

## 16 Feb 2022: Keio-Netherlands Young Quantum Researchers' Workshop

Invitation for Netherlands' Young Researchers  
Part of bilateral relation building for Quantum-Photonics-Nano  
Please forward to relevant Japanese contacts

January 2022

Dear Sir / Madam

The rapid digital transition requires radical high-tech solutions to keep the global social systems running in terms of security, sustainability, economy, health and others. Important parts of these solutions lie in the area of quantum technology, photonics and nanotechnology. The Netherlands and Japan are forefront runners, both in terms of contents and in terms of industry-academia collaboration.

As follow-up of the Netherlands-Japan [Launch Event](#) on Quantum-Photonics-Nano of July 2021, the Keio Quantum Computing Center ([KQCC](#)) and the Advancing Quantum Architecture (AQUA) research group at Keio University, Japan, and the Embassy in Tokyo are organizing a bilateral Netherlands-Japan workshop for young quantum researchers. You are invited to participate on **Thursday 16 February 2021, 1900-2200 JST, 1100-1400 CEST**. Students of all levels as well as postdoctoral researchers and research staff are encouraged to participate; the goal is to connect the researchers who will do the work, rather than the senior faculty and administrators. In the interest of maximizing interaction, a few representative researchers will be asked to give short presentations, but the bulk of the time will be in freeform breakout sessions.

The event is part of a series of bilateral events, with the purpose to deepen mutual understanding of strengths and ambitions in the Netherlands and Japan in the fields of Quantum-Photonics-Nanotechnology. Both countries have ambitions to strengthen their relations in these fields. To address the crossovers, we invite professionals from these three areas to all the events. The series of events paves the way to a (hopefully) physical Innovation Mission in 2022.

Series of bilateral online events (partly confirmed)				
	Date	Topic	Presenter	Audience <sup>1</sup>
	16-19 Nov '21	Photonics	NTT IOWN Forum	Netherlands
	24 Nov '21	Quantum	RIKEN	Netherlands
✓	<b>16 Feb '22</b>	<b>Quantum</b>	<b>Keio University</b>	<b>Netherlands</b>
	9 Feb '22	<a href="#">Nano-photonics</a>	- Photon Delta NL - PIB nano	Japan
	Q1 '22	Quantum-Photonics	SIP Quantum-Photonics	Netherlands
	Q1 '22	Quantum	Quantum Delta NL	Japan
	Q1 '22	Optics	Dutch Optics Center	Japan
	Q3 '22 plan Physical Mission to Japan on Quantum-Photonics-Nano			

<sup>1</sup> Target audience: professionals in field of Quantum-Photonics-Nano.

- Title: Keio-Netherlands Young Quantum Researchers' Workshop
- Date/time: **Thursday 16 February 2022**, 19:00-22:00JP / 11:00-14:00NL
- Venue: Webinar (link follows registration)
- Organizer: Keio university, Netherlands Embassy in Tokyo
- Agenda outline:
  - Opening by Embassy;
  - Short Presentations JP side; Breakout Sessions with JP presenters
  - Short Presentations NL side; Breakout Sessions with NL presenters
  - Joint Discussion, conclusions, looking ahead
- Target audience: Students of all levels as well as postdoctoral researchers and research staff of NL knowledge institutes
- # of participants: 10-20 people each from Japan and Netherlands
- Language: English
- Registration: Click this [link](#) to register, by January 21. A few days before the event, we will send you a link to join online. If you cannot enter the link, contact below contact persons.
- Contact: NL: Rob Stroeks, Netherlands Embassy, [rob@\[hollandinnovation.jp\]](mailto:rob@[hollandinnovation.jp]), +81-(0)90-8642-3560  
JP: Prof. Rodney Van Meter, Keio University, [rdv@\[sfc.wide.ad.jp\]](mailto:rdv@[sfc.wide.ad.jp])

Sincerely,

Eric van Kooij  
Innovation Counsellor  
Embassy of the Kingdom of the Netherlands

## **GOAL**

The goal of this event is to search for possible points of Japan-Netherlands collaboration on quantum computing, quantum Internet, quantum education and quantum community. This event is very broad, but we expect to follow up with more focused meetings in the future to develop project plans and proposals.

## **CONCEPT AGENDA:**

NL/JP

11:00/19:00 Introductions

11:10/19:10 Short presentations by Japanese side (\*)

3 researchers, 10 minutes each (no questions)

1 quantum computing

1 quantum Internet

1 quantum education & community

11:40/19:40 breakout sessions

1 breakout for each researcher above

12:00/20:00 short break

12:10/20:10 Short presentations by Dutch side (\*)

3 researchers, 10 minutes each (no questions)

1 quantum computing

1 quantum Internet

1 quantum education & community

12:40/20:40 breakout sessions

1 breakout for each researcher above

13:00/21:00 all together, propose discussion topics

13:10/21:10 last breakout session

13:30/21:30 open discussion, all participants

13:50/21:50 closing

(\*) Participants will be asked to create a single slide introducing themselves and their work, to be shared with other participants before the start of the workshop.

Possible topics for last breakout session (feel free to suggest others either in advance or during the session):

<b><u>Computing</u></b> <ul style="list-style-type: none"><li>- NISQ algorithms</li><li>- fault tolerant algorithms</li><li>- quantum error correction</li><li>- quantum computer architectures</li><li>- programming languages and tools</li><li>- quantum control and low-level programming</li></ul>	<b><u>Internet</u></b> <ul style="list-style-type: none"><li>- experiment &amp; testbed plans</li><li>- protocol designs</li><li>- applications for distributed entanglement</li><li>- simulation</li></ul>
<b><u>Education</u></b> <ul style="list-style-type: none"><li>- online tools and systems</li><li>- undergraduate curriculum</li><li>- teaching quantum at the high school level</li></ul>	<b><u>Community</u></b> <ul style="list-style-type: none"><li>- hackathons (both beginner and advanced)</li><li>- community events and outreach</li><li>- how to convey key quantum ideas nonmathematically</li></ul>