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**MORTEN NIELSEN**, Thompson Rivers University

*Helly theorems for convex sets in graphs*

For a family  $\mathcal{C}$  of vertex subsets of a graph, the *Helly number*  $h(\mathcal{C})$  is the smallest  $h$  such that every  $h$ -wise intersecting subfamily  $\mathcal{C}'$  of  $\mathcal{C}$  has non-empty intersection.

With *convexity* defined in various ways, we determine  $h(\mathcal{C})$  for the family  $\mathcal{C}$  of all convex sets in a graph (belonging to two important classes).

Our motivation is Helly's Theorem that the convex sets in  $\mathcal{R}^n$  have Helly number  $n + 1$ .