

Relating human conscious perception to the brain at unprecedented spatial resolution

State of the art neuroimaging has enabled a research team led by HBP scientist Rainer Goebel at University of Maastricht to map neural correlates of conscious visual perception at a never before seen level of detail. Using Ultra-Highfield MRI the team was able to identify specialized columnar clusters within the so-called Human Motion Complex that respond when specific kinds of motion are consciously perceived. The results have been published in the journal PNAS.

In the HBP, Goebel's team is working on building a multi-area brain model of human visual perception, cognition and action that will be simulated in the computer and used to control humanoid robots in a closed-loop embodied system. ([More information](#)) To ensure that the operation of the brain model is indeed emulating what the brain is doing, detailed knowledge of how the human brain functions is needed. The work brings this ambitious project one step further by providing crucial insights about how the human brain constructs meaningful unambiguous conscious precepts from ambiguous physical input data.

Read a detailed account of the experiment at:

<https://www.maastrichtuniversity.nl/news/marian-schneider-relating-human-conscious-perception-brain-unprecedented-spatial-resolution>

Watch: [A video showing the ambiguous stimuli and the brain response over time](#)

Original Publication

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De Martino, and Rainer Goebel: **Columnar clusters in the human motion complex reflect consciously perceived motion axis.** *PNAS*, Mar 2019 116:5096-5101 DOI: 10.1073/pnas.1814504116

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