

*Advances in brain-computer interface technology and insights from an ethical assessment study*

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Brain-computer interfaces (BCI) are a group of technologies that connect the brain and the computer via invasive or non-invasive electrodes, allowing persons to act or communicate without using any movement of their body. Significant scientific advances in recent years have brought the BCI technology nearer to real-world application in health care, but also in other areas of society. Within an international research project we currently focus on the ethical, legal and social implications of new BCI technology. Qualitative interviews with healthy and disabled BCI users have shed light on the ways these users experience acting via a BCI tool. This has repercussions on the ethical discussion on agency, autonomy and responsibility in BCI-mediated actions. In this presentation, I will summarize the current state of BCI technology and highlight some of the salient neuroethical issues emerging from this technology and its potentially wide application in society.