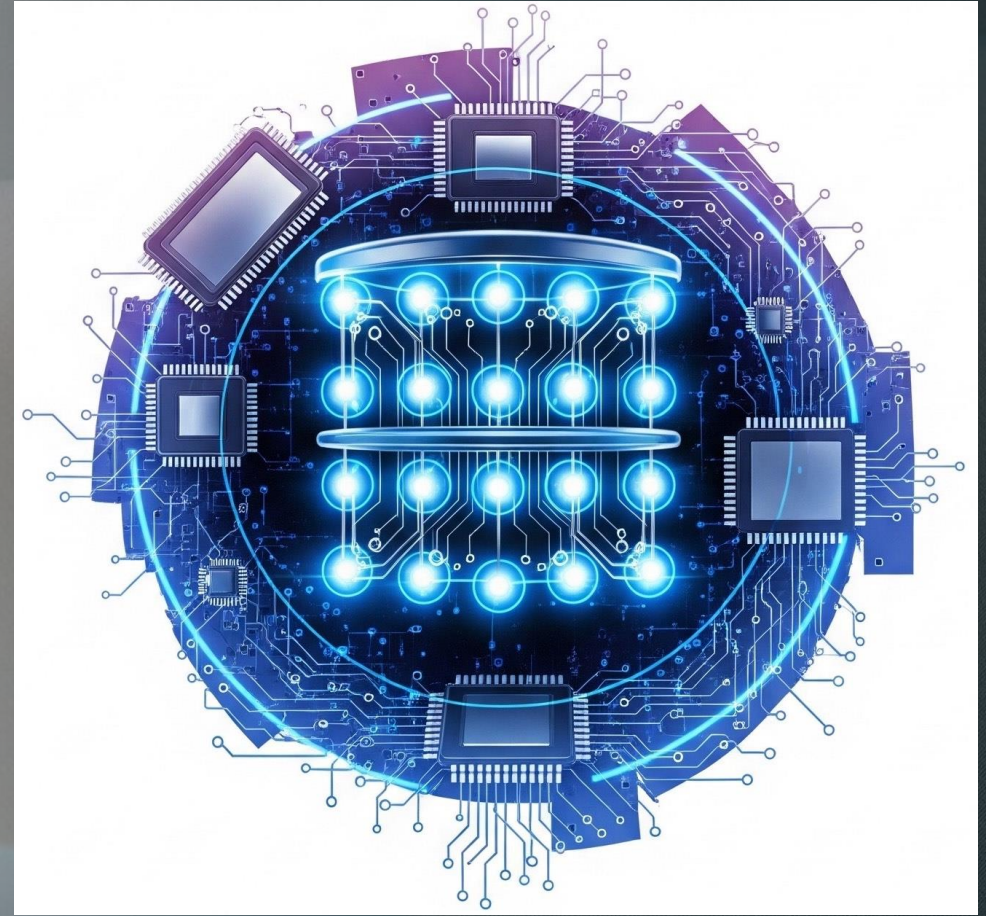


**Q**uest to  
**U**nderstand and  
**E**xperience  
**S**emiconductor  
**T**echnologies  
for a **Q**uantum Future



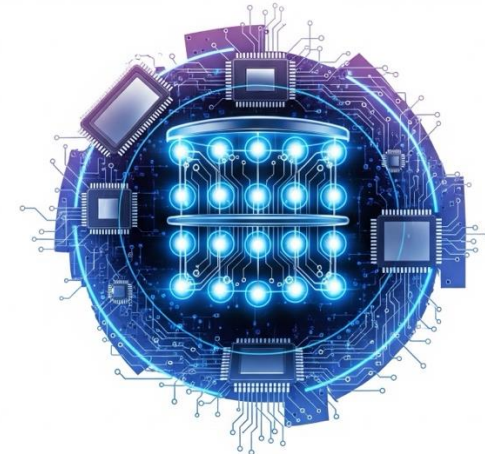
“QUEST FOR QUANTUM FUTURE” PROGRAM FUNDED BY NSF-EXLENT

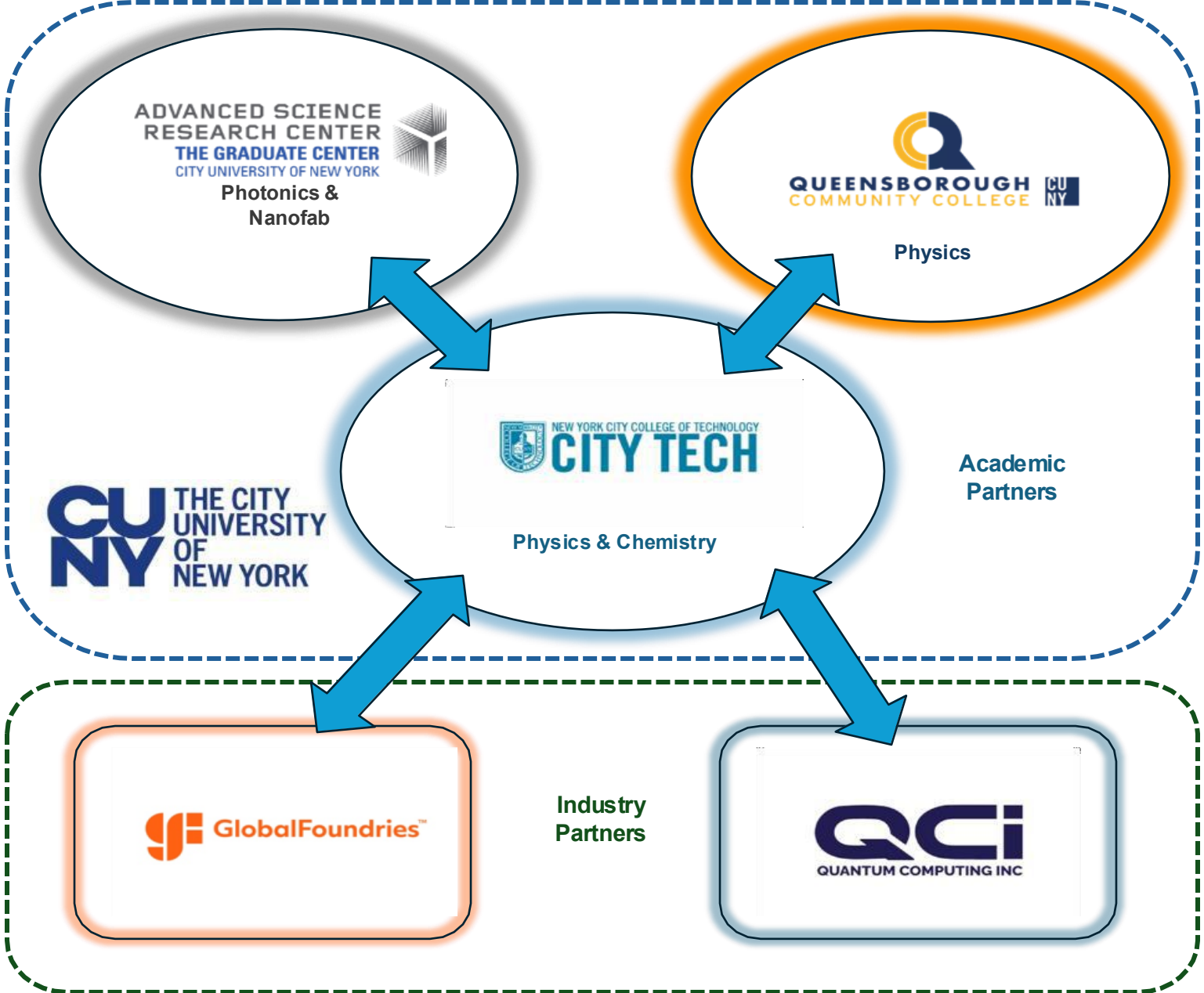
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# Fascinated by AI? Join us to explore the realm of Semiconductor Quantum Technologies and become a QUEST fellow

- Advanced Semiconductor Manufacturing
- Quantum Computing
- Microelectronics
- Photonics
- Artificial Intelligence

QUEST FOR  
**QUANTUM FUTURE**





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# Two Colleges within the City University of New York (CUNY)

*New York City College of Technology (City Tech), Brooklyn, NY*

**PI Dr. Vitaliy Dorogan**, a lecturer in the Physics Department

**Co-PI Dr. Ivana Radivojevic Jovanovic**, an Associate Professor and Chair of the Chemistry Department



*Queensborough Community College, Queens, NY*

**Co-PI Dr. Wenli Guo**, an associate professor in the Physics Department





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# **Advanced Science Research Center (ASRC), City University of New York (CUNY), New York, NY**

The Advanced Science Research Center at CUNY is a premier interdisciplinary research institute, purpose-built for scientific discovery and education that transcend traditional boundaries. As a hub designed for collaborative research, ASRC brings together five core initiatives—nanoscience, structural biology, neuroscience, photonics, and environmental sciences—providing a rich platform for cross-disciplinary innovation. Its shared facilities support broad, accessible research, enabling cutting-edge projects for researchers both within and beyond CUNY, and create an excellent environment for fostering student training and expanding outreach to the wider community.

