ALFRÉD RÉNYI INSTITUTE OF MATHEMATICS

www.renyi.hu/en

- **Located in Budapest**
- **Founded in 1950**
- **Member of the Eötvös Loránd Research Network**
- **Hungarian Academy of Sciences Centre of Excellence**
- **Centre of Excellence of the EU**
- **Institutional membership in the European Mathematical Society EMS**
- **147 employees of which 120 researchers**
- **177 publications in 2019**
- **Two Abel prize winners**
- **10 ERC Grants hosted**

The **Alfréd Rényi Institute of Mathematics** is open to further joint research activities at international level.

For any additional information on possible international cooperation please contact Mr. Dezső MIKLÓS PhD at miklos.dezso@renyi.hu.

The **Alfréd Rényi Institute of Mathematics** was founded by a government decree in 1950 as the Institute for Applied Mathematics of the Hungarian Academy of Sciences. Its first director Alfréd Rényi headed the Institute till his untimely death in 1970. Successive directors were László Fejes Tóth (1970-1982), András Hajnal (1982-1992), Domokos Szász (1993-1995), Gyula O. H. Katona (1996-2005), Péter Pál Pálfy (2006-2018) and András Stipsicz (2019-).

The departments of the Institute cover all major fields in mathematics, including algebra, analysis, discrete mathematics and combinatorics, geometry and topology, number theory, and parts of applied mathematics, such as artificial intelligence and network science. In the scientific departments a number of subfields are represented. Leading experts in these groups have been awarded with various major grants, including 10 ERC grants in the past decade. Endre Szemerédi (2012) and László Lovász (2021) are Abel laureates.

The scientific output of the Institute is well reflected by the quality and quantity of research papers published by its researchers in leading international journals. In 2001 the Institute was granted the title of “Centre of Excellence of the European Union”.

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Activities of the Institute consist of research in Pure and Applied Mathematical Sciences.

Departments:

- Algebra
- Algebraic geometry and differential topology
- Analysis
- Combinatorics and applications
- Extremal combinatorics
- Geometry
- Graph theory
- Number theory
- Probability & statistics
- Set theory, logic and topology

Research groups:

- Artificial Intelligence
- Asymptotic Group Theory
- Automorphic forms
- Didactics
- DYNASNET
- Financial Mathematics
- Groups and Graphs
- Noise-Sensitivity

Human resources

In the **Alfréd Rényi Institute of Mathematics** the average number of employees was 147 in 2019, of which the number of researchers was 120. 4% of the researchers were women. 8 researchers were Full or Corresponding Members of the Hungarian Academy of Sciences, 26 scientists held the title of Doctor of the Hungarian Academy of Sciences, and 62 co-workers had a PhD or were doctoral candidates. The rate of young researchers (under the age of 35 years) was 36%.

Considerable part of the research staff of the Institute (typically 40%) are visitors, spending shorter or longer terms at the Institute either participating in the research financed by a grant or by the Institute Visiting Professor program. The Institute welcomes visiting researchers both at postgraduate and senior levels. Colleagues who wish to pay a short-term visit to the Institute in order to establish or promote scientific contacts are also welcome.

"If I feel unhappy, I do mathematics to become happy. If I am happy, I do mathematics to keep happy."

Alfréd Rényi

List of most outstanding achievements in the past years

1. Hutchcroft T, Pete G: Kazhdan groups have cost 1, INVENTIONES MATHEMATICAE 221:3 873-891. (2020) http://real.mtak.hu/122154/
2. Mészáros A: Limiting entropy of determinantal processes, ANNALS OF PROBABILITY 48:5 2615-2643. (2020) http://real.mtak.hu/112304/
3. Maga P: The spectral decomposition of shifted convolution sums over number fields. JOURNAL FUR DIE REINE UND ANGEWANDTE MATHEMATIK 744: 1-27. (2018) http://real.mtak.hu/49321/
4. Backhausz, A., Szegedy, B: On the almost eigenvectors of random regular graphs, ANNALS OF PROBABILITY 47:3 1677-1725. (2019) http://real.mtak.hu/103299/

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