

International Conference on  
Metaheuristics and Nature Inspired Computing



October 27th-31th 2014

Marrakech, Morocco



## META 2014



## Program

## **META'14 is organized by**

- LIFL Computer Science Laboratory of Lille (Laboratoire d'Informatique Fondamentale de Lille), Sciences and Technologies University of Lille (Université Lille 1), France
- INRIA Lille Nord Europe, France
- GDR RO, France
- EMI, Morocco
- ENIM, Morocco
- Hawsting

### **Conference chairs**

- Prof. E-G. Talbi (Conference Chair, University Lille 1, France)
- Prof. R. Ellaia (Vice-chair, EMI, Morocco)
- Prof. K. Mellouli (Vice-chair IHEC, Tunisia)

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- F. Legillon (Tasker, France)
- A. Aouatif (ENSA, Kenitra, Morocco)

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- K. Sorensen (BE)
- T. Stützle (BE)
- J. Teghem (BE)
- K-C. Tan (SG)
- F. Yalaoui (FR)
- S. Voss (DE)
- X-S. Yang (UK)
- A. Zomaya (AU)

## Special sessions

1. Variable neighborhood search organized by Nenad Mladenovic (Brunel University, London, UK)
2. Metaheuristics for dynamic optimization organized by Prof. Patrick Siarry (University of Paris Est Créteil, Paris, France)
3. Parallel metaheuristics organized by Prof. Domingo Jimenez Canovas (University of Murcia, Spain)
4. Metaheuristics for bi-level and hierarchical optimization organized by Ekaterina Alekseeva (Russia) and El-ghazali Talbi
5. Metaheuristics applied to Bioinformatics and Computational Biology organized by Horacio Perez-Sanchez and Chema Cecilia (Catholic University of Murcia UCAM, Spain)
6. Advanced metaheuristics for integrated supply chain management organized by Prof. Lyes Benyoucef (Aix-Marseille University, Marseille, France) and Prof. Manoj Kumar Tiwari (Indian Institute of Technology, Kharagpur, India)
7. Metaheuristics for networks and telecommunications organized by Salim Bitam and Pr. Noureddine Djedi (LESIA Laboratory, University of Biskra, DZ)
8. Metaheuristics for manufacturing systems scheduling, organized by Fayçal Belkaid, Prof Zaki Sari (University of Tlemcen), Prof Farouk Yalaoui (University of Technology of Troyes, France)
9. Metaheuristics for the optimization of production and assembly lines design, organized by Dr. Hichem Chehade, Yassine Ouazene, Prof. Lionel Amodeo, Prof. Farouk Yalaoui (University of Technology of Troyes, France)
10. Metaheuristics and cloud computing, organized by Dr. Bernabé Dorronsoro, Dr. Sébastien Varrette (University of Luxembourg, Luxembourg)
11. Metaheuristics for distributed systems, organized by Dr. Huy-Nam Nguyen (BULL), Dr. Amir Nakib (University of Paris Est),
12. Scheduling under uncertainties, organized by Dr. Faicel Hnaien, Prof. Farouk Yalaoui (University of Technology of Troyes, France)
13. Advanced heuristics in transportation and logistics, organized by Dr. Abdelkader Sbihi (EM Normandie, France), Prof. Adnane Yassine (Univ. Havre, France)
14. Metaheuristics for risk analysis in power systems, organized by Dr. Frédéric Heliodore (Alstom Grid)
15. Optimization and energy, organized by Dr. Jean-Yves Lucas (EDF)
16. Cooperative local search and space decomposition strategies, organized by Dr. Abdelkader Sbihi (EM Normandie, France), Prof. Adnane Yassine (Univ. Havre, France)
17. Metaheuristics on GPUs, organized by Malika Mehdi, Ahcene Bendjoudi et Youcef Djenouri (CERIST, Algeria)
18. Optimization in Healthcare systems, organized by Prof. Slim Hammadi (Ecole Centrale, Lille), Dr. Hayfa Zgaya (ILIS, Univ Lille 2)
19. Metaheuristics for signal and image processing, organized by Dr. Amir Nakib (UPEC, France), Atef Hamouda, Narges Doggaz (Univ. Tunis, Tunisia)
20. Metaheuristics for intelligent transportation systems, organized by Dr Marcin Seredynski, Dr Wassila Mtalaa, Dr Djamel Khadaroui (Public Research Centre Henri Tudor, Luxembourg)

