

Virginia Tech and C²QA - Quantum Information Science (QIS) and Engineering High-School Level Virtual Summer School

August 5 – 8, 2024

Virginia Tech and the Co-design Center for Quantum Advantage (C²QA) offers a four-day virtual workshop to introduce high school students to the exciting world of quantum information science (QIS) and engineering. Led by **Dr. Sophia Economou, Principal Investigator, C²QA, and Professor, Virginia Tech**, students will explore the basic principles that underlie quantum technologies and gain an appreciation for what novel capabilities are unlocked by quantum mechanics. The virtual workshop will run each day, Monday – Thursday, for four days from August 5 – 8, 2024 from 10:30 AM – 4:00 PM ET (one 1-hour break) and be conducted entirely via Zoom web conferencing.

PREREQUISITES: You do not need familiarity with quantum mechanics, linear algebra, or programming to participate. The only prerequisite is arithmetic and basic algebra, e.g. $(-2 + 6x) = -2 (1-3x)$.

PROGRAM AGENDA

Monday, August 5, 2024

10:30am - 1:00pm EDT & 2:00pm - 4:00pm EDT

Quantum superposition, logic gates and circuits (rules for mists and boxes)

Tuesday, August 6, 2024

10:30am - 1:00pm EDT & 2:00pm - 4:00pm EDT

Using the [IBM Quantum Composer](#)

Wednesday, August 7, 2024

10:30am - 1:00pm EDT & 2:00pm - 4:00pm EDT

Quantum algorithms: Money or Tiger puzzles

Thursday, August 8, 2024

10:30am - 1:00pm EDT & 2:00pm - 4:00pm EDT

Quantum teleportation



DAILY INSTRUCTION SCHEDULE: Monday – Thursday, from August 5 – 8, 2024.

Zoom Session #1: 10:30 am - 1:00 pm (EDT)

Zoom Session #2: 2:00 pm - 4:00 pm (EDT)

FEES: \$0 no cost to attend.

STIPEND: \$0 not available.

CONTINUING PROFESSIONAL EDUCATION CREDIT: Not available.

ELIGIBILITY: Open to the public. High-School Students and Faculty.

KEY PROGRAM DATES:

April 22, 2024	Application Period Opens at 9:00am ET
June 14, 2024	Application Period Closes at 6:00pm ET
August 5, 2024	Program Commences
August 8, 2024	Program Concludes

[APPLY!](#)