

WICHITA STATE UNIVERSITY
Department of Mathematics and Statistics

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

Dr. Victor Isakov
Wichita State University

"Inverse problems in secondary oil recovery"

Abstract:

We describe accepted models of filtration of oil and water through soil and current state of mathematical theory for these models. One of these models consist of conservation law (a quasilinear degenerating elliptic equation) and of drift equation (quasilinear parabolic or first order hyperbolic equation). Then we give (few) available results about uniqueness of identification of two important parameters of soil (porosity and permeability) from measurements of water pressure on injection wells. These measurements are collected in process of so called secondary oil recovery. The problem is of great applied importance and it presents several formidable mathematical challenges.

**Friday, September 28, 2007
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.*