Laurent U. Perrinet

Researcher in Computational Neuroscience
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Research interests

I am interested in bridging the gap between the structure and the function of neural systems by showing how they optimally adapt to the statistics of natural environments.

Areas of specialization

Spatio-temporal inference in low-level sensory areas. Unsupervised learning in topographic maps. Predictive processes and active perception.

Education

2014 HDR Aix-Marseille Université

1999-2003 PhD in Cognitive Neuroscience, ONERA/DTIM, Toulouse (France)

1993 - 1998 MSc in Engineering Supaéro (Toulouse, France), one of the leading French Engineering Schools ("Grandes Ecoles"). Specialization in stochastic models for signal and image processing.

Selected publications

Journal articles

2020 Chloé Pasturel, Anna Montagnini et Laurent U Perrinet. "Humans adapt their anticipatory eye movements to the volatility of visual motion properties." **PLoS Computational Biology**.

2012 Karl Friston, Rick A. Adams, Laurent U. Perrinet and Michael Breakspear, "Perceptions as Hypotheses: Saccades as Experiments", **Frontiers in Psychology**.

2010 Laurent U. Perrinet, "Role of homeostasis in learning sparse representations", **Neural Computation**.

2004 Laurent U. Perrinet, Manuel Samuelides and Simon Thorpe, "Coding static natural images using spiking event times : do neurons cooperate?", **IEEE Transactions on Neural Networks**.

Book

2015 Gabriel Cristobal, Laurent U Perrinet et Matthias S Keil, editors. "Biologically Inspired Computer Vision." **Wiley-VCH** doi : 10.1002/9783527680863.
