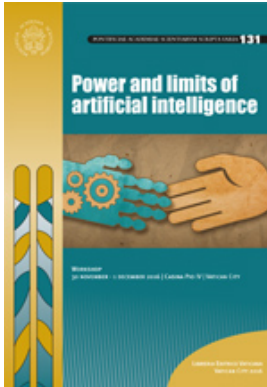




Power and Limits of Artificial Intelligence



Proceedings of the Workshop
Power and Limits of Artificial Intelligence
30 November-1 December 2016
Scripta Varia 132
Vatican City, 2017
ISBN 978-88-7761-111-6

Word of Welcome

Werner Arber

Welcome Greetings

Marcelo Sánchez Sorondo

Outline of the Workshop

Stanislas Dehaene

Artificial Intelligence – Big Achievements and Huge Questions Viewed from Mathematics

Cédric Villani, Institut Henri Poincaré, PAS

The Cerebral Cortex: An Evolutionary Breakthrough

Wolf Singer, Strüngmann Institute, Frankfurt, PAS

Breaking the Gap Between AI and Human Intelligence: What Are We Missing?

Yann LeCun, Facebook

Comment: The Ethics of Artificial Intelligence

Stephen Hawking, University of Cambridge (read by Prof. Hertog)

Optimal Strategies for Decision-Making and their Neural Basis

Alexandre Pouget, Université de Genève

Building Machines That Learn and Think Like People

Josh Tenenbaum, MIT

Towards Artificial General Intelligence

Demis Hassabis, Google DeepMind

Motivations and Drives Are Computationally Messy

Patricia Churchland, UCSD, California

Ghost in the Machine

Olaf Blanke, EPFL

What is Consciousness, and Could Machines Have It?

Stanislas Dehaene, Collège de France, PAS

What Really Matters: Children's Inferences About Learning, Trying and Caring

Laura Schulz, MIT

Artificial Intelligence and Human Minds: Perspectives From Young Children

Elizabeth Spelke, Harvard

Neurotechnology for Human Benefit and the Impact of AI

John Donoghue, Wyss Center for Bio and Neuroengineering, Geneva

Collaborative Human-Robot Autonomy

Manuela M. Veloso, Carnegie Mellon University

Who Am I? The Immersed First Personal View

Laurie Paul, North Carolina Chapel Hill

Children and Robots

Antonio Battro