MIKLÓS ERDÉLYI-SZABÓ

Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences
H-1053 Budapest, Reáltanoda u. 13-15. Phone: 36-1-483-8353

PERMANENT ADDRESS

H-1144 Budapest,
Kerepesi út 128-130, II/32
Hungary
phone: 36-1-384-3660
mobil: 06-20-3210029
e-mail: mszabo@renyi.hu

DATE OF BIRTH 07.05.1962.

EDUCATION

Wesleyan University, Middletown, CT **1991-1996**
Graduate student in Mathematics, specializing in Logic and Computer Science.
PhD degree, May, 1996.

Eötvös Loránd University, Budapest, Hungary **1981-1986**
Mathematics, specializing in Functional Analysis and Computer Science.
Diploma degree, August, 1986. Graduated Summa Cum Laude.

TEACHING

Budapest Semesters In Mathematics 2003-
Responsible for lectures, homeworks and exams.
Set Theory (Hajnal/Hamburger: *Set Theory*)
Mathematical Logic (Enderton: *A Mathematical Introduction to Logic*)

Department of Mathematics, Cornell University
Assistant Professor, responsible for lectures, homeworks and exams.
MATH 122: Second Semester Calculus (Loomis: *Calculus*)
MATH 193: Calculus for Engineers (Thomas/Finney: *Calculus and Analytic Geometry*)
CS 486: Applied Logic (Nerode/Shore: *Logic for Applications*, Clocksin/Mellish: *Programming in Prolog*)
MATH 581: Mathematical Logic (Ebbinghaus/Flum/Thomas: *Mathematical Logic*)
MATH 683: Model Theory (Hodges: *Model Theory*)
MATH 782: Logic Seminar (Kanamori: *The Higher Infinite* and various papers.)

Department of Mathematics, Wesleyan University
Responsible for lectures, homeworks and exams.
MATH 107: Precalculus (Larson/Hostetler: *Precalculus*)
MATH 117: Introductory Calculus (Lial/Miller/Greenwell: *Calculus with Applications*)

In addition:

Teaching Assistant. Responsible for conducting help sessions once or twice a week, grading homeworks, program assignments and exams.
CS 131: Logic and Computation, Professor James Lipton (Abelson/Sussman: *Structure and Interpretation of Computer Programs*)
CS 135: Introduction to Computer Science, Professor Michael Rice (Springer/Friedman: *Scheme and the Art of Programming*)
MATH 221: Vectors and Matrices, Professor James Reid (Nicholson: *Linear Algebra with Applications*)
MATH 221: Vectors and Matrices, Professor Huyi Hu (Fraleigh/Beauregard: *Linear Algebra*)
CS 245: Methods of Artificial Intelligence, Professor Allen Cobham (Nilsson: *Principles of Artificial Intelligence*)
CS 256: Algorithms and Complexity, Professor Ramesh Subrahmanyam (Cormen/Leiserson/Rivest: *Introduction to Algorithms*)

RESEARCH

Alfréd Rényi Institute of Mathematics
Natural language processing, automated reasoning, representation of commonsense knowledge and
ontology.

Mindmaker Ltd.
Automated reasoning, representation of commonsense knowledge, statistical methods
in automatic text classification.

Department of Mathematics, Cornell University
Research in the topological models of the intuitionistic theory of reals; decidability; logic and computer science.

Department of Mathematics, Wesleyan University
Graduate Research leading to a Ph.D. thesis (*Decidability in the Constructive Theory of Reals as an Ordered* $\mathbb{Q}$*-vectorspace*) under Professor Philip Scowcroft.
Studied Intuitionistic Logic, Computer Science, Model Theory of Fields, Topological Models, Automata Theory, Category Theory.

Applied Logic Laboratory, Budapest
Research in application of Logic in Computer Science.
Studied Temporal and other Modal Logics, Intuitionistic Logic, Category Theory, Semantics of Programming Languages, Parallel Programming, Non-monotone Reasoning, Lambda calculus, Rewrite Systems.

