1063-35-74   **M Cristina Caputo*** (`cristinacaputo@gmail.com`), Mathematical Sciences SCEN 301, 1
University of Arkansas, Fayetteville, AR 72701, and **Nestor Guillen**. *"Recent results on nonlocal almost minimal boundaries.*

Nonlocal almost minimal boundaries can be seen as an extension to the nonlocal case of the almost minimal surfaces introduced by Almgren in geometric measure theory. We prove that flat non-local almost minimal boundaries are smooth. This can be viewed as a non-local version of the Almgren-De Giorgi-Tamanini regularity theory. The main result has several applications, among these $C^{1,\alpha}$ regularity for sets with prescribed nonlocal mean curvature in L^p and regularity of solutions to non-local obstacle problems. Also it will be introduced a nonlocal mean curvature flow . This is a joint work with N. Guillen (Received August 04, 2010)