



International Network Initiative on Safe & Sustainable Nanotechnology

Identifying gaps in social and ethical foresight methodology for nano-enabled advanced technologies

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Session proposal:

Partners of the International Networking Initiative on Safe and Sustainable Nanotechnologies (INISS-nano) are joining forces in developing and testing methodologies for Safe, Sustainable and Responsible by Design of nano-enabled advanced technologies.

The aims of this session at STS-Graz 2026 are:

To refine social and ethical foresight with respect to “nano-enabled advanced technologies”. The scope of this topic includes among others Ethical Impact Assessment (e.g. CEN CWA 17145-2, 2017, Malsch et al. 2024, UNESCO, 2023), Ethics by Design (e.g. Francis et al, 2023), Scenario Exploration Systems (e.g. European Commission, 2024), and Narrative ethics (e.g. Baldwin, C. (2015).

We invite participants in STS-Graz to submit papers demonstrating state-of-the-art social and ethical foresight methodology on key enabling technologies and advanced materials, highlighting methodological weaknesses and opportunities for improvement of the methodology and its relevance to real-world impacts of advanced materials and technologies. The aim is to focus the future research agenda in Safe, Sustainable and Responsible by Design of nano-enabled advanced technologies on addressing these identified weaknesses and opportunities for improvement.

After the oral presentations, the session ends with a Mentimeter exercise where participants can vote for the most significant weaknesses and most promising opportunities. Participants are also invited to join INISS-nano: <https://nsc-community.eu/cooperation/>.

References:

Baldwin, C. (2015). Narrative Ethics. In: ten Have, H. (eds) Encyclopedia of Global Bioethics. Springer, Cham. https://doi.org/10.1007/978-3-319-05544-2_302-1

CEN CWA 17145-2: https://www.cenelec.eu/media/CEN-CENELEC/CWAs/RI/cwa17145-2_2017.pdf

European Commission, Joint Research Centre, Mochan, A., Farinha, J., Bailey, G., Rodriguez, L., Zanca, F. and Polvora, A., Imaging the Future - Horizon scanning for emerging technologies and breakthrough innovations in the field of medical imaging and AI, Publications Office of the European Union, Luxembourg, 2024, <https://data.europa.eu/doi/10.2760/1426669>, JRC140099

Francis, B; Brey, P; Richardson, R; Umbrello, S; Porcari, A; Schepers, T (2023). D5.6 Ethical sensitivity tools: societal readiness tool and ethical role-playing tool. TechEthos Project Deliverable. Available at: www.techethos.eu

Malsch, I. Isigonis, Bouman, E. et al. Testing ethical impact assessment for nano risk governance [version 3; peer review: 3 approved, 1 approved with reservations]. Open Research Europe 2024, 3:170. 10.12688/openreseurope.16194.3

UNESCO Ethical Impact Assessment Tool of the Recommendation on Ethics of Artificial Intelligence (<https://www.unesco.org/en/articles/ethical-impact-assessment-tool-recommendation-ethics-artificial-intelligence>)