Department of Mathematics/School of Computer Science at the Ontario Universities' Fair, September 2003, September 2004, September 2005, September 2007, September 2008, September 2011, September 2012, September 2013

Director of Graduate Studies, Applied Mathematics Master's Program, Department of Mathematics, Ryerson University, July 2008-present.

PROFESSIONAL MEMBERSHIPS

Member of the Canadian Mathematical Society

Member of the American Mathematical Society

Member of the Association for Symbolic Logic

AWARDS RECEIVED AND APPLIED FOR

NSERC Discovery Grant (May 2012-2017) – value: \$12,000/yr

NSERC Discovery Grant (May 2006-2012) –value: \$13,000/yr

NSERC Research Grant (May 2002-2006) – value: \$11,000/yr

Starter Grant of the Office of the Dean of the Faculty of Engineering,
Ryerson University, September 2001 – value: \$15,000

NSERC Postdoctoral Fellowship, September 1999 – August 2001 –value:
\$35,000/yr

Ontario Graduate Scholarship, 1996-1997, 1997-1998

Fejer-Aczel Award in Mathematics, Faculty of Mathematics, University of
Waterloo, 1996, 1997

Scholarship of Ministry of Science of the Republic of Serbia, 1991, 1992

LANGUAGES

English, French, German, Spanish, Italian, Serbo-Croatian

OBJECTIVE

Pursuing a career in research and teaching at the university level

REFERENCES

Dr Ross Willard, Professor, Department of Pure Mathematics, University of Waterloo, phone: (519) 888-4567, ext. 5082, e-mail: rdwillard@gillian.math.uwaterloo.ca

Dr Keith Kearnes, Professor, University of Colorado at Boulder, phone: (303) 492-5203, e-mail: kearnes@euclid.colorado.edu

Dr Anthony Bonato, Ryerson University, phone: (416) 979-5000 ext. 2538, e-mail: abonato@ryerson.ca