**Quantum ELSPI**

**STATUS:** Reviewing…

**GUEST EDITORS:** [Mauritz Kop](#) (Stanford University)

**TITLE:** Quantum ELSPI: ethical, legal, social and policy implications of quantum technology.

**SUBMISSIONS PERIOD:** 1 September 2021 until 15 February 2022.

**SYNOPSIS:** Anticipating spectacular advancements in real-world quantum driven products and services, the time is ripe for governments, academia and the market to prepare regulatory and business strategies that balance their societal impact. This topical collection seeks to provide informed suggestions on how to maximize benefits and mitigate risks of applied quantum technology. It intends to deliver insights and actionable recommendations on how and when to address identified opportunities and challenges, which can then be refined into plausible, evidence-based policy decisions by stakeholders across the world.

In this special edition of Digital Society, we aim for scholars to reflect on the multifaceted questions associated with Quantum ELSPI. In addition to learning from history and connecting quantum to other big picture trends, quantum should be treated as something completely unique and unprecedented. We especially welcome cross-disciplinary contributions that look beyond research silos and integrate law, economic theory, ethics, sociology, philosophy of science, quantum information science, and sustainable innovation policy, and that consider how to improve ELSPI stratagems for quantum technology. We encourage authors to be pioneers in this complex, and at times counterintuitive field.

Questions and topics that could be addressed by contributions in the topical collection are not restricted to, but could include the following:

- Potential strategies for industries facing disruption such as the cybersecurity industry and financial institutions. What role could antitrust law, intellectual property, lifelong learning and labor mobility play while incentivizing innovation?
- How should dual use applications be managed? How do we balance freedom with control? What role could a Quantum Treaty play to make our world a safer place?
- The creation of a list of quantum-specific themes, goals, benefits and risks that need to be addressed by universal, overarching principles of responsible quantum design and application, including a definition of hi-risk quantum-systems.
- How can policy makers learn from history and adjacent fields, when regulating exponential innovation and ensuring equal access to quantum computing and the quantum internet? To what extent does governing digitization driven by classical computing paradigms (binary digits) differ from governing quantum computing (qubits)?
- It is not inconceivable that the development and uptake of transnational quantum principles will run along the lines of democratic and authoritarian tech governance models. Against that background, how can we embed cultural norms, liberal values, democratic principles, human rights and fundamental freedoms in globally accepted interoperability standards?
- How can we implement ethically aligned design into our quantum systems architecture and infrastructure? How can quantum technology impact assessments help achieving these goals?

**AUTHOR INSTRUCTIONS:** Papers submitted to the topical collection should not exceed 8000 words in total (excluding references).

Timeline for the topical collection:

- Deadline for submitted contributions: **February 15, 2022**
- First round of reviews completed: **April 1, 2022**
- Deadline for revisions: **June 1, 2022**

Submitted papers will be peer reviewed following the journal's standard, and accepted papers will be published online on a rolling basis. Please blind submissions for peer review prior to submission and chose **Quantum ELSPI** in the drop-down menu on the **Digital Society** submission page.