21. Metaheuristics for vehicle routing problem with profits, organized by Prof. Brahim Aghezzaf (Université Hassan II Casablanca, Morocco)
22. Metaheuristics in clustering and classification, organized by Prof. Pedro Isasi (Carlos III University, Madrid, Spain), Bernard Manderick (Vrije Universiteit Brussel, Belgium)
23. Metaheuristics under uncertainty, organized by Prof. Camino R. Vela, Prof. Inès González-Rodríguez, Prof. Ramiro Varela Arias (University Oviedo, Gijón, Spain)
24. Recent developments in swarm intelligence, organized by Dr Christian Blum (University of the Basque Country, Spain) and Dr Mario Pavone (University of Catania, Italy)
25. Hybrid metaheuristics, organized by Dr Julien Lepagnot (Université de Haute-Alsace, France) and Dr Lhassane Idoumghar (Université de Haute-Alsace, France)
26. Applications and theory of multiobjective optimization organized by ATOM Group of GDR-RO and ROADEF, by Dr Mathieu Basseur (Université d'Angers, France), Pr Laetitia Jourdan (University of Lille, France) and Dr Thibaud Lust (University of Paris 6, France)
27. Metaheuristics for real-world applications organized by Dr Grégoire Danoy, Prof. Pascal Bouvry (University of Luxembourg)
28. Metaheuristics for graph problems organized by Dr HendBouziri (University of Tunis)
29. Metaheuristics for cyber security organized by Dr Julio Hernandez-Castro (Kent University, UK), Prof. John Clark (University of York, UK)
30. Local search techniques for real-world logistics organized by Prof. Nicolas Zufferey
31. New Paradigms for Bio-inspired Heuristics organized by Dr Abdel Salhi (University of Essex, UK), Prof. Eric S. Fraga (University College of London, UK)
32. Multidisciplinary optimization with uncertainties organized by Prof. A. El Hami (INSA Rouen, France), Prof. E. S. de Cursi (INSA Rouen, France), Prof. P. Breitkof (UTC, France)
33. Autonomy, reliability and adaptive systems of systems organized by Prof. M. Itmi (INSA Rouen, France), Prof. A. El Hami (INSA Rouen, France),
34. Optimization for smart grids organized by Dr. S. Elaoud (INRIA, France), Prof E-G. Talbi (Univ. Lille, France),
35. White, gray and black box algorithm configuration organized by Prof Patrick De Causmaecker (KU Leuven, Belgium),
36. Metaheuristics applied to multi-level shape optimization organized by Prof Badr Abou El Majd (Univ. Hassan II, Morocco),

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# Program at glance

## October 28

8h30	Opening Session		
	Room 1	Room 2	Room 3
9h	Vehicle Routing	Local Search and Decomposition	Optimization under Uncertainty
10h40	Coffee Break		
11h	Tutorial 1 <i>Swarm Intelligence in Optimization</i>	Variable Neighborhood Search	Supply chain management
12h20	LUNCH		
14h30	Networks	Scheduling	Parallel Metaheuristics
16h10	Coffee Break		
16h40	Networks	Multi-objective Optimization	Image and Signal Processing

## October 29

	Room 1	Room 2	Room 3
9h	Production and Planning	Bi-level Optimization and Game theory	Power and Energy System
10h40	Coffee Break		
11h	Tutorial 2 <i>Enlarging the Paradigm of Ant Algorithms</i>	Optimization under Uncertainty	
12h20	LUNCH		
14h30	Logistics and Transportation	Machine Learning	Dynamic Optimization
16h10	Coffee Break		
16h40	Logistics and Transportation	Bioinformatics and Healthcare	Security and Risks
19h30	Gala Dinner		

## October 30

	Room 1	Room 2	Room 3
9h	Hybrid Metaheuristics	Logistics and Transportation	New Trends
10h40	Coffee Break		
11h	Tutorial 3 <i>Performance Variability in Mixed-Integer Programming and its Effect in Benchmarking</i>	Cloud and Cluster Computing	Posters
12h20	LUNCH		
14h30	Hybrid and Parallel Algorithms	High Performance Computing	Multi-objective Optimization
16h10	Coffee Break		
16h40	Tutorial 4 <i>The Clonal Selection Paradigm for Optimization in Continuous and Discrete Search Spaces</i>	Continuous Optimization	Supply Chain and Production
18h10	CLOSING		



