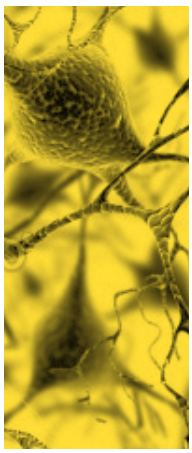
BEYONDVIS "When attention meets perception": Non invasive Neurostimulation technologies to boost visual perception in intact subjects and cerebrally damaged patients

Austria Canada Finland France Germany Italy Israel Luxemburg Poland Romania Spain

Project Description Our ability to consciously discriminate what we see, hear or feel emerges out of well-defined large-scale brain networks. Studies suggests that those systems are not deterministically sculpted in stone and that can be dynamically fine-tuned and adapted to novel demands. It is such flexibility that allows us to benefit from practice to learn new skills, improve performance, and after lesions, provide patients with chances to recover. Increasing evidence indicates that our ability to orient attention in space, i.e., to concentrate our perceptual resources- in specific areas of the visual environment, holds the power to modulate visual systems and influences the odds to detect, categorize, discriminate or identify objects, faces and events occurring in attended regions of the space. BEYONDVIS will use neuroimaging to explore the architecture and temporal dynamics of the brain networks involved in attentional orienting able to induce ameliorations in conscious visual performance. For both, healthy participants and patients afflicted by visual field defects, we will develop novel training/ rehabilitation strategies that based on the use of non-invasive brain neurostimulation technologies alone or combined with traditional endogenous or exogenous cuing might allow for an efficient manipulation of attentional networks and drive significant performance increases in conscious vision.



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