



Convegno Scientifico

## VERDE E CERVELLO

I benefici del verde nella prevenzione  
e nella cura di stress e disturbi cognitivi.

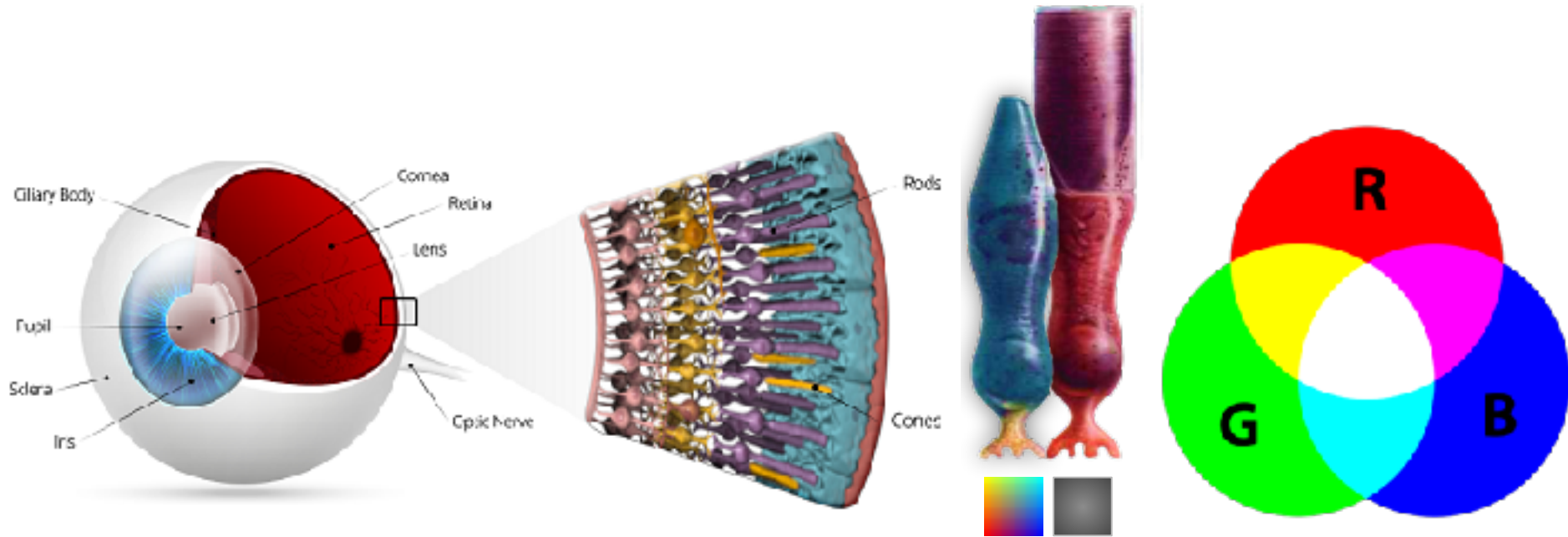
