PAVOL HELL, Simon Fraser University
Signed graph homomorphism problems

Each signed graph H defines a decision problem in which one has to decide if an input signed graph G admits a homomorphism to H. Because a signed graph is an equivalence class under re-signing, this is not exactly a constraint satisfaction problem, but it can be re-cast as an equivalent CSP problem, and hence these problems enjoy dichotomy of polynomial-time solvable versus NP-complete problems. I will discuss the precise classification in the case without lists (conjectured by Brewster, Foucaud, Naserasr and the speaker, and proved by Brewster and Siggers), as well as recent results by Kim and Siggers, and by the speaker jointly with Bok, Brewster, Feder and Jedličková, on the version with lists. Interesting questions remain open in the list version.