

## **CAN VISUALLY-IMPAIRED PERSONS USE SOUND TO RECONSTRUCT THEIR ENVIRONMENT?**

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According to the World Health Organization, there are an estimated 285 million people living with visual impairment worldwide – 39 million of whom are completely blind. But what truly happens to the brains of these individuals when such a vital physiological sense is compromised? Cross-modal neuroplasticity is the adaptive reorganization of neurons to integrate sensory system function – a phenomenon known to occur in many visually-impaired persons. The question arises – can we take advantage of this neural reorganization to translate one's visual environment into sound? Kyle Joseph Edmunds presents his work in Iceland on the Sound of Vision project: a Horizon 2020 collaboration with the Icelandic Center for Neurophysiology at Háskólinn í Reykjavík. In his talk, he will describe the use of high-density 256-channel EEG with acoustic and haptic components of the Sound of Vision system, detailing the underlying cognitive mechanisms behind the translation of sound into visual working memory in visually-impaired persons.