# Detailed program

Monday, October 27

**9h-12h Registration**

**14h-17h Registration**

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**8h30 – 9h – ROOM 1 - Opening Session – EG. Talbi**

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**9h-10h40**

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**Room 1 - Vehicle routing (B. Shelbourne)**

- Metaheuristics for the vehicle routing problem with job availability constraints  
*Benjamin Shelbourne, Chris Potts, Battarra Maria*
- A GRASP for the Surveillance Patrol Vehicle Routing Problem  
*Simona Mancini*
- Discrete PSO for VRPTW with quality objective  
*Julio Brito, Airam Expósito, José Moreno*
- An Enhanced Evolutionary Local Search for the Split Delivery Vehicle Routing Problem  
*Sanae LARIOUI, REGHIOUI Mohamed, Prins Christian*
- An Hybridization of a Genetic algorithm with a Tabu Search for the Vehicle Routing Problem with Time Windows  
*Akli Meriem, Aider Méziane*

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**Room 2 - Local search and decomposition (M. Basseur)**

- Unconventional Pivoting Rules for Local Search  
*Matthieu Basseur, Adrien Goëffon*
- The P-median problem: A computational experience  
*María Beatriz Bernábe, Rogelio González, Martín Estrada*
- A Multilevel WalkSAT For The Maximum Satisfiability Problem  
*Noureddine Bouhmala*
- 'Guided' Restarts Hill-Climbing  
*David Catteeuw, Madalina Drugan, Bernard Manderick*
- Polynomial-time Local Improvement Algorithm for Consecutive Block Minimization  
*Salim Haddadi, Sara Chenche, Meryem Cheraitia, Fatima Guessoum*

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**Room 3 - Optimization under uncertainty I (M. Aider)**

- Genetic Beam Search for Fuzzy Open Shop Problems  
*Juan Jose Palacios, Camino Vela, Inés González-Rodríguez, Jorge Puente*
- A Multiobjective Memetic Approach to Job-Shop Scheduling under Uncertainty  
*Thanh-Do Tran, Inés González-Rodríguez, El-Ghazali Talbi*
- A guided exploration method of genetic algorithm for Flexible Job Shop Problem  
*Faïcel Hnaien*
- A Genetic Algorithm for the Robust Vehicle Routing Problem with discrete scenarios  
*Elyn L. Solano Charris, Christian Prins, Andréa Cynthia Santos*
- Considering the Scatter of Fixed and Free Parameters in Optimization  
*Rolf Steinbuch*

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**10h40 – 11h10 – Coffee break**

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**11h10 - 12h30**

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**Room 1 -Tutorial 1 (E. Taillard)****Tutorial 1 : Swarm Intelligence in Optimization,**

By Dr. Christian Blum, University of the Basque Country in San Sebastian (Spain)

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**Room 2 - Variable neighborhood search (J. Moreno)**

- Parameter selection in VNS for the k-labelled spanning forest problem  
*Sergio Consoli, Nenad Mladenovic, José Andrés Moreno Pérez*
- A solution GVNS for an intermodal VRPTW  
*Jésica De Armas, Julio Brito, Belén Melián-Batista*
- Variable neighborhood descent for two-echelon distribution network with capacity constraints, multi-sourcing and lot-sizing for perishable products  
*Sona KANDE, Christian Prins, Lucile Belgacem, Benjamin Redon*
- Scheduled Penalty Variable Neighborhood Search  
*Emanuele Manni, Barrett Thomas*

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**Room 3 - Supply chain management (B. Raa)**

- A generic yet effective memetic algorithm for rich routing problems  
*Birger Raa, Wout Dullaert*
- A GRASPxEELS for supply chain optimization considering payment delay between members  
*Nikolay Tchernev, Damien Lamy, Sylvérin Kemmoe Tchomte*
- Supplier selection by using ANP and TOPSIS methodology  
*Hanane Assellaou, Brahim Ouhbi, Bouchra Frikh*
- Circular mating heuristic for alpacas suri (vicugna pacos) reproducers selection  
*Gladys Maquera, Elvis Ali-Vilca, Dan A Gandelman, Eliphaz Coeli*

