



## CALL FOR PHD FELLOWSHIPS WITHIN Q@TN

The *Quantum Science and Technology in Trento* (Q@TN) joint laboratory is looking for outstanding research projects in different areas of quantum science and technologies to be financially supported. Q@TN funding can be used for a 3-year PhD fellowships. No funds are available for consumables and materials.

This year two application tracks are possible:

1. standard fellowship, which will follow the usual rules
2. industrially supported fellowship, which need the involvement of a company

Applications can be submitted by anyone of the team members and can involve any other researcher active in one of the institutions participating in the initiative. Additional scientists from other institutions can participate as well.

*It is mandatory that the projects for track 1 are proposed by at least two proponents affiliated to two different teams of Q@TN.*

*It is mandatory that the projects for track 2 are supported by a company which has to indicate an industrial thesis advisor and a commitment to a financial support for half-of the fellowship (ie 35K€ in three years).*

Proposals should address one or more workpackages of Q@TN (WP1: Fundamental quantum science; WP2: Quantum communications, area of action; WP3: Quantum computing, area of action; WP4: Quantum simulations, area of action; WP5: Future sensors and metrology).

**The deadline for submission is June 20<sup>th</sup>, 2022. Projects should be submitted to the e-mail address ([info.qtn@unitn.it](mailto:info.qtn@unitn.it)).**

The selection committee (I. Carusotto, E. Blanzieri, G. Pucker), nominated by the management board of Q@TN, will rank the projects considering also the Q@TN development strategy. Those top projects, which are within the budget limit for each track, will be financed. We plan to support at least 4 fellowships for track 1 and at least 3 fellowship for track 2. The selection process will be completed by end of June 2022 so that the fellowships can start by Fall 2022. Note that for track 2, the company has to sign an agreement with the specific doctoral school. This agreement will be finalized after the Q@TN support decision, i.e. after the end of June, but before the publication of the PhD call. The exact timing depends on the specific PhD school. Continuous monitoring of the development of the projects will be put in place and collective initiatives will be organized within the Q@TN joint lab to foster their success.

The main evaluation criteria will be:

- **General research track** of the proponents and **potential to perform the proposed research**. While a proven expertise in quantum sciences and technologies is welcome, one of the purposes of Q@TN is to fund individuals and companies that plan to open new research lines in the direction of quantum science and technology. In this case, the scientific credibility of the applicant's intention to move into the new field will be a criterion of evaluation. The actual feasibility of the proposed research given the available resources, laboratories and funds will be considered.
- **Excellence** of the project in terms of scientific merit and/or technological potential and/or industrial application will be evaluated according to international standards. Q@TN seeks to fund projects which definitely go beyond the state of the art and have the potential of opening new perspectives in research and application, so to then get access to funding initiatives at the EU level.
- Potential of the project towards the establishment of **successful and sustainable new research activities** or reinforce the **collaboration between different institutions** in the Trento area. Projects





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must therefore involve several teams and the actual strength of the synergy will be a criterion for evaluation. The new Q@TN personnel is expected to interlace the existing teams by strengthening new interdisciplinary research activities.

PhDs hired within this call have to participate to the Trans-Disciplinary Program in Quantum Science and Technologies (TPQST).

Those who need more details or wish to discuss potential applications can send an email to [info.qtn@unitn.it](mailto:info.qtn@unitn.it) to fix a meeting with the Q@TN director or with anyone of the management board.





Q@TN - *Quantum Science and Technology in Trento*  
**APPLICATION FORM**  
*for PhD or postdoctoral fellowship*

**1. Project title:** \_\_\_\_\_

**2. Keywords:** \_\_\_\_\_

**3. Type of position requested:**

- PhD student

**4. Track:**

- Track 1: standard fellowship  
 Track 2: industrial fellowship

**6. Doctoral school:**

- Mathematics  
 Physics  
 Information Engineering and Computer Science  
 Civil, Environmental and Mechanical Engineering  
 Materials, Mechatronics and Systems Engineering  
 Other: \_\_\_\_\_

**7. Proponents** (at least two researchers affiliated to different teams for track 1, one proponent from Q@TN and one company for track 2):

For each proponent provide name, surname, qualification, affiliation, a list of recent funded projects, a list of 5 recent publications related to the project <sup>(1)</sup>, and a full CV. For companies provide information on the company and the name, role, seniority, competence of the proposed industrial advisor. A letter of commitment by the company to support the cost of half of the fellowship should be added.

**8. The project is relevant for the following Q@TN work-package(s) <sup>(2)</sup>:**

- WP1: Fundamental quantum science, area of action \_\_\_\_\_  
 WP2: Quantum communications, area of action \_\_\_\_\_  
 WP3: Quantum computing, area of action \_\_\_\_\_  
 WP4: Quantum simulations, area of action \_\_\_\_\_  
 WP5: Future sensors and metrology, area of action \_\_\_\_\_

**9. Description of the project**

Activities, objectives, deliverables, estimated total cost, available resources to sustain the activity, etc. (max two pages in Times New Roman 11, excluding references)

**10. Interdisciplinary aspects**

Teams involved, interdisciplinary competences, role of the requested position for strengthening new co-operations within Q@TN (max one page)

**11. Relevance of the project for quantum science and technology**

Significance of the project objectives for the advances of quantum science and technology in a broad sense, at the national and international level. Perspectives for a future development of the activity (max one page).





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## Notes

- <sup>(1)</sup> If these are not yet available, list any evidence in support of an active research interest in quantum science and technology.
- <sup>(2)</sup> Rank the WP's in decreasing order of relevance.

