



Master Thesis Defense Examination
 Presented by
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Thesis Title: Tyre Wear on Rubber-Tyred Trains

Highlight Summary

Rubber-tyred straddle monorail train systems are being increasingly adopted in urban transportation due to their potential for lower noise and vibration levels, steep gradient, smaller curve radii and better traction when compared to traditional steel-wheeled systems. In spite of these advantages, straddle monorail systems are challenged by excessive tyre wear, the causes and mechanisms of which are not fully understood, and tyre wear remains a critical operational challenge, often leading to shortened service life and increased maintenance costs. As typically 90% or more of affected train lines consist of straight tracks, at least a share of the excessive wear is likely to be caused by disturbances of straight-running operation. However, most studies focus on researching tyre-wear on curved sections of monorail systems. This paper is based on the hypothesis that the overconstrained guiding principle of the undercarriage design can cause undetected misalignments of the load wheels' running axes, which will result in an increased wear rate even on straight tracks. An approximation model is developed which includes a reference case derived from measurements on the Bangkok Metro Lines. The model allows for a substantiated estimation of the relative reduction of achievable tyre mileage resulting from potential misalignments in the bogie geometry

Date

Time

Venue

9th April 2026

14.00 – 15.30

Online

Registration is open from today until 7 April 2026

QR Code for
 Registration

