SFB 680

MOLECULAR BASIS OF
EVOLUTIONARY INNOVATIONS

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Evolution and molecular basis of cellular stress responses: How the microcrustacean *Daphnia* copes with acute and chronic environmental change

In their natural habitats, aquatic ectotherms such as *Daphnia* are exposed to severe spatial and temporal changes in environmental conditions, including substantial fluctuations in water temperature and oxygen availability. Consequently, to compensate for such environmental challenges, these planktonic organisms have evolved numerous complex control systems that include the perception of environmental (stress) signals, processing respective information, and triggering vital downstream processes on diverse molecular levels. This study was designed to decipher key, stress induced cellular machineries that enable daphnids to adequately adjust their physiological performances to prevailing environmental risk conditions, and by that, provides genuine insight into how organisms can and do respond to natural and human induced change. By questioning how, and to what extend, organisms are able to shift their limits of physiological tolerance in response to environmental risk exposure, this investigation ultimately contributes to a better understanding of ecosystem stability under growing environmental health problems.

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Biocenter, Lecture Hall Ground Floor

Host: Eric von Elert

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