

VCU Discrete Mathematics Seminar

The Variety of Mutual-Visibility Concepts and Diameter Two Graphs

**Prof Sandi Klavžar
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Wednesday, Mar. 25
1:00-1:50 EST

In Person in 4145 Harris, with Zoom option:

<https://vcu.zoom.us/j/81475528886>
password=graphs2357



Let G be a connected graph G and $S \subseteq V(G)$. Vertices $u, v \in V(G)$ are *S-visible* if there exists a shortest u, v -path such that $V(P) \cap S \subseteq \{u, v\}$. The set S is

- a *mutual-visibility set*: if any two vertices of S are S -visible;
- an *outer mutual-visibility set*: if any two vertices $u, v \in S$ and any two vertices $u \in S$ and $v \in \bar{S}$ are S -visible;
- a *dual mutual-visibility set*: if any two vertices $u, v \in S$ and any two vertices $u, v \in \bar{S}$ are S -visible; and
- a *total mutual-visibility set*: if any two vertices $u, v \in V(G)$ are S -visible.

In the first part of the talk, we will introduce the above variety and examine its basic properties. In the second part of the talk, we will focus on this variety on graphs of diameter two, in part motivated by the fact that there unexpected connections with some classical mathematical problems and concepts arise.

For the DM seminar schedule, see:

<https://go.vcu.edu/discrete>