The National Institute for Mathematical and Biological Synthesis (NIMBioS) is now accepting applications for the NIMBioS sponsored Investigative Workshop: Modeling *Toxoplasma gondii*, to be held May 13-15, 2010, at NIMBioS.

**Topic:** Mathematical modeling of life cycle, stage conversion, and clonal expansion of *Toxoplasma gondii*

**Organizers:**
Xiaopeng Zhao (Biomedical Engineering Dept., University of Tennessee, Knoxville)
Chunlei Su (Department of Microbiology, University of Tennessee, Knoxville)
Jitender P. Dubey (Laboratory of Parasitic Diseases, United States Department of Agriculture)
Michel Langlais (Institut Mathematiques de Bordeaux, Universite Victor Segalen Bordeaux)
Suzanne Lenhart (Department of Mathematics, University of Tennessee, Knoxville);
Jaewook Joo (Department of Physics and Astronomy, University of Tennessee, Knoxville)

**Location:** NIMBioS at the University of Tennessee, Knoxville

**Objectives:** *Toxoplasma gondii* (*T. gondii*) is considered as one of the most successful parasites for its unusual ability to infect a wide range of intermediate hosts, including all mammals and birds. Up to 11% of the human population in the US and 30% in the world are chronically infected. Toxoplasmosis can cause life-threatening encephalitis in immunocompromised persons such as AIDS patients and recipients of organ transplants and cancer chemotherapy. Infection acquired during pregnancy may spread and cause severe problems to the fetus such as damages to the baby’s eyes, nervous system, skin, and ears. Toxoplasmosis also has significant effects on human and animal behavior and may lead to neuropsychiatric disorders, e.g. schizophrenia. This workshop aims to explore mathematical tools and problems in describing the life cycle, stage conversion, and clonal expansion of *T. gondii* by bringing together expertise in parasitic diseases, epidemiology, population genetics, disease modeling, network dynamics, evolutionary dynamics, and nonlinear analysis. We will also explore various modeling and analysis methods for their potential applications in public health strategies and in diagnosis, suppression, and prevention of Toxoplasmosis.

For more information about the workshop and a link to the online application form, go to [http://www.nimbios.org/workshops/WS_Toxoplasma](http://www.nimbios.org/workshops/WS_Toxoplasma)

**Application deadline:** March 1, 2010.

NIMBioS Investigative Workshops (<http://www.nimbios.org/workshops/>) involve 30-40 participants, focus on a broad topic or a set of related topics, attempt to summarize/synthesize the state of the art and identify future directions, and have potential for leading to one or more future Working Groups (<http://www.nimbios.org/workinggroups/>). Participation is open (but numbers are limited), so individuals with a strong interest in the topic are encouraged to apply. Post-docs and graduate students are eligible to apply. If needed, NIMBioS can provide support (travel, meals, lodging) for Workshop attendees.

For more information, e-mail Tgondii@nimbios.org