Guido de Philippis
Scuola Normale Superiore, Pisa

On the structure of $\mathcal{A}$-free measures and applications

I will show a general structure theorem for the singular part of $\mathcal{A}$-free Radon measures, where $\mathcal{A}$ is a linear PDE operator. By applying the theorem to suitably chosen differential operators $\mathcal{A}$,one can obtain a simple proof of Alberti's rank-one theorem and its extensions to functions of bounded deformation (BD). I will also show some consequences concerning the sharpness of Rademacher Theorem and the structure of Ambrosio–Kirchheim top-dimensional metric current in $\mathbb{R}^d$.