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Plasticity of the Nervous System after Injury 2.0

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Message from the Guest Editors

Dear Colleagues,

Functional recovery is too often poor after peripheral nerve injuries. This is in spite of the capacity of supporting glial cells, to support the regeneration of the injured axons and to reinnervate their target muscle and sense organs. Recovery of function is even more severely limited in the central nervous system. This is due to the inability of the glial cells, oligodendrocytes, to support the growth of central axons. Studies regarding peripheral nerve injuries are revealing recovery mechanisms and novel methodologies to promote functional motor and sensory recovery. These include the activation of intrinsic growth pathways, as well as the use of brief low-frequency electrical stimulation, intermittent hypoxia, bioluminescent optogenetics, optimized nerve grafts and nerve transfers, stem cells, and manufactured Schwann cells for nerve repair. The dynamics of plasticity after spinal cord injuries and the relevance of locomotor networks in restoring function provide a means to restore function after central nerve injuries.

Please feel free to contact us or Vera Cao (vera.cao@mdpi.com) if you are interested in this topic.

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Message from the Editor-in-Chief

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