

PILLOLE DI IA: LA NUOVA FRONTIERA

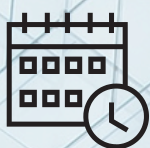
PROF. SANTIAGO MARCO

Dr. Santiago Marco is Full Professor at the department of Electronics and Biomedical Engineering in the University of Barcelona (UB) and Group Leader at the Institute for Bioengineering of Catalonia. He obtained his degree in and his PhD in Physics from the UB in 1988 and 1993 respectively. In 1994 he was a post-doc at the University of Rome "Tor Vergata", working on Data Processing for Artificial Olfaction. In 2004 he was in a sabbatical leave at the EADS-Corporate Research in Munich working in Ion Mobility Spectrometry.



An introduction to Artificial Olfaction: advances and open problems

Artificial olfaction seeks to emulate the human sense of smell by integrating chemical sensor arrays with advanced data processing algorithms. Fundamentally, this involves the detection and identification of volatile compounds, mirroring biological olfactory processes. A variety of sensor technologies are employed including metal-oxide-semiconductor (MOS) devices, conducting polymers, and quartz crystal microbalances, each offering distinct advantages in sensitivity and selectivity. Odor perception in artificial systems is achieved through pattern recognition, where complex sensor responses are interpreted to identify specific odors. Applications span environmental monitoring, food quality control, medical diagnostics, and security. However, important challenges remain due to the high cost in building calibration models. While a large body of knowledge has been developed to counteract system drift, and the transfer of predictive models across different instruments and application scenarios, their use has been mostly limited to laboratory scenarios. Their use in field conditions is still underexplored.



25 MARZO 2025
ORE 11:00



Online
CLICK ON

MS TEAMS LINK



Università di Chieti-Pescara, Polo Didattico di Pescara
Viale Pindaro 42, 65127 Pescara
Aula del Consiglio del Dipartimento INGEO
Scala azzurra, 1° piano