#Mati4life

# Verde e dimensione cognitiva

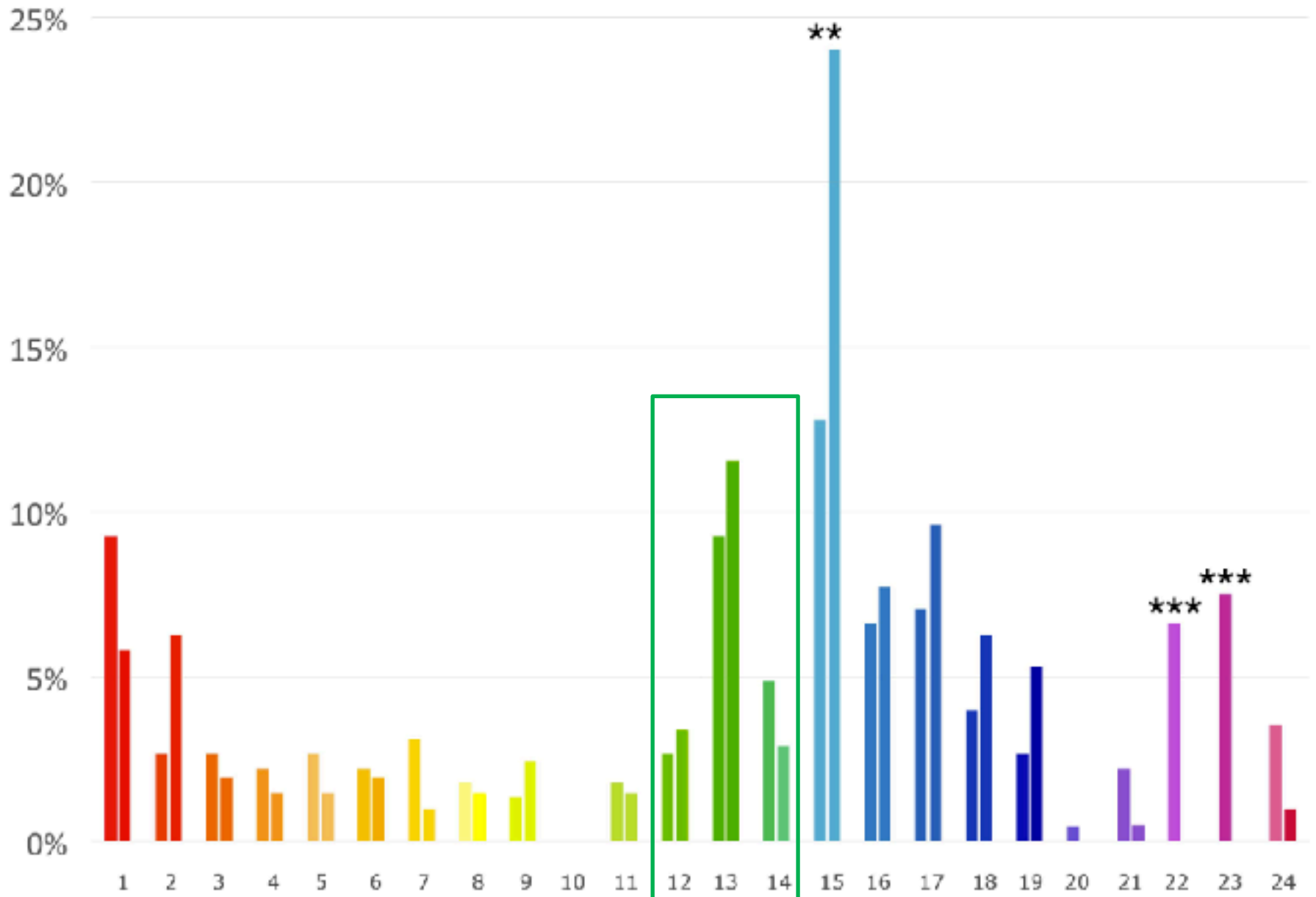
Dipartimento di Patologia Chirurgica, Medica, Molecolare e dell'Area  
Critica

