

Special Issue on  
**Environmental Stimulus on Stem Cell Behaviour**

# CALL FOR PAPERS

There is much interest in stem cell biology not only for their potentiality to repair lost or damaged tissue, but also for their proposed involvement in cancer biology. This is in addition to their unique ability to self-renew and to differentiate into multiple cell lineages. In the biological setting, these cells reside in environments that experience significantly lower O<sub>2</sub> partial pressures than the external environment. In addition to the unique O<sub>2</sub> environment are the special metabolic requirements of undifferentiated cells, which likely play a critical role in stem cell biology. This extracellular environment is known to change, not only in the research setting, but also during pathology. These alterations in O<sub>2</sub> availability can cause changes in ROS production, activation of specific signalling pathways, and alterations in ion channel function, ultimately all of which can change the biological activity of stem cells.

The focus of this special issue will be to shed further light on this complex interplay between environmental stimuli such as O<sub>2</sub> availability, metabolic function, and paracrine signalling pathways. We would like to invite you to submit or recommend original research papers and reviews to this issue.

Potential topics include but are not limited to the following:

- ▶ Effects of changes of oxygen concentration on stem cell development
- ▶ Role of environmental stimulus (signalling molecules) in regulation of stem cells: underlying molecular pathways
- ▶ Mutual interaction of stem cells and their niche
- ▶ Role of ion channels and cell physiology on stem cell development
- ▶ The effect of redox state of the cell on stem cell development and function: effect of ROS/RNS, antioxidants
- ▶ Mitochondrial function in signalling pathways involved in stem cell biology
- ▶ Stem cells and diseases
- ▶ Autophagy and stem cell development/differentiation
- ▶ Effects of drugs and alcohol on stem cell biology and development

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

Papers are published upon acceptance, regardless of the Special Issue publication date.

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