COMPUTER SCIENCE COLLOQUIUM

Algorithms under Low Information Cost: Theory and Practice

Kevin Schewior
Department of Mathematics and Computer Science
University of Cologne, Germany

Tuesday, 03 August, 2021 at 10:00

Zoom

Abstract:

Traditionally, one assumes that the entire input data for algorithmic problems is known and that the bottleneck to achieving optimal solutions is computational power. In practice, however, this view is often oversimplified since, for instance, the solution quality may depend on events that happen in the future. In some applications, it may be possible to settle some of the uncertainty at some information cost. In this presentation, I introduce theoretical models for such settings as well as my results and visions for this field. I will also present problems from practice that fall into the same framework, especially from the areas of chemistry and renewable energies.