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Micro-school

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Reproducible Computational Research with Hydra

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Friday, 31 July 2026 | 12h00-12h30 SAST

Attend online

ABSTRACT

Keeping track of computational experiments can quickly become challenging as projects grow in complexity. Configuration files, parameters, and output data are often scattered across multiple locations, making it difficult to reproduce results or determine how they were obtained. This Micro-school introduces Hydra, a Python framework for managing experiment configurations and workflows. Participants will learn how to organise configurable applications, compose reusable configurations, and automatically record the settings used for each run. By adopting these practices, researchers can improve the reproducibility of their computational work, reduce errors caused by manual configuration management, and eliminate the frustration of losing experiment configurations.

BIOGRAPHY

Shane is a third-year PhD student in Physics at Stellenbosch University, working under the supervision of Prof Francesco Petruccione and Prof Ilya Sinayskiy. His research focuses on the development of quantum algorithms for applications suited to Noisy Intermediate-Scale Quantum (NISQ) devices. He holds a BSc in Computer Science and Mathematics, and completed his MSc in Computer Science at the University of KwaZulu-Natal, where he explored variational quantum classifiers.



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