**Research Collaborator Dr. Viktoriia Rutckaia**, the Director of the Photonics Core Facility at ASRC.

<https://asrc.gc.cuny.edu/>

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## **GlobalFoundries Inc., Malta, NY**



GlobalFoundries (GF) is a leading semiconductor foundry, meaning that it manufactures chips designed by other companies. With a strong global presence, boasting manufacturing facilities across the United States, Europe, and Asia, GF ensures a broad and reliable supply chain. Instead of focusing solely on cutting-edge processor manufacturing, they specialize in feature-rich solutions that cater to essential and growing markets such as the automotive industry, smart mobile devices, the Internet of Things (IoT), and crucial communications infrastructure. In essence, GF provides the vital manufacturing backbone that enables the production of a wide range of electronic devices woven into the fabric of everyday life.

**Industry Collaborator Tara McCaughey**, the Strategic University Partnership Manager at GF

<https://gf.com/>

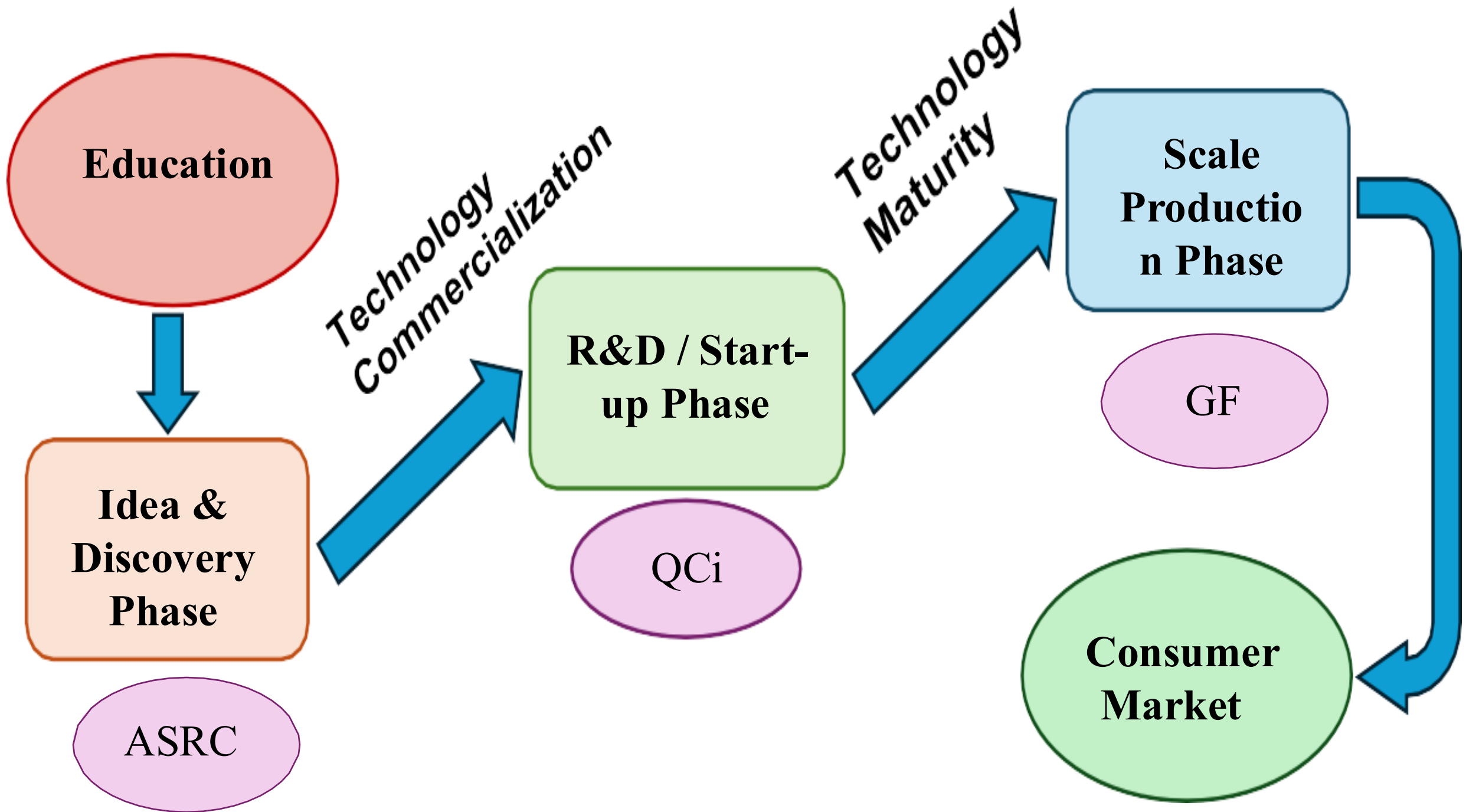


# Quantum Computing Inc., Hoboken, NJ

Quantum Computing Inc. (QCI) is a technology company specializing in quantum computing, photonic computing, and high-performance computing solutions. Headquartered in Hoboken, NJ, QCI is at the forefront of quantum-enhanced computing, advanced materials research, and photonic technology development. The company operates a Thin-Film Lithium Niobate (TFLN) Photonic Chip Foundry in Tempe, AZ, dedicated to the fabrication of photonic integrated circuits (PICs) for quantum applications. QCI's expertise spans quantum photonics, semiconductor nanofabrication, and quantum-enabled sensing, with a mission to drive innovation in quantum and photonic computing to solve real-world computational challenges.

**Industry Collaborator Dr. Milan Begliarbekov**, the Director of QCI Foundry, leading the company in the development of quantum materials, devices, and technology.

<https://quantumcomputinginc.com/company>



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# Experiential Learning Activities

**Fall:** Applications (Oct-Nov) and selection of QUEST fellows (Dec) (City Tech and QCC)

**Winter:** Orientation Day (Jan) and “The Semiconductor World” workshop (15h) (Jan) (City Tech)

## **Spring:**

- GF info session (online) & QCi info session (online)
- Introduction to Professional Skills workshop for career development (Feb-Apr)
- ASRC tour visit (Apr)

## **Summer (Part 1):**

- Summer Kick off Day (Jun) (City Tech): cohort building, teamwork, leadership, peer-mentor activities
- QCi 1-day visit (Jun): start-up tour and networking with QCi employees
- GF 3-day visit (Jun): fabrication facility tour, hands-on workshops, Q&A and networking with GF employees

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# Experiential Learning Activities

