On the occasion of Golden Jubilee Celebration

50 Glorious Years 1973-2022

INDIAN ASSOCIATION for PRODUCTIVITY, QUALITY & RELIABILITY

Workshop [Virtual Mode] on

Some Quality Related Issues in Railway Track Maintenance & Timber Harvesting Management

MAY 06, 2022 : 2.00 pm – 6.30 pm [IST]

Resource persons

Mr. Mikko Sauni
[University of Tampere, Finland]

Civil engineering MSc Mikko Sauni graduated with honours in 2018 from Tampere University of Technology. MS has worked in the railway industry since 2014 and has experience from contractor and designer positions. Currently, MS is working as a construction contracting consultant overseeing large railway projects and contributing to asset management development. In 2019, MS begun his part time doctoral studies in railway infrastructure asset management digitalization. MS has published three peer reviewed articles since beginning his doctoral studies. His current research focuses on modelling track geometry deterioration based on frequent maintenance measurement data and creating practical ways of utilizing the results. MS has collaborated with mathematicians on multiple occasions in applying data mining, data analytics, and visualization methods to railway data.

Dr. Sunil Kumar Sharma
[Kolkata, India]

Sunil Kumar Sharma did M. Tech in Industrial Engineering in 1997 from Indian Institute of Technology, Delhi. He has recently completed his PhD from Jadavpur University in Procurement risk analysis. Currently, SKS is working as Chief Rolling Stock Engineer and Chief Technology Officer in Railways. He has worked for more than twenty years in Railroad industry and handled various assignments pertaining to Asset Maintenance and Train Operations, Public sector governance, Procurement and Supply Chain, Capacity Building, Safety and Disaster Management as well as Organizational Process Design, Controls and Oversight. SKS has contributed a significant number of papers to national and international journals and conferences. His research primarily focuses on risk analysis and resilience management, mixed method modelling, game theory and project performance modelling. SKS has actively collaborated with researchers in the area of resilience building and technology management.

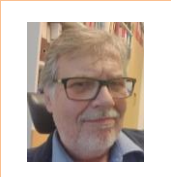
Session - I : Railways Track Maintenance

Railways are subjected to recurring train loads/harsh environmental conditions. These cause incremental settlements in the railway track structure, which move the position of the rails. These settlements and consequential movements are not uniform, because the track structure varies along a track section, for example, due to elevation changes, bridges, and tunnels. As a result, the railway tracks become uneven. To ensure that the tracks are safe to operate on, track geometry measurements are conducted regularly using a specific track geometry measurement car. This measurement car provides data concerning irregularities that can be observed. from the rail surface. This presentation will deal with statistical modeling aspects of such data.

To introduces an integrated resilience - cum - risk approach that can enable mitigation of wide range of risks and at the same time enhance railway track asset management system's adaptive capacities, it integrates knowledge from various disciplines to suggest measures to institutionalize resilience thinking, using existing organizational control arrangements.
The speaker intends to discuss the methodologies for measurement of resilience and development of strategies for building up resilience which would help inappropriate planning of maintenance efforts of assets and harmonization of functioning of different verticals in railway system.

The practical application would be illustrated while addressing various risks in railway track asset management.

Resource persons



DrTapioNummi
[University of Tampere, Finland]

TapioNummi is Adjunct Professor, in the Faculty of Information Technology and Communication Sciences at the Tampere University and has been a principal researcher in several Academy of Finland research projects on statistics, forestry and health. His field of application in statistics includes forestry, health, medicine and social sciences. His research interest in statistics includes methods for the analysis of longitudinal data, growth curves, mixed models, nonparametric regression, mixture regression and trajectory analysis. He has contributed 160 scientific publications and about half of them in refereed journals and books

Prof. Bikas K Sinha
[Kolkata, India]

PhD (1972) in Statistics from Calcutta University, Sinha has established himself as a statistician of international repute, being attached primarily with the Indian Statistical Institute, Kolkata. With more than 110 research collaborators worldwide and more than 160 peer-reviewed journal publications, Sinha is versatile in both statistical theory and applications in different areas. He has organized and participated in many conferences and workshops on behalf of IAPQR and other academic organizations.

