



Seminar/Talk

# Molecular Mechanisms and Evolution of Fertilization Proteins

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Host: Nick Barton

Reproductive proteins mediating fertilization commonly exhibit rapid sequence diversification driven by positive selection. This pattern has been observed among nearly all taxonomic groups, including mammals, invertebrates, and plants, and is remarkable given the essential nature of the molecular interactions mediating fertilization. I will discuss my research investigating how sequence divergence, duplication, and gene loss events can together generate remarkable diversity in fertilization genes between species. My research largely centers on the sperm and egg proteins lysin and VERL, a pair of egg gamete recognition genes mediating vitelline envelope (VE) dissolution in the marine gastropod mollusk abalone (genus *Haliotis*). Using quantitative biophysical methods, we biochemically characterized the species-specific mechanisms of VE dissolution in abalone and using experimentally guided molecular docking provide evidence that mechanisms mediating VE dissolution in abalone are likely similar to mechanisms of egg coat dissolution in mammals.

**Wednesday, April 20, 2022 12:30pm - 01:30pm**

Online Event ()



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.