

# *Motivating Differential Geometry with the Theory of Relativity*

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Einstein revolutionized our understanding of the physical universe when he devised his theory of special and general relativity. Part of what made that work so difficult was that it involved incorporating some pretty advanced mathematics not well known in the physics community at the time (now, it's standard fare for physicists), invented not too much earlier than when Einstein worked on these problems. This mathematical technology is now known as *differential geometry*. I will give a brief introduction to the history behind and main idea of special relativity, and also general relativity. Then we will talk about the philosophy behind differential geometry and hopefully see how it would have played an important role in Einstein's work.

**Date: Tuesday November 12, 2019**

**Time: 7:00 pm**

**Place: Park 328**