

Vitae of Zoltán Füredi

October, 2005

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University of Illinois, Urbana, IL 61801
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Degrees, Awards:

Corresponding member of the Hungarian Academy of Sciences from 2004.

D.Sc. (Doctor of Science) in 1990. Thesis: “Unavoidable hypergraphs”.

Candidate’s Dissertation (the Hungarian equivalent of Ph.D.) in 1981.

“Extremal hypergraphs and finite geometries”.

MA degree: Eötvös University, Budapest, 1978.

“Linear programming and hypergraph theory”.

Positions held:

Since 1978 at the Department of Discrete Mathematics of Mathematical Institute of the Hungarian Academy.

Promoted to the ranks of Senior Research Fellow in 1985, and Scientific Advisor in 1990.

Since 1991: Professor of Mathematics, University of Illinois at Urbana-Champaign.

Editorial positions:

Acta Math. Hungar.; Bulletin of the AMS (1991–1994); Combinatorica;

Combinatorics, Probability and Computing; Electronic Journal of Combinatorics;

Graphs and Combinatorics; Journal of Graph Theory;

Random Structures and Algorithms; SIAM J on Discrete Mathematics (till 2003); Studia Sci. Math. Hungar.

Research interests:

Füredi has about 200 papers that have appeared or are in press. His main field is the theory of finite sets with applications in geometry, designs, and computer science.

Selected invited addresses:

“Extremal hypergraphs and combinatorial geometry”, invited talk at the Section Combinatorics of the International Congress of Mathematicians, Zürich, Switzerland 1994.

“On the Lottery problem and other covering radius problems of codes” plenary talk on 1998 Winter Meeting of The Canadian Mathematical Society, Kingston, Ontario

March 2000: Principal speaker (4 lectures) in the Fields Institute (Toronto) at the symposium on “Extremal Combinatorics”

List of selected publications most closely related to the project

Five Most Relevant to Proposal

- [1] D. de Caen and Z. Füredi: The maximum size of 3-uniform hypergraphs not containing a Fano plane, *Journal of Combinatorial Theory, Ser. B*, **78** (2000), 274–276.
- [2] Z. Füredi: Turán type problems, in: *Surveys in Combinatorics. 1991*, Proc. of the 13th British Combinatorial Conference, ed. A. D. Keedwell, Cambridge Univ. Press. *London Math. Soc. Lecture Note Series* **166** (1991), 253–300.

- [3] Z. Füredi, On the number of edges of quadrilateral-free graphs, *Journal of Combinatorial Theory, Ser. B* **68** (1996), 1–6.
- [4] Z. Füredi, O. Pikhurko, and M. Simonovits: On triple systems with independent neighborhoods, *Combin. Prob. and Comput.* to appear
- [5] Z. Füredi and J-H. Kang: Covering the n -space by convex bodies and its chromatic number, *Discrete Mathematics*, to appear

Five other significant publications of Z. Füredi

- [6] with P. Frankl: Solution of the Littlewood-Offord problem in high dimensions, *Annals of Math.* **128** (1988), 259–270.
- [7] with I. Bárány and L. Lovász: On the number of halving planes, *Proc. 5th ACM Symp. on Computational Geometry*, Saarbrücken, West-Germany, June 1989. pp. 140–144. same in: *Combinatorica* **10** (1990), 175–183.
- [8] Matchings and covers in hypergraphs, *Graphs and Combinatorics* **4** (1988), 115–206.
- [9] Extremal hypergraphs and combinatorial geometry, *Proceedings of the International Congress of Mathematicians, Zürich, Switzerland 1994*. 1343–1352.
- [10] with A. Kündgen: Turán problems for weighted graphs, *Journal of Graph Theory*, **40** (2002), 195–225.

List of 36 coauthors of Z. Füredi, 2002-2005:

Altogether Füredi has more than 100 coauthors.

M. Axenovich (Iowa State), Ya-Chen Chen (Arizona State University), A. Kundgen (San Diego), D. Mubayi (UIC, Chicago), Radhika Ramamurthi (San Diego), J. Skokan (Sao Paulo, Brasil), K. W. Hwang, A. Kostochka, D. West, P. Wiechsel (University of Illinois, Urbana-Champaign)

I. Bárány, P. L. Erdős, G. O. H. Katona, Zs Katona, A. Sali, M. Simonovits, G. Simonyi (Mathematical Institute, Hungary)

A. Gyárfás, M. Ruszinkó, G. N. Sárközy (Computer Science Institute, Hungary),

K. Takata, Gy. Turán, R. H. Sloane (University of Illinois at Chicago),

R. Anstee (UBC, Vancouver), A. Blokhuis (Eindhoven, The Netherlands), N. Eaton (Rhode Island), B. Fleming (UBC, Vancouver), P. Frankl (Tokyo), A. Naor (Microsoft Research), R. P. Kurshan, B. Sudakov (Princeton), S. Selkow (Worcester, MA), R. Škrekovski (Prague, Czech Republic), M. Stiebitz (Ilmenau, Germany), O. Pikhurko (Carnegie-Mellon), J. Verstraëte (Waterloo, Ont., Canada)

List of 6 graduate students:

K. W. Hwang (2005), J-H. Kang (2004), Ya-Chen Chen (2000), Maria Axenovich (1999), A. Kundgen (1999) Janice Malouf (1994),

The PI's graduate and postgraduate advisors:

L. Babai (University of Chicago)

G. O. H. Katona (Rényi Institute of Mathematics of the Hungarian Academy of Sciences)

L. Lovász (Microsoft Research)