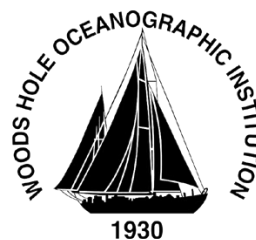


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Woods Hole Oceanographic Institution  
**Biology Department Seminar**



Thursday, May 7, 2015  
Redfield Auditorium – 12:00 Noon

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**The evolution of crustacean  
metamorphosis: Integrating  
phylogenomics, fossils, and development**

**Dr. Jo Wolfe**

**Dept. of Earth and Planetary Sciences, MIT  
and Sackler Institute for Comparative  
Genomics, American Museum of  
Natural History**

Classical biologists such as Haeckel and Darwin were concerned with the role of development in understanding the pattern of evolution. Recently there has been a revival of evo-devo and its role in reconstructing the Tree of Life. I developed approaches to incorporate both fossils and expressed gene sequences from different life history stages to provide proof-of-concept that developmental change can affect phylogenetic reconstruction. This is critical for groups such as crustaceans, which undergo significant metamorphosis. Further implications for the convergent evolution of crustacean life cycles will be discussed. I will also introduce the use of arthropod fossils to date their Tree of Life, as well as new methods for dating the prokaryotic tree (with the ultimate goal of integrating dates for comparative work on the origins of metamorphosis).