

# Physics Seminar

## SFHI Faculty Candidate

### Physics, Civil & Environmental Engineering



**Michigan Technological University**

Tuesday, April 28, 2009

3:00 pm

Room G005 Rekhi Hall

**Computation Facilitating Insight:  
From Autonomous Observation to  
Artificial Intelligence**

**Dr. David Lary**

**NASA, Goddard Space Flight Center**

**Abstract:** Computation can greatly facilitate insight and objective design in a variety of areas. This talk illustrates this using several examples from Earth science where computation has: (1) Facilitated discovery through automatic code generation and analysis. (2) Provided autonomy and situational awareness for an earth observing system sensor web. (3) Application of machine learning has allowed us to provide the first seamless record of the global atmospheric Cly burden, key to understanding the recovery of the stratospheric ozone hole. (4) Provided a new global aerosol product with a suite of applications from human health, to air quality, to agriculture.

**Bio:** David Lary completed his education in the United Kingdom. He received a First Class Double Honors B.Sc. in Physics and Chemistry from King's College London (1987) with the Sambrooke Exhibition Prize in Natural Science, and a Ph.D. in Atmospheric Chemistry from the University of Cambridge, Churchill College (1991). In 2001 David joined UMBC/GEST as the first distinguished Goddard fellow in earth science at the invitation of Richard Rood. David has received three prestigious fellowships, four editorial commendations, around five million dollars in research funding, six NASA awards, and has fifty-seven publications with over a thousand citations in the peer-reviewed literature.