



NIMBioS

National Institute for Mathematical
and Biological Synthesis



NIMBioS Interdisciplinary Seminar

3:30 p.m.*, Tuesday, September 10, 2013

Dr. Jon Forde

Mathematics and Computer Science, Hobart and William
Smith Colleges and NIMBioS Sabbatical Fellow

“Modeling the immune reaction to Hepatitis Delta infection”

Hepatitis Delta Virus (HDV) is a dependent satellite virus of the more common Hepatitis B Virus. HDV encodes only one protein of its own, relying on HBV to supply the additional proteins needed for its replication cycle. Although HDV is noncytotoxic and presents few targets for immune reaction, the symptoms of patients with HBV-HDV co-infection are much worse than those infected with HBV alone. The cause of this negative outcome is not clear. This talk presents o.d.e. models for the interaction of HBV, HDV and the antigen-specific immune responses to explore recovery from T cell exhaustion as a possible explanation of negative outcomes in chronic HBV/HDV co-infection. Additionally, the role of the immune reaction in several other HDV-related phenomena will be discussed, including drug treatment failure and fluctuations in viral load.

Location: Room 105 at NIMBioS, Claxton Education Bldg, 1122 Volunteer Blvd.

**Join us for refreshments at 3 p.m.*

For more information about this and other NIMBioS Seminars, visit <http://www.nimbios.org/seminars>

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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.