CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, October 17
2:00 – 3:00 PM
Maria Sanford, Room 101

THE BIRTH OF RIEMANNIAN GEOMETRY

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Abstract: In June 10th, 1854, George Friedrich Bernhard Riemann gave a conference to the University of Gottingen's faculty in order to be able to teach in this University. According to historians, this conference was only understood in its totality by Gauss. In this talk, Riemann without even having a precise definition of n-dimensional manifold, introduced the concept of Riemannian metric and explained the notion of the curvature tensor and sectional curvature. He also found relations between the metric and the curvature, and mentioned several results that were only rigorously proved 60 years later. The conference that was initially intended to show Riemann's research plan, ended up being the base of differential geometry and general relativity.

In this talk we will explain in a simple way most of the concepts of Riemann's conference and some of the arguments used by him in the formulation of his results.