

Smart technologies for a safer rail network

*Presented by Prof. Hannes Gräbe Pr Eng
FSAAE, RSR Chair in Railway Safety*

21 November 2022 | 17h30 for 18h00 | The Auditorium, Engineering4

Venue: Engineering4, Hillcrest Campus, University of Pretoria

See **attached map** for directions

A safer rail network can be achieved in a variety of ways. Any railway operation comprises infrastructure, rolling stock and the human component, responsible for managing the system, operating the trains and maintaining the infrastructure. This presentation focuses on the improvement of rail safety through the implementation of a range of technologies. The development of these technologies will be discussed with practical examples of how they could and have been implemented on current rail infrastructure in South Africa. These technologies have been developed for track performance monitoring, vehicle dynamics and passenger comfort. The role of data presentation on real-time condition and monitoring dashboards will be demonstrated and discussed to emphasise the availability and usefulness of the various applications. The presentation concludes with an urgent request for the adoption and implementation of these proven technologies for the benefit and safety of railway operations in our country.

PLEASE NOTE: Access to the campus OR online lecture through RSVP only.

This lecture is open to the public and will be followed by light refreshments
(courtesy of the South African Academy of Engineering - SAAE)

Click here to RSVP by 16 November 2022

For further enquires contact **Me Heleen Duffey** at office@saae.co.za



Prof. Hannes Gräbe Pr Eng
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Prof. Hannes Gräbe is an associate professor in the Department of Civil Engineering in the Faculty of Engineering, the Built Environment and Information Technology (EBIT) at the University of Pretoria. He holds the Chair in Railway Safety, sponsored by the Railway Safety Regulator.

Prof. Gräbe's research focuses on the behaviour of railway foundation materials subjected to cyclic loading and the characterisation of track component performance and behaviour through field and laboratory experimentation. He combines his experience in track technology, soil mechanics and advanced laboratory testing for the development of novel condition monitoring techniques, maintenance models and numerical analysis of track structures.

Prof. Gräbe holds a PhD degree from the University of Southampton (UK) in Geotechnical Engineering and is a fellow of the South African Institution of Civil Engineering (SAICE), the South African Academy of Engineering (SAAE) and registered with the Engineering Council of South Africa (ECSA) as a professional Engineer.