Department of Mathematics and Statistics
Colloquium Lecture Series

Wesley Calvert
Murray State University

Effectiveness and Computation in Algebra and Geometry

Early in the development of twentieth-century mathematics, van de Waerden, Dehn, and others asked questions about the existence of "explicit" solutions to many problems. With the introduction of precise definitions of algorithms in the 1930's, these questions were investigated for some time before the revival in recent decades of "computational mathematics."

In the present talk I will attempt to describe relationships between the classical logical discipline of "computable mathematics" and the modern field of "computational mathematics." Several non-equivalent definitions of computation will be used. Examples will include fields, rings of integers, homotopy groups, the classification of manifolds, and Serre's conjecture on free modules.

Tuesday, April 7, 2009
Chapman 106
1:00–2:00

Refreshments after the talk in Chapman 101A