National Institute for Mathematical and Biological Synthesis

1534 White Avenue, Suite 400
University of Tennessee
Knoxville, TN 37996-1527
Phone: (865) 974-9350
Fax: (865) 974-9461
E-mail: nimbios@nimbios.org
http://www.nimbios.org

FOR IMMEDIATE RELEASE
GY02-07
Media Contact: Catherine Crawley, 865-974-9350, ccrawley@nimbios.org

NIMBioS Director to Lead AAAS Symposium Investigating Math Applications in Biology

KNOXVILLE, Tenn. – Under what conditions does an epidemic spread? What is the optimal way to design an effective HIV intervention plan? How does the human brain work when it makes poor choices? The answers to these questions can be found mathematically, and will be explored in a symposium at this year's annual meeting of the American Association for the Advancement of Science (AAAS), to be held February 18-22 in San Diego.

The symposium, "Moving Across Scales: Mathematics for Investigating Biological Hierarchies," features six researchers who have used multi-scale mathematical approaches for analyzing particular biological systems. The Feb. 21 symposium is organized and moderated by Louis J. Gross, NIMBioS director and UT professor of ecology and evolutionary biology and mathematics.

"Modern biology has increasingly become driven by the need for mathematical and quantitative methods to provide insight into the complexity of interactions arising in biological systems," Gross said. "The symposium will demonstrate some of the biological areas for which these methods can be applied."

The following topics and speakers are scheduled for the symposium:

- Designing Rollout Plans for HIV Interventions in Africa Using Optimal Control Theory by Sally Blower, director of the Center for Biomedical Modeling at the David Geffen School of Medicine at the University of California-Los Angeles.

- Life in the Fast Lane: H1N1 Pandemic Dynamics in Mexico's Central Influenza Corridor by Carlos Castillo-Chavez, director of the Mathematical, Computational and Modeling Sciences Center at Arizona State University.

- Bursting: A Case Study in Multiple-Scale Modeling and Emergent Behavior, by Gerda de Vries, a professor in the department of mathematical and statistical sciences at the University of Alberta.

- The Neural Dynamics of Decision-Making: Multiple Scales in a Single Brain, Philip J. Holmes, a professor of mechanics and applied mathematics at Princeton University.

- Space and Disease: Insights from Interacting Particle Systems by Claudia Neuhauser, Vice Chancellor for Academic Affairs at the University of Minnesota, Rochester

- Molecular Network Dynamics and Cell Physiology by John Tyson, a professor in the department of biology at Virginia Polytechnic Institute and State University

The AAAS is the world's largest general scientific society and publisher of the journal, Science (sciencemag.org) as well as Science Translational Medicine (sciencetranslationalmedicine.org) and Science Signaling (sciencesignaling.org).

Founded in 1848, the association includes some 262 affiliated societies and academies of science, serving 10 million individuals.

#

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.