



## Transatlantic and Global Science Diplomacy to Govern the Applications of CRISPR-enabled Human Gene Editing: Towards common Interest Building

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### Abstract

In 2018, the world experienced the births of the first gene-edited babies in history as a result of the controversial and unprecedented editing of two fetuses by Chinese scientist He Jiankui (Cyranski 2019). He Jiankui's actions accelerated the need to tackle the ethics and governance of the applications of human gene editing technologies. As leading gene editing innovators along with China, it is critical that the transatlantic partners come together to meet this challenge, particularly as gene editing represents a potential method to cure the COVID-19 and future deadly viruses. The COVID-19 pandemic provides a unique opportunity for countries to build on common interests and undertake steps toward unprecedented collaboration in the face of deep societal, economical, and individual disruptions (Berkman 2020).

The thesis answers the following question: To what extent is there transatlantic and global common interest-building on the ethics and governance of the applications of human gene editing technologies? Fundamentally, exponential technological change call for "informed decisions", which "operate across a 'continuum of urgencies'" (Berkman 2019, 72). This justifies the use of Berkman's "science diplomacy" framework as an analytical basis for "common interest-building" through "informed decision-making" (Berkman 2019). To apply this framework, this thesis relies on document analysis and eight expert interviews.

The core argument and key findings are twofold. First, the extent of transatlantic and global common interest-building on the governance of the applications of human gene editing is moderate. On both sides of the Atlantic, a common vision of the desirability to proceed with human gene editing is emerging, but it may only be a short-lived façade, especially in the absence of a clear transatlantic forum where to discuss emerging biotechnologies. At the global level, the WHO Committee is steering the common interest-building process on human gene editing but does not directly help build a transatlantic community of ethical understanding, while the transatlantic space does not serve as a clear engine of this international engagement. Second, a "science diplomacy" approach based on "informed decisions" is more productive to achieve "sustainability" than discussions stuck in a power competition mindset (Berman 2019). The current COVID-19 pandemic can and should provide a critical impetus to the "renaissance" of science diplomacy (Berkman 2020) and its application to the ethical and governance challenges posed by human gene editing. This is an argument of hope in the possibility of designing, upgrading and applying a science diplomacy process to human gene editing governance, fuelled by the transatlantic allies while being open to global perspectives. This "renaissance" starts with identifying questions of common interests in the face of change brought by exponential technological development and the growing spread of pandemics.

This thesis adds value to the understanding of transatlantic common interest-building in emerging biotechnology. It also sheds light on the functioning of the science diplomacy process when confronted to emerging technologies characterized by their moving target nature and the difficulties to anticipate their impact. It also gives a picture of the state of play of the emerging global governance of the applications of human gene editing.