

5th International Symposium on Organogenesis
"Development & Disease"
May 16 & 17, 2003

Abstract Form for Poster Presentation on May 17, 2003
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You will be contacted if your abstract has been accepted to be a poster

Abstract Guidelines: Abstract should be typed in **Times pitch 12 font, single spaced with one inch margins all around**. Title should be in bold then followed by authors. Maximum length of abstract is one page. **Please email abstracts or send on a disk (either PC or Mac) to the Center. Please see following example:**

HOX GENES AND WITHIN-SPECIES HOMEOTIC VARIATION IN FISH

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It is now well established that the expression boundaries of certain *Hox* genes regulate the identities of the different types of vertebrae. Evolutionary changes in the axial skeleton thus correlate with shifts in the boundaries of *Hox* genes. In order to study how such shifts occur, as well as to quantitate the significance of genetic variation associated with *Hox* genes, we have begun to study the expression of *Hox* genes in threespine stickleback fish, *Gasterosteus aculeatus*. These fish show a range of vertebral phenotypes, some of which may be of adaptive significance, since they affect traits such as burst speed. We have established two lines of stickleback fish that show heritable differences in the vertebral column, and will present results of in situ hybridization experiments that document variation in expression boundaries of *Hox* genes. Our experiments emphasize that environmental and subtle genetic differences should be incorporated into models of how combinations of *Hox* genes regulate determination of the body plan in vertebrates.

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