

## **The Bernstein technique for integro-differential equations**

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In this talk I will present a joint work with S. Dipierro and E. Valdinoci in which we extend the classical Bernstein technique to the setting of integro-differential operators. As a consequence, we provide first and one-sided second derivative estimates for solutions to fractional equations, including some convex fully nonlinear equations of order smaller than two, for which we prove uniform estimates as their order approaches two. Our method is new even in the linear integro-differential case. We will also raise some intriguing open questions, one of them concerning the "pure" linear fractional Laplacian.