**Frumento, Menicucci, Gemignani**

# Cos'è il «verde» in Psicofisiologia?

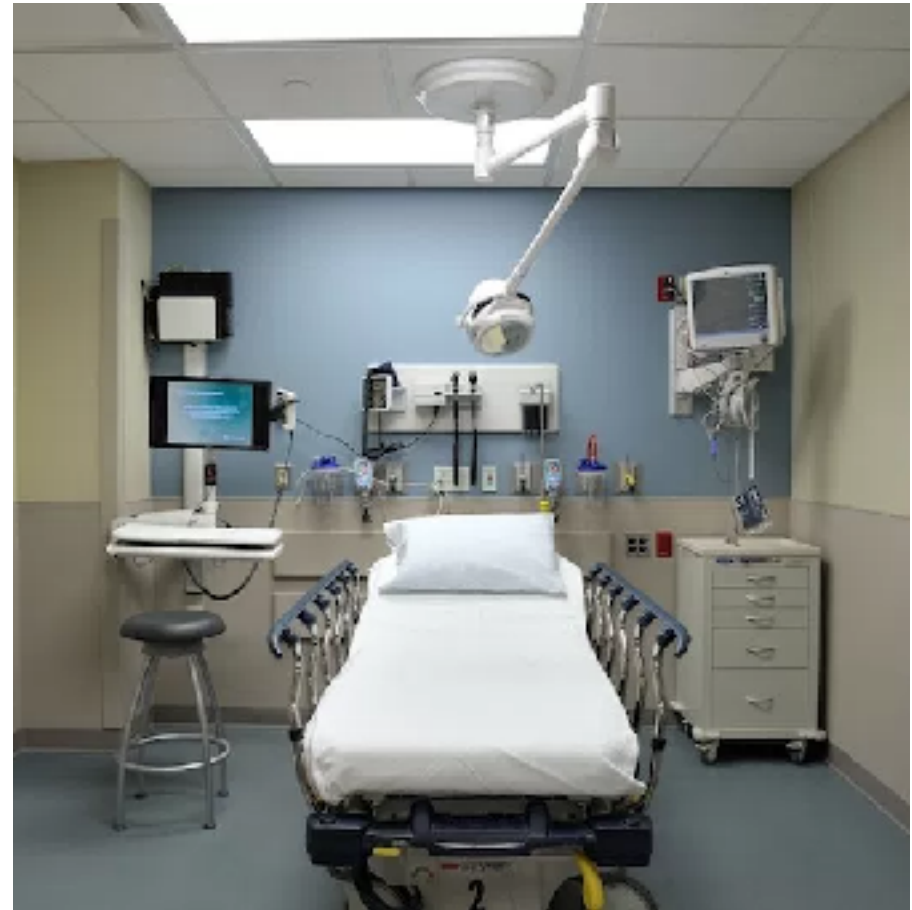


# Preferenze cromatiche: natura o cultura?



# Applicazioni cliniche

Due camere ospedaliere a confronto:  
