

Fr. Haus Memorial Mathematics Lecture

Geometry and Emergence Dr. Meera Sitharam, University of Florida

Date: November 14 (Wednesday), 2018

Time: 3:00pm

Venue: Science Hall 1028, Canisius College

Abstract

Tightly enmeshed interplay between geometry and biophysics is commonplace in nature. Yet, when the interplay is cyclic, spanning multiple spatiotemporal scales, the underlying principles are poorly understood, and the intuitive concept of emergence is typically invoked. Emergent properties of the whole are assumed to supervene on basic interactions within the parts, while being irreducible to them, and even downwardly affecting them, yet somehow sidestepping problematic issues such as causal overdetermination. We are developing a mathematical theory of emergence within geometric constraint systems and their configuration spaces. The theory will employ dependence, closure, and recursive decomposability into inherently or contextually low-dimensional structures, impacting long open problems such as combinatorially characterizing generic 3D rigidity. The talk will detail these open problems, move on to the theory of emergence and end with biological applications.

Fr. Haus: teacher, administrator, mentor, friend, and priest

With the passing of **Fr. Robert Haus, S.J.**, Canisius College lost a fine teacher, administrator, mentor, friend, and priest.

Fr. Haus held advanced degrees in philosophy, theology, and mathematics. With people that he didn't know well, he was always gentle. With friends and his fellow Jesuits he would enjoy repartee, often getting the better of the other conversationalist.

May the Lord welcome Fr. Haus into Paradise and console his colleagues and many friends who mourn his passing.

