

How does body movement help with perceiving the beat in complex rhythms?

Ségolène M. R. Guérin, Emmanuel Coulon, Tomas Lenc and Sylvie Nozaradan



✉ segolene.guerin@uclouvain.be

🐦 @SegoleneGuerin

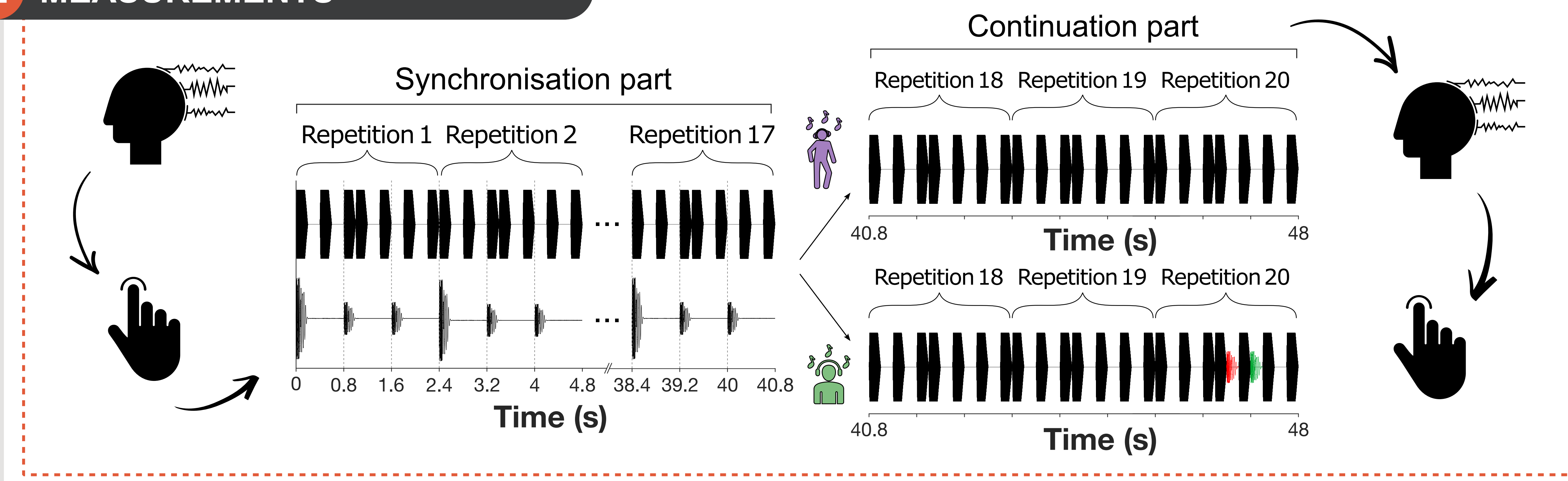
1 RHYTHM AND MOVEMENT

- Increasing evidence suggests that, when listening to musical rhythms, the brain **transforms the rhythmic input** into a set of nested, periodic pulse-like beats, referred to as the meter (Nozaradan et al., 2018)
- This internal representation is moulded by a **number of cognitive and brain processes** occurring on different time scales: subcortical nonlinearities, biophysical properties of the neural networks, recent context, etc. (Large et al., 2015; Lenc et al., 2020; Rajendran et al., 2017)
- Notably, through audio–motor connections, the **motor system could shape** the way in which auditory information is processed by the brain (e.g., Patel & Iversen, 2014)

