

## CURRICULUM VITAE

JÓZSEF BALOGH

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### Degrees

- Ph.D. in Mathematics, May 2001, The University of Memphis (1997–2001)  
Thesis advisor: **Béla Bollobás**  
Thesis title: “Graph properties and Bootstrap percolation”
- M.Ed. in Mathematics Education, June 1997, József Attila University, Szeged, Hungary (1993–97)
- M.S. in Mathematics with Honors (summa cum laude), June 1995, József Attila University, Szeged, Hungary (1990–95)  
Thesis advisor: **Péter Hajnal**  
Thesis title: “On the existence of MDS-cyclic codes”
- University of Gent, Belgium, by European Union Undergraduate Scholarship (Tempus Grant) (Fall 1993–Spring 1994)

### Positions

- Tenure-track Assistant Professor, University of Illinois at Urbana-Champaign (8/2005– present)
- Zassenhaus Assistant Professor, The Ohio State University (9/2002– 8/2005)
- Visitor at IAS Princeton (4/2002– 7/2002)
- Shannon Postdoctoral Fellowship, AT&T Labs, Shannon Laboratory (08/2001– 03/2002)

### Fellowships and Awards

- **NSF grant (DMS-0745185), CAREER:** Methods and Outreach in Modern Combinatorics, ( $\approx$  \$529,000 (09/2008–08/2013))
- Campus Research Board Grant (08086, to support an RA), UIUC,  $\approx$  \$8500 (01/2008–05/2008)
- Campus Research Board Grant (07048, to support an RA), UIUC,  $\approx$  \$8000 (01/2007–05/2007)
- **NSF Grant (DMS-0600303)** on “Hereditary and Random Combinatorial Structures” with Zoltan Füredi (06/2006–05/2009)
- NSF grant (\$10000) and IMA grant (\$4000) supporting the Excill conference at UIUC, Nov 18–20, 2006 (joint with Füredi, Hartke, Kostochka and West)
- Campus Research Board Grant (06139), UIUC, \$8500 (01/2006–12/2006)
- **NSF Grant (DMS-032804)** on “Extremal Graph Theory and Bootstrap Percolation” (06/2003–05/2006)
- Mortons Dissertation Award, for outstanding dissertation at University of Memphis (2001)
- Soros grant, for starting Hungarian Ph.D. students in USA \$4000 (1997)
- “Outstanding Student of the Natural Sciences” (awarded annually to the best student in the Mathematics Department at University of Szeged) (1995)
- Second Prize, Algebra Section at the National Conference for Undergraduate Researchers in Hungary (1995)
- Hungarian National Fellowship for outstanding undergraduates (1993, 1994, 1995)
- Miklós Schweitzer National Memorial Contest, fourth prize (annual contest for undergraduates at all universities in Hungary) (1994, 1995)
- Kató Rényi Award (nationally awarded to promising undergraduates in mathematics) (1993)

- Tempus Grant, University of Gent, Belgium, (Fall 1993–Spring 1994)
- **International Mathematical Olympiad** (Beijing, China), silver medal (1990)
- **International Mathematical Olympiad** (Braunschweig, Germany), silver medal (1989)
- Dániel Arany Memorial Contest, first prize (annual contest for high school students in Hungary) (1988)

#### Ph.D. Students

- Noah Prince (graduated Spring 2008)
- Wojtek Samotij (started Fall 2007)
- Jane Butterfield (started Fall 2006)
- John Lenz (started Fall 2006)

#### Postdoc

- Sujith Vijay (co-mentored, started Fall 2007)

#### National and International Talks

- Combinatorics, Probability and Computing, Workshop, Oberwolfach, Germany (planned in May 2009)
- Fete of Combinatorics and Computer Science, Keszthely, Hungary, August 2008
- AMS-SBM Joint International Meeting, Rio de Janeiro, Brazil, June, 2008
- AMS Central Sectional Meeting, Chicago, IL (October 2007)
- AMS-PTM Joint International Meeting, Warsaw, Poland, (August 2007)
- Enumeration and Probabilistic Methods in Combinatorics, CRM, Barcelona, Spain (June 2007)
- Extremal Combinatorics, workshop, (invited plenary speaker) Budapest, Hungary, (June 2007)
- Positional Games, Workshop, Oberwolfach, Germany (April 2007)
- Workshop on Random Combinatorial Structures, U. of Nebraska, (April 2007)
- Combinatorics, Probability and Computing, Workshop, Oberwolfach, Germany (Nov. 2006)
- Horizon of Combinatorics, EMS Summer School and Conference, Balatonalmadi, Hungary (July 2006)
- Workshop on “Random Graphs and Large-Scale Real-World”, National University of Singapore, Singapore (June 2006)
- 42nd Midwest Graph Theory Conference, Marion Campus, Ohio State University (April 2006)
- 37th Annual Southeastern Conference on Graph Theory, Combinatorics and Computing, Boca Raton, FL, (March 2006)
- AMS Central Section Meeting, Lincoln, NE (Oct 2005)
- AMS Eastern Sectional Meeting, Annandale-on-Hudson, NY (Oct 2005)
- The 12th International Conference on Random Structures and Algorithms, Poznan, Poland (Aug 2005)
- WaterMellon Workshop on Extremal Graph Theory (invited plenary speaker), CMU, (May 2005)
- AMS Eastern Sectional Meeting, Newark, DE (April 2005)
- AMS Central Sectional Meeting, Evanston, IL (October 2004)
- CombinaTexas, Texas A&M, TX (April 2004)
- Paul Erdős Lecture Series, Memphis, TN (March 2004)
- Advances in Graph and Matroid Theory, Columbus, OH (December 2003)
- AMS Central Section Meeting, Bloomington, IN, (April 2003)
- 14th Cumberland Conference, Memphis, TN, (May 2001)
- 32nd Annual Southeastern Conference on Graph Theory, Combinatorics and Computing, Baton Rouge, LA, (February 2001)