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**12h30-14h30 - Lunch**

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**Room 1 - Networks I (A. Mellouk)**

- Simulated Annealing for Solving the Wireless Sensor Networks Deployment Problem  
*Mustapha Senouci, Farouk Souilah, Daoud Bouguettouche, Abdelhamid Mellouk*
- Optimized Sink node Deployment in WSN Using Genetic Algorithms through Coverage and Cost Constraints  
*M. A. Benatia*
- Reliable Wireless Multimedia Sensor Network Design for Surveillance with Hybrid Metaheuristics  
*Omer Ozkan, Murat Ermis, Ilker Bekmezci*
- Efficient Heuristic for the Deterministic Deployment of Wireless Sensor Networks  
*Mustapha Senouci, Daoud Bouguettouche, Farouk Souilah, Abdelhamid Mellouk*
- A survey of stable clustering methods in mobile ad hoc networks  
*Hicham Amraoui, Ahmed Habbani, Abdelmajid Hajami*

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**Room 2 - Scheduling (N. Zufferey)**

- A hybrid bacterial foraging optimization method for the permutation flow shop problem  
*Pedro Palominos, Mauricio Palma, Victor Parada, Quezada Luis*
- A deconstruction-reconstruction metaheuristic for a job scheduling problem  
*Simon Thevenin, Nicolas Zufferey*
- Solving Crew Scheduling Problems with Metaheuristics : A Comparative Study  
*Pierre Delisle, Audrey Delévacq, Édith Naudin, Bertrand Le Cun*
- Branch and Bound algorithm for the two-machine flowshop scheduling problem with availability constraints  
*Faïcel Hnaien*
- Beam search heuristic for multi-modes project scheduling under constraints applied to aircraft assembly line : non preemptive and preemptive under condition cases  
*Marouane Arroub, Najib Mohammed Najid*

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**Room 3 - Parallel metaheuristics (D. Giménez)**

- Application of parallel metaheuristics to an execution time-power consumption bi-objective problem  
*José Cruz-Zapata, Domingo Giménez, Daniel Ruiz-García*
- Performance analyze to tune a parallel hybrid ant system  
*Omar Abdelkafi, Julien Lepagnot, Lhassane Idoumghar*
- V-ACO: A vectorization approach for high-performance Ant Colony Optimization  
*José M. Cecilia, Antonio Llanes, Li-Wen Chang, José M. García, Nacho Navarro, Wen-Mei Hwu*
- GPU based metaheuristic for fast controller of an evolutionary robot  
*Nour El-houda Benalia, Nesrine Ouannes, NourEddine Djedi, Yves Duthen*
- Distributed parallel computing and memory within a cellular computer architecture  
*Neven Dragojlovic*

**Room 1 - Networks II (A. Mellouk)**

- Multi-level optimal deployment of RFID readers by using particle swarm optimization  
*Abdelkader Raghib, Badr Abou El Majd*
- Bi-objective assignment of telecommunication means for the optimal architecture of gas transport network  
*Bouroubi Sadek*
- A survey of stable clustering methods in mobile ad hoc networks  
*Hicham Amraoui, Ahmed Habbani, Abdelmajid Hajami*
- Intrusion detection system in ubiquitous environments using genetic algorithm approach  
*Sellami Lynda*
- Hybrid heuristic for Capacitated Network Design Problem  
*Amir Nakib, Meriem Khelifi*

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**Room 2 - Multi-objective optimization (P. Delisle)**

- Evolutionary algorithm in multiple-criteria project portfolio scheduling problem  
*Bogumila Krzeszowska*
- Metaheuristic approaches for job scheduling in hybrid flowshop with multiple objectives  
*Fabricio Niebles, Elyn L. Solano-Charris, Jairo R. Montoya-Torres*
- Implementation of the GISMOO algorithm in the ParadisEO framework  
*Florian Mazière, Caroline Gagné, Pierre Delisle, Arnaud Zinflou, Michaël Krajecki*
- A Heuristic for Workload Balancing and Overload Minimization in the Human Resources Assignment with Multiple Sites Problem  
*Mohamed Afilal, Hicham Chehade, Farouk Yalaoui*
- A Multi Objective TS-Method for the Static DARP  
*Ali Lemouari, Oualid Guemri*

