Special Issue

Beyond Bystanders: The Emerging Roles of Glia in Brain Health and Disease

Message from the Guest Editor

Glial cells, once considered mere support structures for neurons, are now recognized as essential players in brain function, development, and pathology. Recent research has revealed that these diverse cell types actively participate in synaptic transmission, neural circuit formation, sleep regulation, modulation of brain metabolism, and neuroinflammatory processes. Astrocytes regulate neurotransmitter uptake and release neuroactive substances, while microglia constantly survey the brain microenvironment, responding rapidly to injury or infection. Oligodendrocytes provide critical myelin for axonal insulation and metabolic support, with disruptions linked to multiple sclerosis and other demyelinating disorders. Emerging evidence indicates that glial dysfunction contributes significantly to neurodegenerative diseases, psychiatric disorders, and traumatic brain injuries. This Special Issue explores cutting-edge research on glial biology and its implications for treating brain disorders, highlighting how these once-overlooked cells are revolutionizing our understanding of brain health and disease.

Guest Editor

Dr. Ruqayya Afridi
Department of Pharmacology, School of Medicine, Kyungpook National University, Daegu 41944, Republic of Korea

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Cells
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
cells@mdpi.com

mdpi.com/journal/cells

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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