BACKBONE COLORING: CURRENT PROGRESS AND OPEN PROBLEMS

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The concept of backbone coloring, a variant of the classic graph coloring problem, has garnered significant attention due to its theoretical appeal and practical applications in areas such as frequency assignment, scheduling, and network design. This talk will provide an overview of recent progress in backbone coloring, highlighting key advancements and methodologies. Additionally, the talk will address the most promising and stubborn remaining open problems and challenges. In particular, we will focus on the coloring of complete graphs with tree backbones and bounded-degree graphs with tree, path, and matching backbones.