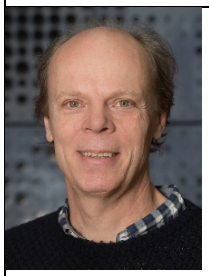
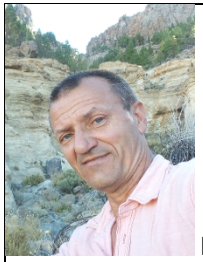
Research interests of IBED-TCE staff

 **Willem Bouten**	One of my main topics is currently the monitoring of bird behaviour in the context of movement ecology. Another main topic of interest is the use of Bayesian inverse modelling for improving theories of geo-ecological processes. A third topic which has my specific interest is the development of virtual laboratories to promote scientific collaboration.
 **Hal Caswell**	My research focuses on population models, usually based on matrices, for plants, animals, and humans. I am interested in stochastic processes in demography, including individual stochasticity, demographic stochasticity, and environmental stochasticity. I study both basic theory and the application of that theory, especially to evolutionary questions and to environmental questions related to climate change.
 **André de Roos**	My research focuses on the dynamics of animal (mainly fish) populations and how these dynamics are influenced by environmental factors like productivity or human influences like harvesting. My main tool to address questions about the connection between individual life history and population dynamics is a class of models, known as physiologically structured population models. The basic characteristic of these models is that state concepts are introduced at both the individual and the population level and that model formulation is entirely restricted to individual-level, life history processes.
 **Bart Nolet**	I try to understand and predict patterns at the population level (i.e., animal distribution and abundance) from processes acting at the individual level. Within an optimality framework, I study decisions of where and when to move: how animals (should) explore their surroundings and exploit their resources. Currently the focus is on arctic-breeding waterbirds, which migrate through and to the Netherlands in numbers of international importance. How will these birds respond to climatic changes in the Arctic and land-use changes in the temperate region? The approach taken is a combination of field, experimental and modelling work.
 **Daniel Kissling**	My research is focused on large-scale biodiversity patterns, macroecology, biogeography, biotic interactions and global change. With my work, I aim to understand how past, present and future environmental factors, species interactions, human impacts and evolutionary history influence species distributions and the structure and assembly of biological communities.

 **Judy Shamoun-Baranes**	I am fascinated with avian flight behaviour, whether during migration, foraging movements or when fleeing from potential danger. By integrating models, diverse measurements of bird movement (GPS tracking, radar, field observations) and meteorology, I am trying to understand the short and long term consequences of behavioural responses to dynamic atmospheric conditions at different scales in space and time.
 **Yael Artzy-Randrup**	My areas of research are theoretical ecology, evolutionary theory, infectious diseases, Network theory and complex systems
 **Maarten Boerlijst**	My research areas include self-organization and spatial pattern formation, disease dynamics, evolution of cooperative behaviour, the origin of life on earth, Artificial Life, and tipping points and catastrophes in ecosystems.
 **Emiel van Loon**	In my research, I currently focus on developing and applying statistical and measurement theory for the analysis of animal movement and distribution through three three projects: • developing techniques to learn about animal memory and navigation on the basis of GPS-tracking data, • space-time modelling of the Dutch muskrat population, and • the standardisation of species-distribution modelling workflows.
 **Kenneth Rijsdijk**	In my research, I am particularly interested in: • the role of deep time, dynamics of geodiversity and interaction with island biodiversity and; • quantifying the impacts of humans on island ecosystems; • seeking ways in realizing sustainable futures for mankind to live in harmony with geo- eco- systems.

 **Harry Seijmonsbergen**	My current research focusses on geomorphological mapping using LiDAR DEMs; natural hazard assessment using GIS and LiDAR data; gypsum in mountain landscape development; automated GIS-assisted geoconservation assessment; Greenland ice cores and terrestrial glaciation records, and land use classification and land use change
 **Marc Davidson**	My research focuses on environmental ethics, environmental philosophy, and environmental economics. I e.g. have been involved in developing economic instruments for protecting global biodiversity