

Biographical sketch of the PI, Zoltán Füredi

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Professional Preparation:

MA degree: Eötvös University, Budapest, 1978.

“Linear programming and hypergraph theory”.

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

“Extremal hypergraphs and finite geometries”.

Appointments:

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

1990–1991: Associate professor at MIT

1990 Spring Associate professor at Rutgers University

1986–1987: Assistant professor at MIT

1985–1986: Postdoc at Rutgers University

Since 1978 at the Rényi Mathematical Institute of the Hungarian Academy of Sciences.

Five selected publications most closely related to the project

- [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, O. Pikhurko, and M. Simonovits: On triple systems with independent neighborhoods, *Combinatorics, Computing and Probability* **14** (2005), 795–813.
- [4] Z. Füredi, A. Naor, and J. Verstraete: On the Turán number for the hexagon, *Advances in Math.* **203** (2006), 476–496.
- [5] Z. Füredi and J. Lehel: Tight embeddings of partial quadrilateral packings, *Journal of Combinatorial Theory, Ser. B*, submitted.
http://www.math.uiuc.edu/~z-furedi/PUBS/furedi_lehel_C4packings.pdf

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.

Synergistic activities:

Beside the usual educational duties the PI is involved in redesigning courses as a member of the Undergraduate Affairs Committee. He is chairing the Honors Committee which develops and monitors honors designated sections, mentors both instructors and students.

The PI is an editor of several (10) international combinatorial journals, with heavy editorial and refereeing duties.

The PI participated in organizing many conferences, e.g., Excill in November, 2006 (Extremal Combinatorics in Illinois, an NSF grant partly supported this, 200+ participants) and Building Bridges (A conference on mathematics and computer science in honour of Laci Lovász, August 2008, Budapest, 300+ participants).

List of 39 coauthors of Z. Füredi, 2005-2008:

Ya-Chen Chen (Arizona State University), K. W. Hwang, J-H. Kang (Georgia), Younjin Kim, A. Kostochka, A. Kundgen (San Diego), D. Mubayi (UIC, Chicago), Lale Özkahya, J. Skokan (London School of Economics), D. West, J. E. Wetzel, P. Wiechsel, (all 12 at the University of Illinois, Urbana-Champaign),

P. L. Erdős, G. O. H. Katona, A. Sali, M. Simonovits, G. Simonyi, (all the 5 at the Mathematical Institute, Hungary),

A. Gyárfás, M. Ruszinkó, G. N. Sárközy (Worcester College) (all the 3 at the Computer Science Institute, Hungary),

R. Anstee (UBC, Vancouver), A. Blokhuis (Eindhoven, The Netherlands), D. Danev (Stockholm, Sweden), J. Doumen (Eindhoven, The Netherlands), N. Eaton (Rhode Island), B. Fleming (UBC, Vancouver), P. Frankl (Tokyo), J. Lehel (Memphis), R. Nedela (Slovakia), A. Naor (Microsoft Research), O. Pikhurko (Carnegie-Mellon), S. Selkow (Worcester, MA), R. Škrekovski (Prague, Czech Republic), R. H. Sloane (University of Illinois at Chicago), M. Stiebitz (Ilmenau, Germany), K. Takata (Adelphi University, NY), Gy. Turán (University of Illinois at Chicago), J. Verstraëte (UC San Diego), H. Wilbrink (Eindhoven, The Netherlands).

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 (Eötvös University Budapest and Microsoft Research)

List of 3+6 graduate students, Postgraduate-scholar mentoring:

Younjin Kim, Lale Özkahya, Ida Svejdarova (all the three expected to graduate during this proposal), K. W. Hwang (2005), J-H. Kang (2004), Ya-Chen Chen (2000), Maria Axenovich (1999), A. Kundgen (1999) Janice Malouf (1994),

The PI was the mentor at UIUC of the Doob Postdocs Tibor Szabó (now at ETH, Zürich) and Jozef Skokan (now at London School of Economics).