Turn the VPH vision into reality: the Insigneo Institute for in silico medicine

ABSTRACT

The term Virtual Physiological Human (VPH) was first used in with a white paper published by a small group of researchers in 2005. In 2007 the STEP support action published a research roadmap for the VPH. In this document the VPH is defined as “a framework of methods and technologies that once established will make possible to investigate the human body as a whole”. Largely inspired by the IUPS Physiome project, the VPH initiative aimed to establish the technology that would make possible to capture into computer models the mechanistic knowledge available on a pathophysiological process at different space-time scales, and compose them into an integrative model capable of describing such process as a the emergence of complex systemic interactions.

Driven by the ICT for Health unit of the European Commission, the VPH Research agenda developed during the Seventh Framework Program (FP7) focused primarily on the technological challenges that such ambitions vision posed.

In 2012, as the first group of VPH research projects funded in FP7 came to completion, the University of Sheffield and the Sheffield Teaching Hospital NHS Foundation Trust announced the creation of a new research institute entirely and only dedicated to the full development of the VPH vision, and its translation into the clinical practice.

After two years, Insigneo today coordinates the fundamental, technological and translational research of 110 academics and consultants in the local hospitals, around the use of computer simulation in biomedical research, in the development of new biomedical products, and in the clinical practice. This seminar gives an overview of the Insigneo institute, its organisation, and its research activity.