

# QUADRUPLE HELIX INNOVATION IN PRACTICE: THE POLITICS OF ABSORPTION OF VALUE IN RESEARCH AND INNOVATION

**Eugen Popa**

**University of Twente**

**Vincent Blok**

**Wageningen University**

**Cornelius Schubert**

**TU Dortmund University**

## **Abstract:**

Contemporary societies face a series of grand challenges on topics such as energy production, transport, social equity, and affordable healthcare. Motivated by the moral obligation to address these challenges, and pressured to legitimize themselves in relation to societal needs, scientists and knowledge institutions are increasingly engaging in modes of innovation that allow for the negotiation and absorption of societal values in the creation of techno-scientific futures.

The concept of quadruple helix innovation captures this idea as the complex interaction of four different types of values in science and technology: academic values, market values, socio-ethical values, and political values (Carayannis & Campbell, 2009, 2010, 2014; Carayannis, Grigoroudis, Campbell, Meissner, & Stamati, 2018). Innovations produce academic value by creating new knowledge and technologies, business value by creating marketable artefacts and new market niches, socio-ethical value by improving the life of citizens, and political value by serving political ideals such as liberalism or democracy. Innovations that manage such complex absorptions of value are thought to address the aforementioned grand challenges better and to be a more responsible mode for creating techno-scientific futures (Blok, 2019; Genus & Stirling, 2018; Stilgoe, Owen, & Macnaghten, 2013). However, the practices of absorbing heterogeneous values, e.g. the material-semiotic arrangements that need to be explored, tested and implemented in laboratory research, need to be understood in more detail.

The panel builds on the current discussion around the concepts and practices of value absorption in quadruple helix innovation, its embedding in existing innovation practices and its evaluation by external actors. This discussion spans across fields of research such as STS, responsible innovation, technology assessment, midstream modulation, and value-sensitive design. We thus want to explore these issues across disciplines and cases in order

to get a better understanding of the potentials and the problems that lie behind the metaphor of value 'absorption'.

We invite papers on the topic of quadruple helix innovation and the absorption of values. We are particularly interested in the empirical exploration of this process and thus call for both scholars and practitioners (e.g., policy makers, NGO representatives) to explore case studies of QH innovation as they occur in real-life settings. The following research themes are indicative of the type of questions that might be asked within the contributions to this panel. Contributions are not however limited to these examples.

1. The practices and politics of QH innovation and in real-life settings.
2. The absorption of specific values in techno-scientific innovation (academic, ethical, political, market etc.).
3. The relationship between value absorption and stakeholder participation
4. Conflicts between values and conflicts between stakeholders in innovation
5. The methods and competencies needed for value absorption
6. Perspectives from specific helixes (academia, business, citizens and policy) on this mode of innovation

We expect the panel to be interesting to scholars from various strands of STS scholarship, responsible innovation, (constructive) technology assessment, and ethics of technology.

**Key words:**

\*