

Caterina Francesconi (PhD thesis)

### **Host-pathogen coevolution of freshwater crayfish and the crayfish plague disease agent**

My research focuses on the host-pathogen relationship between *Aphanomyces astaci* (the crayfish plague disease agent) and crayfish. The ongoing co-evolutionary process between host and pathogen is still shaping the different outcomes of the interactions between crayfish species and *A. astaci*. These evolutionary changes can manifest themselves as variance in the virulence of the pathogen and in the resistance of usually sensitive European crayfish species. In this context, one of my main objectives is to determine if the variation of the virulence of different *A. astaci* strains is encoded in the pathogen genome. Special interest is also payed to the molecular basis of the resistance of North American crayfish species and the difference in the immune response against *A. astaci* infections between sensitive and resistant crayfish species.

