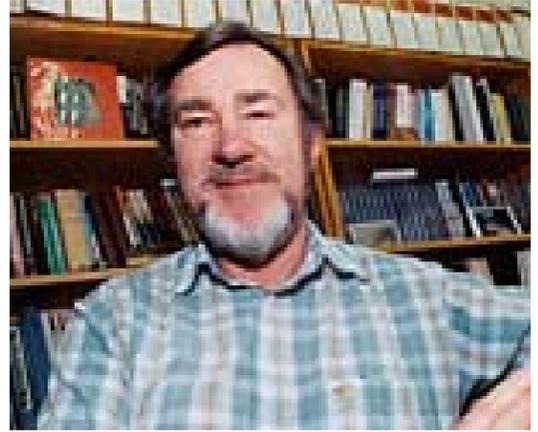


**Public lecture by
Brian Hall
(Dalhousie University)**



**Charles Darwin and the
Integration of Embryology and
Evolution: 1859–2009**

**Friday, Nov. 13 at 5:30 pm
in Earth Sciences (ESB) 327**

Abstract: Darwin provided us with the theory of evolutionary change through natural selection. Just as important was his recognition that all organisms could be classified and related to one another because they arose from a single common universal ancestor. I will discuss Darwin's theories on evolution and the tree of life. Darwin believed that embryology would provide an important class of evidence for evolution. *The Origin of Species* used comparative embryology and the existence of vestiges and atavisms. I will discuss this evidence, including our current understanding of how features such as hind limbs in whales can reappear in modern descendants. Darwin also discussed "correlations of growth" – his approach to formulating mechanisms of embryology (development) as they relate to evolution – the field we now know as evolutionary developmental biology or evo-devo. I will discuss studies from evo-devo and from life history evolution to illustrate Darwin's prescience in forecasting the importance of embryological evidence for understanding what he termed descent with modification.

Biography of Hall: As the most prominent Canadian evolutionary developmental biologist, Brian Hall has published numerous articles on the development and evolution of skeletal tissues, the evolution and development of neural crest cells, vertebrate development, and palaeontology. He is author of the seminal textbook *Evolutionary Developmental Biology*, and his recent books include *Bones and Cartilage: Developmental and Evolutionary Skeletal Biology* and *The Neural Crest in Development and Evolution*. He edited many volumes, including *Fins into Limbs: Development, Transformation, and Evolution* and *Keywords and Concepts in Evolutionary Developmental Biology*. Several of his publications concern the history of evolutionary and developmental biology.

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