



CDB SEMINAR

Speaker: Angelika Stollewerk

< Department of Zoology, University of Cambridge >

**Title: “Changes in Neurogenesis during
Arthropod Evolution”**

Date:	Thursday, September 9
Time:	16:00 P.M. ~ 17:00 P.M.
Place:	1F Auditorium of Building C, CDB

Summary:

The arthropods form a diverse group consisting of insects, crustaceans, chelicerates and myriapods. They show a high variation of neural structures adapted to the specialized behaviour and lifestyles of the individual species. This raises the question of how developmental processes have been modified during evolution to produce the wide diversity of nervous systems. We have analysed the evolutionary modifications that have occurred during early neurogenesis, e.g. the generation of neural precursors. We show that although the genetic network that is responsible for the formation of neural precursors is conserved in arthropods, the generation of neural precursors is different in myriapods and chelicerates as compared to insects and crustaceans. Our results suggest that more parameters have been introduced to the process of neurogenesis during arthropod evolution, i.e. sequential invagination/delamination of neural precursors, connection between neural precursor formation and cell proliferation and asymmetric cell division. We assume that the additional parameters lead to a complexer pattern of different neural fates allowing the formation of delicately balanced neural networks that are adapted to the specialized behaviour and morphologies of the individual arthropod groups.

Host : Kiyokazu Agata < Evolutionary Regeneration Biology , CDB >

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