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Towards human fabrics: Ethical and regulatory issues

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3D bioprinting of tissues and organs is considered the 4th industrial revolution in the field of medicine and biotechnology. The successful transplantation of an ear printed via 3D, performed in 2022 in the USA, confirmed the potential of this technology to transform regenerative medicine and surgery. However, bioprinting raises important ethical and legal issues that deserve a special attention. Considering that 3D bioprinting makes possible to fabricate body parts on demand, it is necessary to analyze at least the following issues: first, the ethical legitimacy of the human fabrication. What are the ethical conditions legitimizing the printing of vital tissues and organs for transplantation or regeneration? Then, to what extent is ethical using this technology for medical purposes? Biofabrication has the capacity to generate new human species as well as to overcome the natural boundaries of the human life. Where should it be drawn a threshold, if any? Further issues relate to the legal aspects of bioprinting and raises specific questions about a) the ownership of 3D bio-constructs, b) the consent to the medical uses of 3d bioprinting, c) the privacy protection, d) the intellectual property rights. This presentation aims to analyze these issues looking at the potentiality of 3D bioprinting to develop commercial profitable fabrics of vital human body parts.

Biography

Elena Salvaterra began to collaborate as independent researcher in non-profit organizations. Her research focuses on the ethics of human stem cells, bio-banking regulations, end of life decisions, capacity and informed consent, human biofabrication. Author of papers and books, she delivered conferences in several countries by giving a contribution mostly on ethics and regulations of science. She is also passionate of Arts and collaborates as photographer with the Lonon arts based research centre.

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