Abstract:

The talk introduces a graph edge-modification problem called (D, S)-Editing, where the goal is to transform a given graph into a disjoint union of two graphs, one from D and the other from S, using as few edge insertions and deletions as possible. The problem generalizes the Clique Editing problem, where D consists of all cliques and S consists of all independent sets. Similarly to Clique Editing, we require the class D to be dense and S to be sparse. In the first part of the talk I will discuss several approaches to these density requirements - our aim is to restrict the classes as little as possible while having a separation between the classes. In the second part I will present our results on (D, S)-editing from parameterized complexity, approximation, and online perspective.

(Joint work with Rastislav Královič and Sebastian Ordyniak.)