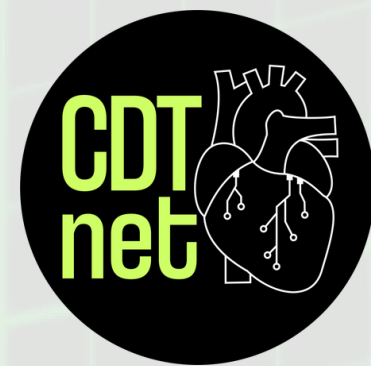


# F15 Understanding the Social and Ethical Issues Raised by Digital Twin Technologies



## HOST ORGANISATION

King's College London  
(KCL), London, United Kingdom

## PHD AWARDING INSTITUTION

King's College London  
(KCL), London, United Kingdom

### Supervisory Team

Lead Supervisor

- Prof. Seeromanie Harding (King's College London)

Co-Supervisors

- Dr. David Wyatt (King's College London and Aston University)
- Dr. Jurica Sprem (GE Vingmed Ultrasound)
- Dr. Filip Lončarić (University of Zagreb School of Medicine)

### Project Description

Cardiovascular digital twins have the potential to transform healthcare by enabling more personalised diagnosis, treatment planning and disease monitoring. However, alongside their technical promise, they raise important questions about privacy, trust, transparency, fairness and the appropriate use of artificial intelligence in healthcare. As digital twins become increasingly sophisticated and influential in clinical decision-making, understanding their social and ethical implications will be essential for their successful adoption.

This project aims to develop a comprehensive understanding of how patients, healthcare professionals, researchers, industry stakeholders and the wider public perceive digital twin technologies. Drawing on methods from the social sciences, the doctoral candidate will investigate the opportunities and concerns associated with the use of digital twins in cardiovascular medicine and explore how these technologies can be developed and implemented responsibly.

The research will combine literature reviews, policy analysis, interviews, focus groups and other qualitative research methods. The candidate will examine questions such as how comfortable people are with their health data being used to create digital twins, whether individuals wish to receive predictions about future health risks, and how responsibility should be shared between clinicians, patients and digital technologies during healthcare decision-making. The project will also explore broader societal issues, including governance, ownership of digital twin data, regulation of AI-enabled healthcare technologies, equity of access, and the potential impact of commercial business models based on predictive health technologies.

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Working closely with the technical and clinical projects across CDTnet, the doctoral candidate will contribute to the development of evidence-based recommendations and practical guidance for the responsible design, deployment and regulation of digital twin technologies. The ultimate goal is to ensure that future digital twin systems are not only scientifically robust and clinically valuable, but also socially acceptable, ethically sound and aligned with the needs and expectations of patients and society.

## **Planned Secondments**

- Oslo University Hospital, Norway (1 month in Year 1): engagement with clinicians and patients to explore perspectives on digital twin technologies in healthcare.
- University of Bordeaux, France (1 month in Year 1): interviews with clinicians, researchers and patients involved in cardiovascular digital twin research.
- FEops, Belgium (1 month in Year 2): exploration of how digital twin technologies are translated into commercial healthcare products and engagement with industrial stakeholders.
- GE Vingmed Ultrasound, Norway (1 month in Year 2): understanding industrial innovation processes and stakeholder perspectives on AI and digital twin adoption.

## **Required Project-Specific Qualifications and Skills**

- An undergraduate degree in any discipline (UK 2:1 or equivalent).
- A Master's degree in a social science discipline (e.g. Sociology, Science and Technology Studies, Anthropology, Human Geography, Politics, Social Policy) — or a Master's in another field with a substantial social science, qualitative research, or bioethics component.
- Demonstrable interest in, or experience of, qualitative research methods (e.g. interviews, focus groups, ethnography, policy analysis).
- An interest in the social, ethical and political dimensions of digital health technologies, AI, and/or data-driven medicine.
- Some familiarity with, or willingness to engage with, cardiovascular medicine, clinical environments, or digital twin technologies is desirable but not essential.
- Strong written and verbal communication skills, given the project's engagement with clinicians, patients, and industry stakeholders across multiple countries.

Please direct any query regarding this project to:

Seeromanie Harding [seeromanie.harding@kcl.ac.uk](mailto:seeromanie.harding@kcl.ac.uk) and David Wyatt [d.wyatt1@aston.ac.uk](mailto:d.wyatt1@aston.ac.uk)