



ALMO COLLEGIO
BORROMEO

1561  PAVIA



UNIVERSITÀ
DI PAVIA



LECTURE IN ENGLISH

PROPOSTA FORMATIVA A.A. 2026 2027 ALMO COLLEGIO BORROMEO

info



Almo Collegio Borromeo

Piazza Collegio Borromeo 9



INGRESSO LIBERO

PRENOTAZIONE CONSIGLIATA >

www.collegioborromeo.it



ore 18.00

martedì

22

settembre

DUEMILA 26

LECTIO MAGISTRALIS

CASELLA PRIZE

*Experience, learning
and synaptic plasticity:
core principles of brain function*

Arianna MAFFEI

PhD, Dept. of Neurobiology and Behavior
State University of New York - Stony Brook

INTRODUCE

Egidio D'ANGELO

Università di Pavia

ABSTRACT

Brain function is shaped by interactions between stimuli from the external world and the internal state of a subject. For example, the smell of food can elicit different responses if we are hungry or have just finished eating a large meal. In addition, our response to specific stimuli depends on our prior experience with them or what we have learned about them. The research has focused on investigating how experience and learning shape the connectivity and efficacy of communication between neurons in a variety of circuits including cerebellum, visual cortex and, more recently, the gustatory cortex. The goal of this work is to identify core mechanisms regulating neuronal and circuit excitability and responses to sensory experience.

The focus on this work in the gustatory cortex, a region involved in the detection and encoding of both sensory and emotional (hedonic) aspects of taste. As taste guides feeding behaviors in all mammalian species, and the neural circuits for taste are highly conserved many of the mechanisms regulating the gustatory system are shared across species. Is being presented experimental evidence for the distinct circuit mechanisms regulating taste preferences early in life and in adulthood and discuss the circuit underpinning for the association of the identity of a taste with its valence, whether it is pleasant or aversive and will also show how plasticity can modify the perception of a taste by changing it from pleasurable to aversive and our current evidence about the mechanisms for this plasticity. Results of this work inform us on the relationship between neural circuit organization, taste experience and food choices. This also demonstrate how the behavioral reaction to sensory stimuli is influenced by their positive or negative value.

