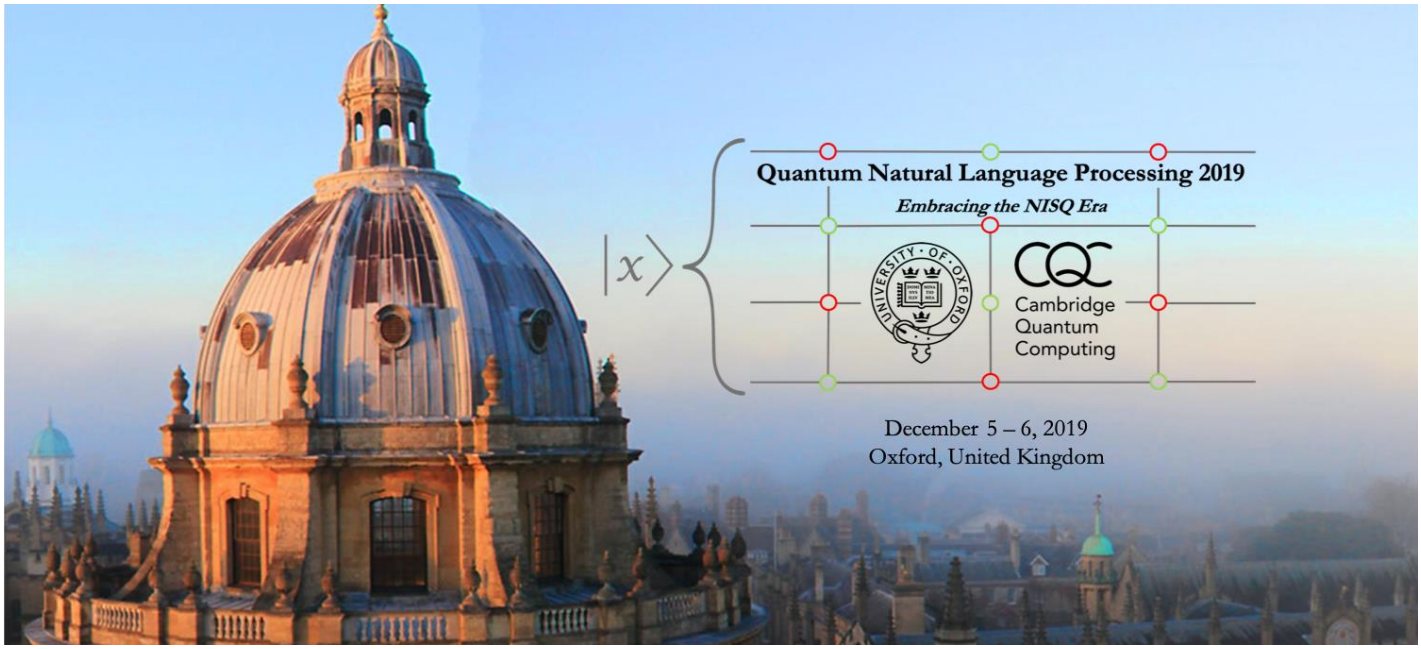

Speaker:

Vedran Dunjko

Talk Title:

A divide-and-conquer hybrid method for smaller quantum computers

Talk Abstract:

Theory shows that arbitrary-sized quantum computers may offer computational advantages for many problems. However, quantum computers on a reasonable horizon will be restricted in many ways, including size.

Can quantum computers of smaller size (limited to M qubits)genuinely speed up interesting algorithms, even when the problem size (n) is much larger than the computer itself (n>>M)?

We describe a positive result: a hybrid divide and conquer strategy which allows us to make better use of smaller quantum computers. Our approach works best for a class of algorithm often employe in artificial intelligence applications. In this talk we will discuss result, and its implications on the booming fields of quantum machine learning and quantum AI.