Curriculum vitae

Gábor Ivanyos

Personal

First name: Gábor
Family name: Ivanyos
Born: October 4, 1958, Budapest, Hungary. Married, 3 children.
Citizen and permanent resident of Hungary.

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Education, degrees

Doctor of the Hungarian Academy of Sciences, 2010. Thesis title: *Classical and quantum algorithms for algebraic problems.*
Ph.D. (Candidate of Mathematics) from the Hungarian Academy of Sciences, 1997. Thesis title: *Algorithms for algebras over global fields.* Advisor: Prof. Lajos Rónyai. Diploma in Mathematics, Eötvös University, Budapest, 1983. Thesis title: *Homotopy of partially oredered sets.* Advisor: Prof. László Lovász.
Studied mathematics at Eötvös University 1978-83.

Current position

Research advisor at the Computer and Automation Research Institute, Hungarian Academy of Sciences, since 2010. (Junior research fellow, research

fellow, senior research fellow at the same Institute, 1983–2010. Informatics Laboratory since 1991, Department of Electronics 1983–1990.)

Awards

Honorary Professor at the Budapest University of Thechnology and Economics, since 2009.
Recipient of the Bolyai Research Scholarship, awarded by the Hungarian Academy of Sciences, 2003–2006.
Recipient of the award of the Computer and Automation Research Institute, Hungarian Academy of Sciences, 1997, 1999, 2009 and 2010.
Received several prizes during the undergraduate years, including First Prize on the Schweitzer Miklós mathematical contest for Hungarian university students in 1981.

Language skills

Mother tongue: Hungarian. Fluent in English and German. Reads scientific literature in French and Russain.

Teaching experience

Minicourse on Fast Quantum Algorithms, de Brún Centre for Computational Algebra, Galway, December 7–10 2009.
Minicourse on Algebraic Aspects of Quantum Computing, CWI Amsterdam, October 30–November 3 2006.
Quantum Computers, for MSC students in informatics at the University of Debrecen, spring 2011, (2 hours/week).
Applied Algebra, for MSC students in informatics at the Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, fall 2009, fall 2010, fall 2011 (part of the course Higher Mathematics, half-semester, 4 hours/week).
Topics in the Theory of Algorithms, Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, 2000–2007 (together with two colleagues, 2 hours/week).
Algebraic Number Theory, for mathemathics-majors at the Faculty of Sciences, Budapest University of Technology and Economics, spring 2005, fall 2010 (2 hours/week).
Algebraic and Arithmetical Algorithms, for mathemathics-majors at the Faculty of Sciences, Budapest University of Technology and Economics, spring 2004, spring 2006, spring 2008 (2 hours/week).

Algebraic Coding Theory, for mathemathics-majors at the Faculty of Sciences, Budapest University of Technology and Economics, fall 2001, fall 2003, fall 2005, fall 2007, fall 2009. (2 hours/week).
Mathematical Coding Theory and Cryprography, for BSC students in mathematics at the Faculty of Sciences, Budapest University of Technology and Economics, spring 2009. (together with another lecturer, 3 hours/week).
Topics in Number Theory, for mathemathics-majors at the Faculty of Sciences, Budapest University of Technology and Economics, spring 2002, spring 2003 (2 hours/week).
Finite Fields and Applications, for mathemathics-majors at the Faculty of Sciences, Budapest University of Technology and Economics, fall 2002 (2 hours/week).
Problem session of the course *Theory of Algorithms* for 2nd year informatics-majors at the Faculty of Electrical Engineering and Informatics, Budapest University of Technology and Economics, 1992-2000 (1 hour/week).
Lecture on *Theory of Algorithms* for 2nd year informatics-majors at the Faculty of Electrical Engineering and Informatics, Technical University of Budapest, Spring semester, 1997 (2 hours/week).
Special course on *Algebraic Algorithms* at the Eötvös Unversity, Budapest 1995–96 (2 hours/week).
Group Theory for 3rd year physicist-majors at the Eötvös University, Budapest, Fall semester 1995 (3 hours/week).
Problem session of the course *Discrete Mathematics* for 1st year informatics-majors at the Faculty of Electrical Engineering and Informatics, Technical University of Budapest, Spring semester, 1995 (2 hours/week).

Phd. advisorship

Co-advisor (with Miklos Santha) of Luc Sanselme, Université de Paris Sud, defended in 2008.
Advisor of Attila B. Nagy, Budapest University of Technology and Economics. Thesis in progress.

Major scientific visits

Center for Quantum Technologies at the National University of Singapore, 2×1 months both in 2010 and in 2011;
Hausdorff Research Institute of Mathematics (University of Bonn), 1-1 month in 2008 and 2009;
Department of Mathematics and Computing Science, Eindhoven University

of Technology, October 2006 — December 2006; June 2001 – July 2001; September 1998 – June 1999 (postdoc scholarship); June 1996.
Laboratoire de Recherche en Informatique, CNRS-Université de Paris Sud, 1-1 month in 2000, 2001, 2002 and 2004, 2×1 month in 2007.
Department of Computer Science, University at Buffalo, State University of New York, October – November, 1995.
Microcomputer and Automation Institute, University Karlsruhe, 1987–89.

Fields of interest

Computer science, in particular algorithms for symbolic computation, quantum computing, formal languages, compilers, operating systems.
Mathematics, in particular algebra and number theory.

Membership in learned societies

János Bolyai Mathematical Society, Hungary.

Membership in professional committees

Member of the Mathematical Jury of the Hungarian Scientific Research Found (OTKA) 2002–2005. Member of the Committee on Information Science at the Section of Mathematics of the Hung. Acad. Sci., 2009–2011.

Publications

Author or coauthor of more than 30 research papers (in English, topics covered include algebra, number theory, algorithms for symbolic computation, quantum algorithms); a chapter of a textbook on computer algebra (in English); a textbook and a chapter on algorithms (in Hungarian).

Field experience in computer applications

Computer programming in languages C, PASCAL and FORTRAN. Took part in writing compilers for C and PASCAL; kernel of a UNIX-like operating system.