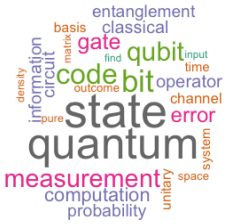

Contribution ID: **7** Type: **not specified**

Systems and Software for Scientific Discovery with Quantum Computing

Wednesday, 6 December 2017 13:30 (1 hour)

We discuss a novel quantum-accelerator framework that uses specialized kernels to offload select workloads while also maintain existing computing infrastructure. We then elaborate on the role of the host operating system to manage these unique accelerator resources, the prospects for deploying quantum modules, and the requirements placed on the language hierarchy connecting these different system components. We draw on recent advances in the modeling and simulation of quantum computing systems, the development of architectures for hybrid high-performance computing systems, and the realization of software stacks for controlling quantum devices.

Presenter: Dr HUMBLE, Travis (Oak Ridge National Laboratory)