RESEARCH THEME

XXXVIII cycle – a.y. 2022/2023

Title of the doctoral research	Unpacking Fashion-Tech Innovation Design-driven research for fashion products, services and processes innovation through the medium of practice

Proponent professor	Chiara Colombi

Abstract

The implementation of Industry 4.0 (I4.0) system--such as Internet of Things (IoT), Big Data and Artificial Intelligence (AI), advanced manufacturing (AM) and digital fabrication (DF), augmented reality (AR) and collaborative robotics (CR)--within the design and manufacturing of products/services/systems in the fashion sector seems an appropriate technological evolution of the sector. It allows innovation opportunities by updating and upgrading the creative and manufacturing processes toward high customization and on-demand production, thus impacting circularity and sustainability.

However, the strong uptake of the concept of I4.0 has not yet become an established practice due to the biased and negative perception that the use of technology can have on final consumers, the long history of traditional handcraftsmanship rooted in the fashion sector, the lacking availability of digital skill of fashion professionals, the difficult access to funding for the investments on the technology, along with uncertainties in driving new businesses with technologies due to unpredictable and unknown risks perceived by the company managers. Adopting new fashion-tech approaches is necessary to produce a shift in the fashion creative and manufacturing processes. New types of thinking can be opened up by challenging the current fashion system and optimizing its processes and practices. Given that most research studies about Fashion-Tech innovation are technology-driven, a design-led perspective could drive innovative potentials by analyzing the socio-technological implications of innovations from a user-centered perspective, and understanding the sustainability impacts through a holistic perspective (environmental, economic, social, and cultural). Therefore, this Ph.D. research will be devoted to analyzing and implementing design practices focusing on the leading role of design as a transformative agent which envisions the future and plugs solutions into the fashion industry strategy by reorganizing innovative creative and manufacturing processes and the resulting effects.

Keywords	Fashion-Tech design, creative processes, manufacturing processes