



Paul Vrbik

Curriculum Vitae

Education

- 2009 – 2014 **Doctor of Philosophy**, *The University of Western Ontario*.
Computer Science.
- 2006 – 2009 **Master of Science**, *Simon Fraser University*.
Pure Mathematics.
- 2002 – 2006 **Bachelor of Science**, *McMaster University*.
Pure Mathematics.

Professional Experience

- 2014 – *The University of Newcastle, Australia*.
Associate Lecturer of Mathematics.
- 2009 – 2014 *Maplesoft* (via the Ontario Research Center for Computer Algebra).
Software developer for RegularChains library.
- FALL 2013 *The University of Western Ontario*.
Lecturer of Computer Science.
- SUMMER *Brock University*.
2005/2006 Software developer for the computational chemistry research group.

Computer Languages

- EXPERT C and Maple.
- PROFICIENT Cilk, Cilk++, Fortran, Haskell, Java, Python, and OpenMP.
- FAMILIAR Assembly, C++, Cuda, Java, and R.

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Books

2012 *Informal Introduction to Stochastic Processes with Maple* [WEB](#)
AUTHORS Jan Vrbik and Paul Vrbik
PUBLISHER Springer.
ISBN-13 978-1461440567

Refereed Contributions

2015 *A Standard Basis Free Algorithm for Computing the Tangent Cones of a Space Curve* [PDF](#)
PROCEEDINGS Computer Algebra in Scientific Computing, Aachen, Germany.

2015 *Playing Several Patterns Against One Another* [WEB](#)
ARXIV 1507.01322

2014 *Doing Algebraic Geometry with the RegularChains Library* [PDF](#)
PROCEEDINGS International Centre for Mathematical Sciences — 4th International Congress, Seoul, South Korea.

2012 *Computing Intersection Multiplicity via Triangular Decomposition* [PDF](#)
DISSERTATION The University of Western Ontario.

2012 *An Irrationality Measure for Regular Paper-folding Numbers* [WEB](#)
JOURNAL Journal of Integer Sequences.

2012 *Inversion Modulo Zero-dimensional Regular Chains* [PDF](#)
PROCEEDINGS Computer Algebra in Scientific Computing, Maribor, Slovenia.

2012 *On Fulton's Algorithm for Computing Intersection Multiplicities* [PDF](#)
PROCEEDINGS Computer Algebra in Scientific Computing, Maribor, Slovenia.

2009 *Lazy and Forgetful Polynomial Arithmetic and Applications* [PDF](#)
PROCEEDINGS Computer Algebra in Scientific Computing, Kobe, Japan.

2008 *Lazy and Forgetful Polynomial Arithmetic and Applications* [PDF](#)
DISSERTATION Simon Fraser University.

2008 *Gamma Distribution Model To Provide a Direct Assessment of the Overall Quality of Quantum Monte Carlo-Generated Electron Distributions* [WEB](#)
JOURNAL Journal of Physical Chemistry A.

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Lecture Series

2015	<i>Logic and Set Theory</i>	<u>PDF</u>
2015	<i>Mathematical Discovery</i>	<u>PDF</u>
2013	<i>An Informal Derivation of the Standard Model of Computation</i>	<u>PDF</u>

Honours and Awards

Distinctions

2012	University Students Council, Teaching Honour Roll.
FOR	Excellence in class instruction.

Scholarships

2010	Alexander Graham Bell Canada Graduate Scholarships, Doctorate.
VALUE	\$105 000
2008	Graduate Fellowship. Simon Fraser University.
VALUE	\$6 250
2008	MITACS Industrial Scholarship.
VALUE	\$15 000
2002	McMaster Entrance Scholarship.
VALUE	\$4 000

Nominations

2012	University Students Council Teaching Award.
NOMINATED BY	Students.
FOR	Excellence in class instruction.
2006	McMaster President's Award.
NOMINATED BY	The department of Mathematics and Statistics.
FOR	Excellence in student leadership.