

## b-colorings and related problems

Ana Silva<sup>1</sup>

<sup>1</sup> Universidade Federal do Ceará

Given a proper coloring  $S_1, \dots, S_k$  of a graph  $G$ , if every vertex of  $S_i$  is non-adjacent to some color  $S_j$ , with  $j \neq i$ , then we can change the color of each vertex in  $S_i$  in order to get rid of this color. A coloring where this procedure cannot be applied to decrease the number of used colors is called a *b-coloring* of  $G$ . This definition was introduced in 1999 by Irving and Manlove and was the topic of my PhD thesis, finished in 2010 under the supervision of Professor Frédéric Maffray. Since then many results have been published concerning b-colorings and many interesting aspects related to it. In this presentation, I will talk about some of these aspects related to my work.