

# Variations on Grötzsch's theorem (Carsten Thomassen - Technical university of Denmark)

Grötzsch's theorem from 1959 says that every planar triangle-free graph has chromatic number at most 3. In this talk we discuss some problems and results that have been inspired by Grötzsch's theorem. They include list colorings, extensions to higher surfaces, the 3-color space, the number of 3-colorings, and edge-decompositions into a fixed tree. We also describe some of the proofs of Grötzsch's theorem.

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