



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



Dongwook Lee

UC Santa Cruz

*New High-order Methods Using
Gaussian Processes for CFD*

NOVEMBER 15, 2017, MH320

Abstract: In this talk, an entirely new class of high-order numerical algorithms for computational fluid dynamics (CFD) is introduced. The new method is based on the Gaussian Processes (GP) modeling that generalizes the Gaussian probability distribution. The new approach is to adopt the idea of the GP prediction technique which utilizes the covariance kernel functions and use it to reconstruct high-order approximations for computational simulations. The new GP high-order method is proposed as a new numerical high-order formulation, alternative to the conventional polynomial-based approaches.

Background: No particular background required; basic knowledge of numerical methods may be helpful.

About the speaker: Dongwook Lee is an assistant professor in the Applied Mathematics and Statistics Department at UC Santa Cruz. He previously worked at the Flash Center for Computational Science, U. Chicago. His research emphasizes developing numerical methods for CFD on large-scale computing architectures.

SNACKS IN MH331B AT 2:30 PM

TALK STARTS AT 3:00 PM

For more information, see our full schedule at:

<http://www.math.sjsu.edu/~hsu/colloq/>