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**Room 3 - Image and signal processing (A. Nakib)**

- Projection of the Modified Cuckoo Search Metaheuristic into the Multiple Pedestrian Tracking Problem  
*Tarik Ljouad, Ayoub Al-Hamadi, Aouatif Amine, Mohammed Rziza*
- Automatic Histogram Thresholds using Multi-objective Bacterial Foraging Optimization  
*Leila Djerou, Bilal Khomri, Mohamed Chaouki Babahenini, Nacer Khelil*
- Optimal statistical detection of rolled sheet's surface defects  
*Samira Taleb*
- Multi-level medical image thresholding based on metaheuristics: A comparative Study  
*Amir Nakib, Narjes Doggaz*
- On The Random Walks Algorithms for Image Processing  
*Chaza Chahine, Amir Nakib, Racha El Berbari*

Wednesday, October 29

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**9h-10h40**

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**Room 1 - Production and planning (F. Yalaoui)**

- Open shop scheduling problem with a multi-skills resource constraint: a genetic algorithm approach  
*Guillermo Campos-Ciró, Frédéric Dugardin, Farouk Yalaoui, Russell Kelly*
- A review of integrated production and preventive maintenance planning models for multi state systems  
*Ghita Ettayeb, Abdellah El Barkany, Ahmed El Khalfi*
- Statistical assessments to methods for minimizing tardiness in parallel machines scheduling problems  
*Ozlem Senvar*
- Collection and production planning on systems with returns flow  
*Tarik Zouadi, Alice Yalaoui, Reghioui Mohamed, Kamal Eddin El Kadiri*
- A review of integrated production and preventive maintenance planning models for multi state systems  
*Ghita Ettayeb, Abdellah El Barkany, Ahmed El Khalfi*

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**Room 2 - Bi-level optimization and game theory (E. Alekseeva)**

- Sensitivity analysis for stochastic user equilibrium and its application to delivery services pricing  
*Bayrem Tounsi, Yezekael Hayel, Luce Brotcorne, Dominique Quadri, Tania Jimenez*
- Solution procedures for the generalized discrete (r|p)-centroid problem  
*Dolores R. Santos-Peñate, Clara Campos-Rodríguez, José A. Moreno-Pérez*
- Stochastic tabu search for the bi-level facility location and design problem  
*Yury Kochetov, Irina Sokolova*
- A new exact method finding a feasible solution to the bi-level energy pricing problem with two objectives at the lower level  
*Alekseeva Katerina, Luce Brotcorne, El-Ghazali Talbi*
- A Distributed Prototype Model to Manage Regional Competitiveness Simulation  
*Mhamed Itmi*

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**Room 3 - Power and energy systems (G. Danoy)**

- Comparison of hybrid metaheuristics for a direct load control problem  
*Eunice Oliveira, Carlos Henggeler Antunes, Álvaro Gomes*
- Dynamic Programming Based Metaheuristic for the Unit Commitment Problem  
*Sophie Jacquin, Laetitia Jourdan, El-Ghazali Talbi*
- Bi-objective Optimization of Satellite Payload Power Configuration  
*Emmanuel Kieffer, Apostolos Stathakis, Grégoire Danoy, El-Ghazali Talbi, Pascal Bouvry*
- Large scale pumping system scheduling using scatter search, tabu search and neural networks the case of Bouregreg water system in Morocco  
*Hajji Mustapha*

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**10h40 – 11h10 – Coffee break**

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**11h10 - 12h30**

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**Room 1 - Tutorial 2 (E. Taillard)****Tutorial 2: Enlarging the Paradigm of Ant Algorithms**

Dr. Eng. Nicolas Zufferey, Professor at the Geneva School of Economics and Management GSEM –  
University of Geneva, Switzerland

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**Room 2 - Optimization under uncertainty II (M. Aider)**

