

# Preface

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Recent years witness the amazing and enthusiastic growth of research activity dedicated to understand the complex mechanisms of interaction between neurons and glia in brain physiology and the involvement of these processes in brain dysfunction and pathology. Neuroscientists and neuroimmunologists face the major challenge of bringing to light new knowledge about the functional interplay of brain cellular partners. There is now a better understanding of the basic physiopathological processes of many diseases of the nervous system, including the role of inflammation and immune mechanisms. New powerful tools were shown to interfere with the “recital” of cytokines, chemokines and inflammatory molecules and their dynamic effects on neurons, glia, vascular cells and cells of the immune system that invade the brain parenchyma in response to injury. The ultimate goal of this area of research is to develop new therapeutical approaches and to find a cure for the devastating disorders of the nervous system to which inflammation and immune contributions were demonstrated to be key players.

This project was born after joining efforts from expert contributors in neuron–glial cross-talk in health and disease. We are grateful for the efforts of the contributors in this book. The aim of editors is to foster understanding on the mechanisms of brain injury and how they can be modulated to overcome irreversible damage resulting in a better quality of life. There is still much work to be done, but there are reasons to be optimistic.

We hope you will find this book interesting and informative.

Welcome to “Interaction Between Neurons and Glia in Aging and Disease”

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