



NIMBioS

National Institute for Mathematical
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NIMBioS Interdisciplinary Seminar

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3:30 p.m.*, January 31, 2012

NIMBioS, Blount Hall, 1534 White Ave, 4th floor

“Interactions between the transmission modes of the parasite *Toxoplasma gondii*”

Toxoplasma gondii is a ubiquitous parasite, responsible of the zoonosis toxoplasmosis. It is mainly transmitted through a complex life cycle, with its definitive hosts being Felids (mostly domestic cats *Felis catus*) and the intermediate hosts being potentially all warm-blooded animals. This parasite shows a high plasticity in its life cycle, with possibilities of transmission between cats and the environment only (simple life cycle) or directly between intermediate hosts through vertical transmission or carnivorousness. Moreover, manipulation of the behavior of infected intermediate host like rodents in order to facilitate transmission to cats has been reported. Thus the dynamics of *T. gondii* transmission may depend on the host dynamics and on the interaction of its several transmission modes. This talk will investigate the contributions and the interactions of different transmission strategies on *T. gondii* spread using epidemiological deterministic models.

**Join us for refreshments in the NIMBioS Lobby on the 4th floor at 3 p.m.*

For more information about this and other NIMBioS Seminars, visit

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The National Institute for Mathematical and Biological Synthesis (NIMBioS) brings together researchers from around the world to collaborate across disciplinary boundaries to investigate solutions to basic and applied problems in the life sciences. NIMBioS is sponsored by the National Science Foundation, the U.S. Department of Homeland Security, and the U.S. Department of Agriculture with additional support from The University of Tennessee, Knoxville.

