# VERA T. SÓS (1930–2023)
# AN OBITUARY



On 22 March 2023 Professor Vera T. Sós, an internationally acknowledged leader in analysis, number theory and discrete mathematics passed away. She was an associate editor of Uniform Distribution Theory since the founding of the journal.

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The scientific work of Vera T. Sós and her work as a Hungarian and international school creator and science organiser contributed significantly to the explosive development of discrete mathematics over the last half century. She achieved pioneering results and initiated new research directions in two different branches of mathematics, number theory and combinatorics.

A much-cited result from her youth regarding number theory is the "three gaps" theorem, in which she proved a famous conjecture of Steinhaus. She also has profound results on the discrepancy of $\{n\alpha\}$ and related sequences, as well as on simultaneous approximation. In the field of graph theory, she became involved in extremal graph theory research started by Pál Turán and Pál Erdős. With a deep understanding of the problems, she revealed the common roots of important lines of research. Her fundamental insight was that the theory of uniform distribution, in number theory, and the field of Ramsey and Turán, in extremal graph theory, represent two different sides of the same general question: how closely can an infinite (continuous) structure be approximated by a finite (discrete) structure.

This led her to create discrepancy theory, in which she formulated fundamental questions not only in number theory and graph theory, but also in other areas of the phenomenon, which inspired the research of many of her students and other mathematicians worldwide. This led her to the theory of quasi-random graphs, within the framework of which she described (in a joint paper with Miklós Simonovits) the relationship between quasi-random graphs and Szemerédi's Regularity Lemma. Through this, she arrived at a theory of graph limits, in which she co-authored a significant part of the papers that established the field.

Vera T. Sós taught at the Eötvös Loránd University in Budapest for more than fifty years, starting in 1952. Her lectures in analysis and combinatorics were legendary. Almost all members of new generations of combinatorialists and analysts in Hungary became mathematicians at her seminars and under her personal guidance.

Vera T. Sós's recognition is evidenced by several scientific rewards in Hungary and numerous prestigious foreign invitations. Since 1990, she has been a member of the Hungarian Academy of Sciences. In 1995, the Austrian Academy of Sciences elected her a corresponding member, and the Academia Europaea accepted her among its members in 2013. In 2018 she was awarded an honorary doctorate at the Hebrew University in Jerusalem.

*László Lovász*
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