1014-26-5 **Charles L. Fefferman***, Princeton University. *Whitney's extension problems.*

Suppose we are given a real-valued function f defined on a subset of R^n. How can we tell whether f extends to a C^m function F on all of R^n? If F exists, how small can we take its C^m norm? What can we say about the Taylor polynomial of F at a given point? If E is finite, can we compute efficiently an F with (approximately) the least possible C^m norm? Can we take F to depend linearly on f? The talk includes joint work with B. Klartag. (Received March 07, 2005)