se doveste essere ricoverati, quale preferireste?



**Anche l'occhio *il naso* vuole la sua parte...**



# Quanto, come e cosa respiriamo

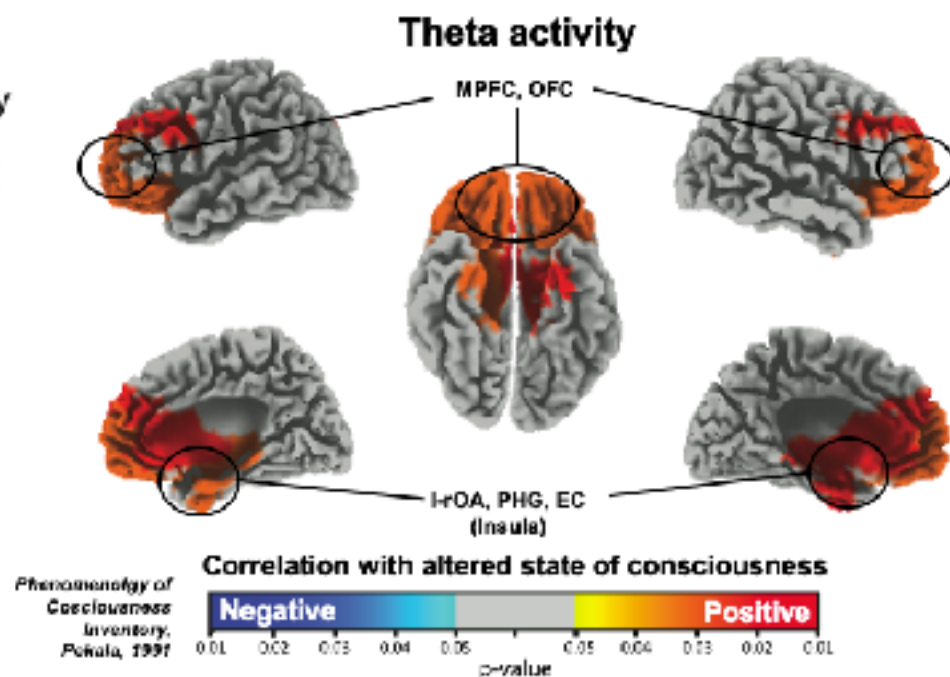
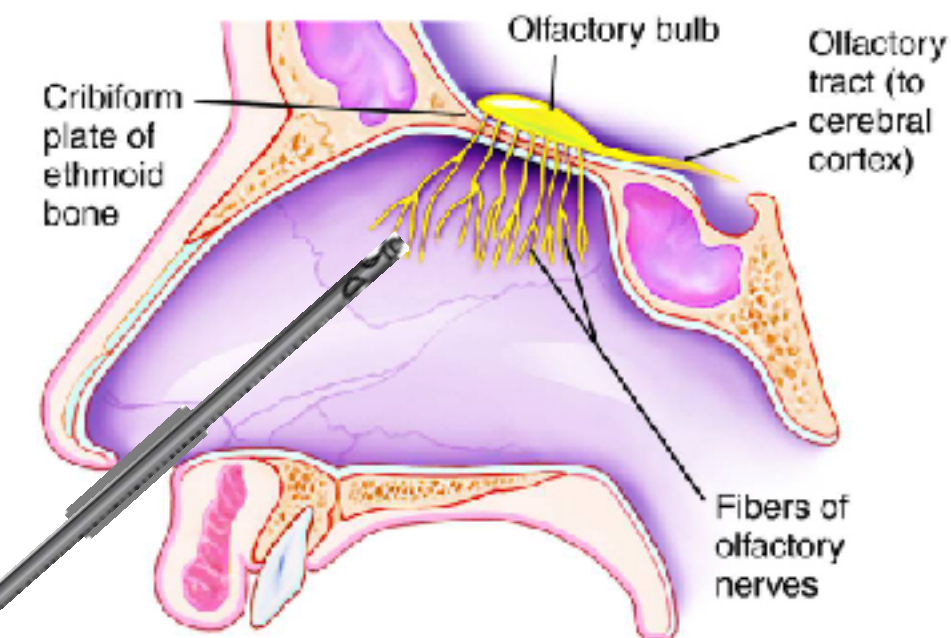


