The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University

Bruno Sansó

UC Santa Cruz

Inferring release characteristics from an atmospheric dispersion model

September 26, 2018, MH320

Abstract: Atmospheric particle dispersion simulators can predict the path of a plume of material released into the air based on release characteristics (location, amount, duration) and meteorological data. We consider the inverse problem: What can we infer about the release from observations of the plume? Using observations from a controlled release at the Diablo Canyon Nuclear Power Plant and many evaluations of a particle dispersion simulator, we achieve accurate emulation using Bayesian adaptive splines to find a posterior distribution of the release characteristics. In addition, as that release was controlled, we can compare our findings with the actual release characteristics.

Background: One course each in linear algebra and statistics.

About the speaker: Bruno Sansó obtained his PhD in mathematics at Universidad Central de Venezuela in 1992 and is a Professor of Statistics at UC Santa Cruz, where he has been since 2001. His current work is focused on Bayesian spatio-temporal modeling and its environmental and geostatistical applications.

Snacks in MH331B at 2:30 pm
Talk starts at 3:00 pm

For more information, see our full schedule at:

`http://www.timhsu.net/colloq/`