

“PAOLO GRONCHI” Prize of the Unione Matematica Italiana, edition 2026

With the funds of the Gronchi family, the Italian Mathematical Union (UMI) has established a prize to honor the memory of Paolo Gronchi.

For the first edition, the Scientific Committee of UMI, after consulting the Presidency Bureau of UMI, Gronchi’s family and the Department of Mathematics and Computer Science of the Università degli Studi di Firenze, nominated a Committee composed of the following professors:

Franck BARTHE (Université de Toulouse), Monika LUDWIG (TU Wien), Paolo SALANI (Università degli Studi di Firenze - UMI’s Vice President).

The Prize Committee first met on July 28th, 2026, and, after an accurate and in-depth analysis of the candidates, had its final meeting on September 2, 2026 (online via GMeet).

The Prize Committee, with the unanimity of its members, decided to award the Prize edition 2026, to

Thomas WANNERER
(Friedrich-Schiller-Universität Jena)

Motivation

Thomas Wannerer has achieved remarkable results in both integral geometry and geometric inequalities.

In joint work with Judit Abardia, Wannerer establishes an unexpected Alexandrov–Fenchel-type inequality in the complex setting. The argument follows Alexandrov’s original strategy based on elliptic operator theory, and transfers it to the complex case by combining techniques from differential geometry and the theory of geometric valuations.

In papers with his former PhD student Jan Kotrbatý, Wannerer proves Hodge–Riemann relations for translation-invariant valuations in degree 1 and in the Euclidean case. The complete Hodge–Riemann relations were then obtained in a 2023 preprint by Bernig–Kotrbatý–Wannerer. Hodge–Riemann relations arise across many areas of mathematics: they originated in the cohomology of compact Kähler manifolds, and also appear in algebraic geometry (e.g., Grothendieck’s standard conjectures), polytope theory (work of P. McMullen), and combinatorics (work of Fields medalist June Huh). These novel relations generalize the Alexandrov–Fenchel inequalities and are anticipated to have major influence on convex geometry.

Another significant recent result, achieved with Christos Saroglou, is the proof of complex and quaternionic counterparts to Busemann’s random simplex inequality. Wannerer’s approach relies on Steiner symmetrization along complex or quaternionic subspaces. This work continues recent results by Paolo Gronchi on “Symmetrization in Geometry”.

The Committee also likes to mention that there were several excellent candidates, who obtained strong results linked to the work of Paolo Gronchi. This made the work of the Committee hard, but also very interesting, and it proves that Paolo’s legacy is vivid as his memory.

Franck BARTHE



Monika LUDWIG



Paolo SALANI