Session - II : Timber Harvesting Management

The Berkson model for measurement errors arises when the values of predictor variables are controlled by the experimenter, but these target values maycontain random fluctuations from the true values. In the basic formulation themeasurement errors in this model are assumed to be independent. However,when analyzing dependent, such as longitudinal data, such assumption may be doubtful. In this presentation I will discuss an extension of the basic Berkson model. The model presented is illustrated by an example with some results of real harvesting data.

There are two situations wherein an agreement between the distribution of logs demanded by the sawmill owners (demand distribution) and the actual outcome (output) distribution of logs is of particular interest.

These are (i) the standard pre-harvest planning procedure where most suitable stands for prevailing customer orders need to be determined, and (ii) the post-harvest analysis where it may be desirable to know, for example, how various harvesters have succeeded in meeting a certain demand distribution.

With reference to (ii), the speaker will dwell on the concept of 'Apportionment Index' which seeks to measure

Programme :

Welcome Address	*2.00 pm – 2.05 pm*
Introductory Remarks about IAPQR Organization	*2.05 pm - 2.15 pm*
Introduction to Themes of the Workshop and Resource Persons	*2.15 pm - 2.30 pm*

Session 1 :

Speaker 1	*2.30 pm - 3.15 pm*
Speaker 2	*3.15 pm - 4.00 pm*
Discussion	*4.00 pm - 4.15 pm*

Session 2 :

Speaker 1	*4.15 pm - 5.00 pm*
Speaker 2	*5.00 pm - 5.45 pm*
Discussion	*5.45 pm - 6.00 pm*

Concluding Remarks.....6.00 pm - 6.20 pm
Vote of Thanks…… 6.20 pm – 6.30 pm

Target audience

The workshop is designed remotely and will involve participants from both Finland and India for industry executives who are in railways, timber traders, risk analysts requiring a thorough knowledge of railway track maintenance and timber harvesting management.

About the Association

IAPQR, established in 1972 with the primary objective of enhancing Productivity in manufacturing and service organizations in the country through improved Quality and Reliability practices, has all along been engaged in academic and professional activities on a wide array of productivity-enhancing subjects.
The Association has linkage with International Statistical Institute (Netherlands), Institute of Quality Assurance (UK) and Asia Pacific Quality Organization (Phillipines). In recognition of the services rendered by IAPQR in promoting the cause of Quality and Reliability in the country, Bureau of Indian Standards has accepted the representation of the Association in its various technical committees and subcommittees, as also on the National Awards Committee for Rajiv Gandhi National Quality Award.
For more details, visit:http:/www.iapqr.org

Registration

Please send your Application / Registration Form to:

Prof. Bikas K. Sinha [India]
Email: bikassinha1946@gmail.com
Contact No: +919433888015

Prof. Tapio Nummi [Finland]
Email: Tapio.Nummi@tuni.fi

Last date of Registration – May 2, 2022
Registration fee – *Rs. 1000 per delegate* [*for India*] (*online*)
Bank details–*Bank Account (Savings Bank) No: 025010100158558*
Beneficiary Name– *Indian Association for Productivity, Quality and Reliability*
Bank Name– *AXIS Bank*; **MICR Code**– *700211006*; **IFSC Code**– *UTIB0000025*
Contact person–*Mr Dipankar Chatterjee* (**Cell :** +916289401085; +919432203770)
Email –*dipchotto@gmail.com*and *iapqr@yahoo.co.in*

Registration Form

Name:.....

Designation:.....

Organization:.....

Address for correspondence:.....

City: **Pin:**

Telephone No: (O)

Mobile/WhatsApp:

E-mail: