ON MATHEMATICAL MODELING OF THE SPREAD OF EPIDEMICS

Emerging and re-emerging infectious diseases are the leading cause of morbidity and mortality across the globe. Mathematical models can help the public and the medical and scientific communities understand and predict the spread of an epidemic and evaluate the potential effectiveness of different mitigation strategies. Modeling efforts can help improve the effectiveness of public health intervention measures and minimize the population and economic impacts of an epidemic. In this talk, I will describe different mathematical and computational models used to simulate the spread of infectious diseases and show the impact of pharmaceutical and non-pharmaceutical intervention strategies on the spread of diseases including smallpox and influenza.

Dr. Sara del Valle earned a PhD in Applied Mathematics and Computational Sciences in 2005 from the University of Iowa, a BS and MS in Applied Mathematics in 2001 from New Jersey Institute of Technology. She participated at the Mathematical and Theoretical Biology Institute at Cornell University, and she is currently a Team Leader/Scientist at Los Alamos National Laboratory.

DATE: Friday, September 30
PLACE: Bell Hall 143
REFRESHMENTS: 2:30 – 2:50 pm
TALK TIME: 3:00 – 4:00 pm

CONTACT: EMIL SCHWAB/LETICIA VELAZQUEZ (ESCHWAB@UTEP.EDU/LETI@UTEP.EDU)

The talk is sponsored by the Department of Mathematical Sciences, Program in Computational Science, NSF Cyber-ShARE Center HRD-0734825, and the Army High-Performance Computing Research Center, and Department of the Army ARL Grant No. W911NF-07-02-0027.