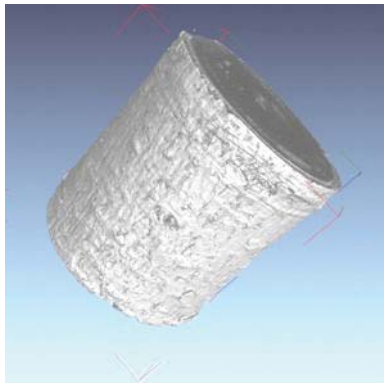
Forest and Tree Growth
Growth and Environment
Dendro-ecology

Forest Growth Simulation

Within the collaborative project FORSIM we adapted the distance dependent single tree forest growth simulator SILVA for South African conditions. Research in 2010 focussed on competition description and modelling of *Pinus radiata*. This project is in collaboration with Dr. Shayne Jacobs from the Departmentment of Conservation Ecology and Entomology and Prof. Hans Pretzsch from the Chair of Forest Yield Science, Technische Universität München,Germany.



Forest Growth and Structure in Natural Forests

Indigenous forests offer rich structural diversity. The environmental conditions (light, water and nutrient availability) are highly spatially determined. This project, in collaboration with SANPARKS, aims to understand and model the relevant factors for growth and mortality processes in natural forests and their correlation to forest structure and climate change.

Irregular stand structures

Irregular stand structures, resulting from early mechanised thinnings in pine plantations could lead to a deviation of volume growth from the potential maximum and pose a risk of inferior wood quality. The objective of this industry-driven project was to analyse the consequences of irregular spatial tree distribution on volume increment, stem form, crown extension and branch dimensions and to propose measures for a mitigation of the problem, based on simulation and spatial optimisation. The project is carried out together with Pierre Ackermana and financed by Hens Merensky.