- 31th Annual Southeastern Conference on Graph Theory, Combinatorics and Computing, Boca Raton, FL, (March 2000)
- AMS/MAA Joint Meetings, Washington D.C., (January 2000)
- 30th Annual Southeastern Conference on Graph Theory, Combinatorics and Computing, Boca Raton, FL, (March 1999)
- AMS/MAA Joint Meetings, San Antonio, TX, (January 1999)
- 29th Annual Southeastern Conference on Graph Theory, Combinatorics and Computing, Boca Raton, FL, (March 1998)
- The 8th International Conference on Random Structures and Algorithms, Poznan, Poland (July 1997)
- International Colloquium on Extremal Graph Theory, Balatonlelle, Hungary, (July 1997)
- Minisemester on Selected Topics in Discrete Mathematics at Banach Center, Warsaw, Poland, (September 1996)
- International Conference in Combinatorics, Computing and Graph Theory, Balatonlelle, Hungary, (July 1996)
- International Conference in Combinatorics, Computing and Graph Theory, Balatonlelle, Hungary, (July 1995)

### Seminars and Colloquia

- Microsoft Research, Theory Group, Mathematics Seminar, Seattle, WA, June 2008
- University of Illinois at Urbana-Champaign, IL, Combinatorics Seminar, March 2008
- University of Miami at Ohio, Graph Theory Seminar, Miami, OH, January 2008
- University of Szeged, Hungary, Graph Theory Seminar, January 2008
- U. San Luis Potosi, Graph Theory Seminar, Mexico, November 2007
- Carnegie Mellon, ACO Seminar, Pittsburgh, PA, October 2007
- Cambridge University, Cambridge, UK, Graph Theory Seminar, June 2007
- IMPA, Brasil, May 2007
- Princeton University, NJ, Graph Theory Seminar, May 2007
- University of Szeged, Hungary, Graph Theory Seminar, December 2006
- University of Illinois at Urbana-Champaign, IL, Combinatorics Seminar, October 2006
- University of Illinois at Urbana-Champaign, IL, Combinatorics Seminar, September 2006
- California Institute of Technology, CA, Combinatorics Seminar, May 2006
- MIT, MA, Combinatorics Seminar, April 2006
- University of Illinois at Urbana-Champaign, IL, Combinatorics Seminar, April 2006
- University of Illinois at Urbana-Champaign, IL, Geometry Seminar, March 2006
- Indiana University, Bloomington, IN, Combinatorics Seminar, February 2006
- University of Szeged, Hungary, Graph Theory Seminar, January 2006
- University of Illinois at Urbana-Champaign, IL, New faculty Colloquium, October 2005
- University of Illinois at Urbana-Champaign, IL, Combinatorics Seminar, October 2005
- Iowa State University, IA, Colloquium, September 2005
- Iowa State University, IA, Combinatorics Seminar, September 2005
- University of Western Australia, Perth, Australia, Colloquium, June 2005
- The Ohio State University, OH, Special Colloquium, February 2005
- University of Illinois at Chicago, IL, Special Colloquium, February 2005
- University of Illinois at Urbana-Champaign, IL, Special Colloquium, January 2005
- University of Central Florida, FL, Special Colloquium, January 2005
- The Ohio State University, OH, Ergodic Theory and Probability Seminar, Jan 2005
- University of Memphis, Memphis, TN, Combinatorics Seminar, December 2004
- The Ohio State University, Columbus, OH, Combinatorics Seminar, November 2004
- University of Memphis, Memphis, TN, Combinatorics Seminar, September 2004
- University of Illinois at Urbana-Champaign, IL, Combinatorics Seminar, September 2004
- ETH, Zürich, Swiss, Information Theory Seminar, September 2004

