

Title: Drawing Graphs on the Grid: How Easy Is It?

Speaker: Siddharth Gupta (University of Warwick, UK)

Date and Time: 10:30 AM, 16th January (Monday)

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Abstract:

Grid graphs, and, more generally, $k \times r$ grid graphs, form one of the most basic classes of geometric graphs. Over the past few decades, a large body of work has studied the (in)tractability of various computational problems on grid graphs, which often yield substantially faster algorithms than general graphs. Unfortunately, the recognition of a grid graph is particularly hard -- it was shown to be NP-hard even on trees of pathwidth 3 already in 1987. In this talk, I will talk about some positive and negative results in this regard in the framework of parameterized complexity. I will also briefly talk about the area of Graph Drawing and Parameterized Complexity whose intersection this problem lies in.