

## Facts, anecdotes and reminiscences about Hungarian Combinatorics

### *Some Highlights of Professor Lovász's General Talk*



Turán Pál  
1912-1976



Hajós György  
1912-1972



Erdős Pál  
1913-1996



Szekeres György  
1913-2005



Klein Eszter  
1913-2005

- *I believe that the founding of a high school periodical for mathematics in 1894 has had a tremendous influence on the development of mathematics, in particular combinatorics in Hungary.*
- *From the winners of the competition of this periodical in 1927, many have contributed to graph theory in a fundamental way: Turán, Hajós, Erdős, Szekeres, E. Klein (later Mrs. Szekeres)*
- *The father of the graph theory school was Dénes König, who brought graph theoretic methods to the study of matrices, giving a graph-theoretic proof of a theorem of Frobenius. He wrote the first book on graph theory in 1936.*
- *Among the students of König, Tibor Gallai and Paul Erdős taught most of the next generation of graph theorists. Both were very warmhearted and exceptionally honest and unselfish people in very different ways.*

## On Erdős Number

### Definition

In order to be assigned an Erdős number, an author must co-write a mathematical paper with an author with a finite Erdős number. Paul Erdős has an Erdős number of zero. If the lowest Erdős number of a co-author is  $X$ , then the author's Erdős number is  $X + 1$

Erdős wrote around 1500 mathematical articles in his lifetime, mostly co-written. He had 509 direct collaborators; these are the people with Erdős number 1. The people who have collaborated with them (but not with Erdős himself) have an Erdős number 2 (6,984 people), those who have collaborated with people who have an Erdős number of 2 (but not with Erdős or anyone with an Erdős number of 1) have an Erdős number of 3, and so forth.

### The distribution of Erdős numbers

The following table shows the number of people with Erdős number 1, 2, 3, ..., according to the electronic data.

Erdős number 0	---	1 person
Erdős number 1	---	504 people
Erdős number 2	---	6593 people
Erdős number 3	---	33605 people
Erdős number 4	---	83642 people
Erdős number 5	---	87760 people
Erdős number 6	---	40014 people
Erdős number 7	---	11591 people
Erdős number 8	---	3146 people
Erdős number 9	---	819 people
Erdős number 10	---	244 people
Erdős number 11	---	68 people
Erdős number 12	---	23 people
Erdős number 13	---	5 people

Thus the **median Erdős number is 5**; the **mean is 4.65**, and the **standard deviation is 1.21**.

### Our Guests

Richard Brualdi	1
Chris Godsil	1
Ivan Gutman	1
Willem Haemers	1
Steve Kirkland	2
Jack Koolen	1
László Lovász	1
Bojan Mohar	1
Peter Rowlinson	1

### Did you know that...?

There are **four authors with more than 700 papers**: Paul Erdős with 1416 (he actually wrote more papers than that, but these are just the ones covered by Math Reviews), Drumi Bainov with 823, Saharon Shelah with 760, and Leonard Carlitz with 730. Bainov's Erdős number is 4, Shelah's is 1, and Carlitz's is 2.

## From Organizers



*The success of a conference depends primarily on the quality of the talks, both invited and contributed, and the active participation of all those attending. By this measure we think that the first **IPM Conference on Algebraic Graph Theory** has been a huge success. The talks given have been very informative and stimulating, and have given all of us many ideas to think about. The many conversations that took place in the breaks and during lunch have further promoted the exchange of ideas. We believe that they will have a very positive effect on the future development of algebraic graph theory.*

*We want to thank all participants for their contributions to this conference. To those returning home from Tehran, we wish you safe and swift travel.*

*R.A. Brualdi  
S. Akbari  
G.B. Khosrovshahi*

## 📢 Announcement

### Special Issue of "Linear Algebra and its Applications" (LAA)

There is planned a special issue of LAA devoted to selected papers presented at the First IPM conference on Algebraic Graph Theory, April 21-26, 2007, Tehran, Iran. Special editors are Gholamreza B. Khosrovshahi ([rezagbk@ipm.ir](mailto:rezagbk@ipm.ir)), Bojan Mohar ([mohar@sfu.ca](mailto:mohar@sfu.ca)), and Peter Rowlinson ([prl@stirling.ac.uk](mailto:prl@stirling.ac.uk)). Submission deadline is August 15, 2007. Papers can be submitted to one of these special editors or to LAA editor-in-chief, Richard Brualdi ([brualdi@math.wisc.edu](mailto:brualdi@math.wisc.edu)).

👁️ Do you remember that we asked a question in the last issue of the Newsletter and you didn't answer?! So you'd better know that:

Let  $A=(a_{ij})_{ij=1}^n$ , where

$$a_{ij} = \begin{cases} 1 & \text{if } i|j \text{ or } j = 1 \\ 0 & \text{otherwise} \end{cases} \quad \approx \quad \textit{Riemann Hypothesis}$$

Then  $\det(A) = O(\sqrt{n})$ .

## Daily Program

9:00-10:00	10:00-10:30	10:30-11:00	11:00-12:00	12:00-14:00
S. Kirkland (2)	M.Jamaali	Coffee Break	J. Koolen	Lunch
14:00-14:30	14:30-15:00	15:00-15:30		
A. R. Ashrafi	Gh. Omidi	<b>Closing</b>		

Chairman of the morning session: Ivan Gutman  
Chairman of the afternoon session: Elena Konstantinova

😊 We hope to see you all in the Second IPM Conference on Algebraic Graph Theory 😊

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