Abstract:

One technique which is useful in the calculus of variations is that of "blowing up". This technique can contribute to the understanding of the boundary behavior of solutions of boundary value problems, especially when they involve mean curvature (or generalizations of mean curvature) and a contact angle boundary condition.

This talk will discuss the structure of "blown up" sets which arise from generalized solutions of prescribed mean curvature problems (in the sense of Miranda and Giusti) and the behavior of the unit normal to a prescribed mean curvature surface "at a convex corner." This talk is intended to be accessible to undergraduate students and represents joint work with Professor Thalia Jeffres.