Europa-Universität Viadrina, PF 1786, 15207 Frankfurt (Oder)

Wirtschaftswissenschaftliche Fakultät
Lehrstuhl für Supply Chain Management
Prof. Dr. Christian Almeder
Tel.: +49 (0) 335 55 34-22 54
Fax: +49 (0) 335 55 34-722 54
almeder@europa-uni.de
http://www.wiwi.europa- uni.de/scm

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Report on the
EWI 2018 – EURO Winter Institute on Lot Sizing and Related Topics

Date: March 5th - 16th, 2018
Location: European University Viadrina in Frankfurt(Oder), Germany

Organizing committee:
- Christian Almeder (Professor for Supply Chain Management, European University Viadrina)
- Achim Koberstein (Professor for Business Informatics, European University Viadrina)
- Christina Brühe (Secretary)
- Fanny Hein (Research Assistant)
- Tom Vogel (Research Assistant)
- Marcus Hedt (Research Assistant)
- Pavlo Glushko (Research Assistant)

Program committee:
- Nabil Absi (Mines Saint-Etienne, France)
- Bernardo Almada-Lobo (Universidade do Porto, Portugal)
- Christian Almeder (European University Viadrina, Frankfurt/Oder)
- Stéphane Dauzère-Pérès (Mines Saint-Etienne, France)
- Kerem Akartunali (University of Strathclyde, UK)
- Raf Jans (HEC Montreal, Canada)
- Wilco van den Heuvel (Erasmus University Rotterdam, Netherlands)

Number of applications received: 26 (24 external, 2 internal)
Number of accepted participants: 22 (20 external, 2 internal) – 1 external participant canceled on short notice.

List of accepted participants:

Last name	First name	Country	
Acevedo-Ojeda	Andrés	Columbia	canceled
Andrade	Xavier António Reis	Portugal	
Chen	Sylvia (Shou)	Australia	
Christ	Quentin	France	
Curcio	Eduardo	Portugal	
Diaz	Aldair Alberto Alvarez	Brazil	
Fiorotto	Diego Jacinto	Brazil	
Friese	Fabian	Germany	
Gruson	Matthieu	Canada	
Hein	Fanny	Germany	internal
Hua	Jin	UK	
Kubur Özbel	Burcu	Turkey	
Malicki	Sebastian	Germany	
Marchi	Beatrice	Italy	
Melaga	Gislaine	Brazil	
Öykü Naz	Attila	UK	
Phouratsamay	Siao-Leu	France	
Rickers	Steffen	Germany	
Sereshti	Narges	Iran	
Shen	Xueying	France	
Vogel	Tom	Germany	internal
Xiang	Mengyuan	UK	

- **Scientific program:**
The scientific program consisted of seven 3h-tutorials given by experienced senior researchers:
  - Alistair Clark (University of the West of England, UK)
  - Richard F. Hartl (University of Vienna, Austria)
  - Bernardo Almada-Lobo (University of Porto, Portugal)
  - Stéphane Dauzère-Pérès (École des Mines de Saint-Étienne, France)
  - Wilco van den Heuvel (Erasmus University Rotterdam, Netherlands)
  - Christian Almeder (European-University Viadrina Frankfurt-Oder, Germany)
  - Achim Koberstein (European-University Viadrina Frankfurt-Oder, Germany)

In addition, all participant gave extensive 45min presentations about their current research and received detailed feedback through discussion with the whole group as well as discussion in smaller feedback rounds with one or two senior researchers and two other participants. Furthermore, there was plenty of room for individual discussions between the participants on various research topics.

Detailed scientific program:

