

15th ESICUP Meeting

Zoetermeer, The Netherlands, May 23-25, 2018

Organization

EURO

THE ASSOCIATION OF
EUROPEAN OPERATIONAL
RESEARCH SOCIETIES

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ESICUP
CUTTING AND
PACKING

ORTEC

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Program Committee:

José Fernando Oliveira (Chair), University of Porto

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Organised by:

ESICUP – EURO Special Interest Group on Cutting and Packing

ORTEC

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ORTEC

Zoetermeer, The Netherlands, May 23–25, 2018

Welcome

Dear Friends,

Welcome to the 15th Meeting of ESICUP - The EURO Special Interest Group on Cutting and Packing. Since its formal recognition as a EURO Working Group in 2003, ESICUP has run a series of annual meetings which have successfully brought together researchers and practitioners in the field of cutting and packing. Previous meetings have been organized in Wittenberg (Germany), Southampton (United Kingdom), Porto (Portugal), Tokyo (Japan), L'Aquila (Italy), Valencia (Spain), Buenos Aires (Argentina), Copenhagen (Denmark), La Laguna (Spain) and Lille (France), Beijing (China), Portsmouth (United Kingdom), Ibiza (Spain), Liège (Belgium) and this 15th meeting is now held in Zoetermeer (Netherlands).

Once again, this meeting will serve as an instrument for the development of research and the dissemination of knowledge in our field. Twenty eight papers have been accepted for presentation, allowing for clear insights into the current state-of-the-art of cutting and packing and preparing the ground for fruitful discussions.

We are delighted to be holding the meeting at the offices of ORTEC. ORTEC is one of the world's leaders in optimization software and analytics solutions. Turning complex challenges into easy-to-use solutions. ORTEC was founded on April 1st, 1981 by five innovative thinkers. These Econometrics students at Erasmus University Rotterdam believed the mathematical theories and algorithms they worked on could be practically applied to significantly improve business performance. Two of those founders, Aart van Beuzekom and Gerrit Timmer, still work side by side today as CEO and CFO. Their global team includes many PhDs and professors in Econometrics and Applied Mathematics – all devoted to innovation and the success of every customer – providing world class technology and consulting services.

Zoetermeer is a city in the western Netherlands. A small village until the late 1960s, it had 6,392 inhabitants in 1950. By 2013 this had grown to 123,328, making it the third largest population centre in the province of South Holland, after Rotterdam and The Hague. The name Zoetermeer (Dutch for "freshwater lake") refers to the former lake north of the town (reclaimed in 1614). Because the name literally translates as "sweet lake" local residents have dubbed Zoetermeer "Sweet Lake City".

We wish all of you a successful conference and a very pleasant stay in Zoetermeer!



Julia Bennell
University of Southampton
Program Chair



Joaquim Gromicho
ORTEC
Local Organizer Chair

Zoetermeer, The Netherlands, May 23–25, 2018

15:30 – 17:00

Session 4

Chair: Tony Wauters

- 4.1 – Beam Search for the 2D-Single Knapsack Problem
Carlos Alegría*, Julia A. Bennell¹, Marta Cabo*, A. Martínez Sykora¹
- 4.2 – An archaeological irregular packing problem
J.A. Bennell*, M. Cabo Nodar¹, C. Lamas Fernandez*, A. Martinez-Sykora*
- 4.3 – A cutting plane approach for the two-dimensional rectangular strip packing problem
Isabel Friedow*, Guntram Scheithauer*
- 4.4 – Improving a semi-discrete lines representation for the 2D irregular strip packing problem
Wojciech Kuberski*, Dirk Roose*, Tony Wauters*

Friday, May 25th

8:45 – 10:40

Session 5

Chair: José Fernando Oliveira

- 5.1 – The method of artificial expansion of space in the optimal problem of balls
Sergey Yakovlev*, Oleksii Kartashov*, Kyryl Korobchynsky*
- 5.2 – On problems of optimization in the configuration space of spherical objects with variable radius
Sergey Yakovlev*, Sergey Shekhovtsov*, Bogdan Skrypka*
- 5.3 – The manufacturer's pallet loading problem with stability constraints – A case study
António G. Ramos*, Elsa Silva¹, Pedro Lopes*, Pedro Ribeiro¹
- 5.4 – The Skiving Stock Problem and its Application to Wireless Communications
John Martinovic*, Eduard Jorswieck*, Guntram Scheithauer*, Andreas Fischer*
- 5.5 – A mathuristic approach for stochastic problems with scarce information on uncertainty: paving the way to deal with uncertainty in Cutting and Packing?
Beatriz Brito Oliveira*, Maria Antónia Carravilla*, José Fernando Oliveira*, Alysson Machado Costa¹

11:10 – 12:40

Session 6

Chair: Antonio G. Ramos

- 6.1 – Metaheuristic solution of the two-dimensional strip packing problem
Rosephine Georgina Rakotonirainy*, Jan H van Vuuren*
- 6.2 – A parallel branch and bound for the 3D Cutting and Packing Problem
Everton Fernandes da Silva*, Tony Wauters*
- 6.3 – Improved Layout structure with Complexity measure for the Manufacturers pallet-loading problem (MPLP) using a Mega-box Approach
Doemah Aljuhani*, Lazaros G. Papageorgiou*
- 6.4 – Load Balance recovery for multi-drop distribution problems – a mixed integer linear programming approach
Elsa Silva*, António G. Ramos¹, José F. Oliveira¹

12:40 – 12:50

Closing Session

Social Program

• Get-together Evening

May 23, 2018, from 18:00,
Golden Tulip Hotel Zoetermeer,
Address: Kinderen van Versteegplein 18, 2713 HB Zoetermeer
Note: Drinks and buffet-style dinner are available on a pay-yourself basis.

• Conference dinner

May 24, 2018, from 19:30,
Euromast
Address: Parkhaven 20, 3016 GM Rotterdam
Three courses (starter + main + dessert), drink included.
Fee included in the registration fee
This restaurant is located at a height of 100 meters with a spectacular view. During the evening it is possible to visit the top to have an even better view over Rotterdam
A coach is arranged to bring you from Zoetermeer to the Euromast between 18:30 and 18:45 and back again after the dinner (fee included in the registration fee)