## Summer (Part 2):

**Cohort A** (A stands for Associate) will comprise Associate-level students from Queensborough CC and City Tech

- **Intro to Research Bootcamp** at City Tech for one week (June)
- **Micro-Internship** at ASRC for two weeks (June-July)

**Cohort B** (B stands for Bachelor) will consist of Bachelor-level students from City Tech

- **Full-time Internship** at QCi for ten weeks (40 hr/week) (Jun-Aug)

**Quantum Tech Day:** networking and presentation event (end of Aug) (City Tech)

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# Benefits for QUEST Fellows

- **Financial Support:** All program activities are fully funded. Competitive stipends are provided for winter, spring and summer activities. Travel and accommodation costs are covered for industry visits
- **Academic Support:** Peer mentoring, faculty mentoring, and clearly defined academic pathways from associate degrees to bachelor's degrees
- **Professional Development:** Training in industry-specific soft skills, resume writing and interview preparation, networking opportunities, support for LinkedIn profile development, and guidance from industry professionals on career matters
- **Social Support:** A cohort model to establish peer support networks, provide mentorship from industry professionals, and engage in regular community-building activities
- **Logistical Support:** Assistance with transportation for site visits, options for flexible scheduling, and support for accessing technology
- **Industry Connection Barriers:** Direct introductions to industry professionals, organized networking opportunities, and interview preparation tailored for the semiconductor industry

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# Future Opportunities for QUEST Fellows

- At the end of the program, all participants will have the opportunity to **apply for** a paid industrial **internship at GlobalFoundries**.
- Two QUEST graduates from the first-year program will be offered a **paid opportunity to serve as peer mentors** for the next cycle.
- Interested participants from Queensborough CC will be provided with a curricular pathway to **transfer to City Tech's ACP bachelor's program**, particularly the **Quantum Technology specialization**, through the CUNY Articulation Agreement.

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# Application Requirements

- **US citizen or permanent resident**
- Have completed (or be currently enrolled in or expect to take it during the program) at least **General Physics I** and/or **General Chemistry I** courses
- **GPA 2.5** and higher (with unofficial transcript)
- **Resume**
- **Motivation Statement** up to 500 words
- **Recommendation Letter** - Bachelor students (email to program coordinator V.Dorogan)
- **Reference** (professor/employer) **name, affiliation, and email** – Associate students
- **Submit Application** at: [citytech.cuny.edu/quest/](http://citytech.cuny.edu/quest/)
- **Deadline: November 26 (Before Thanksgiving)**
- Selected applicants will receive the letters of acceptance by the end of December.