• The Quantum Ideas Lab Competition is an annual event which aims to motivate, promote, and support innovative quantum learning and research by and for undergraduate students.

• The Center for Quantum Science and Engineering (CQSE) invites all Stevens undergraduate students to form teams and participate.

• Total Prize $17,000, eventual winner $5,000.

• This event is co-sponsored by the School of Engineering and Science and the Office of Research, Innovation, and Entrepreneurship.
Team formation

• Each team will need to have a **minimum of 2 students**. Undergraduate Students from **other institutes or high schools are welcome** to join a team led by Stevens students, pending approval by the CQSE committee on a case-by-case basis.

• Official T-shirt are available to all participant after proposal submission.

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*Master*
QILCOM2020 - Competition Format

**Phase I**
- Due: February 28 2020
- Winner announced March 6

**Phase II**
- Due: May 08 2020
- Winner announced May 15

**Phase III**
- September 04 2020 (Quantum Night)
QILCOM 2020 - Phase I

- Team formation, brainstorming, and conceptualization
- Proposal Due: Feb 28 (Email to: ysua@stevens.edu)
- Proposal format: 2-4 pages with motivation, objective, approach, initial results (if any), and team composition
- Phase I Competition Results: Mar 6
- A panel of judges will validate the feasibility of the proposal and select up to six winning teams with a $500 award for each team.
- Winners will be invited to enter Phase II competition for which each team will be paired with a Ph.D. student coach.
Modeling and software development for validating idea proposed in phase I

Model/software submission due: May 8

Winning team announcement: May 15

A panel of judges will evaluate the model/software and select up to 3 winning teams, each with a $1,500 award.

Phase II winners will be invited to enter Phase III competition where each winning team (students teams + Ph.D. student coach) will be paired with faculty advisors and provided necessary laboratory resources for hardware/model development.

*Summer support may be available for compelling research with high innovation and entrepreneurship relevance.
• Hardware realization and testbed (May 18-Sept 1)
• Quantum Night: Sep 4 (open to the public with guests from government, industry, and venture capitalists)
• Phase III demonstration and competition; one winning team with a $3,000 award
• Two-minute Elevator pitch competition; open to all winning teams in Phase I and II (one winning team by a panel of judges and one audience choice award with $500 award each)
• Graduate Quantum Research (GRS) exhibition and competition; 1st place: $3,000; 2nd place: $1,500; 3rd place: $1,000
  Format: Poster, E-poster, demo or prototype.
• A panel of judges will select and announce the Phase III winning team and winner of GRS competition.
QILCOM2020-Exit plan

- Patent filing
- Paper/conference submissions
- Opportunity for prototype development and further research exploration with CQSE

*QILCOM2021*
Students seeking entry to the current and future cycles of QILCOM are encouraged to take or participate in the following courses for introduction of quantum mechanics and technologies while acquiring important skills to excel in this competition.

- **PEP 201** Physics III for Engineers
- **PEP 242** Modern Physics
- **PEP 553** Introduction to Quantum Mechanics
- **PEP 554** Quantum Mechanics I
- **PEP 557** Quantum Information and Quantum Computation
- **PEP 680** Quantum Optics (advanced level)