



OVERCOMING CHALLENGES IN INTEGRATING ELECTRICAL SYSTEMS FOR FOREST TRANSPORT AND HARVESTING: AN ANALYSIS AND COMPARISON OF EMERGING AND ESTABLISHED INITIATIVES

Abstract: The integration of electrical systems into forest transportation and harvesting technologies presents significant opportunities for reducing environmental impact and improving efficiency. However, the transition from traditional systems to electrified alternatives faces a range of challenges, including technological, economic, and infrastructural barriers. This seminar will explore the key challenges in implementing electrical systems for transport and harvesting applications, focusing on issues such as battery technology, energy storage and consumption, grid connectivity, and scalability. A critical aspect of this transition is the coexistence of electrical and traditional systems, as these technologies will likely operate side by side for the foreseeable future. The session will examine how hybrid systems can be optimized for efficiency and performance during this period of parallel operation. Furthermore, an analysis of new initiatives will be provided, highlighting their potential advantages and drawbacks in comparison to established solutions. Through case studies and real-world examples, attendees will gain insights into the current landscape of electrified transport and harvesting technologies and understand the necessary steps for achieving a sustainable and efficient transition while managing the dual reliance on both systems.

Biography: Mikael Rönnqvist is a professor in industrial engineering at Université Laval (Département de génie mécanique et génie industriel). He currently holds a Canada Research Chair (tier 1) in Operations Research in Natural Resources. He is a member of the research organisations/networks CIRRELT, FORAC, IID, and CRDM. His research interests are in the areas of industrial and practical use of Operations Research and analytics. He has been involved in the development of many industrial decision support systems based on optimization, in particular in the forest industry. He has successfully participated in many academic competitions where presentations are important. Professor Rönnqvist completed his Ph.D. in optimization at Linköping University (Sweden) in 1993. He has held academic positions in Sweden, New Zealand, Norway and Canada.

The seminar will be in English.

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9 h

Université Laval
Pavillon Palasis-Prince
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Ouvert à tous
Café et viennoiseries

Responsable:
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