## How Breath-Control Can Change Your Life: A Systematic Review on Psycho-Physiological Correlates of Slow Breathing

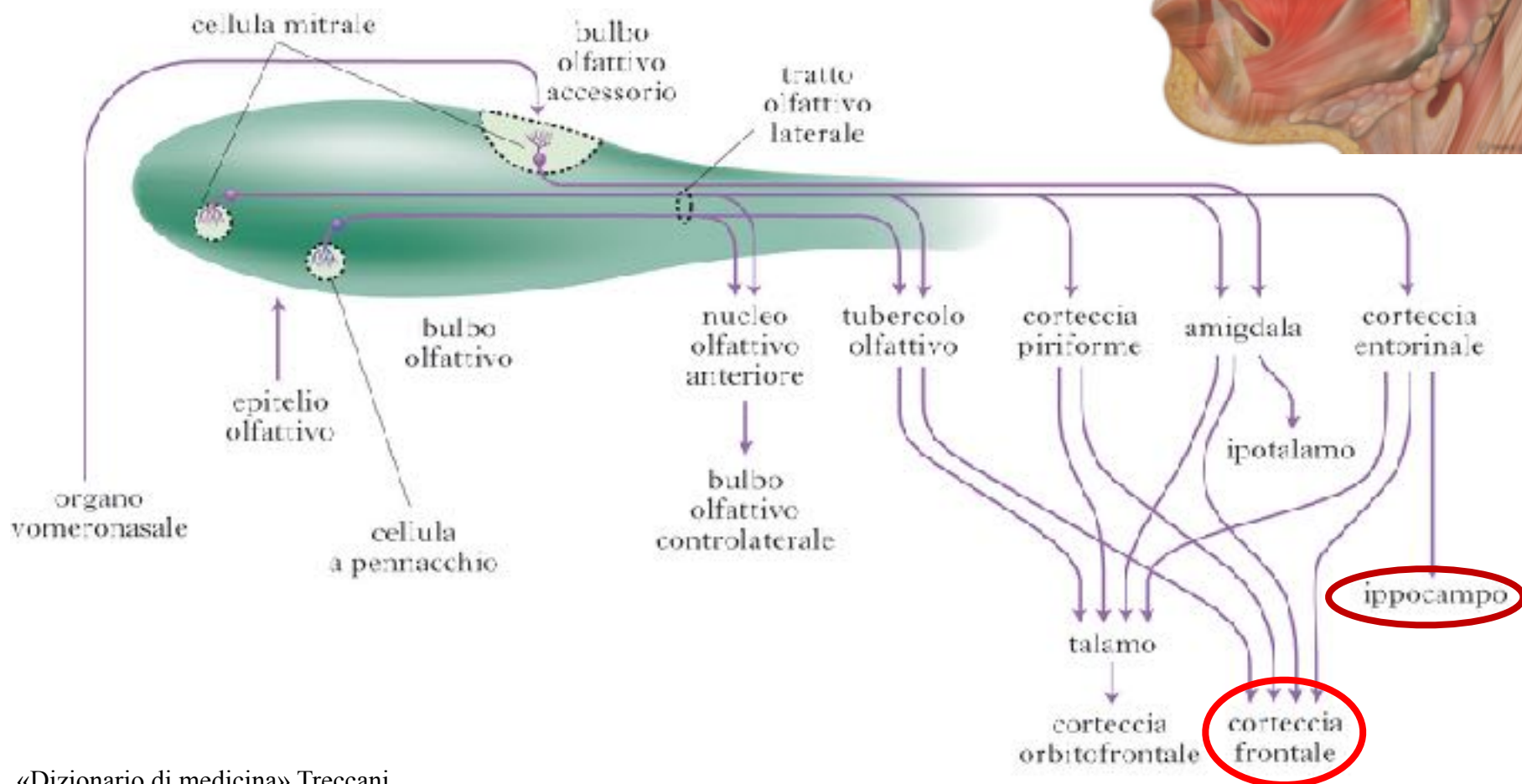
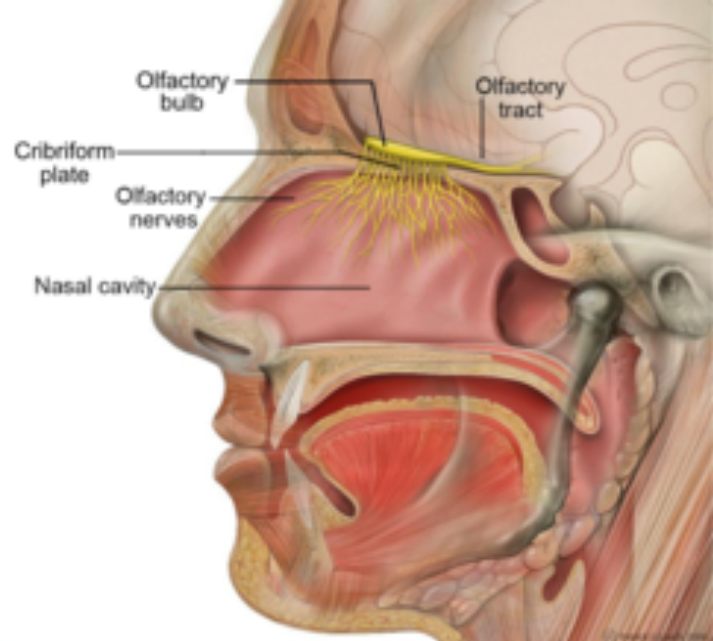
 Andrea Zaccaro<sup>1</sup>,  Andrea Piarulli<sup>1,2</sup>,  Marco Laurino<sup>3</sup>,  Erika Garbella<sup>4</sup>,  Danilo Menicucci<sup>2</sup>,  Bruno Neri<sup>2</sup> and  Angela Gemignani<sup>1,4,5\*</sup>

