Kim, Seick (Yonsei University, South Korea)
On C^1, C^2, and weak type-$(1,1)$ estimates for linear elliptic operators

Abstract: We prove that weak solutions to elliptic equations in divergence form with zero Dirichlet boundary conditions are continuously differentiable up to the boundary when the leading coefficients have Dini mean oscillation and the lower order coefficients verify certain conditions. Similar results are obtained for non-divergence form equations. We also prove the weak type-(1, 1) estimates up to the boundary. This is joint work with Hongjie Dong and Luis Escauriaza.