	Session 1 (9:00 - 10:30)	Session 2 (11:00 - 12:00)	Session 3 (13:00 - 14:00)	Session 4 (14:00 - 15:00)	Feedback round (15:30 - 17:30)
5-Mar	Tutorial (Christian Almeder): Welcome / Introduction to lot-sizing		**Diego Fiorotto** Integrated Lot Sizing and Blending Problems	**Quentin Christ** An Approach for Operational Production and Capacity Planning in Semiconductor Manufacturing	Fiorotto, Christ, Almeder, Andrade, Phouratsamay
6-Mar	Tutorial (Wilco van den Heuvel): Exact solution approaches for single-item lot-sizing problems		**Öykü Naz Attila** Efficient methods for solving the robust lot sizing problem with remanufacturing option	**Beatrice Marchi** Energy considerations for the Joint Economic Lot Sizing	Attila, Marchi, van den Heuvel, Friese, Diaz
7-Mar	(9:00 - 10:00) **Mengyuan Xiang** Computing non-stationary (s; S) policies using mixed integer linear programming	Feedback round: Xiang, Almeder, van den Heuvel, Sereshti		Excursion	
8-Mar	Tutorial (Richard Hartl): Metaheuristics for Logistics Problems		**Burcu Kubur Özbel** A Mathematical Programming and Particle Swarm based Optimization Algorithm for Solving Dynamic Lot Sizing and Scheduling Problem in Make-to-Order, Multi-Constrained Production Environments with an Application	**Fanny Hein** A Simple Construction Heuristic for the Supply Vehicle Routing and Lot Sizing Problem enhanced by Genetic Programming	Özbel, Hein, Hartl, Almeder, Shen, Melaga
9-Mar	Tutorial (Alistair Clark): Applications of Lot Sizing		**Xavier Andrade** Product-line design: a mathematical model with operational considerations	**Jin Hua** Impact of tax legislation on lot-sizing and sourcing strategies	Andrade, Hua, Clark, Rickers Fiorotto
10-Mar			Excursion		
11-Mar			Day Off		
12-Mar	Tutorial (Achim, Koberstein): Stochastic optimization		**Eduardo Curcio** Recent advances on integration of lot-sizing problems under uncertainty	**Fabian Friese** Responsive stochastic capacitated lot sizing with dynamic safety stocks under service constraints	Curcio, Friese, Koberstein, Almeder, Malicki, Xiang
13-Mar	Tutorial (Bernardo Almada-Lobo): Mathematical programming-based heuristics for integrated lot-sizing		**Sylvia (Shou) Chen** Mathematical models for lot-sizing and scheduling problems considering perishability	**Steffen Rickers** Perishability in integrated procurement and reprocessing planning of reusable medical devices in hospitals	Chen, Rickers, Almada-Lobo, Christ, Vogel
14-Mar	(8:30 - 9:30) **Sebastian Malicki** Stochastic Inventory Routing with Serially Correlated Demands and Time Windows / (9:30 - 10:30) **Xueying Shen** Heuristics for a Complex Lot Sizing Problem with Parallel Machines and Production Time Windows in Apparel Manufacturing	Feedback round: Malicki, Shen, Almeder, Almada-Lobo, Hein, Attila		Excursion	
15-Mar	Tutorial (Stephane Dauzere-Peres): Integration of lot-sizing decisions with other tactical and/or operational decisions		**Aldair Diaz** Column generation for the Inventory Routing Problem	**Matthieu Gruson** Decomposition methods for an integrated three-level lot sizing and transportation problem with a distribution structure	Diaz, Gruson, Dauzere-Peres, Chen, Hua
16-Mar	(8:30 - 9:30) **Gislaine Melaga** Generalized 3-Levels Integrated Lot-Sizing and Cutting Stock Problem: Solution Methods / (9:30 - 10:30) **Narges Sereshti** Stochastic Lot Sizing Problem with Joint Service Level Constraints	Feedback round: Melaga, Sereshti, Dauzere-Peres, Curcio, Marchi	**Siao-Leu Phouratsamay** Coordination of a two-level supply chain with supplier's market power and capacity reservation contract	**Tom Vogel** Solving the multi-level capacitated lot-sizing problem with lead time consideration	Phouratsamay, Vogel, Almeder, Özbel, Gruson

Socializing activities:

Besides the research, a lot of social activities supported the interaction, communication, and collaboration within the group. There were excursions, sportive and cultural activities:

- Welcome reception
- Welcome dinner
- Visit of the Heinrich Kleist museum
- Excursion to the steel mill of Accelor Mittal in Eisenhüttenstadt
- Classical concert in the Concert Hall of Frankfurt(Oder)
- Badminton tournament in the sports hall
- Bowling evening
- Excursion to the Lausitzer brown coal mines
- Visit of the Polish town Slubice
- Excursion to the Cloister and Brewery of Neuzelle
- Farewell Dinner

Financial Aspects:

The event was supported by:

- EURO: € 21.000 (€ 5.000 + € 800 per participant)
- German OR Society: € 3.000
- European University Viadrina: lecture rooms, offices, IT-equipment, support staff (security, secretary)

Expenditures (aggregated):

- Accommodation (hotel for participants):   €13,167.00
- Traveling cost of senior lectures: €2,415.38
- Lunches and coffee breaks: €1,588.06
- Excursions: €3,803.80
- Evening activities: €2,542.09
- Other cost: €60.86
- **Total:**   **€23,577.19**

Prof. Dr. Christian Almeder