

Queen's National Scholar (QNS) Senior Faculty Position in *Quantum Optics, Quantum Simulation and/or Photonics for Artificial Intelligence*

Position Summary

The Faculty of Arts and Science at Queen's University invites applications for a **Queen's National Scholar (QNS)** tenured appointment at the rank of **Associate or Full Professor** in the **Department of Physics, Engineering Physics, and Astronomy**. We are seeking a collaborative scholar with demonstrated leadership in Quantum Optics, Quantum Simulation, and/or Photonics for Artificial Intelligence. We encourage applications from theorists and computational scientists and will also consider experimentalists whose focus complements existing nanophotonic and quantum photonic research within the department.

This appointment is expected to begin **July 1, 2026**.

Further information about the [Queen's National Scholars Program](#) is available through the [Office of the Provost and Vice-Principal \(Academic\)](#).

Qualifications

As a Queen's National Scholar, the successful candidate will demonstrate excellence and leadership in research and will clearly demonstrate the following attributes::

- 1) be an **outstanding and innovative world-class researcher** whose accomplishments have been recognized internationally and made a major impact in their field, demonstrated through peer-assessed publications, and diverse forms of scholarly impact (e.g. invited and keynote presentations at international conferences, prestigious awards, a demonstrated track record of success attracting funding, and leading scientific collaborations).
- 2) Have a strong record of obtaining peer-reviewed competitive grant funding from external bodies.
- 3) Have an established (or proposed), original, innovative research program of the highest quality with **evidence of strong collaborations/interdisciplinary scholarship**
- 4) Evidence that the **research program aligns with institutional and/or faculty priorities** and/or existing or emerging areas of research strength. Further information on research priorities at Queen's is available in the [Queen's Strategy](#) and the [Queen's Strategic Research Plan](#).
- 5) A **superior record of attracting and supervising graduate students and postdoctoral fellows**, and ability to attract, develop and retain excellent trainees, students and future researchers.
- 6) Clear evidence of embedding best practices related to **Indigenization, equity, diversity, inclusion, anti-racism, and accessibility (I-EDIAA)** into the research and learning environment.

The diverse backgrounds of applicants and the type of scholarship appropriate to their research areas, as well as the diverse range of scholarly methodologies and ways of measuring impact will be taken into account when assessing the quality of the scholarly or creative work. Candidates will be evaluated using the principles of the [Declaration on Research Assessment \(DORA\)](#) and with attention to the diverse ways excellence can be demonstrated. Candidates

must have a PhD or equivalent degree in Physics or a related field completed at the start date of the appointment. Salary will be commensurate with qualifications and experience.

The successful candidate for this position, an established leader in quantum optics or quantum photonics, will join and amplify a thriving photonics cluster at Queen's. Theoretical or computational candidates are encouraged to apply, though exceptional experimental candidates will also be considered. The candidate is expected to have a clear track record of research excellence, and a transformative vision for future directions in areas related to photonics with a focus on quantum related protocols, theory, artificial intelligence or devices. This physics-based research should synergize and complement that of the existing groups at the Department of Physics, Engineering Physics & Astronomy, which already have a strong track record of collaborative work in photonics for quantum and AI, and related fields.

Photonics and quantum optics is an established area of strength at Queen's, with current groups leading large national and international collaborations in areas ranging from solid-state quantum photonics, theoretical quantum nanophotonics, ultrafast optics and unconventional light-based computing. This directly reflects the strategic importance of these fields, which closely align with both the Canada's National Quantum Strategy (with \$360M in funds committed over 7 years) and the Pan-Canadian AI Strategy (with over \$440M committed over 10 years). The successful candidate will have the opportunity to join and lead initiatives in these areas, supported by access to major shared infrastructure at Queen's. This includes access to advanced computing facilities through the Centre for Advanced Computing (<https://cac.queensu.ca/>), access to cleanroom facilities through NanoFabrication Kingston (www.nanofabkingston.ca/), and access to a photonic testbed including ultrafast laser sources, a closed-cycle cryostat and detectors (including superconducting nanowire single-photon detectors) at the Nanophotonics Centre (<https://www.queensu.ca/nanophotonics/>).

Vaccination Requirements

Prior to May 1, 2022, the University required all students, faculty, staff, and visitors (including contractors) to declare their COVID-19 vaccination status and provide proof that they were fully vaccinated or had an approved accommodation to engage in in-person University activities. These requirements were suspended effective May 1, 2022, but the University may reinstate them at any point.

Institution

[Queen's University](#) has a long history of scholarship, discovery, and innovation that shapes our collective knowledge and helps address some of the world's most pressing concerns. Home to more than 25,000 students, Queen's offers a comprehensive research-intensive environment. Diverse perspectives and a wealth of experience enrich our students and faculty while a core part of our mission is to engage in international learning and research.

From Nobel Prize-winning research exploring the building blocks of the universe to cancer care and treatment to sustainable technologies, Queen's University is tackling humanity's most pressing challenges.

A member of the U15 group of Canadian research universities, Queen's is home to a vibrant research community that includes 46 Canada Research Chairs, two Canada Excellence Research Chairs, and over 20 research institutes who work in partnership with

communities, governments, and industry to advance research and innovation, making a measured impact on Canada and the world.