- Optimization Algorithms for Multi-objective Combinatorial Problems under Uncertainty  
*Oumayma Bahri, Nahla Ben Amor, Talbi El-ghazali*
- Hybrid Method for Binary Multi-Objective Multiconstraint Knapsack Problems  
*Chahrazad Adiche, Méziane Aider*
- Metaheuristics in minmax regret interval data combinatorial optimization problems  
*Igor Averbakh, Mohammad Javad Feizollahi, Jordi Pereira*
- Fuzzy Multi Target Goal Programming based on MINMAX approach  
*Sakina Melloul, Hocine Mouslim*

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**12h30-14h30 - Lunch**

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**Room 1 - Logistics and transportation (A. Yassine)**

- Modelling and solving the periodic delivery planning problem as a multiple-choice integer program  
*Abdelkader Sbihi*
- Comparison of efficient algorithms to solve the container stacking problem at seaport terminal  
*NdèyeFatma Ndiaye, Adnan Yassine, Ibrahima Diarrassouba*
- An Iterated Local Search Algorithm for the Dial-A-Ride Problem with Transfers  
*Jan Melechovsky*
- Packing with complex shapes in Supply Chain Networked Warehouse Management Systems.  
*Aggoun Abder*
- Study of elite population algorithm - Application to the problem of location assignment and vehicle scheduling at maritime terminal  
*Hamdi Dkhil*

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**Room 2- Machine learning (P. Isasi)**

- A real-world logistic districting problem: an approach by TS  
*Arnaldo Vallim Filho*
- Interactive Evolution of Parameters for Clustering Textual Data in Social Science with Ant Based Algorithms  
*Nicolas Monmarché*
- A framework for multi-objective Clustering  
*Benjamin Fisset, Laetitia Jourdan, Clarisse Dhaenens*
- Schemata bandits  
*Madalina Drugan, Pedro Isasi, Bernard Manderick*
- Two level neural network based shape recognition techniques for structural optimization problem formulation  
*Chyi-Yeu Lin*

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**Room 3- Dynamic optimization (N. Bouhmala)**

- Multi-Objective Routing Algorithm for dynamic communications mapping in NoC-based heterogeneous MPSoCs  
*Abou el hassan Benyamina, Mohamed kamel Benhaoua*
- Tabu search to evacuate a building in fire situation  
*Sonia Nasri, Hend Bouziri*
- Dynamic Combinatorial Auction Problem solved by hybrid metaheuristic based on fuzzy dominance relation  
*Larbi Asli Asli, Talbi El-Ghazali Talbi, Méziane Aïder*
- A comparison study of metaheuristic approaches for the earliest arrival flow problem  
*Manel Hajjem, Hend Bouziri, El-Ghazali Talbi*
- SVA-MinConf : a new heuristic for dynamically changing CSPs  
*El mehdi El graoui, El Houssine Bouyakhf, Imade Benelallam*



**Room 1 - Transportation (M. Seredynski)**

- Using Genetic Algorithms for ITS-based Advisory Systems  
*Marcin Seredynski, Djamel Khadraoui, Krzysztof Szczypiorski*
- A metaheuristic based on controlled genetic operators to optimize Dynamic Carpooling Service  
*Sondes Ben Cheikh, Slim Hammadi, Christian Tahon*
- Solving modular electric vehicle routing problems by a decomposition technique and a genetic algorithm  
*Wassila Aggoune-Mtalaa, Zineb Habbas, Djamel Khadraoui*
- Combining Genetic Algorithms with Traffic Simulations for restructuring traffic networks subject to increases in population  
*Enrique Gabriel Baquela, Ana Carolina Olivera*
- Genetic algorithm for the selective travelling Salesman problem  
*Bochar Laarabi, Bouchaib Radi*

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**Room 2 - Bioinformatics and healthcare (J. Blazewicz)**

- Reduced Pareto Set Genetic Algorithm: Application to Protein Structure Prediction  
*António Gaspar-Cunha, Rodrigo Faccioli, Alexandre Defelicibus, Leandro Bortot, Alexandre Delbem*
- Integer Programming formulations for NMR-derived assignment problem  
*Marta Szachniuk, Maria De Cola, Giovanni Felici, Jacek Blazewicz*
- Evolutionary Multi-Objective Optimisation with Quantile Constraint for the Protein Structure Similarity Problem  
*Sune Steinbjorn Nielsen, Grégoire Danoy, Wiktor Jurkowski, Juan Luis Jiménez Laredo, Reinhard Schneider, El-Ghazali Talbi, Pascal Bouvry*

