

## **Descriptive set theory and distributed computing**

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The fact that a given graph has chromatic number  $k \in \mathbb{N}$  does not necessarily mean that there is an efficient way to produce a  $k$ -coloring. This phenomenon has been studied from different perspectives in various areas of mathematics and computer science. I will discuss recent results that formally connect a part of descriptive set theory that studies the existence of measurable solutions to local coloring problems on Borel graphs, so-called Descriptive graph combinatorics, and the LOCAL model of distributed computing that studies the existence of efficient distributed algorithms that produce solutions to local coloring problems on finite graphs.