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### **Recent applications of Variable Neighborhood Search**

Over the past two decades, reverse logistics and closed-loop supply chain networks have gained substantial interest in business and academia. The dynamic lot sizing problem with product returns and recovery is one of the most extensively researched topics in inventory control literature. Several interesting generalizations of this optimization problem have lately emerged that include the multi-product case, the case with capacity constraints, and others. In this lecture, we present recent successful applications of Variable Neighborhood Search for the efficient solution of such problems, review the state-of-the-art solution methods, and also discuss some open research problems.

This is joint work with I. Konstantaras

Related references:

- Sifaleras, A., & Konstantaras, I. (2017). Variable neighborhood descent heuristic for solving reverse logistics multi-item dynamic lot-sizing problems. *Computers & Operations Research*, 78, 385-392.
- Sifaleras, A., Konstantaras, I., & Mladenović, N. (2015). Variable neighborhood search for the economic lot sizing problem with product returns and recovery. *International Journal of Production Economics*, 160, 133-143.