JVTC Seminar
Date: 2017-12-05 Time: 10.00 – 12.00
Place: F531, Luleå University of Technology

Program

09.45-10.00 Coffee

10.00-10.10
Introduction by the director
Presenter: Uday Kumar, director JVTC, chaired professor Operation and Maintenance

10.10-10.30
An overview of track geometry maintenance planning
Presenter: Hamid Khajehei, PhD student, Operation and Maintenance

The aim of this presentation is to identify and discuss the main issues and challenges on railway track geometry maintenance planning. Since the maintenance planning is a complex task, simulation is a popular approach in this area and it will be discussed in depth. In order to simulate the long-term behavior of track geometry, a maintenance strategy should be adopted to track geometry evolution model. Also, available methods for maintenance planning and the related issues will be discussed.

10.30-10.50
In2Rail – Requirements and Initial Concept for an Asset Management Framework (T6.2)
Presenter: Christer Stenström, Associate Senior Lecturer, Operation and Maintenance

The purpose of D6.2 is to provide the requirements and initial concept of a framework for performance prediction, modelling and decision support for railway asset management, taking into account UIC asset management (AM) guidelines, rail infrastructure performance and constraints on resources and the supply chain, as the latter is defined above.

To this end, two objectives have been formulated:
1. Develop a key performance indicator (KPI) decision framework for railway assets, to benefit IMs, supply chains, and other stakeholders.
2. Define a framework for performance prediction, modelling and decision support.

10.50-11.10
Effects on increased axle load for heavy freight trains
Presenter: Thomas Nordmark, PhD student, Operation and Maintenance

What are the effects of maintenance costs when axle load is increasing?

11.10-11.30
Railway track signatures and anomaly detection in modulated magnetic fields
Presenter: Praneeth Chandran, PhD student, Operation and Maintenance

The presentation will focus on:
  I. the proposed fastener inspection method
  II. results obtained from field test (iron ore track in Abisko-Riksgränsen) and lab test (LTU Test Track)
  III. Anomaly detection
  IV. anomaly detection using machine learning techniques based on the sensor signal
  V. Planned and Future work

11.30-11.50
Thesis presentation: Wheel measurements
Presenter: Christian Gustavsson, student; Matti Rantatalo, supervisor, Operation and Maintenance