

**Anton Sakovich**

Department of Mathematics & Statistics, McMaster University  
1280 Main Street West, office HH/403, Hamilton, Ontario, Canada L8S 4K1  
(905) 525-9140 ext. 24411, [sakovias@math.mcmaster.ca](mailto:sakovias@math.mcmaster.ca)  
<http://www.math.mcmaster.ca/~sakovias/>

**Research Interests**

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- Partial differential equations, lattice differential equations
- Existence and stability of nonlinear waves
- Regularity control, wave breaking, exact solutions

**Education**

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*Ph.D. Candidate in Applied Mathematics* 2009–present  
McMaster University, Ontario, Canada. Advisor: Dmitry Pelinovsky. Dissertation title: Nonlinear lattices near the anti-continuum limit.

*M.Sc. Applied Mathematics* 2007–2009  
McMaster University, Ontario, Canada. Advisor: Dmitry Pelinovsky. Thesis title: Well-posedness of nonlinear wave equations in characteristic coordinates.

*B.Sc. Physics* 2001–2006  
Belarusian State University, Minsk, Belarus

**Professional Employment**

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**Tutorial Instructor** 2007–present  
McMaster University, Ontario, Canada

- Partial Differential Equations for Engineering (3<sup>rd</sup> year undergraduate level)
- Mathematical Physics (3<sup>rd</sup> year undergraduate level)
- Differential Equations (2<sup>nd</sup> year undergraduate level)
- Advanced Calculus for Engineering (2<sup>nd</sup> year undergraduate level)

**Course Instructor** 2010  
McMaster University, Ontario, Canada

- Introduction to Calculus and Analytic Geometry (1<sup>st</sup> year undergraduate level)

**Tutor** 2009–2011  
Columbia International College, Ontario, Canada

- High school courses in mathematics and Physics

**Research Assistant** 2006–2007  
National Centre of High Energy Physics, Minsk, Belarus

- Computer simulations and analysis of high-energy hadron-hadron collisions

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**Publications**

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- D. Pelinovsky, A. Sakovich, Internal modes of discrete solitons near the anti-continuum limit of the dNLS equation, *Physica D* 240 (2011) 265–281
- Y. Liu, D. Pelinovsky, A. Sakovich, Wave breaking in the Ostrovsky–Hunter equation, *SIAM Journal on Mathematical Analysis* 42 (2010) 1967–1985
- D. Pelinovsky, A. Sakovich, Global well-posedness of the short-pulse and sine-Gordon equations in energy space, *Communications in Partial Differential Equations* 35 (2010) 613–629
- Y. Liu, D. Pelinovsky, Anton Sakovich, Wave breaking in the short-pulse equation, *Dynamics of Partial Differential Equations* 6 (2009) 291–310
- A. Karasu-Kalkanli, A. Karasu, A. Sakovich, S. Sakovich, R. Turhan, A new integrable generalization of the Korteweg–de Vries equation, *Journal of Mathematical Physics* 49 (2008) 073516
- A. Sakovich, S. Sakovich, On transformations of the Rabelo equations, *Symmetry, Integrability and Geometry: Methods and Applications* 3 (2007) 086
- A. Sakovich, S. Sakovich, Solitary wave solutions of the short pulse equation, *Journal of Physics A* 39 (2006) L361–L367
- A. Sakovich, S. Sakovich, The short pulse equation is integrable, *Journal of the Physical Society of Japan* 74 (2005) 239–241

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**Preprints**

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- A. Sakovich, D. Pelinovsky, Multi-site breathers in Klein–Gordon lattices: stability, resonances, and bifurcations, arXiv:1111.2557 (2011, submitted to *Nonlinearity*)

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**Conference and Seminar Talks**

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- Workshop on Wave Breaking and Global Solutions in the Short-Pulse Dispersive Equations, Fields Institute, Toronto, Canada, May 2011
- New York Conference on Applied Mathematics, University at Buffalo, Buffalo, USA, April 2011 (2<sup>nd</sup> prize)
- IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, University of Georgia, Athens, USA, April 2011
- Applied and Industrial Mathematics Seminar, McMaster University, Hamilton, Canada, April 2011
- Canadian Mathematical Society Summer Meeting, University of New Brunswick, Fredericton, Canada, June 2010
- Numerical PDE and Evolution Equations Working Group Seminar, University of Toronto, Toronto, Canada, March 2010
- IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, University of Georgia, Athens, USA, March 2009
- Mathematics Graduate Student Conference, McMaster University, Hamilton, Canada, October 2008
- Applied and Industrial Mathematics Seminar, McMaster University, Hamilton, Canada, October 2007

- Symmetry in Nonlinear Mathematical Physics, Institute of Mathematics, Kiev, Ukraine  
June 2007

**Training Attended**

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- Mathematical Modelling in Industry Workshop XV, Institute for Mathematics and its Applications, Minneapolis, USA, August 2011
- Workshop on the Dirichlet Space: Connections between Operator Theory, Function Theory, and Complex Analysis, Mathematical Sciences Research Institute, Berkeley, USA, June 2011
- Fields Institute Workshop on Nonlinear Wave Dynamics, Carleton University, Ottawa, Canada, August 2008

**Grants and Awards**

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- Second Prize for the best student presentation at the New York Conference on Applied Mathematics, University at Buffalo, Buffalo, USA, April 2011
- Travel grants to participate in the above conference and workshops

**References**

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**Dmitry Pelinovsky**

Professor  
Department of Mathematics & Statistics  
McMaster University  
[dmpeli@math.mcmaster.ca](mailto:dmpeli@math.mcmaster.ca)  
(905) 525-9140, ext. 23424

**Stanley Alama**

Professor  
Department of Mathematics & Statistics  
McMaster University  
[alama@mcmaster.ca](mailto:alama@mcmaster.ca)  
(905) 525-9140, ext. 27363

**Walter Craig**

Professor  
Department of Mathematics & Statistics  
McMaster University  
[craig@math.mcmaster.ca](mailto:craig@math.mcmaster.ca)  
(905) 525-9140, ext. 23422

**Gail Wolkowicz (Teaching)**

Professor  
Department of Mathematics & Statistics  
McMaster University  
[kovarik@mcmaster.ca](mailto:kovarik@mcmaster.ca)  
(905) 525-9140, ext. 24808