Regularity results and maximum principles for quasilinear operators of mixed local-nonlocal type

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In this talk, we will deal with mixed local-nonlocal quasilinear operators, modeled upon the sum of a p-Laplacian and a fractional (s,q)-Laplace operator, i.e., $-\Delta_p u + (-\Delta_q)^s u$.

We will review some recent results concerning local and global regularity of their solutions, and we will address the validity of maximum principles and Hopf Lemma for such operators.

Based on a joint work with M. Cozzi.

References

[1] C.A. Antonini, M. Cozzi, *Global gradient regularity and a Hopf lemma for quasilinear operators of mixed local-nonlocal type*, Journal of Differential equations, Volume 425, Pages 342-382 (2025)