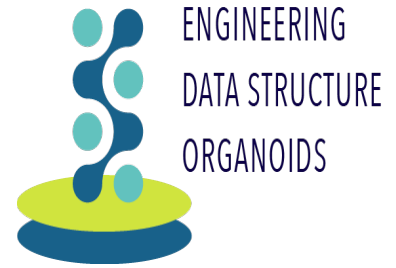


Public Awareness of Novel Technologies: DNA Data Storage as a study case

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<https://endroids.ico2s.org/>

THE OBJECTIVE



- DNA can be used to store and archive massive amount of information compared to the currently used data storage method.
- The research into this technology is accelerating rapidly, however not research has been conducted yet into the public perceptions.
- Public attitudes to new technologies can play a key role in the development or the introduction of new technologies.
- To explore awareness and views of DNA data storage.
- Research Question: How does public view new technology, in this case DNA data storage?

METHODOLOGY



- Qualitative studies offer additional depth of understanding.
- Exploratory qualitative online survey with 52 participants was conducted in March 2022 in the North East of the UK
- Sample included 38 women, 14 men (35 – 74 year olds)
- Open ended questions were used, asking participants to describe in their own words their views and thoughts about DNA data storage.

FINDINGS



- Most participants were supportive of this research, however this support was guarded by fears of possible misuse and wider implications.
- Responses were not polarized, rather despite the low awareness and knowledge of the technology, participants showed interest and asked questions. In other words, participants who were generally positive about this research also shared their concerns and asked questions relating to ethics and application of this type of research .
- *“ It sounds very exciting and very futuristic. I am immediately nervous about the idea of using living thing in this way. I like the idea of it being greener option. It feels like if this technology was developed then it would have much further reaching applications”.*
- *“ An incredible concept and fantastic that people are trying to reduce the environmental impact or the data storage issue. It also worries me in an AI sort of way”.*
- The results highlight very low awareness and familiarity of DNA data storage technology:
- *I would need to understand it further because at present with the brief overview it sounds a little scary and futuristic’*



CONCLUSIONS AND RECOMMENDATIONS



- The findings allow us to have first glimpse of how DNA data storage technology might be viewed by the general public and what are some of the concerns regarding the development and use of this technology.
- Early public engagement and consultation with public alongside new technology development is essential (RRI framework).
- Our survey highlighted that (similarly to other research in the area), individuals do not feel well informed about emerging technologies.
- The findings of this research also support the need for improved and expanded science communication for the general public
- Public trust in new technologies will become more important in the future as we move into the next era of technological developments