

Humboldt Kolleg

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Global Challenges of the 21st Century

1) *Technological development and human health/ quality of life*

2) *Climate change and environmental sustainability*

3) *Democracy and cohesion in Europe*

The Neurobiology of Free Will

Famed 20th century philosopher Ludwig Wittgenstein once asked, 'What is left over if I subtract the fact that my arm goes up from the fact that I raise my arm?' The simple answer is volition – the idea that one chooses to voluntarily raise one's arm as opposed to it being moved by some external force. Yet, the nature of volition and especially of the so-called 'free will', is something that philosophers and scientists have debated for centuries. Now, neuroscientists are picking up the thread, trying to identify new techniques and methods to address the neural mechanisms that underlie voluntary action as opposed to habits and reflexive movement.

Maria-Luisa Flonta is a Professor of Physiology and Neurobiology at the Faculty of Biology of the University of Bucharest. She worked in the field of ionic transport through biological membranes, contributed to the discovery of thermosensible ionic channels in the neurons of the dorsal spinal ganglia and also contributed to the clarification of the chronic pain mechanisms. Prof. Flonta is the director of the Masters' programme in Neurobiology at the University of Bucharest and a corresponding member of the Romanian Academy. As a Humboldt Fellow at the Institute for Diabetes Research in Munich, Prof. Flonta discovered the cell receptors for insulin.