








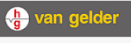


BSc and MSc project in the ASPARI research unit

Company and Location	         
Type of project	Bachelor
Title of topic	Implementing GPR technology to measure asphalt density
Project background / context	Ground-penetrating radar (GPR) is a geophysical method that uses radar pulses to image the subsurface. This non-destructive method uses electromagnetic radiation in the microwave band (UHF/VHF frequencies) of the radio spectrum, and detects the reflected signals from subsurface structures such as pipes and cables. GPR technology has been sparsely used to measure asphalt density during and after the asphalt construction process. The aim of this project is to compare the GPR technology with current invasive method (nuclear density gauge).
Main research question	<p>What is the measurement protocol?</p> <p>Which parameters have to be taken into account?</p> <p>Is the method accurate enough for Dutch asphalt paving projects?</p>
Research method(s)	- Empirical study
Main outputs	Compare and analyse the GPR density measurement with current density measurement method
Contact(s) at the company	The chosen company will be decided upon in discussion with the student (there are various options)
Start date	ASAP
Contact at the UT	Seirgei Miller s.r.miller@utwente.nl ; Denis Makarov d.makarov@utwente.nl ; Afshin Jamshidi a.jamshidi@utwente.nl