

XLIV Annual School 2025 GNB



Unlocking the Mind and Emotions: Cutting-Edge Bioengineering Techniques from Computational Physiology to Clinical Applications

CHAIR:

Laura Astolfi (Sapienza –Uniroma1)

Luca Mainardi (POLIMI)

Enzo Pasquale Scilingo (UNIFI)





PROGRAM

Monday, September 15th

Introduction to neurophysiology of emotions		
9.00-9.30	General introduction	Astolfi, Mainardi, Scilingo
9.30-10.30	Neurophysiology of emotions: basic mechanisms and neural circuits	Marco Tamietto– UNITO (TBC)
10.30-11.00	Coffee break	
11.00-11.45	Theories and computational models of emotions	Francesca Benuzzi – UNIMORE
11.45-12.30	Emotional disorders: neurobiological and clinical aspects	Claudio Gentili (clinico) Scuola di Psicologia Università di Padova
12.30-14.00	Lunch Break	
14.00-14.45	Social emotions and neurophysiology: mechanisms of empathy and social interaction	Angela Ciaramidaro Dipartimento di Scienze Biomediche, Metaboliche e Neuroscienze - UNIMORE
14.45-15.30	Mindfulness, emotion regulation and consciousness	Angelo Gemignani (clinico UNIPI)
15.30-18.00	Talks and hands-on session	

PROGRAM

Tuesday, September 16th

Techniques and methodologies for measuring emotions		
9.00-9.45	Emotion recognition based on physiological and behavioural signals	ANNA BIANCHI Politecnico di Milano
9.45-10.30	Methodologies for the information-theoretic analysis of physiological time series	Luca Faes UNIPA
10.30-11.00	Coffee break	
11.00-11.45	Integration of central and peripheral data for emotion measurement: multimodal approaches	RICCARDO BARBIERI Politecnico di Milano
11.45-12.30	Advanced computational techniques for emotion analysis: point-process and dynamic multivariate models	Gaetano Valenza (UNIFI)
12.30-14.00	Lunch Break	
14.00-14.45	Synchronization techniques and hyperscanning: advances in network physiology and neuroscience	Guillame Dumas Faculty of Medicine, Université de Montréal, Canada (Remoto)
14.45-18.00	Talks and hands-on session	

PROGRAM

Wednesday, September 17th

Advanced technologies for emotion measurement		
9.00-9.45	Wearable technologies for emotion monitoring: measuring physiological and behavioral signals	Antonio Lanatà UNIFI
9.45-10.30	Infrared thermography: a contactless technique for emotion measurement	Arcangelo Merla (Università degli Studi G. d'Annunzio di Chieti-Pescara)
10.30-11.00	Coffee break	
11.00-11.45	Radiofrequency radar: a cutting-edge contactless method	Marco Mercuri (Università Mediterranea Reggio Calabria)
11.45-12.30	Video-photoplethysmography: a contactless approach	CHRISTOPH HOOG ANTINK TU Darmstadt (Germany)
12.30-14.00	Lunch Break	
14.00-14.45	Speech analysis: a key contactless technique for emotion detection	Nicola Vanello (UNIFI)
15.30- 16.30	Lectio magistralis	
16.30-18.00	Talks and hands-on session	

PROGRAM

Thursday, September 18th

Applications		
9.00-9.45	Neuromarketing	VINCENZO RUSSO IULM - Milano
9.45-10.30	AI in affective computing	Luca Citi University of Essex (UK)
10.30-11.00	Coffee break	
11.00-12.30	Assistive technology and social robotics + demo Abel + demo icub	Agnieszka Wykowska IIT (Genova)
12.30-14.00	Lunch Break	
14.00-14.45	Synchronization and biofeedback	Jlenia Toppi - Università Sapienza Roma
14.45-18.00	Talks and hands-on session	
18.0-20.00	Award Ceremony and Closing Aperitif	



Italy, Tuscany, Pisa

[https://www.youtube.com/watch?v=YuGW -V WPg](https://www.youtube.com/watch?v=YuGW-V-WPg)