- Wright State University, Colloquium, Dayton, OH, May 2004
- Carnegie Mellon, ACO Seminar, Pittsburgh, PA, April 2004
- University of Illinois at Chicago, IL, Combinatorics Seminar, April 2004
- The Ohio State University, Columbus, OH, Combinatorics Seminar, April 2004
- University of California at Riverside, Riverside, CA, Special Colloquium, March 2004
- The University of Memphis, Memphis, TN, Combinatorics Seminar, January 2004
- The Ohio State University, OH, Ergodic Theory and Probability Seminar, January 2004
- University of Szeged, Hungary, Graph Theory Seminar, September 2003
- The University of Memphis, Memphis, TN, Combinatorics Seminar, September 2003
- IAS, Princeton, NJ, Theoretical Computer Science/Discrete Math Seminar, June 2003
- The Ohio State University, OH, Ergodic Theory and Probability Seminar, October 2002
- The Ohio State University, Columbus, OH, Combinatorics Seminar, October 2002
- IBM Watson Center, NY, Mathematics Seminar, April 2002
- IAS, Princeton, NJ, Theoretical Computer Science/Discrete Math Seminar, April 2002
- Georgia Tech, Atlanta, GA, Graph Theory Seminar, February 2002
- CUNY, New York City, NY, Combinatorics Seminar, February 2002
- The University of Memphis, Memphis, TN, Combinatorics Seminar, November 2001
- DIMACS Discrete Math, New Brunswick, NJ, Theory of Computing Seminar, October 2001
- AT&T Research, Florham Park, NJ, Mathematics Seminar, October 2001
- Microsoft Research, Theory Group, Mathematics Seminar, Seattle, WA, January 2001
- University of Szeged, Hungary, Graph Theory Seminar, December 1998
- The University of Memphis, Memphis, TN, Combinatorics Seminar, October 1997

### Research Interests

- Graph theory: behavior of graph parameters, graph properties, extremal graph theory.
- Combinatorics, hypergraphs, finite set systems.
- Random combinatorics, random graphs, sharp threshold functions.
- Interacting particle systems, percolation, bootstrap percolation, phase transitions.
- Application of combinatorics to information, coding theory and cryptography.

### Teaching experience

- UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN 2005–present  
Discrete Mathematics (M213), Graph Theory (M412), (4 semesters), Discrete Mathematics (M413), Combinatorial Optimization (M588) (2), Topics class (Probabilistic methods in combinatorics, M595) (2), Art of Combinatorics (M595 minicourse),
- THE OHIO STATE UNIVERSITY, Columbus, OH 2002–2005  
(Discrete Math. I-II (7, 3 quarters), Probability (1), Trigonometry (1), Analysis (graduate level) (1),
- THE UNIVERSITY OF MEMPHIS, Memphis, TN 1997–2001  
(Trigonometry (4 semesters), Discrete Mathematics (1), Instructor in a computer lab equipped with Maple (3)
- JÓZSEF ATTILA UNIVERSITY, Szeged, Hungary 1993–1997  
Graph Theory (3 semesters), Graph Theory for CS majors (4), Graph Theory for graduate students (1), Combinatorics (3), Geometry (3), Elementary Mathematics (1)

### Other Experience

- Co-organizer (with Füredi) of a Special Session on Extremal and Probabilistic Combinatorics at AMS Sectional meeting at UIUC, March 2009.
- Consultant Researcher, Microsoft Research, Theory Group, Seattle (June 2008)
- Co-organizer (with Jiang and Kaul) of a Special Session on Graph Theory at AMS Sectional meeting at Bloomington, IN, April 2008.

- Co-organizer (with Mubayi) of a Special Session on Extremal and Probabilistic Combinatorics at AMS Sectional meeting at DePaul, October 2007.
- Co-organizer of the Excill conference at UIUC, Nov 18-20, 2006. Grant activity: IMA: \$4000, NSF: \$10000.
- Consultant Researcher, Microsoft Research, Theory Group, Seattle (August 2001)
- NATO Advanced Study Institute: Asymptotic combinatorics with applications to mathematical physics (European Summer School 2001, Russia)
- Visitor at Trinity College Cambridge, U. K., (July 2000)
- Summer School in Probabilistic Methods in Mathematical Physics, International Center of Theoretical Physics, Trieste, Italy (Sept 1999)
- Workshop on Probabilistic Combinatorics, Erdős Center, Budapest, Hungary (June 1998)

**Committees, other activities**

- Colloquim Committee ( UIUC 2008/09)
- Undergraduate affairs committee (UIUC, since Fall 2007)
- NSF Graph Theory Panel (once)
- Postdoc search (UIUC, Spring 2007)
- Graduate student admission (UIUC, Spring 2007, Spring 2008)
- COMP 580 (UIUC, multiple times)
- NSA reviewer (UIUC, Spring 2007, Spring 2008)
- Several Ph.D thesis defense and prelim committees.
- Reviewer for Mathschnet (since 2004)

**Memberships**

- American Mathematical Society
- János Bolyai Mathematical Society, Hungary