

# Texas Tech Quantum Computing Seminar Series

April 16, 2021, 02:00 - 2:50 p.m. CST

<https://zoom.us/j/92939545211>

## Quantum Walk over the Transportation Polytope Skeleton

### Abstract

The transportation problem is a fundamental problem in operations research, management science, logistics, and supply-chain. An active area of research is the study of random walk (RW) over the transportation polytope skeleton (TPS), particularly the estimation of the mixing time. In this talk, we will introduce the quantum walk (QW) over TPS. We will show that, in some important cases, QW reduces over the mixing time of RW considerably.

Joint work with I.R. de Farias, E. Kozyreff (UNESP - Brazil), and J.K. Moqadam and R. Portugal (LNCC - Brazil).

### Biography

Rafael Cacao and Lucas Cortez are Ph.D. students at Texas Tech University - Industrial, Manufacturing and System Engineering Department. They both obtained their undergraduate degree at Instituto Militar de Engenharia, Rio de Janeiro, Brazil. Their research focuses on quantum algorithms, particularly for optimization problems.



Rafael Cacao



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