ÁDÁM DÉNES

Hungarian neurologist

Results for the Talentum Prize 2022 nomination: Identification of a novel form of interaction through which microglia, the main immune cells of the central nervous system sense and modulate neuronal function.

Title of his presentation: Compartment-specific modulation of neuronal and vascular responses by microglia

Date of his presentation: 7 april 2022. 12:00-12:25

CAREER

Ádám Dénes is the head of the Neuroimmunology Group at IEM-HAS (Institute for Medical Sciences). Their research group focuses on inflammatory processes, which are major contributors to the development of neurological diseases.

Ádám Dénes graduated as an Immunologist at the Eötvös Loránd University, and then obtained his PhD in Neuroendocrinology at Semmelweis University. His interests focus on the neuroregulation of immune processes and inflammatory processes in the nervous system. His research group has found that, in addition to the connections between neurons and the specialized glial cells that maintain the nervous system, the two-way communication between the nervous system and the immune system plays an important role. Since the mechanisms of inflammatory processes in the nervous system are currently unclear, the therapy of most neurological diseases is not yet solved.

The main aim of the research team's studies is to understand the processes of inflammation during adverse effects on the nervous system and to identify new therapeutic targets. The focus of the research is on a type of immune-competent cell in the brain called the microglial cell, which monitors the activity of nerve cells and plays a role in removing damaged synapses and neurons. However, growing evidence suggests that microglia also play an important role in the physiological functioning of neuronal networks, and their studies are therefore being extended to the healthy nervous system, not just the injured one. Since altered microglial function can be detected in the early stages of most neurological diseases, their findings may play a role in the diagnosis and therapy of neurological diseases.

PROFESSIONAL ACHIEVEMENTS

- 2005 – Marie Curie Training Fellowship, University of Manchester
- 2006 – 2008 Researcher, Institute of Experimental Medicine, Budapest
- 2008 – 2012 Research Fellow, University of Manchester, United Kingdom
- 2011 – Niels Lassen Award Finalist, BRAIN
- 2012 – Exceptional Research Achievement Award, University of Manchester
- 2013 – Visiting Research Fellow, University of Manchester, UK
- 2013 – Senior Research Fellow, Institute of Experimental Medicine, Budapest, Hungary
- 2013 – Zoltán Magyary Fellowship
- 2014 – Bolyai János Research Fellowship
- 2015 – Head of Cell Biology Centre, Institute of Experimental Medicine, Budapest
- 2015 – Team Leader, Institute of Experimental Medicine, Budapest, Hungary
- 2016 – Lendület Programme (Hungarian Academy of Sciences)
- 2016 – 2018 Member of the Council of Medical and Biological Sciences (NKFIH, Hungary)
- 2017 – ERC Consolidator Grant