2025 Early Career Award of the European Set Theory Society

September 17, 2025

On behalf of the Board of the European Set Theory Society, I am very pleased to congratulate

Dr. Jan Grebík,

on being selected as the recipient of the 2025 Early Career Award of the European Set Theory Society. The scientific committee consisting of

- Professor Su Gao (Nankai University),
- Professor Heike Mildenberger (University of Freiburg),
- Professor John Steel (University of California, Berkeley) and
- Professor Matteo Viale (University of Torino)

chose Dr. Grebík from a long list of outstanding candidates. The committee has prepared the following summary of some of his most significant scientific achievements:

***Jan Grebík**'s research develops descriptive set theory in significant ways and uncovers deep connections between descriptive set theory and other fields of mathematics and theoretical computer science. Through a series of strong papers, he and coauthors established a unified theory of locality which formally connects problems and results among descriptive combinatorics, distributed computing, and random processes. Through this unified theory, he developed new lower bound techniques for analyzing the complexity of combinatorial problems on Borel graphs, which have led to striking complexity results that rule out the possibility of certain desirable dichotomy theorems. He established the measurable Vizing's theorem in its full generality with a novel technique that has since been used to improve the efficiency of local algorithms. His study of measurable tilings of Euclidean spaces yields a remarkable strengthening of previous seminal results and sheds new light on the deep ties between descriptive set theory and other fields of mathematics such as combinatorics, dynamical systems, ergodic theory, and measured group theory.*

In addition, the committee wishes to recognize the outstanding research of **Dr. Jeffrey Bergfalk** and **Dr. Alejandro Poveda**, who were among the foremost contenders for this year's award.

- ***Bergfalk**'s research has unveiled deep ties between the most abstract parts of set theory and topics emerging from category theory and its use in algebra (and to a lesser extent geometry). His first important works have fruitfully employed set theoretic methodologies to solve a basket of problems of central interest in homological algebra (the computation of certain derived limits for chains of complexes). Recently his work has brought to evidence the deep connections the forcing method has with the framework of condensed mathematics (that is being developed by the Fields medalist Scholze).*

- ***Poveda** shows a strong research record in pure set theory. His main results give important advances to key problems in the combinatorics of singular cardinals, and on the structural properties of set theoretic universes with very large cardinals. He has obtained major advances on the study of the HOD-conjecture and of its implications on the problem of establishing the consistency of Woodin's V=Ultimate-L-hypothesis. Poveda has also produced strong results in functional analysis (among which the independence from the ZFC-axioms of the existence of Banach spaces embedding ℓ^1 in a rather exotic way).*

The Society sincerely thanks all candidates for their outstanding scientific work and submissions, and encourages both new and returning applicants in the future.

We warmly congratulate **Dr. Jan Grebík** for his remarkable achievements and well-deserved success.

With best wishes
Vera Fischer, President of the European Set Theory Society.