Supply Chain Innovation and Resilience Lab (SCIRL)
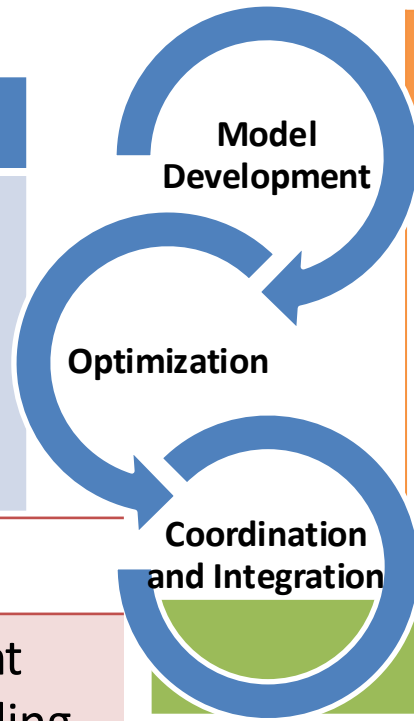
Modeling & Analytics

- Large-Scale Mathematical Modeling
- Game-Theoretic Modeling
- Discrete-Event Simulations
- Machine Learning for Predictive Analytics
- Data-Driven Decision Making

Model Development

Optimization

Coordination and Integration

Resilient & Sustainable Supply Chains

- Supply Chain Coordination
- Green Logistics and Decarbonization
- Freight Consolidation & Routing
- Multi-modal Transportation Planning
- Supply Chain Disruption Management
- Resilience Metrics and Analytics

Critical Infrastructure & Networks

- Emergency Response and Humanitarian Logistics 🚑
- Energy Demand and Supply Management ⚡
- Maintenance, Overhaul and Repair 🔧
- Regional Transportation Network Design 🗺️

SCIRL Mission

To design adaptive, sustainable, and resilient supply chain systems using advanced modeling, analytics, and real-world data integration.

Impact:
- Advance research on supply chain management
- Informs industry & public-sector planning
- Enhances community resilience

Dr. Murat Erkoc