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## Microglia in Aging and Neurodegenerative Disease

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Deadline for manuscript submissions:

**closed (30 September 2017)**

### Message from the Guest Editors

Microglia, the immune-competent cells of the central nervous system (CNS), are dynamic and responsive to changes in their environment. They undergo an activation process, which renders them either pro-inflammatory or anti-inflammatory. Through the expression of cytokines, chemokines, and other factors, activated microglia have been implicated in the onset and progression of different neurodegenerative diseases. Their rapid responses to injury and changes in the CNS parenchyma that lead to neurodegeneration suggest that they could serve as markers of disease onset. Manipulation of microglial activation can affect the progression of these diseases and modify systemic inflammatory processes. The number of microglia increases in aged mice. Their accumulation and changes in signaling contribute to an accelerated cognitive decline, thus making microglia and their signaling pathways targets to potential therapeutic modifications.



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