Math 258 - Differential Geometry

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A Weitzenbock viewpoint on sectional curvature and applications

Abstract:
In this talk, I will describe a new algebraic characterization of sectional curvature bounds that only involves curvature terms in the Weitzenboeck formulae for symmetric tensors. This characterization is further clarified by means of a symmetric analogue of the Kulkarni-Nomizu product, which renders it computationally amenable. Furthermore, a related application of the Bochner technique to closed 4-manifolds with indefinite intersection form and positive or nonnegative sectional curvature will be discussed, yielding some new insight about the Hopf Conjecture. This is based on joint work with R. Mendes (Univ. zu Köln, Germany).

Special Note:
This is joint seminar with UC Irvine and UC Riverside.

Host: Lei Ni

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