# Quantum Technologies and Sustainability

## Research and innovation in the context of climate change

*With perspectives from both physicists and philosophers, this interdisciplinary series will address recent research on quantum technologies (QTs). Seminars will explore the significance of climate change for quantum innovation, address how QTs can be applied in different sectors for sustainability and discuss how we can minimize the environmental impact of quantum technologies. All sessions will take place online, please use the registration link or QR code below to sign-up.*
*Organized by Dr. Dakota Root and Professor Amélie Favreau within TIQuA at the Université Grenoble Alpes*

### ☐ Quantum technologies in the Anthropocene

11 September, 16h30-17h30 Central European Time (CET)

*Pr. Vincent Lam, Institute of Philosophy & Oeschger Centre for Climate Change Research, University of Bern*

This talk will consider quantum technologies ('sustainable' or not) in the context of the climate––and more broadly: Anthropocene––challenges, from a (political) philosophy of science perspective, in particular relying on recent work on the role of ('non-epistemic') values in (climate and Earth system) science and modeling.

### ■ Responsible quantum innovation should be sustainable

16 October, 16h30-17h30 CET

*Dr. Dakota Root, Institute de Philosophie de Grenoble, Université Grenoble Alpes*

Research in the social sciences and humanities has not discussed the significance of sustainability for quantum innovation. This talk will develop a responsible innovation (RI) approach that makes sustainability a key value for the development and deployment of quantum technologies.

### ■ Quantum for sustainability

13 November, 15h-16h CET

*Dr. Karl Thibault, Institut Quantique, Université Sherbrooke*

This talk will first provide a wide overview of the potential of quantum technologies for sustainability, then review past and ongoing efforts at this interface, and finally discuss tangible use-cases for climate change, sustainable development and the energy transition.

### ☐ Evaluating the footprint of quantum technologies that do not exist (yet)

11 December, 16h30-17h30 CET

*Dr. Rob Whitney, LPMMC, CNRS, Université Grenoble Alpes*

In the past, the environmental footprint of a new technology was rarely considered until after that technology was deployed. Yet, in a world of finite resources, it seems untenable to do the same for future technologies (such as quantum technologies). This talk will discuss whether we can evaluate the environmental footprint of a future quantum computer, when we do not know what such a computer will be made of.

Join us :

TIQuA Université Grenoble Alpes

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