

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 (NIMBioS Associate Director for Education and Outreach; 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 an obligate intracellular protozoan parasite that infects all warm-blooded vertebrates, including mammals and birds. Infections in humans can cause life-threatening encephalitis in immunocompromised persons such as AIDS patients or recipients of organ transplant. Infection acquired during pregnancy may spread and cause severe damage to the fetus. *T. gondii* has a complex life cycle that involves multiple hosts and includes sexual and asexual replications. 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

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