

PhD Opportunity



Project title: The thermal properties of lizard coloured integument: mechanisms and evolution

Project summary: Colouration in animals can be shaped by a multitude of factors, from chemical and physical properties of the skin to higher-level drivers of colour variation such as natural and sexual selection. While a lot of the focus has been directed to the role of colour in signalling and camouflage, much less has been devoted to the potential role that colour plays in thermal relations and its adaptive significance. Using a combination of techniques, this project aims to investigate the thermal effects of coloured integumentary tissue in lizards from both a proximate and ultimate perspective by 1) characterizing thermal properties of differently-coloured integument, 2) elucidating form-function relationships for different colour production mechanisms (including iridescence) through optical and heat-transfer models and 3) undertaking comparative analyses of colour and climate.

This project is part of a collaboration between Prof. Matthew Shawkey (Dept. of Biology, Ghent University, Belgium, http://users.ugent.be/~mshawkey/Shawkeys_Lab/Home.html) and Prof. Susana Clusella-Trullas (CL•I•M•E Lab, Dept. Botany and Zoology, Stellenbosch University, South Africa, <http://www.clusellatrullas.blogspot.co.za/>).

The student will be based at Stellenbosch University, will perform field work in South Africa and will receive training in histological methods and heat-exchange modeling approaches at the University of Ghent, Belgium. Applicants must be highly motivated and committed, independent, have an excellent academic track record and preferably have a good publication record and advanced analytical skills. All project running costs have been secured and the selected applicant will be able to start immediately (2017).

To apply, please send a CV with contact information of three academic referees, academic transcripts and a personal statement describing your research interests and past experience (max. 500 words) to sct333@sun.ac.za. Review of applications will take place immediately and until the position is filled. Top candidates will be contacted to set up interviews by phone or skype.