

The Committee unanimously decided to propose Guido De Philippis as the recipient of the sixth Gold Medal Guido Stampacchia (2018) with the following motivation:

Guido De Philippis is the author of over 40 papers giving outstanding contributions to many areas of Mathematical Analysis and providing a number of truly breakthrough results.

Here we recall

- his work on the fine structure of vector valued measures constrained by linear PDEs with constant coefficients matrices, which covers, in the case of curl operator, the well known Alberti's rank-one theorem, and provides much more. These results will be described by him in the invited lecture at the International Congress of Mathematicians (ICM) 2018
- his works on Plateau's problem in codimension higher than one (Adv. Math. 2016), and on an anisotropic version of Allard's rectifiability Theorem (Comm. Pure Appl. Math. 2018)
- his result on the higher regularity for the gradient of local minimizers of the Mumford-Shah energy any dimensions, which gives a positive answer to a conjecture of De Giorgi, previously solved only for $n = 2$ by De Lellis and Focardi with a completely different approach
- his work with the proof of the sharp quantitative version of Faber-Krahn inequality conjectured by Nadirashvili, not relying on the well known quantitative isoperimetric inequality of Fusco-Maggi-Pratelli, but on a suitable analogue of the Ekeland's variational principle and on delicate regularity arguments for free boundary problems.

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