# Ultra-slow mechanical stimulation of olfactory epithelium modulates consciousness by slowing cerebral rhythms in humans

A. Pirulli, A. Zaccaro, M. Laurino, D. Menicucci, A. De Vito, L. Bruschini, S. Berrettini, M. Bergamasco, S. Laureys & A. Gemignani 

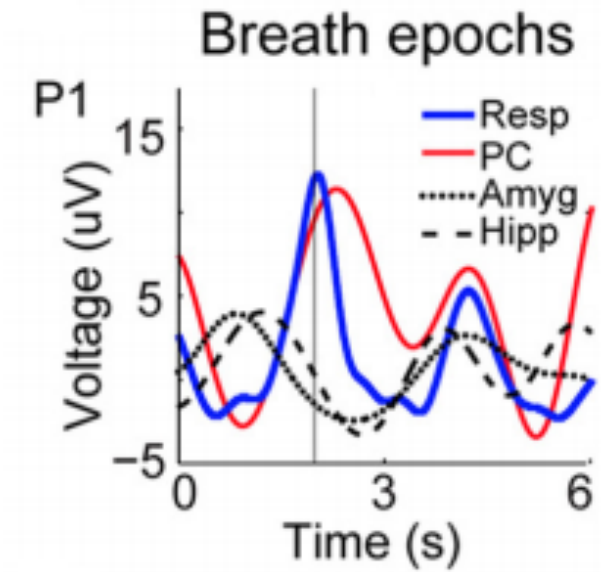
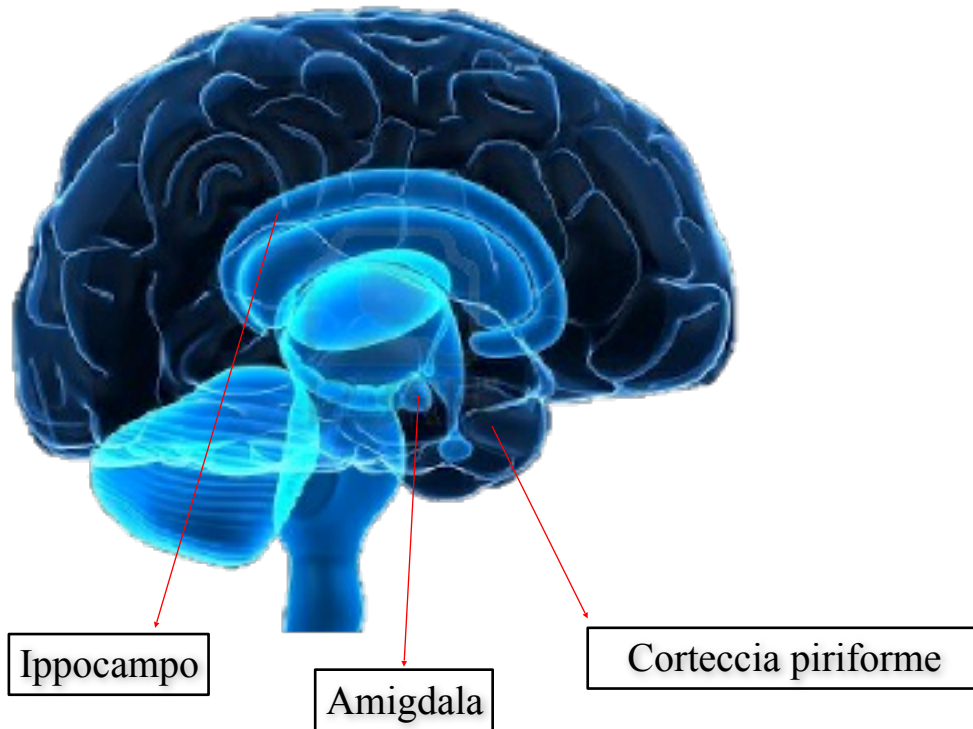


# Strutture connesse al bulbo olfattivo





# Correlati elettrofisiologici della ventilazione



Attività elettrica durante la veglia (Zelano et al., 2016)

# Verde e dimensione cognitiva



Attenzione

Logica

Problem-solving

Memoria

Creatività

# Parole-chiave della ricerca bibliografica

## Piante aromatiche

Lavender (Lavandula Angustifolia)	Patchouli (Pogostemon Cablin)
Eucalyptus (Eucalyptus Globulus)	Ginger (Zingiber Officinalis)
Peppermint (Mentha Piperita)	Rose (Rosa Damascena)
Lemon (Citrus Limonum)	Grapefruit (Citrus Paradisi)
Rosemary (Rosmarinus Officinalis)	Frankincense (Boswellia Carterii)
Orange (Citrus Sinensis)	Clary Sage (Salvia Sclarea)
Ylang ylang (Cananga Odorata)	Bergamot (Citrus Aurantium)
Vetiver (Vetiveria Zizanoides)	Tea Tree (Malaleuca Alternifolia)
Black pepper (Piper Nigrum)	Chamomile (chamaemelum nobile)
Immortelle (Helichrysum Italicum)	Geranium (Pelargonium Graveolens)
Marjoram (Origanum Majorana)	...

