VCU Discrete Mathematics Seminar

An Introduction to Nowhere-zero Flows

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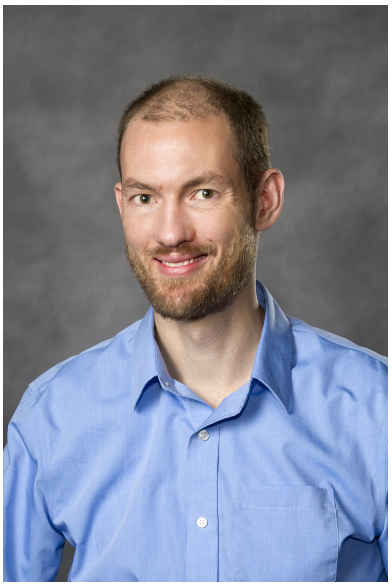
VCU!

Tuesday, November 25
12:30–1:20
4119 Harris Hall

Tait's Theorem states an easy correspondence between 3-edge-coloring 3-regular planar graphs and 4-face coloring them. Nowhere-zero flows extend this correspondence to graphs that are non-planar (and not necessarily 3-regular).

In the 50s, 60s, and 70s, Bill Tutte, the preeminent graph theorist of that era posed 3 very deep conjectures about sufficient conditions for a graph to have a nowhere-zero 5-flow, 4-flow, or 3-flow. All of these conjectures are still open, but major progress has been made (for example, Tutte's 4-flow conjecture implies the 4 Color Theorem).

We will introduce nowhere-zero flows, and sketch the proofs of some theorems. A familiarity with graph theory will be useful, but previous knowledge of flows will not be assumed.



For more information on our fall schedule, see:
`http://www.people.vcu.edu/~dcranston/DM-seminar/`