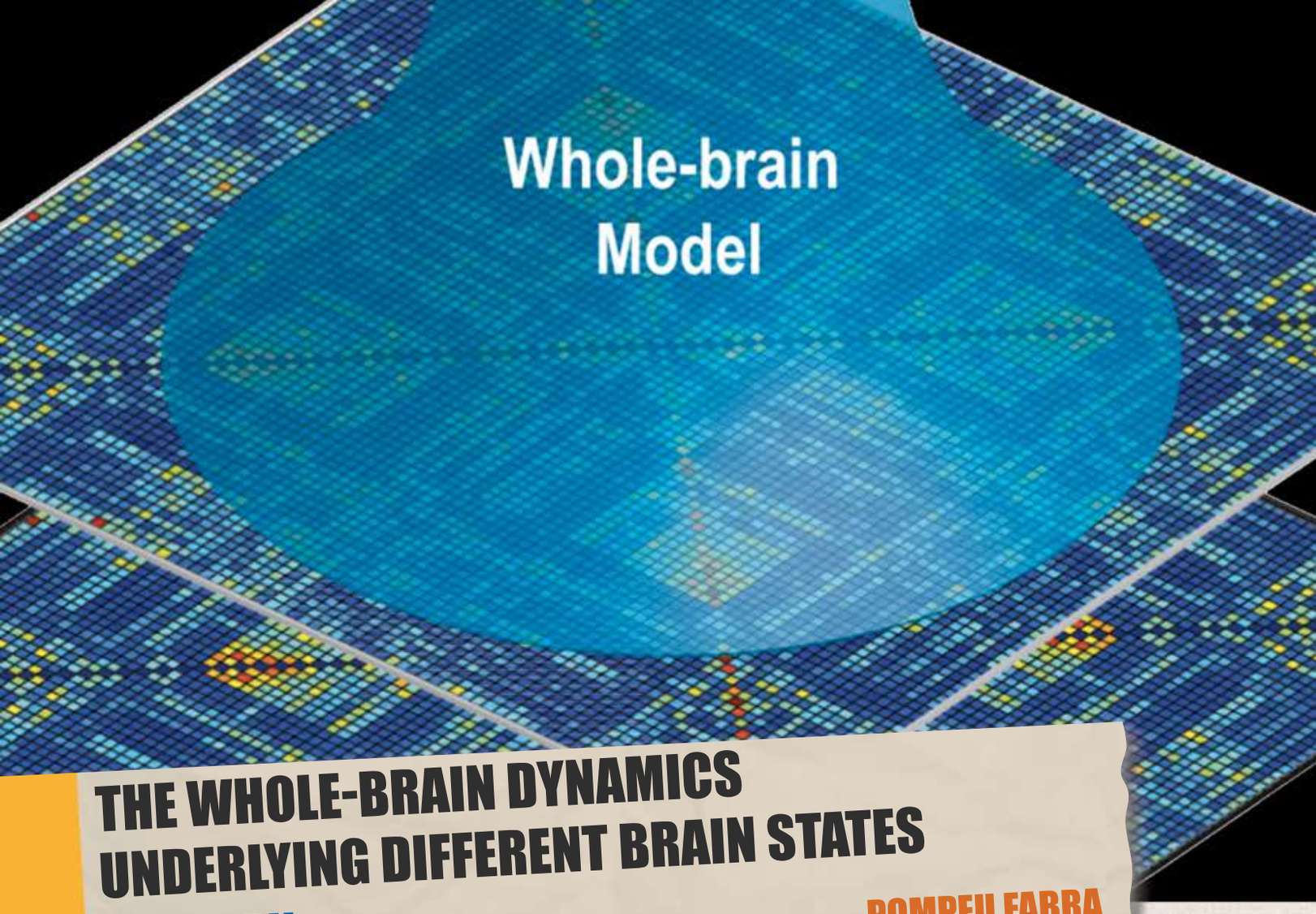

THE WHOLE-BRAIN DYNAMICS UNDERLYING DIFFERENT BRAIN STATES

A TALK BY GUSTAVO DECO

POMPEU FABRA UNIVERSITY

14 MARZO

14:30

AULA SEMINARI VIMM
FONDAZIONE RICERCA BIOMEDICA AVANZATA
VIA ORUS, 2
PADOVA

A given brain state could be defined by the broadness of communication, i.e. the dynamical complexity of the underlying network activity sustained by a static structural anatomical connectome. Here, we review whole-brain dynamics and computational modeling aiming to address this important problem.

We propose that combining this powerful new data-driven framework with a causal whole-brain computational model can provide novel insights into underlying mechanisms of different brain states. Further more, we will discuss how to use the present framework for not only describing healthy brain states but also its breaksdown in disease.

Gustavo Deco is Research Professor at the Institució Catalana de Recerca i Estudis Avançats (ICREA) and Professor (Catedrático) at the Pompeu Fabra University (UPF) where he leads the Computational Neuroscience group. He is also Director of the Center of Brain and Cognition (UPF). In 1987 he received his PhD in Physics for his thesis on Relativistic Atomic Collisions. In 1987, he was a postdoc at the University of Bordeaux in France. From 1988 to 1990, he obtained a postdoc of the Alexander von Humboldt Foundation at the University of Giessen in Germany. From 1990 to 2003, he lead the Computational Neuroscience Group at Siemens Corporate Research Center in Munich, Germany. He obtained in 1997 his Habilitation (maximal academical degree in Germany) in Computer Science (Dr. rer. nat. habil.) at the Technical University of Munich for his thesis on Neural Learning. In 2001, he received his PhD in Psychology at the Ludwig-Maximilians-University of Munich.

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