Petersen, 2013

## Funzioni cognitive ed emotive

**Attenzione:** attention, conflict monitoring

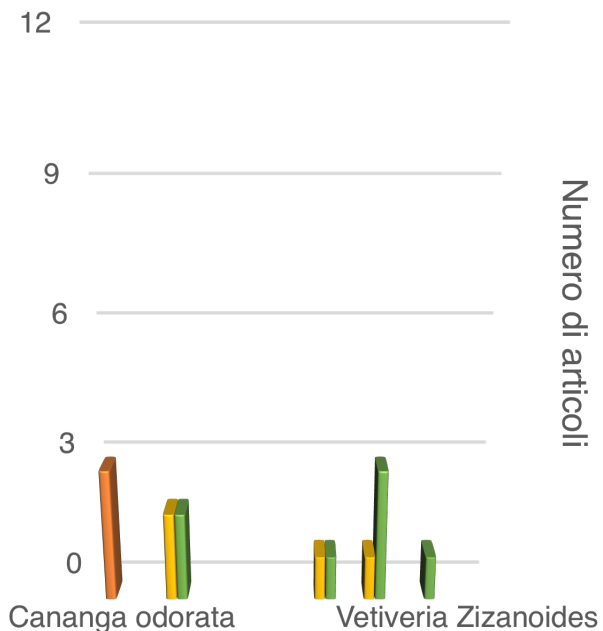
**Funzioni esecutive:** action evaluation, behavioral adjustment/behavioural adjustment, agency, anticipation, appraisal, avoidance, behavioral control/behavioural control, behavioral inhibition/behavioural inhibition, behavioral regulation/behavioural regulation, cognitive control, contingency change, decision making/decision-making, emotion control/emotional control, emotion regulation/emotional regulation, error detection, error prediction, error signaling, introspection, orientation, response selection, reversal learning, risk prediction, self-regulation/self regulation, self-consciousness/self consciousness, social adjustment, social context, social interaction, theory of mind, visuo-spatial imagery/visuospatial imagery/visual-spatial imagery/spatial imagery/visual imagery, mental imagery, working memory

**Memoria:** autobiographic/autobiographical memory, consolidation, contextual learning, contextualization, declarative memory, emotional memory, encoding, episodic learning, episodic memory, explicit memory, memory storage, ongoing memory, retention, retrieval, short-term memory, spatial learning

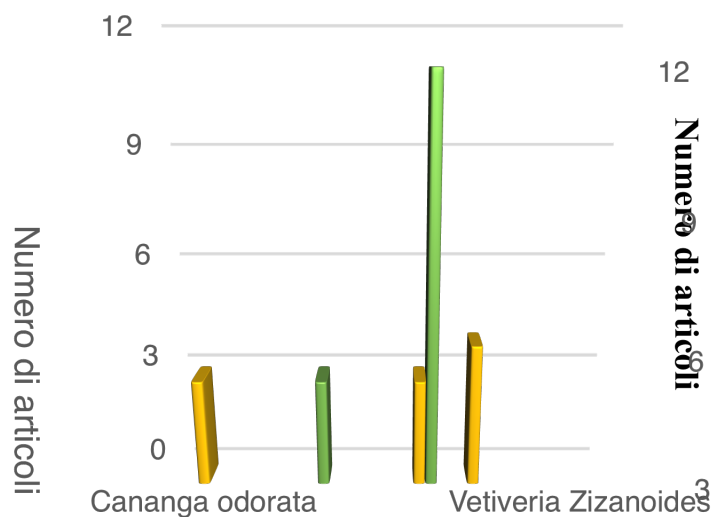
[www.brain-maps.com](http://www.brain-maps.com), [www.cognitiveatlas.org](http://www.cognitiveatlas.org)

# Risultati della ricerca bibliografica

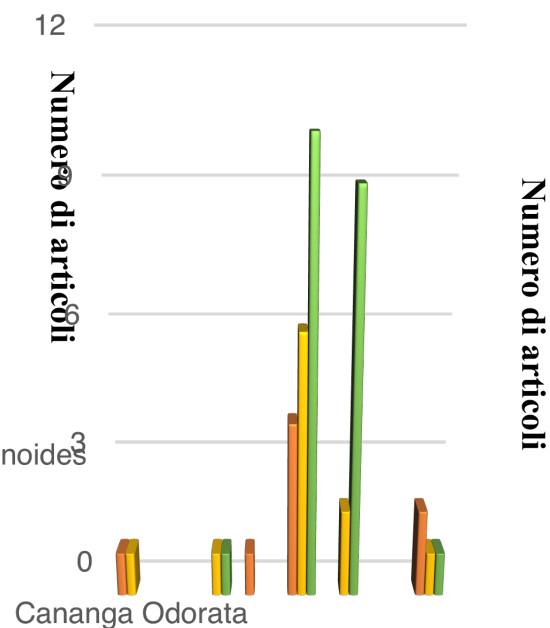
## MEMORIA



## UMORE



## ATTENZIONE



\*X<sup>2</sup> test: p < 0.05

■ Compromissione      ■ Nessun effetto  
■ Potenziamento

# Applicazioni reali e potenziali



# Esperimento fai-da-te, in tutti i sensi



**B**  **D H Ψ** *LAB*