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Pedro H Sacramento de Oliveira* (pedrohso@seas.upenn.edu), 3901 Locust Walk,
Philadelphia, PA 19104. *Implementing an efficient algorithm to 4-color planar graphs.*

It is a well-known theorem that one can color a planar graph G with 4 distinct colors. Nevertheless, usual implementations of this rely on brute force which takes an exponential amount of time. This talk will introduce the ideas behind Robertson, Sanders, Seymour and Thomas's proof of the Four Color Theorem and how we used them to implement a quadratic algorithm for the 4-color problem. This talk is based on joint work with Robin Thomas and Haidar Jamal. (Received September 17, 2019)