

Title: Building an ecosystem for Digital Twins in healthcare

Tutor: Prof Marco Viceconti - <https://www.unibo.it/sitoweb/marco.viceconti/en>

Funding source:

EDITH: An ecosystem for digital twins in healthcare G.A. n. 101083771 – CUP J53C22002920006

Scientific Supervisor Prof. Marco Viceconti.

Research Project

Ecosystem for Digital Twins in Healthcare (EDITH) is a Coordination and Support Actions (CSA) project founded by the European Commission under the Digital Europe Programme (DIGITAL-2021-DEPLOY-01-TWINS-HEALTH). The project aims to foster an inclusive and sustainable ecosystem for Digital Twins in healthcare (DTH) in Europe.

Activity plan

The selected post-doc will mainly work on:

- Map DTH resources (i.e., models, datasets, methods, best practices, infrastructures, services).
- Analyse current regulatory pathways for the qualification and technology assessment of DTH technologies.
- Further develop, validate, and deploy digital twin methodologies

Place of work: all activities will take place at the institutional sites of the department DIN, or at the Istituto Ortopedico Rizzoli (Bologna).

Short description

As part of the team of the EDITH action, the candidate will work on the Digital Twins ecosystem building starting from mapping already available DTH resources and analysing the current regulatory & HTA landscape. One of the main research activities is related to further developing, validating, and deploying digital twin methodologies that will serve as an early prototype for testing the federated cloud-based repository of human digital twins. Our group develops in silico model solutions to manage musculoskeletal pathologies.

The ideal candidate would have these qualifications:

- PhD or Master's degree in Engineering or Computer Science and in possession of a scientific-professional curriculum suitable for carrying out research activities.
- Very good English language knowledge.
- Advanced knowledge in computer modelling and simulation, digital twins, and health data.
- Experience with finite element analysis and multibody dynamics in biomechanics.
- Some programming experience, ideally in Python

The candidate will have the opportunity to work in a multidisciplinary team coordinated by Prof. Marco Viceconti, and in collaboration with a large international consortium.

Composizione della Commissione Giudicatrice:

- Prof Marco Viceconti
- Dott Sabato Mellone
- Dott.ssa Cristina Curreli
- Prof Luca Cristofolini (Supplente)