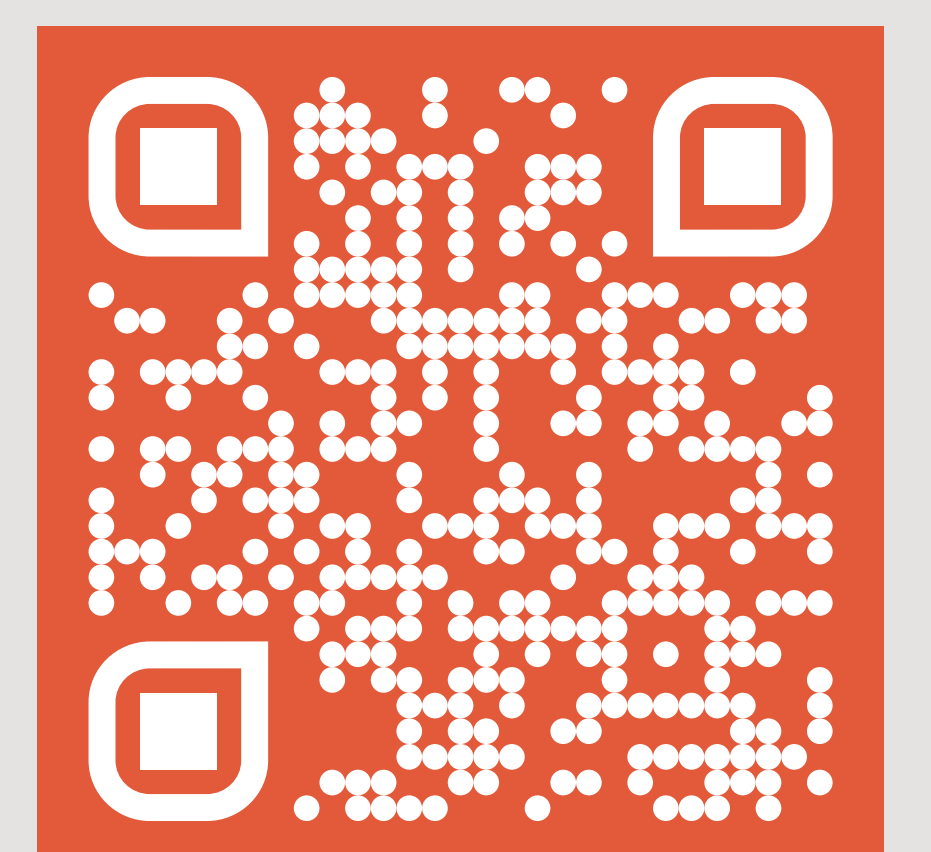


Aim: To provide neuroscientific evidence that active body movements are critical in learning to perceive a metrical structure

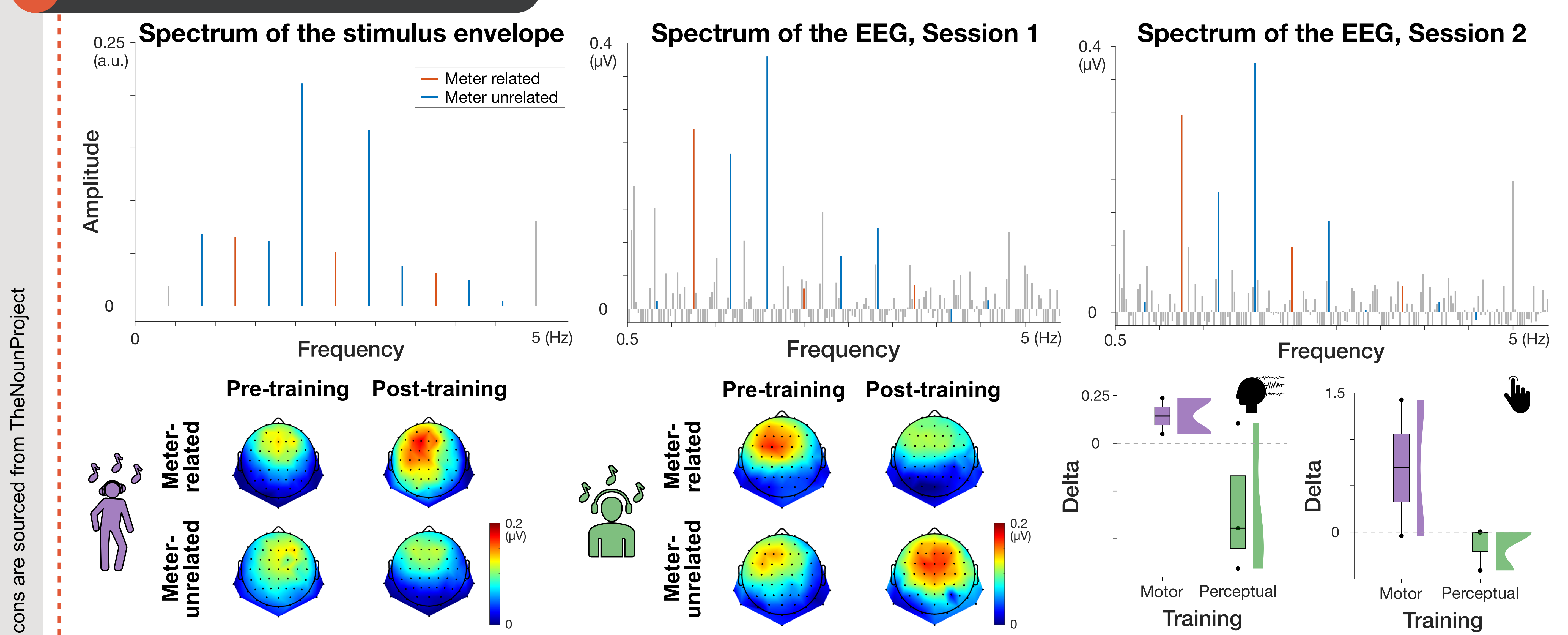
2 MEASUREMENTS



Scan to download the poster!



3 PILOT DATA



Icons are sourced from TheNounProject

Large, E. W., Herrera, J. A., & Velasco, M. J. (2015). Neural networks for beat perception in musical rhythm. *Frontiers in Systems Neuroscience*, 9, Article 159.
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 Nozaradan, S., Keller, P. E., Rossion, B., & Mouraux, A. (2018). EEG frequency-tagging and input–output comparison in rhythm perception. *Brain Topography*, 31, 153–160.
 Patel, A. D., & Iversen, J. R. (2014). The evolutionary neuroscience of musical beat perception: The Action Simulation for Auditory Prediction (ASAP) hypothesis. *Frontiers in Systems Neuroscience*, 8, Article 57.
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