

# Laurent Perrinet

Researcher in Computational Neuroscience (DR2 CNRS)

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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

2021	Victor Boutin, Angelo Franciosini, Franck Ruffier, Frédéric Chavane and Laurent U Perrinet. "Sparse Deep Predictive Coding captures contour integration capabilities of the early visual system." <b>PLoS Computational Biology</b> .
2020	Chloé Pasturel, Anna Montagnini and Laurent Perrinet. "Humans adapt their anticipatory eye movements to the volatility of visual motion properties." <b>PLoS Computational Biology</b> .
2019	Sandrine Chemla, Alexandre Reynaud, Matteo diVolo, Yann Zerlaut, Laurent Perrinet, Alain Destexhe and Frédéric Chavane. "Suppressive waves disambiguate the representation of long-range apparent motion in awake monkey V1." <b>Journal of Neuroscience</b> .
2012	Karl Friston, Rick A. Adams, Laurent Perrinet and Michael Breakspear, "Perceptions as Hypotheses: Saccades as Experiments", <b>Front in Psychology</b> .
2012	Claudio Simoncini, Laurent Perrinet, Anna Montagnini, Pascal Mamassian and Guillaume Masson, "More is not always better: dissociation between perception and action", <b>Nature Neuroscience</b> .
2010	Laurent Perrinet, "Role of homeostasis in learning sparse representations", <b>Neural Computation</b> .
2004	Laurent Perrinet, Manuel Samuelides and Simon Thorpe, "Coding static natural images using spiking event times : do neurons cooperate?", <b>IEEE Transactions on Neural Networks</b> .