

VCU Discrete Mathematics Seminar

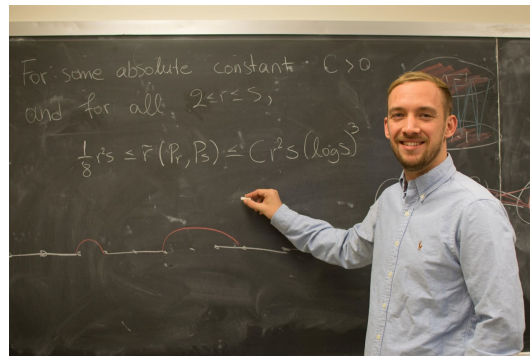
Iterative Constructions in Extremal Combinatorics

**Dr Felix Clemen
(Karlsruhe Institute of Technology)**

Wednesday, Oct. 26

1:00-1:50 EST

Watch party in 4145 Harris Hall
& Zoom @ <https://vcu.zoom.us/j/92975799914>
password=graphs2357



In this talk we present a selection of problems from extremal combinatorics where iterative constructions appear.

The first two problems are concerning edge-colorings of complete graphs. Erdős and Tuza asked in 1993 whether for any graph F on ℓ edges and any completely balanced coloring of any sufficiently large complete graph using ℓ colors contains a rainbow copy of F . We answer this and a related question. This is joint work with Maria Axenovich.

The third problem concerns point sets in the plane. Bárány and Füredi asked to determine the maximum number of triangles being almost similar to a given triangle in a planar point set of fixed size. Exploring connections to hypergraph Turán problems, we answer this question for almost all triangles. This is joint work with József Balogh and Bernard Lidický.

For the DM seminar schedule, see:

<https://vcumath.github.io/Seminar/dms.html>