UNIVERSITY OF FLORIDA DEPARTMENT OF MATHEMATICS

Fourth Erdos Colloquium

Topological Phenomena in Metals

A talk by *Fields Medal Winner* and Member of the *National Academy of Sciences*:

Sergei Novikov

Professor at Moscow University and the University of Maryland.

Introductory remarks will be given by fellow Fields Medalist, **John G. Thompson**, Graduate Research Professor at the University of Florida.

<u>**Time, Date and Room:**</u> 4:00-5:00 pm, Friday, April 12, 2002 in Little 101

<u>**Reception**</u> after lecture: Little 339

<u>**Abstract:**</u> Highly nontrivial dynamical systems on the Fermi surfaces appear describing motion of electrons in the single crystal normal metals in the magnetic field. If the magnetic field is strong enough, this system determines everything. Important for the electrical conductivity, it leads to the nontrivial problems of topology whose solution permitted to reveal several new integer-valued observable quantities describing behavior of the conductivity tensor.

<u>**Accomplishments and Recognition of Novikov:**</u> Sergei Novikov is a member of the *Russian Academy of Sciences*, the *National Academy of Sciences U.S.*, member of *Academia Europea*, member of the *Pontifical Academy of Sciences (Vatican)*. It was in 1970 that he was awarded the *Fields Medal* of the *International Mathematical Union*. Novikov has made fundamental contributions to topology and his work since 1971 has built a bridge between modern mathematics and theoretical physics. Novikov's main areas of current scientific interest are Geometry, Topology and Mathematical Physics.