

BGTS Colloquium

Prof. Lloyd Hollenberg (The University of Melbourne):

Quantum computing: past, present, future



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Friday, Dec 11, 2020
9:00 am

Zoom video conference

Please contact
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for Meeting-ID and
Password if you would
like to participate.

Abstract: Quantum computers represent an exciting new information processing paradigm. While we do not fully comprehend the strangeness of quantum mechanics (and possibly cannot), one can exploit quantum dynamics to encode and process information in quantum versions of bits (qubits). After decades of fundamental theoretical and experimental research, programmable quantum computer devices have arrived. State-of-the-art Noisy Intermediate Scale Quantum (NISQ) systems are approaching the 100 qubit level and beyond. Complimenting the developments in hardware, is a rush on the “quantum software” front to exploit the NISQ technology in various applications areas as an era of heuristic and approximate quantum computing (“HAQC”) takes hold. In this talk I’ll present a high-level overview, from qubit basics to the status and outlook for practical quantum computing in the short term, and universal quantum computing in the long term.