11.30 - 13.00 @The Pad Room

Social and Human Centered XR Technologies for One-Health

organised by

SUN

This workshop is to be organized by the EU Horizon Project **SUN (Social and Human Centered XR)**, aiming to investigating and developing extended reality (XR) solutions that integrate the physical and the virtual world in a convincing way, from a human and social perspective.

In the past decades there have been witnessed significant advancement of digital technologies in the health sector for better treatment and services. Extended Reality solutions, as a good example, also expanded their applications to the health care sector. In the SUN project, XR technologies are being applied for the rehabilitation of patients from and the communication for people with serious mobility and verbal communication diseases. Various technologies including 3D acquisition, wearable sensors, haptic interfaces and AI will be implemented to achieve seamless and convincing interaction between physical and virtual environments.

This panel will introduce the research outcome of the SUN project, including technical innovations, application scenarios, patient experience and opinions, and legal and ethical requirements. It will be multi-disciplinary with the engagement of technical engineers, patient organizations, legal and ethical researchers to discuss domains of technical innovation, patient rights and experience, legal and ethical requirements, and inclusive measures for better health and care service.

Confirmed Speakers

- Giuseppe Amato (CNR): The Social and hUman ceNtered XR (SUN) project
- Federico Posteraro (ASL-NO): The Validation Pilots for An Extended Reality Integrated Platform
- Daniele Leonardis (SSSA): Rehabilitation in Immersive XR: Sensing and Tactile Feedback Interfaces (Demonstration)
- Vincent Mendez (EPFL): New Interfaces for Assistive Devices to Help Persons with Upper Limb Disabilities (Demonstration)
- Devin Bayer (OAC): Patient Voices in XR Rehabilitation: Benefits, Challenges, and Future Hopes
- Cong Yao (VUB): XR at the Crossroads: Policy, Privacy, and Ethical Challenges in Immersive Technologies

(cont'd)

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Questions for Discussion

- Does the use of XR poses to users new privacy and security concerns?
- How should emerging XR-based rehabilitation tools be classified under EU Medical Device Regulation? Are current frameworks sufficient?
- From a research perspective, what are the biggest hurdles in aligning XR prototypes with medical device regulations?
- Which patient populations could benefit most from XR rehabilitation?
- How should XR solutions be tailored to address diverse patient needs (e.g., cognitive vs. motor rehabilitation)?
- Beyond data security, what ethical dilemmas arise with XR rehabilitation (e.g., informed consent, digital dependency, accessibility disparities)?