Ethical and societal implications of recent advances in neurotechnology

Over the last decade unprecedented progress has been made in methodological developments, permitting invasive and non-invasive registration and manipulation of the brain and its activity in animals and humans. These methodological advances expanded dramatically the options to interfere with the functions of the human nervous system, to substitute sensory and motor functions, to decode neuronal activity for the assessment of brain states and to generate brain organoids that mimic early embryonic development.

In parallel, advances in the fields of Artificial Intelligence are about to expand human cognitive and executive functions and to replace genuine human competences in multiple domains.

The purpose of the workshop is to:

i) provide a comprehensive overview of the state of the art in the field of neurotechnology,

ii) investigate the potential of the new methods in basic research and clinical applications and

iii) assess the societal and ethical implications of these new developments.