ERACOM
JOINT MASTER PROGRAM IN ENVIRONMENTAL RISK ASSESSMENT AND COASTAL MANAGEMENT

B6. CONSERVATION PHYSIOLOGY AND BIOLOGY
Instructors: John F. Steffensen and Paolo Domenici

Course outline-lectures

- Ecosystems and conservation of biodiversity
- Components of conservation science
- Improving the practice of conservation: a conceptual framework and research agenda for conservation science
- Conservation physiology-An emerging field
- What is conservation physiology? Perspectives on an increasingly integrated and essential science
- Conservation physiology and understanding the physiological responses of organisms to changed environments
- Physiology is concerned with how organisms maintain function in the face of a changing environment
- How physiological methods and concepts can be useful in conservation biology
- Trait-based approaches to conservation physiology: forecasting environmental change risks from the bottom up
- Techniques and concepts of physiology can contribute to understanding how physiological systems mediate between capricious environments, animal fitness and ultimately population and community dynamics
- Describing the patterns relating physiological responses to the environment-A detailed mechanistic understanding of the factors that cause conservation problems
- Using physiology to understand climate-driven changes in disease and their implications for conservation.
- Making conservation physiology relevant to policy makers and conservation practitioners.

Suggested Readings

Cooke SJ, Sack L, Franklin CE, Farrell AP, Beardall J, Wikelski M, Chown SL (2013) What is conservation physiology? Perspectives on an increasingly integrated and essential science. *Conserv Physiol* 1: doi:10.1093/ conphys/cot001.

Dr. Steven J. Cooke. Conservation physiology today and tomorrow. *Conserv Physiol (2014) 2 (1): cot033 doi:10.1093/*

Carey C (2005) How physiological methods and concepts can be useful in conservation biology. *Integr Comp Biol* 45: 4–11.

Cook CN, Mascia MB, Schwartz MW, Possingham HP, Fuller RA (2013) Achieving conservation science that bridges the knowledge–action boundary. *Conserv Biol* 27: 669–678.

Cooke SJ, O'Connor CM (2010) Making conservation physiology relevant to policy makers and conservation practitioners. *Conserv Lett* 3: 159–166.