PANEL PROPOSAL

69. Technoscience and the future of agrifood systems in Europe. Challenges and opportunities in the push for sustainable agriculture

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Keywords: European Green Deal, agrifood, agroecology, smart farming, sustainability

Technoscience is currently engaged to intervene in agrifood systems to help build for them a sustainable future, meeting the requirements of the 2030 Agenda for Sustainable Development of United Nations and the European Green Deal. These policy directions mostly rely on technoscience to improve innovations in agriculture as well as to design ways of making it more sustainable. Through the lens of STS, the above challenges can be traced following the relationships between humans and non-humans and the variety of hybrids (Latour, 1991) that result in configurations of agents and agencies. These work as assemblages (Latour, 2005) and crystallise in practices that pertain to the agrifood sector as well as to the sciences, involving different species like humans, plants, animals and micro- organisms and the effort of technologies to arrange and rearrange such multispecies configurations (Haraway, 2008). Over the last decades, examples of these configurations emerged dramatically in the strategies of crop production that foster environmental sustainability, albeit with diverse orientations. On the one hand, these strategies rely overtly on bringing technological developments in agricultural practices, like soilless systems (e.g. hydroponic farming), indoor assemblages with advanced lighting infrastructure (e.g. vertical farming), or the use of information technologies to cope with uncertainty (e.g. variability in weather conditions). On the other hand, some strategies try to cope or harmonise with ecosystems and their inherent multispecies configurations, e.g. by minimising the use of chemicals through holistic approaches or by pursuing an agroecological perspective for farming (Altieri et al., 2015; Galt et al., 2024), which is key to addressing the "material dependency" in the route to sustainable agriculture (Pellizzoni and Centemeri, 2022).

Research in STS makes it possible to look at the future of agriculture and food systems, dealing with their complexities and facets and the diverse scales and modes of production (Iles et al., 2016). Hence, the panel intends to welcome contributions that address the future of agrifood systems in the perspective of STS, aiming to shed light on how technoscience is involved in the configurations of those systems, covering (but not limited to) the following areas and topics:

- information technologies in agriculture (e.g. smart farming, precision agriculture, etc.) and related opportunities and challenges;
- agroecological practices and perspectives;
- environmental policy frameworks at the European (or international more broadly) level;
- inequalities and critical facets of agrifood systems;

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- sustainable strategies in food supply chains;
- discourse and communication regarding sustainability;
- agrifood markets and socioeconomic inequalities.

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