
CLAUDE TARDIF, Royal Military College of Canada, PO Box 17000, Station "Forces" Kingston, Ontario K7K 7B4, Canada
A dualistic approach to graph colouring

It is possible to give an upper bound for the chromatic number or fractional chromatic number of a graph by finding a suitable orientation of its edges avoiding homomorphisms from certain prescribed paths. The classical example is given by the classical "Gallai–Roy" theorem, which states that any graph that admits an orientation with no homomorphic image of the directed path with n edges can be coloured with n colours. Apart from the directed path with n edges, there are other paths that lead to similar and independent (perhaps non-constructive) certifications of n -colourability.

In this talk I will present some developments in this direction obtained jointly with Jaroslav Nešetřil.