Distinguished Colloquium

Dr. Peter J. Olver
University of Minnesota

Thursday, September 15, 2016
1:00 p.m., HH-3017

"A New Approach to
Moving Frames and their Applications"

Abstract:

The classical method of moving frames was developed by Elie Cartan into a powerful tool for studying the geometry of submanifolds under certain geometrical transformation groups. In this talk, I will present a new foundation for moving frame theory based on equivariant maps. The method is completely algorithmic, and applies to very general Lie group actions and even infinite-dimensional pseudo-groups. The talk will survey the key ideas, and present some of the principal new applications, concentrating on image processing, the calculus of variations, geometric flows, and invariant numerical algorithms.