



• 30 June – 3 July 2025, Trondheim, Norway •

Invited Session:

Code: 4m288

AI-driven decision-making in closed-loop supply chains

Organized by:

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Increasing interest in closed-loop supply chain research is attributed to both economic and environmental considerations in recent years, which provides a valuable opportunity for stakeholders to optimize revenues and save costs by facilitating the residual value from returns and reducing the usage of virgin resources in landfills. The widespread application of artificial intelligence (AI) techniques in closed-loop supply chain research benefits from its interpretability and autonomy for providing actionable insights through utilizing a large amount of data collected along the product’s entire lifecycle. Additionally, the continuous breakthroughs and innovations in AI techniques can fully empower various links of the closed-loop supply chain, influencing or completely altering the decision-making processes. Many firms today are redefining closed-loop supply chain structures, and operations strategy and even developing new business modes to better utilize AI techniques and achieve breakout growth. As this research area is still in its infancy, several crucial opportunities and avenues remain to enhance our comprehension of possible directions across diverse angles, encompassing themes, applicable scenarios, and methodologies. This session explores the expansive integration of AI for decision-making in closed-loop supply chain management, aiming to promote the smart transformation of closed-loop supply chain operations through enhanced efficiency, reliability, resilience, and sustainability.

Topics may include (but are not limited to):

- The role of AI in supporting closed-loop supply chain decisions
- AI-driven intelligent decision support for supply chain systems and recovery logistics
- Integration of AI with closed-loop supply chain management
- AI-driven operational strategies (e.g., supplier selection, network design, and inventory-routing) from closed-loop supply chain perspectives
- Utilizing AI for optimizing complicated problems in modern closed-loop supply chain operations
- AI-driven resilience measurement in closed-loop supply chains
- Predictive modeling through AI for supporting closed-loop supply chain relevant decisions

INVITATION CODE xxxx

Draft papers reporting original research (limited to 6 pages in IFAC format) are welcome.

When you submit your paper to the IFAC system, you will be required the invitation code **xxxx** in order to associate your paper to the invited session.

IMPORTANT DATES:

Draft papers submission deadline	xx.xx.xxxx
Reviewing papers	xx.xx.xxxx
Final papers submission deadline	xx.xx.xxxx
Early registration deadline	xx.xx.xxxx

Conference website: **xxxx**

Accepted papers will be published open access in Elsevier’s IFAC-PapersOnLine. Post-conferences special issues for extended versions of accepted papers are planned in IFAC and other high-ranked journals.