Queen's is in the top 200 of the QS World University Rankings. In 2025, for the fifth straight year, Queen's ranked among the global top 10 in the Times Higher Education (THE) Impact Rankings. THE Impact Rankings, an international ranking of universities that are advancing the UN Sustainable Development Goals within and beyond their local communities.

Queen's placed sixth worldwide and first in Canada out of over 2,300 universities in more than 120 countries.

At Queen's University, we are committed to advancing Indigenization, Equity, Diversity, Inclusion, Accessibility, and Anti-Racism (I-EDIAA) as core priorities that shape our workplace and research culture. We recognize that diversity drives innovation, strengthens collaboration, and helps remove barriers so that everyone can thrive. Our eight employee resource groups (ERGs) play a vital role in fostering belonging, amplifying diverse voices, and supporting employees across the university. Faculty and their dependents are eligible for an extensive benefits package that includes prescription drug coverage, vision care, dental care, long-term disability insurance, life insurance, and access to the Employee and Family Assistance Program. Employees also participate in a pension plan, and tuition assistance is available for qualifying employees, their spouses, and dependent children. Queen's values families and provides a "top up" to government parental leave benefits for eligible employees on maternity/parental leave, as well as partial reimbursement for eligible daycare expenses. Full details are outlined in the Queen's–QUFA Collective Agreement, and more information on employee benefits can be found through Queen's Human Resources.

The City

The University is situated on the traditional territories of the Haudenosaunee and Anishinaabe, in historic Kingston on the shores of Lake Ontario. Queen's is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown. Kingston's residents enjoy an outstanding quality of life with a wide range of cultural and creative opportunities, with access to many natural areas and proximity to vibrant First Nations Communities including Tyendinaga and Akwesasne. Kingston is a unique Canadian city of 125,000 with a distinct blend of history, recreation, industry, and learning. Kingston offers unique waterfront living with many recreational opportunities. It is within a two-and-a-half-hour drive (two-hour train ride) to the commercial, industrial and political hubs of Toronto, Montreal, and the nation's capital, Ottawa, and a thirty minute drive from the international bridge linking Ontario and upstate New York. The city is also the origin of the historic Rideau Canal system – a UNESCO International Heritage site, and is close to Frontenac Provincial Park, the Thousand Islands National Park, and the Frontenac Arch UNESCO World Biosphere Reserve. The [Queen's University Biological Station](#), north of the city, encompasses 34 km² of diverse lands, affording premier learning and research opportunities. Visit [Inclusive Queen's](#) for information on equity, diversity and inclusion resources and initiatives.

How to Apply

The University invites applications from all qualified individuals. Queen's is strongly committed to employment equity, diversity and inclusion in the workplace and encourages applications from Black, racialized/visible minority, Indigenous people, women, persons with disabilities, and 2SLGBTQ+ persons.

We recognize that certain circumstances, including career interruptions, caregiving responsibilities, health conditions, or systemic barriers, may affect a nominee's record of research achievement. Applicants are encouraged to provide relevant information to contextualize their research record.

Queen's is committed to providing support and accommodation for applicants with disabilities at all stages of the recruitment processes. If you require accommodation for submitting your application or during the interview process, please contact Melissa Balson in the Department of Physics, Engineering Physics, and Astronomy at 4mjb5@queensu.ca.

In accordance with Canadian immigration requirements, Canadian citizens and permanent residents of Canada will be given priority, including any qualified individuals who have a valid legal work status in Canada. Please indicate in your application if you have a valid legal work status in Canada. Applications from all qualified candidates will be considered in the applicant pool.

Those interested in this position should submit a complete application package, including the following documents:

- a cover letter including whether or not you have a valid legal work status in Canada;
- a current Curriculum Vitae, including a list of publications (student co-authors should be clearly indicated), awards, grants (secured and pending), and other evidence of scholarly impact;
- a summary of the proposed research program and research vision for the next 7 years, including how equity, diversity and inclusion has been incorporated into the research design and research team, and the ways in which the program is making an impact in the field through, for example, a clear track record of successful student and postdoc supervision, industrial partnerships, and/or the program's potential connection to Canada's National Quantum Strategy.
- a statement of teaching interests and experience, including a summary of HQP supervision and mentorship, and a statement on commitment to the facilitation and promotion of Indigenization, equity, diversity, inclusion, anti-racism, and accessibility (I-EDIAA) in the student and trainee environment; and,
- Contact information for three potential people who could provide references upon request. Referees will be contacted only for shortlisted candidates, with advance notice.

The deadline for applications is **January 5, 2026**.

Applicants are encouraged to send all documents in their application packages electronically as PDFs to Professor Lawrence Widrow at physhead@queensu.ca, although hard copy applications may be submitted to:

Lawrence Widrow, Head
Department of Physics, Engineering Physics, and Astronomy
Stirling Hall
64 Bader Lane

Queen's University
Kingston, Ontario
CANADA, K7L 3N6

Academic staff at Queen's University are governed by a [Collective Agreement](#) between the University and the [Queen's University Faculty Association \(QUFA\)](#), which is posted at <https://www.queensu.ca/facultyrelations/qufa/collective-agreements-lous-moas> and at <http://www.qufa.ca>.

Appointments are subject to review and final approval by the Provost. Candidates holding an existing tenure-track or continuing-adjunct appointment at Queen's will not be considered.