**Digital Manufacturing Networks**  
*(Chair: Gary Graham)*

- Exploring loss hidden in digital scheduling data. A case of chemical production system  
  Koichi Murata, Takahiro Ishimoto
- Digital transformation in the automotive supply chain  
  Gary Graham, Laird Burns, Patrick Hennelly
- A method for facilitating the design of Industry 4.0 collaborations and its application in the aerospace sector  
  Nikolai Kazantsev, Nikolay Mehandjiev, Pedro Sampaio, Iain Duncan Stalker
- Supply chain digital twins: Opportunities and challenges beyond the hype  
  Jagjit Singh Srai, Ettore Settanni, Naoum Tsolakis, Parminder Aulakh

**Sustainability**  
*(Chair: Ekaterina Yatskovskaya)*

- Consumer driven sustainable supply networks  
  Ekaterina Yatskovskaya, Jagjit Singh Srai
- Soft systems as a helping tool in the assessment of sustainable business practices and risks in a socio-economic-environmental context  
  Isabel Duarte de Almeidaa, J. M. Vilas-Boas da Silva
- Towards the end of the resounding sound of silence: How state intervention forces multinational companies (MNC) to rethink their operations management (OM); The case of waste in the food plastic packaging industry  
  Yannick Pottier
- Fabricating biomedical implants material: A case study based on process plans and environmental impacts  
  Gurvinder Singh, Vikrant Bhakar, Harpreet Singh

**Value Chains and Business Models**  
*(Chair: Naoum Tsolakis)*

- Value chain impacts of EU Waste Framework Directive 2018/851 as a result of reporting substances of very high concern from 2021  
  Sukhraj S. Takhar, Kapila Liyanage
- New business models as regulation changes: Case of Finland and Russia  
  Oskari Lähdeaho, Olli-Pekka Hilmola, Jukka Niiranen
- Business model design elements for electric car service based on digital data enabled sharing platform  
  Lasse Metso, Ari Happonen, Ville Ojanen, Matti Rissanen, Timo Kärri
- Design of B2B e-commerce business models: A configuration and design-science perspective  
  Alexander Kouptsov, Jagjit Singh Srai
### Supply Network Design

(Chair: Laird Burns)

- **Some advanced topics on innovation-focused lean/agile management**
  Hiroshi Katayama

- **The impact of the Fourth Industrial Revolution in the ownership, location and internalization advantages of firms: an exploratory study**
  Evodio Kaltenecker, Lisa Kahle-Piasecki

- **Foster inclusive entrepreneurship in BOP areas: The role of asset specificity and supply chain interconnection**
  Jian Du, Jie Lu

- **Localization or not localization? Evidence from Philips**
  Yue Jia, Bin Guo

### Agri-food Track I

(Chair: Naoum Tsolakis)

- **Sustainable supply network configurations driven by water scarcity: Example of end-to-end beverage supply chain**
  Ekaterina Yatskovskaya, Jagjit Singh Srai, Mukesh Kumar

- **Simulation of future groundwater behaviour in Sirhind Canal Tract of Punjab using MODFLOW**
  Navdeep Kaur, Samanpreet Kaur

- **Management interventions to enhance productivity of wheat and water use in changing climate of Indian Punjab**
  Bharat Bhushan Vashisht

- **Can Input-Output data inform agri-food supply network reconfiguration? The case of water-intensive crop production in developing economies**
  Ettore Settanni, Jagjit Singh Srai, Franz Stephan Lutter

### Mergers and Acquisitions

(Chair: Pavan Manocha)

- **Exploring the implications of M&A for global production networks**
  Oliver Flaeschner, Torbjörn Netland, Kasra Ferdows, Jagjit Singh Srai

- **Analysing the financial sustainability in mergers and acquisitions for Chinese manufacturing firms**
  Xiaobo Wu, Ye Hua, Yongjiang Shi

- **Exploring circular economy supply chain considerations in Mergers & Acquisitions – How green is the deal? A natural-resource-based view of the U.S. shale oil & gas product-supply chain**
  Pavan Manocha, Jagjit Singh Srai

- **Exploring visual management and continuous improvement in a manufacturing context: A structured bibliometric analysis**
  Lucia Olszewski, Arijit Bhattacharya, Tomás Seosamh Harrington
<table>
<thead>
<tr>
<th>RESEARCH THEMES</th>
<th>SESSION THREE: 15.00</th>
</tr>
</thead>
</table>

**Technology and Innovation**  
(Chair: Ettore Settanni)

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows of opportunity: Technology cycles, demand conditions, and strategy</td>
<td>Xiaobo Wu, Yuanyang Teng, Yongjiang Shi, Sasa Ding</td>
</tr>
<tr>
<td>Exploring the feasibility of anchoring innovation by enhancing the linkage between manufacturing research networks and supply chains</td>
<td>Michael Ward, Janet Godsell</td>
</tr>
<tr>
<td>Developing fava beans as a sustainable source of high-quality protein for food supply chains through optimised genetics, farming and processing</td>
<td>Naoum Tsolakis, Thomas Wood, Isabelle Privat, Bénédicte Terrier, Jean-Michel Roturier, Jagjit Singh Srai, Howard Griffiths</td>
</tr>
</tbody>
</table>

**Agri-food Track II**  
(Chair: Tomás Seosamh Harrington)

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub surface drip fertigation in summer moong-maize-wheat cropping system: A novel technique for sustainable water use and higher resource use efficiency</td>
<td>Ajmer Singh Brar, Kuljit Kaur</td>
</tr>
<tr>
<td>Role of Farmer Producers Organizations (FPOs) in Punjab</td>
<td>Puneet Singh Thind</td>
</tr>
<tr>
<td>Digital FPO design: The development of an institutional-socially responsible supply network framework</td>
<td>Tomás Seosamh Harrington, Jagjit Singh Srai</td>
</tr>
</tbody>
</table>

**Risk and Complexity**  
(Chair: Mukesh Kumar)

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>A new approach to optimising supply-chain performance using 4 fundamental process types</td>
<td>David Anker, Glenn Chambers</td>
</tr>
<tr>
<td>Application of the concept of supply chain reliability for an availability assessment of inland waterway systems</td>
<td>Johannes M. Gast, Rebecca Wehrle</td>
</tr>
<tr>
<td>Impact of supply chain risk management on organizational performance: Moderating role of supply chain integration</td>
<td>Sabeen Hussain Bhatti, Asif Ali Bhatti</td>
</tr>
</tbody>
</table>