

# The Eleventh iCeMS SEMINAR

Lecturer: **Prof. Peter W. Andrews, Ph.D.**

The Centre for Stem Cell Biology and Department of Biomedical Science,  
The University of Sheffield, UK

## Population Dynamics of Human ES Cell Cultures: Self-Renewal, Adaptation and Cancer

Date & Time: **December 2, 2008, 13:00-14:00**

Venue: **Roof Terrace**

Institute for Frontier Medical Sciences, 5F of the East Building

A key feature of pluripotent stem cells is their ability to proliferate indefinitely while maintaining an ability to differentiate into all somatic cell types. Such proliferation is known as 'self-renewal'. However, these cells may also differentiate spontaneously, or in response to specific cues. When they divide, stem cells must choose between self renewal and commitment to differentiation. Further, if they commit to differentiate they must choose between different lineages. An understanding of the molecular mechanisms that control these decision processes underlies any potential use of human embryonic stem (ES) cells, or iPS cells, whether in regenerative medicine or in other areas such as drug discovery, toxicology or disease modeling. **Selected References:** Baker et al. (2007) Adaptation to culture of human embryonic stem cells and oncogenesis in vivo. *Nature Biotechnology* 25: 207 – 215.

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**Held by:** iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University  
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