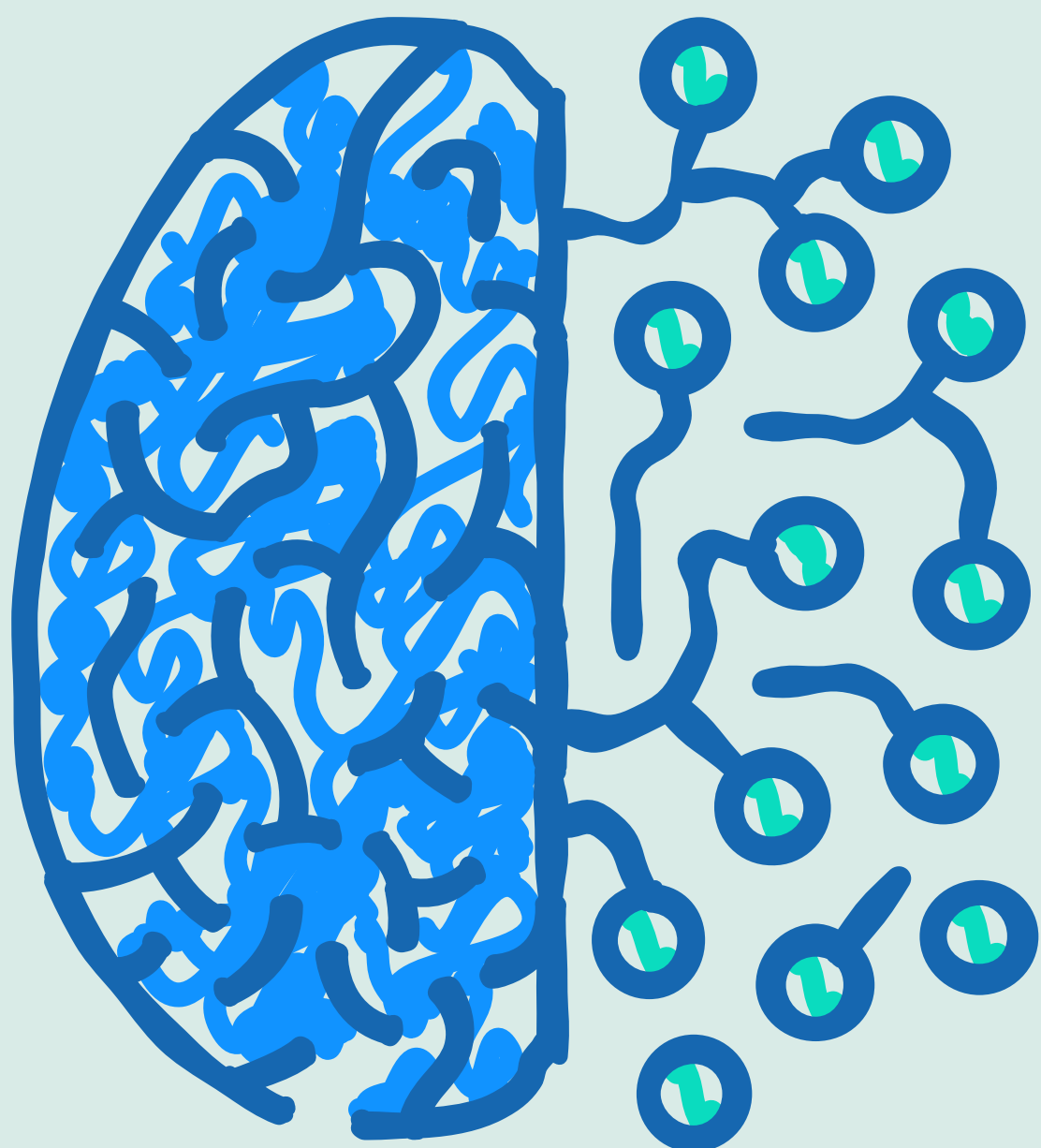## THE ITALIAN NETWORK OF COMPUTATIONAL PSYCHIATRY

COMPUTATIONAL MODELING OF MENTAL HEALTH

TRAJECTORIES OF RISK, ILLNESS, AND RESILIENCE

III COMPUTATIONAL PSYCHIATRY DAY

Bari, 4-5 November 2025
Aula Cossu – Palazzo Ateneo
Via Scipione Crisanzio, 1, Bari (Italy)

Despite growing efforts to predict and prevent psychiatric disorders, risk trajectories and resilience mechanisms remain difficult to define at the individual level. Computational techniques are a powerful tool to model vulnerability and adaptation over time, integrating clinical, behavioral, and contextual data through supervised, unsupervised, and probabilistic approaches. This event brings together leading scientists and clinicians to explore how computational models can move beyond categorical diagnoses and support early, personalized strategies for mental health care.
Join us to explore how computational models are reshaping the understanding, prediction, and treatment of psychopathology.

14.30-15.00. **Authorities**
Official greetings

15.00-15.30. **Linda A. Antonucci, PhD - Associate professor of clinical psychology**
(Department of Translational Biomedicine and Neuroscience, University of Bari)
Introduction to the congress and updates on findings from the ACToReMark project

PART 1: THEORY-DRIVEN APPROACHES

15.30-16.00. **Paolo Ossola, MD - Associate professor of psychiatry**
(Department of Medicine and Surgery, University of Parma)
Attentional control in decision making: drift diffusion models

16.00-16.30. **Rodolfo Rossi, MD, PhD - Assistant professor of clinical psychology**
(Department of Medicine and Surgery, University of Rome Tor Vergata)
Computational models of psychosis: insights into belief updating mechanisms and delusion formation

16.30-17.00. **COFFEE BREAK**

17.00-17.30. **Chiara Montemitro, MD, PhD - Assistant professor of psychiatry**
(Department of Neuroscience and Rehabilitation, University of Ferrara)
Drunk on choices: navigating reward-based decision making in substance use disorders

17.30-18.30. **Martin Paulus, MD, PhD - Adjunct professor of psychiatry; Full professor of neuroscience; Scientific director**
(Department of Psychiatry, UC San Diego; Oxley College of Health and Natural Sciences, University of Tulsa;
Laureate Institute for Brain Research, University of Tulsa)
Using GPT embeddings of EHR data to generate a dynamical systems approach for mood disorders

18.30-18.45. **Discussion and conclusions**

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WEDNESDAY, 5th NOVEMBER 2025

PART 2: DATA-DRIVEN APPROACHES

09.00-09.30. **Alessandra Raio, PhD - Post-doctoral fellow**
(Department of Translational Biomedicine and Neuroscience, University of Bari)
Introduction to machine learning techniques and their application to psychotic disorders

09.30-10.00. **Alessandro Pigoni, MD, PhD - Research fellow**
(Department of Neuroscience and Mental Health, IRCCS Ca' Granda, Milano University Hospital)
Prediction of suicide with machine learning: promises and pitfalls

10.00-10.30. **Filippo Corponi, MD, MScR, PhD - Research fellow**
(Imperial College London)
Neural networks and self-supervised learning in affective disorders

10.30-11.00. **COFFEE BREAK**

11.00-11.30. **Martino Belvederi Murri, MD - Associate professor of psychiatry**
(Department of Neuroscience and Rehabilitation, University of Ferrara)
Socio-demographic and biological risk factors: a multi-level approach

11.30-13.00. **Young Computationals**
Short communications and pleas for collaborations

13.00-13.30. **Discussion and conclusions**

13.30-14.30. **LUNCH BREAK AND POSTER SESSION**