

## **ObfusQate: Where Quantum Magic Meets Code Security – Say Goodbye to Easy Cracking!**

ObfusQate is the pioneering tool designed to obfuscate quantum programs, enhancing their security by making them resistant to reverse engineering and analysis. The tool employs two main types of obfuscation: quantum circuit obfuscation and control flow obfuscation. In this talk you will get insights into basics of quantum computing, and one of the techniques for securing quantum algorithms. Participants will gain some experience using ObfusQate to obfuscate traditional quantum algorithms. Like other obfuscators from the classical computing world, ObfusQate can be used for both defensive and offensive purposes. It can protect intellectual property by obfuscating quantum programs, preventing adversaries from reverse-engineering proprietary algorithms. Additionally, the tool can be used to hide malicious content within normal quantum programs, potentially bypassing security detections. We will demonstrate the tool's capability to obfuscate quantum programs without altering their semantics and show how obfuscated malicious code can evade detection by various Large Language Models.