1015-35-294 **Donatella Danielli*** (danielli@math.purdue.edu), 150 N. University St., West Lafayette, IN 47907, and **Arshak Petrosyan** (arshak@math.purdue.edu), 150 N. University St., West Lafayette, IN 47907. *Full Regularity of the Free Boundary in a Bernoulli-type Problem in Two Dimensions.*

In this talk we will show that in dimension $n = 2$ there are no singular points on the free boundary $\partial\{u > 0\} \cap \Omega$ in the Bernoulli-type problem governed by the $p$-Laplace operator

$$J_p(u) = \int_\Omega \left( |\nabla u|^p + \lambda_p^p \, \chi_{\{u>0\}} \right) dx \to \min,$$

for $p$ in the range $2 - \epsilon_0 < p < \infty$ for an absolute constant $\epsilon_0 > 0$. (Received February 07, 2006)