



YCCSA Seminar Series Summer 2019

An interdisciplinary seminar series hosted by the York Cross-disciplinary Centre for Systems Analysis aimed at researchers from all disciplines

Functional genomics of climate adaptation in vertebrate ectotherms

Dr Katharina Wollenberg Valero

**School of Environmental Sciences
Faculty of Science and Engineering
University of Hull**

**Friday, 30 August 2019
Ron Cooke Hub, RCH/204 at 13:30**

Abstract:

Climate adaptation is the evolution of the ability to persist in novel thermal, hydric, or chemical environments. Phenotypic characters that allow such adaptation, as well as the resulting shifts in the geographic distributions of species, are an emerging field of study in the midst of a rapidly changing global climate. Yet, the genomic basis of such phenotypic adaptation is less well understood, and an important question to answer in this respect is: which genes aided in thermal adaptation, and are these the same across different populations and species? I am answering this question in ectotherm vertebrates (squamates, fish) by identifying genes and their functions which evolved in response to changing climate, and by integrating the results with experiments on how these genes respond to acute environmental stress. Aligned to this problem, I aim to answer the question how past adaptation can help understand future evolvability - the absence of any signatures of past genomic adaptation to hot climates in palearctic lizard for example means, that they will likely be toast very soon.

The seminar includes a refreshment break to fuel interdisciplinary discussion

**Ron Cooke Hub is on Heslington East Campus – accessible by free bus services
Nos. 66 and UB1 running at frequent intervals from Heslington West.
The YCCSA Seminar room is on the second floor**