manitoba neuroscience network

Regenerative Neuroimmunology - new generation molecular approaches to restore maladaptive inflammatory responses in the persistently inflamed CNS

SEMINAR & VISITING SPEAKER SERIES

WORLD WIDE NEURO PLATFORM

DATE

Monday, June 13, 2022
12:00 PM CST

WORLD WIDE NEURO LINK

This talk willl be hosted on zoom:

https://umanitoba.zoom.us/j/64785077447?pwd=U09TRW5vZG5mRUs5dzR1VlJxUlFsZz09

MEETING ID 647 8507 7447
PASSCODE 896383

SPEAKER

Dr. Stefano Pluchino, MD, PhD

Professor of Regenerative Neuroimmunology and
Honorary Consultant in Neurology
Dept of Clinical Neurosciences
University of Cambridge

BIO

I have received my MD and PhD degrees at the University of Siena, Italy, and additional training at Cambridge University, UK. I am currently Professor of Regenerative Neuroimmunology and Honorary Consultant in Neurology, within the Department of Clinical Neurosciences at Cambridge University.

I have a strong interest in Regenerative Neuroimmunology, and my research over the last 20 years has recalibrated the classical view that cellular grafts only function through structural cell replacement and opened up a new therapeutic avenue by which to use exogenously delivered stem cells, or even stem cell-derived acellular therapies that include extracellular vesicles and exosomes.

The Pluchino team studies whether the accumulation of neurological disability observed in patients with chronic inflammatory neurological conditions can be slowed down using next generation molecular therapies. The overarching aim is to understand the basic mechanisms that allow exogenously delivered stem cells, gene therapy vectors and/or exosomes to create an environment that preserves damaged axons or prevents neurons from dying. Such mechanisms may be harnessed and used to modulate disease states in an effort to repair and/or regenerate critical components of the nervous system.

I am recipient of numerous national and international awards, among which the Italian Multiple Sclerosis Foundation (FISM) Rita Levi-Montalcini prize for outstanding research in MS (2007), the 2009 Italian Ministry of Health Young Investigator Award and the 2010 European Research Council (ERC) Starting Independent Award.

My laboratory research on Regenerative Neuroimmunology is documented in >230 publications in international journals, including many recent articles in highly prestigious journals, such as Nature, Cell, Cell Stem Cell, Nat Cell Biol, Nat Chem Biol, PNAS, PLoS Med, Brain, Ann Neurol, and J Neurosci, as well as invited review articles in Nat Rev Neurosci, Physiol Reviews, Trends in Mol Med and Trends Immunol. My publications have to date received >14.000 citations (ISI-WOK), having a Hirsch Factor of 52.

RESEARCH

There are currently no approved therapies to slow down the accumulation of neurological disability that occurs independently of relapses in multiple sclerosis (MS). International agencies are engaging to expedite the development of novel strategies capable of modifying disease progression, abrogating persistent CNS inflammation, and support degenerating axons in people with persistent inflammation of the, such as that occurring in progressive MS.

Understanding why regeneration fails in the progressive MS brain and developing new regenerative approaches is a key priority for the Pluchino Lab.

In particular, we aim to elucidate how the immune system, in particular its cells called myeloid cells, affects brain structure and function under normal healthy conditions and in disease.

Our objective is to find how myeloid cells communicate with the central nervous system and affect tissue healing and functional recovery by stimulating mechanisms of brain plasticity mechanisms such as the generation of new nerve cells and the reduction of scar formation.

Applying combination of state-of-the-art omic technologies, and molecular approaches to study murine and human disease models of inflammation and neurodegeneration, we aim to develop experimental molecular medicines, including those with stem cells and gene therapy vectors, which slow down the accumulation of irreversible disabilities and improve functional recovery after progressive multiple sclerosis, stroke and traumatic injuries.

By understanding the mechanisms of intercellular (neuro-immune) signalling, diseases of the brain and spinal cord may be treated more effectively, and significant neuroprotection may be achieved with new tailored molecular therapeutics.learned behavioural programs and how genetic diseases results in behavioral phenotypes.

For more information:

T: 204-235-3939
E: info@manitobaneuroscience.ca

Health Sciences Centre Winnipeg

Hôpital St-Boniface Hospital RECHERCHE • RESEARCH

University of Manitoba