

# SEB ANNUAL MEETING 2014

## 1 - 4 JULY MANCHESTER

**What sets the limit? How thermal limits, performance and preference in ectotherms are influenced by water or energy balance**

**Organised by:** Johannes Overgaard (Aarhus University) and John Terblanche (Stellenbosch University)

How animals perform at different temperatures has historically been one of the central questions for understanding the biology, ecology and evolution of ectotherms. In an era of climate change, understanding of what factor(s) actually sets thermal limits, performance and preference continues to be highly relevant as it has implications for understanding field responses of living organisms to changing thermal conditions. Many studies have demonstrated that thermal tolerance and preference can be influenced by the state of other physiological systems, particularly with respect to water or energy balance. Similarly, thermal preference may be affected by the nutritional state of an ectothermic organism. Thus, it is increasingly clear that temperature does not act alone but that interactions with other environmental factors may co-determine thermal limits, performance and preference. As an example it is clear that both extremes of either cold and or hot environments may also be desiccating environments that pose serious challenges for water balance in terrestrial organisms. Similarly, energy balance and energy flux may be challenged both during long term cold exposure in dormant animals and at high temperatures when animals may be challenged to support high organismal energy (and water?) flux. With this session we encourage submissions focused at the physiological and eco-physiological level regarding the both high and low thermal limits of tolerance and aspects of thermal performance. The topic of the session is broad and studies on all animals will be welcomed, including vertebrate and invertebrate animals from both aquatic or terrestrial environments, although focus will be given mainly to ectotherms.

This session is arranged in parallel with a special issue in Journal of Thermal Biology dedicated to Prof. Ken Bowler's on-going and long-term commitments to the field of thermal biology. With submission of a talk we therefore encourage speakers to also consider submitting an original paper or mini-review for this special issue

(<http://www.journals.elsevier.com/journal-of-thermal-biology/call-for-papers/special-issue-what-sets-the-limit/>).

Brent Sinclair is proudly sponsored by the Journal of Thermal Biology

### **Confirmed Speakers:**

**Martin Holmstrup (Aarhus University), Art Woods (The University of Montana), Brent Sinclair (The University of Western Ontario), Vladimir Kostal (University of South Bohemia), Wilco Verberk (Radboud University Nijmegen), Fiona Clissold (University of Sydney), Kate Michell (Stellenbosch University)**