



Istituto Nazionale di Neuroscienze

Consorzio Interuniversitario di Neuroscienze



UNIVERSITÀ
DEGLI STUDI
DI TORINO



Dipartimento di Neuroscienze
'Rita Levi Montalcini'

INN Open Neuroscience Forum

April 13, 2018 h 2:00 p.m.

Aula C, Istituti Anatomici
C.so Massimo D'Azeglio 52,
Torino

Neuronal mechanisms underlying discrimination processes
between safe and harmful cues.

Anna Grosso

Dept. of Neuroscience Rita Levi Montalcini – UNITO

Abstract

Dissociating cues that predict danger from those that do not is necessary for survival. When dealing with new stimuli, it is crucial either to react with defensive responses in the presence of stimuli that resemble threats but also not to react with protective behavior to new harmless stimuli.

In this study we found that in the case of new uncertain stimuli, discriminative processes engage a subset of neurons within the lateral amygdala (LA), which are different from those engaged by fear processes. Pharmacogenetic silencing of this neuronal ensemble shifted discrimination to fear generalization. These data unravel two opposite neuronal processes which account for fear discrimination or fear processes within the LA, and suggest a potential pathophysiological mechanism of the impaired discrimination that characterizes fear-related disorders.