Seminars in Zoophysiology at Aarhus University

Earthworms and their Nephridial Bacteria: a Mutually Beneficial Symbiosis?

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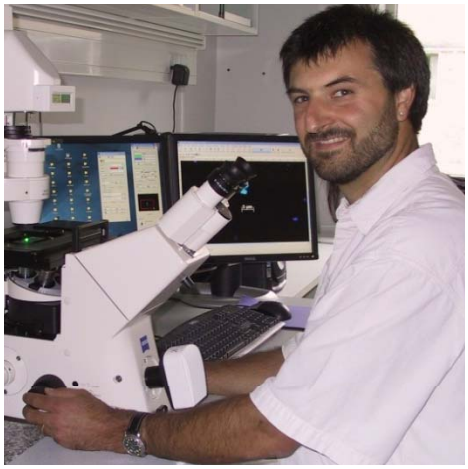

The excretory and osmoregulatory organs (nephridia) of lumbricid earthworms are densely colonized by extracellular bacterial symbionts (genus *Verminephrobacter*). The symbionts are host species-specific and have likely co-speciated with their earthworm hosts for the past 100 MY. They are vertically transmitted by deposition in the cocoon followed by highly coordinated colonization of the earthworm embryo. The symbionts are beneficial for the fitness of their earthworm host but its mechanism and hence the function of the symbionts is still unclear.
Focusing on the earthworms *Eisenia fetida* and *Aporrectodea tuberculata* and their respective symbionts, I will present molecular, physiological, and comparative genomic data to give insights into the evolution of this highly specific symbiosis and to discuss its putative function in relation to symbiont and earthworm physiology.

Monday May 9nd at 11.15 at Zoophysiology