

# CURRICULUM VITÆ

## **IMRE PÓLIK**

VISITING ASSISTANT PROFESSOR

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**Languages:** Hungarian (native), English (nearly native), Italian (fluent)

## **Previous affiliations**

**2007-2008:** Postdoctoral Research Fellow, School of Computational Engineering and Science,  
McMaster University, Hamilton, Ontario, Canada

**2002-2007:** Ph.D. student in Mathematics, McMaster University, Hamilton, Ontario, Canada  
Supervisor: Tamás Terlaky, Department of Computing and Software  
Thesis: Generalized duality concepts in conic and quadratic optimization

**1997-2002:** M.Sc. in Mathematics, Eötvös Loránd University of Sciences, Budapest, Hungary  
Supervisor: Tibor Illés, Department of Operations Research  
Thesis: A novel way of analyzing interior point methods for linear optimization

## **Research interest**

High-performance computing, optimization software design (C/C++, Matlab, Python)

Modelling optimization problems

Algorithm development for conic optimization

Implementation of interior-point methods

SeDuMi: software package for conic optimization (<http://sedumi.mcmaster.ca>)

Adaptive methods, artificial intelligence in optimization algorithms

Duality concepts in conic optimization (S-lemma, Ramana-dual, approximate duality)

## Teaching experience

**2008-2009 Spring:** Nonlinear Programming (doctoral course)

**2008-2009 Spring:** Semidefinite Optimization: Theory, Applications, Modeling, and Software (graduate course)

**2008-2009 Fall:** Introduction to Operations Research (upper level undergraduate course)

**2007-2008 Spring:** Computational Linear Algebra (doctoral course)

**2007-2008 Spring:** Convex Optimization in Engineering (doctoral course)

**2002-2007:** Teaching Assistant for various undergraduate courses (Linear Algebra, Calculus, Differential Equations)

## Scholarships and prizes

**2008:** 2nd prize at the 2008 Canadian Operational Research Society/VISUAL8 simulation competition (advisor of Team OptLab)

**2007:** 1st prize at the 2007 Canadian Operational Research Society/VISUAL8 simulation competition (Team OptLab)

**2006:** MITACS Best Student Paper Award (PhD students)

**2005-2006:** McMaster Marauder Scholar Award for achievement in academics and athletics

**2003:** 1st prize at the Matlab Programming Contest organized by The Mathworks

**2002-2003:** Milos Novotny Fellowship (McMaster University)

**2001:** Scholarship of the Inter-University Centre for Telecommunications and Informatics

**2001:** 1st prize at the 25th National Conference for Universities (Hungary)  
Special prize of the John von Neumann Computer Science Society

**2000-2001:** Scholarship of the Pázmány-Eötvös Foundation

**1999-2000:** Scholarship of Panasonic, Inc.

## Organizational and administrative duties

**Organizer:** 2009 MOPTA Conference

**Committee member:** High Performance Computing Steering Committee, Lehigh University

**Team advisor:** Team Optlab, 2nd CORS/VISUAL8 Simulation Competition (Team finished 2nd)

**Student seminar coordinator:** Advanced Optimization Lab, McMaster University, 2007-2008.

**Volunteer coordinator:** 2007 ICCOPT/MOPTA Conference, McMaster University, Hamilton.

**Desktop publishing:** Designer and creator of the 2007 ICCOPT/MOPTA conference book.

**Student ambassador:** Liaison for Hungarian students at McMaster University, 2005-2008.

**System administrator:** Advanced Optimization Lab, McMaster University, 2004-2008.

**Editing:** Translator, proofreader and layout editor of the Hungarian translation of the book *Nonlinear Optimization* by E. de Klerk, C. Roos and T. Terlaky, Budapest, 2004.

## Research group activities

**2008-present:** COR@L Lab, Lehigh University

**2002-2008:** MITACS project: New Interior Point Methods and Software for Convex Conic-Linear Optimization and Their Application to Solve VLSI Circuit Layout Problems

**2002-2008:** Advanced Optimization Laboratory, McMaster University, Canada  
conic optimization, duality concepts, high performance computing

**2001-2002:** Inter-University Centre for Telecommunications and Informatics, Hungary  
elliptic curves, coding theory, applications in telecommunications

**1999-2001:** Neural Information Processing Group, Eötvös University, Hungary  
artificial intelligence, machine learning, robust control systems

## Scientific refereeing

Automatica

Computational Optimization & Applications

Journal of Global Optimization

Linear Algebra and Its Applications

Mathematical Programming

Optimization Letters

Optimization Methods and Software

Operations Research

SIAM Journal on Optimization

## Professional organizations

CORS (Canadian Operational Research Society)

INFORMS

MITACS (Mathematics of Information Technology and Complex Systems)

SIAM

## Extracurricular activities, hobbies

**Music:** playing the piano and the organ; member of the Bach Choir of Bethlehem

**Music typesetting:** setting sheet music for choir and piano, contributor of the Mutopia Project.

**Sports:** soccer, ping-pong, chess, fencing

**Reading:** history of mathematics, music; crime stories

## References

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