

Day 1

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Title: Large neighborhood local search with efficient embeddings

Abstract:

Although the size of optimization problems that D-Wave quantum processors can directly encode is limited, that functionality can easily be extended to larger problems as a component in a large-neighborhood, local-search strategy. Another obstacle is that use of quantum processors requires a transformation of the problem to a processor-compatible format (minor embedding), which can be costly. However, certain types of 2 and 3-dimensional neighborhoods allow for very efficient embeddings. This talk examines the performance advances, compared to classical heuristics, obtained by exploiting these special embeddings.