Contribution ID: **62** Type: **Invited Poster**

Towards practical quantum secure time transfer

Quantum Secure Time Transfer (QSTT) ensures the authenticity of time signals and offers protection against spoofing attacks. This project aims to create a portable QSTT system to establish a two-way free-space quantum connection between two mobile transceivers spanning 10 km. The system consists of multiple beacon lasers, a single-photon source, and adaptive fast-steering optical mirrors, all working together seamlessly to achieve quantum-secured timing accuracy at a level of a few hundred picoseconds. Pathfinder QSTT missions will involve deploying quantum light sources, initially utilizing compact BB84-type single photon sources and later transitioning to entangled photon pair sources based on bulk crystals.

Authors: Prof. PERUZZO, Alberto (RMIT); VILLASENOR, Eduardo (CSIRO); Dr QUACH, James (CSIRO); Dr SHIMIZU, Kenji (CSIRO); Dr CHANDRASEKARA, Rakhitha (CSIRO); Dr GENSEMER, Stephen (CSIRO)

Presenter: VILLASENOR, Eduardo (CSIRO)

Track Classification: Time and Frequency Transfer