



**UNIVERSIDAD  
DE GRANADA**

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Máster Universitario en  
Neurociencia Cognitiva  
y del Comportamiento

**Conferencia Inaugural "Marisa Arnedo" - Prof. Binda:  
"Plasticity of the adult visual system"**

~~Desde~~ el Mar, 30/09/2025 - 12:00

**Plasticity  
of the  
adult  
visual  
system:  
learning  
from**



**unpredictability**

**Fecha, hora y lugar:** 30 de Septiembre, 2025, 11:00, Sala de Conferencias I -  
CIMCYC

**Dr. Paola Binda**

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**Abstract:** Like most our decisions, perception combines current evidence with a priori knowledge. This predictive mode of processing is efficient, because it waives the need for representing most of the incoming sensory information: anything that can be a priori expected. However, if sensory information is not represented, we cannot learn from it, leading to the hypothesis of an antagonism between predictability and plasticity. Using ocular dominance as an established model of plasticity, and a combination of ultra-high field Magnetic Resonance imaging with psychophysiological measurements, we provided initial evidence that sensory unpredictability is sufficient to trigger short-term cortical reorganization, and that cortical plasticity is gated by subcortical modulatory inputs primarily carried through the thalamic nucleus pulvinar. Based on these findings, we propose a novel model of how experience stabilizes the sensory areas of the adult brain, and suggest innovative strategies for reopening plasticity, e.g. to treat diseases like amblyopia.