

Special Issue on

**Impacts of Environmental Risks on Nervous System:  
Mechanistic Insight from Environmental Sensing to Ca<sup>2+</sup>  
Signaling**

## CALL FOR PAPERS

A huge number of environmental stimuli, including temperature, ambient air concentration, UV, and radiation, have enormous influence on all living things. These stresses arising from a variety of factors such as industrial pollution and chemical agents become severe issues for both biodiversity and human health. It is considered that a disturbance of external circumstances constitutes a risk factor for aberrant regulations of the nervous systems. Indeed, recent large-scale analyses suggest that their anomalous changes are highly associated with the neuronal disorders and psychiatric disorders. Furthermore, these factors also perturb the nervous system in not only human being but also other animals and insects. Thus, to elucidate the molecular basis that connects environmental risks to nervous systems is of great interest in the scientific community.

In this issue, we shed light on Ca<sup>2+</sup> signaling as mediators that link external circumstances to regulating nervous system. In the nervous systems, ion channels and ionotropic receptors, which are key transducers of extracellular cues into cell signaling, are obvious targets for environmental sensing. Furthermore, impairments of Ca<sup>2+</sup>-associated proteins give rise to various neuronal diseases. Intriguingly, some Ca<sup>2+</sup> channels are activated by environmental stresses, such as change in temperature and air concentration and exposure to chemical reagents. Therefore, Ca<sup>2+</sup>-associated proteins and Ca<sup>2+</sup> signaling are potent targets to understand the molecular mechanisms that link external circumstances to regulating nervous system.

We invite investigators to contribute original research articles as well as review articles that will stimulate continuing efforts to discover the novel environmental factors, connect environmental risks with the nervous systems, and develop a medical treatment for these risk-associated neuronal diseases.

Potential topics include but are not limited to the following:

- ▶ Novel environmental factors that regulate the nervous systems
- ▶ Molecular basis of the sensing mechanism of novel factors
- ▶ The link between environmental stimulation and Ca<sup>2+</sup> signaling
- ▶ Changes of higher brain functions involved in environmental risk
- ▶ Development of therapeutic reagent to cure neuronal disorders caused by abnormal environment factors

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/neuroscience/ierons/>.

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**Manuscript Due**

Friday, 6 January 2017

**First Round of Reviews**

Friday, 31 March 2017

**Publication Date**

Friday, 26 May 2017