

Problems, progress, and theories of somethings inspired by RM.

I was one of Richard Montgomery's first PhD students in the mid 1990s. Richard's influence has played a major role in my life as a mathematician, teacher, and human being. I will trace the work I have done that has been inspired by Richard including problems in biological motility, Cartan's approach to problems in non-holonomic mechanics, and my recent work with the Desert Research Institute in atmospheric physics. While the last one has little to do with geometric approaches to problems in mechanics (so far), it is related to another passion of Richard's: nature and the environment.