Department of Mathematics, Eötvös Loránd University, Budapest
Research leading to a Diploma thesis under Professor Miklós Szőts.
Studied Parallel Programming, Semantics of Programming Languages, Non-Standard Set Theories.

TALKS

Various seminar talks.
ASL Annual Meeting, 1995-96 University of Wisconsin in Madison

PROGRAMMING

Applied Logic Laboratory
Planning the reasoning modul behind a search engine applied for
a semantics based search in traumatology related data.

Mensura
Computer aided design (CAD) programming.

Mindmaker Ltd.
Researcher.
Planned and implemented in C^{++} a
general purpose reasoning module of an agent capable of planning, natural language understanding and generating, and various special
types of reasoning.
The main reasoning is based on logic programming. The special reasoning units include a situation calculus related to the making of plans, arithmetics, list and set handling, special reasoning units required by the natural language interface, etc.
Also planned and implemented a typed
language interface to the reasoning module with a compiling and a linking unit.
Previously I was working on automatic text classification for a Call Center project.

Computer Research Institute, Budapest
Developed statistical programs in Fortran and in C.

PAPERS

"Hereditarily finite sets" (1987)
"Functional programming in $cFSA_\sigma$" (1988)
"Non-well-founded hereditary finite sets" (1989)
"Polymorphic term-rewriting systems" (1990)
"A programming theory for concurrent programs" (1990) (With Ágnes Kurucz)
All in **Applied Logic Laboratory Technical Report Series**, ALL SZÁMALK, Budapest

"Decidability in the Constructive Theory of Reals as an Ordered $\mathbb{Q}$-vectorspace" Abstract. **The Bulletin of Symbolic Logic**, vol. 2, no. 4 (1996), p. 464.

"Decidability of Scott's Model as an Ordered $\mathbb{Q}$-vectorspace" **Journal of Symbolic Logic**, vol. 62, (1997), pp. 917-924.

"Decidability in the Constructive Theory of Reals" **Mathematical Logic Quarterly** vol. 43, (1997), pp. 343-354.

"Undecidability of the Real-Algebraic Structure of Scott's Model" **Mathematical Logic Quarterly** vol. 44, (1998), pp. 344-348.

"Undecidability of the Real-Algebraic Structure of Models of Intuitionistic Elementary Analysis" **Journal of Symbolic Logic**, vol. 65, (2000), pp. 1014-1030.

"Knowledge-Based NLP" (2002) (With László Kálmán, László Balázs, Csaba Szepesvári, Viktor Trón, Károly Varasdi, Dániel Varga)
Draft.
"Propositional logic for natural language semantics" (2003) (With László Kálmán)
Accepted to the conference **FOL75 Berlin, 2003**.
"Towards a natural language semantics without functors and operands" (2005) (With László Kálmán, Ágnes Kurucz)
Submitted to **Journal of Logic, Language and Information**.

EMPLOYMENT

Applied Logic Laboratory,
Budapest, Hungary — **2003-2004**
Program designer (part time).

Budapest Semesters in Mathematics
Budapest, Hungary — **2003-present**
Professor (part time).

MTA Rényi Alfréd Mathematical Research Institute,
Budapest, Hungary — **2002-present**
Senior Researcher; Head of the Computer System Department.

Mindmaker Ltd., Budapest, Hungary — **1999-2002**
Researcher.

Cornell University, Ithaca, NY — **1996-1999**
H. C. Wang Assistant Professor in Mathematics.

Wesleyan University, Middletown, CT — **1991-1996**
Teaching Assistant.

Applied Logic Laboratory, Budapest — **1986-1991**
Research Assistant.

Computer Research Institute, Budapest — **1985-1986**
Assistant (part time).

GRANTS

National Science Foundation grant DMS 9704337 — **1997-2000**
Participating in the IKTA 3/187 grant of the Hungarian Government — **2001-2002**
Participating in the IKTA 5/148 grant of the Hungarian Government — **2003-2004**