

WICHITA STATE UNIVERSITY

Department of Mathematics and Statistics

*The Lecture Series in the
Mathematical Sciences Presents Our Guest:*

Dr. Kirk Lancaster

Wichita State University

"On the Behavior of Capillary Surfaces at Corners:

(i) Radial Limits of Capillary Surfaces

(ii) Comments on the Concus-Finn Conjecture

(iii) 'Interior Fans' of Radial Limits"

Abstract:

The Concus-Finn conjecture on the behavior of a nonparametric capillary surface at a convex corner of a domain (i.e. the cross-section of the capillary cylinder) and the existence of radial limit "fans", especially the Lancaster-Siegel central fan, will be introduced. Two (families of) examples of the behavior of capillary surfaces at corners will be discussed. In the first of these examples, the Concus-Finn conjecture correctly predicts the "observed" behavior at the convex corner. In the second example, the existence of central fans is obtained independently of symmetry assumptions on the capillary problem. The second example represents joint work with Maria Athanassenas of Monash University in Australia.

Friday, February 4, 2005
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.*