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### Invited keynotes

**Malevich's painted squares and the Birch and Swinnerton-Dyer conjecture**, Prof. Dr. Franck Leprevost, University of Luxembourg, Luxembourg

**Machine learning into metaheuristics**, Prof. El-Ghazai Talbi, University of Lille

### Special sessions

**1. "Image and signal processing using learning-optimization"**, by Dr Amir Nakib (University Paris Est, France)

**2. "Parallel and distributed metaheuristics and machine learning"**, by Jan Gyms (Univ. Mons, Belgium), Nouredine Melab (Univ. Lille & INRIA, France)

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# Program at glance

## Jan 29

8h30	<b>Registration and Opening</b>
9h00	Session <b>Learning for optimization</b> (chair: Dr S. Piyawut)
10h40	Coffee Break
11h10	Chair: Prof. P. Bouvry
	Keynote <b>Malevich's painted squares and the Birch and Swinnerton-Dyer conjecture</b> , Prof. Dr. Franck Leprevost, University of Luxembourg
12h10	Lunch
13h30	Session <b>Optimization</b> (chair: Prof. A. Yassine)
15h10	Coffee Break
15h40	Session <b>Optimization/learning applications</b> (chair: Prof. E-G. Talbi)

## Jan 30

9h00	Session <b>Optimization for learning</b> (chair: R. Santana)
10h40	Coffee Break
11h10	Session <b>Machine learning</b> (chair: Prof. A. El-Afia)
	Tutorial <b>Machine learning for metaheuristics</b> El-Ghazali Talbi (Univ. Lille, France)
12h50	Lunch



# Detailed program: Tuesday, Jan 29

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**8h30 – 9h00 Registration & Opening Session**

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**9h00-10h40**

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Session **Learning based optimization** (chair: Dr S. Piyawut)

- GP hyper-heuristic for the travelling salesman problem, *Gabriel Duflo, Emmanuel Kieffer, Grégoire Danoy, Pascal Bouvry*
- Machine Learning from Prior Designs for Facility Layout Optimization  
*Hannu Rummukainen, Jukka Nurminen, Timo Syrjänen, Jukka-Pekka Numminen*
- Tuning Iterated Local Search Variants, *Mohamed Saifullah Hussin, Thomas Stuetzle*
- How Evolutionary Algorithms and Information Hiding deceive machines and humans for image recognition: A research program, *Franck Leprevost, NICOLAS BERNARD*
- Transforming Collaboration Data into Network Layers for Enhanced Analytics  
*Saharnaz E. Dilmaghani, Apivadee Piyatumrong, Pascal Bouvry, Matthias Brust*

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**10h40 – 11h10 – Coffee break**

**11h10 - 12h10**

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Chair: Prof. Pascal Bouvry

**Keynote Malevich's painted squares and the Birch and Swinnerton-Dyer conjecture**, Prof. Dr. Franck Leprevost, University of Luxembourg, Luxembourg

**Session Optimization** (chair: Prof. Adnan Yassine)

- A Genetic Programming Approach for Flow Shop Scheduling Problems with Alternative Resources, Sequence-dependent Setup Times, and Blocking  
*Frank Benda, Roland Braune, Richard Hartl, Karl Doerner*
- Extreme Solutions NSGA-III (E-NSGA-III) for Multi-Objective Constrained Problems  
*Peerasak Wangsom, Kittichai Lavangnananda*
- Embedding Ordinal Optimization into Tree-Seed Algorithm for Pull-Type Production System  
*Shih-Cheng Horng, Shieh-Shing Lin*
- A Cooperative approach for optimizing Supply Chain Management in Decentralized context  
*Hamdi Dkhil, Adnan Yassine, Ibrahima Diarrassouba*
- Preceding-Jump Simplex method, *Natdanai Kafakthong, Krung Sinapiromsaran*

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**15h10 – 15h40 – Coffee break**

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**15h40**

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**Session Optimization/learning applications** (chair: Prof. El-Ghazali Talbi)

- Comparison between reinforcement learning and optimization methods applied to the management of the corsican multi-species fishery, *Nicolas Poiron-Guidoni*
- Optimal Pricing for Socially-aware Usage of Cloud Services, *Chao LIU, Pascal Bouvry*
- Reticulated Structures Optimization, *Chiheb Raddouane, Zineb Biallaten, Abdellatif Elafia*
- Efficient Generalized Simulated Annealing using Fuzzy Logic Controller for Large Scale Problems  
*Abdellatif El Afia*
- Contribution to dynamic traffic flow modeling: Macroscopic Approach to illustrate congestion on an urban network, *Sara haddouch, hanaa hachimi, Nabil Hmina*



# Detailed program: Wednesday, Jan 30

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**9h00-10h20**

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## Session **Optimization and learning** (chair: Dr. Roberto Santana)

- Approximation of the objective insensitivity regions using Hierarchic Memetic Strategy coupled with Covariance Matrix Evolutionary Strategy , *Jakub Sawicki, Maciej Smolka, Marcin Łoś, Robert Schaefer*
  - Auto-Scaling Apache Spark Cluster using Deep Reinforcement Learning *Kundjanasith Thonglek, Kohei Ichikawa, Chatchawal Sangkeettrakarn, Apivadee Piyatumrong*
  - Semantic composition of word-embeddings with genetic programming *Roberto Santana*
  - Finite Automatic Brain Design Based On Finite Element Method *Mingyong Zhou*
  - Heuristic solution for the  $\{\alpha, \beta\}$ -k Feature Set Problem *Amir Salehipour*
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**10h40 – 11h10 – Coffee break**

**11h10 - 12h50**

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## Session **Machine learning** (chair: Abdellatif El-Afia)

- A Three-step Fault Diagnosis Framework towards Imbalanced Data *Yuyan Zhang, Xinyu Li, Liang Gao, Wen Chen, Long Wen*
- Algorithms towards The Automated Customer Inquiry Classification *gulshat kessikbayeva, Nazerke Sultanova, Yerbolat Amangeldi, Roman Yurchenko*

**Tutorial Machine learning into metaheuristics**, Prof. El-Ghazali Talbi (University of Lille, France)













## Conference Place: Hotel Grande Centre Point Terminal 21 - Bangkok

Grande Centre Point Terminal 21 is located in Thailand's central vibrant and exciting shopping and dining district, Asok- Sukhumvit. Terminal 21 shopping centre is just adjacent to the hotel whereas Benjakiti Park can be reached only 10-minute walk.

Grande Centre Point Terminal 21 is also an environmental friendly hotel that direct connect to the BTS Skytrain and MRT underground rail networks allowing our guests to access the rest of the city



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