“Boundary Behavior for Dirichlet Problems”

Abstract:

It is possible to give a partial answer to the question \textit{“For a second-order, elliptic partial differential equation, can one prove that the boundary behavior of a solution }f\text{ of a Dirichlet problem in }\Omega \subset \mathbb{R}^2\text{ at a corner of }\partial \Omega\text{ is similar to that of a nonparametric minimal surface?”}

In a 1985 paper by Lancaster and 1986 papers by Elcrat and Lancaster, this behavior was first established for prescribed mean curvature equations at reentrant (or nonconvex) corners of \( \partial \Omega \). It would be necessary to find a substantial generalization of a 1970 theorem by Erhard Heinz which was used in one of the 1986 papers in order to give a positive answer to this question for a large class of such equations. This talk will focus on cases where a positive answer can be given and speculate on possible generalizations of Heinz’s theorem.

Friday, October 26, 2012
3:00 PM in 372 Jabara Hall

Please come join us for refreshments before the lecture at 2:30 p.m. in room 353 Jabara Hall.