

**REGULARITY RESULTS FOR NONLOCAL
HAMILTON-JACOBI EQUATIONS AND APPLICATION TO
PERIODIC HOMOGENIZATION.**

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In this talk we report Hölder and Lipschitz estimates for bounded solutions to nonlocal, degenerate elliptic Hamilton-Jacobi equations with coercive gradient terms. These regularity results are obtained via Ishii-Lions method, and are used in the study of periodic homogenization of associated parabolic equations.