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**Room 3 - Security and risks (R. Ellaia)**

- Speeding-up Denial-of-Service Detection Rules Computation thanks to Genetic Algorithm  
*Mounir GRARI, M'barek Nasri, Gilles Dequen*
- Risk assessment under Solvency II: Application of genetic algorithms  
*Jamal Harmouch, Hanaa hachimi*
- Optimization of security systems facing vulnerability stakes  
*Aissam EL ALIMI, Hanaa hachimi*
- Selected applications for portfolio optimizations  
*Tomas Tichy*
- Wolf Pack Algorithm for Cryptanalysis of Symmetric Cryptosystems  
*Mekhaznia tahar*

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**19h30 BANQUET**

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#### Room 1 - Hybrid metaheuristics (L. Moalic)

- A Hybrid Metaheuristic Based on Heuristic Problem Instance Reduction  
*Christian Blum*
- A new memetic approach H2col for graph coloring  
*Alexandre Gondran, Laurent Moalic*
- A reliable hybrid solver for nonconvex optimization  
*Charlie Vanaret, Jean-Baptiste Gotteland, Nicolas Durand, Jean-Marc Alliot*
- Hyperheuristics based on parameterized metaheuristic schemes  
*José-Matías Cutillas-Lozano, Francisco Almeida, Domingo Giménez*
- A Hyper-Heuristic method for MAX-SAT  
*Mourad Lassouaoui, Dalila Boughaci, Belaid Benhamou*

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#### Room 2 - Logistics and transportation (A. Sbihi)

- A Genetic Algorithm Based Decision Support Tool for Scheduling Multiple Yard Cranes in Container Port Terminals  
*Ali Rais Shaghaghi, Abdellah Salhi, Tom Corkhill*
- A Hyper-Heuristic Approach to solve the Multi-Objective Container Loading Problem  
*Yanira González González, Coromoto León Hernández, Gara Miranda*
- Decomposition techniques for parking vehicles in depots  
*Eric D. Taillard, Thé-Van Luong*
- Tabu search with diversity control and simulation for an inventory management problem  
*Nicolas Zufferey*
- An effective metaheuristic algorithm for solving multi-criteria job-shop scheduling problem with maintenance activities  
*Younes Bahmani, Fatima Ghedjati, Hacene Smadi, Messaoud Benzouai*

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#### Room 3 - New trends(A. Salhi)

- A Seed-based Plant Propagation Algorithm: The Feeding Station Model  
*Muhammad Sulaiman, Abdellah Salhi*
- Electromagnetism based approach to Sector design in Waste Collection  
*José Soeiro Ferreira, Ana Rodrigues*
- Optimization of artificial flocks by anisotropy measurements  
*Jun-ichi Inoue*
- The Strip Algorithm Revisited  
*Birsen Irem Selamoglu, Abdellah Salhi*
- Solution paradigms that involve single or multiple heuristics and single or multiple problem representations  
*Abdellah Salhi*

**Room 1 - Tutorial 3 (A. Salhi)****Tutorial 3: Performance Variability in Mixed-Integer Programming and its Effect in Benchmarking**

Prof. Andrea Lodi, University of Bologna, Italy

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**Room 2 - Cloud and cluster computing (B. Dorronsoro)**

- A Two-level Job Scheduler for Large Distributed Systems  
*Bernabe Dorronsoro, Sergio Nesmachnow*
  - Multi-Objective VM Reassignment for the Enterprise  
*Takfarinas Saber, Anthony Ventresque, Liam Murphy, El-Ghazali Talbi*
  - Evaluation the robustness of VM assignment with truncated normal distribution in multi-cloud system  
*Anh Quan Nguyen, Alexandru-Adrian Tantar, Pascal Bouvry, El-Ghazali Talbi*
  - A Hybrid Meta-heuristics approach for Workflow Scheduling in Cloud Computing  
*Anis AllalLAL, Sidi-mohamed Benslimane*
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**Room 3 - Posters(E-G.Talbi)**

- On supporting nature-inspired modeling to optimize production of WBTs via a Human Mind Mapping  
*Abdelhak Aqqal*
  - Application of Some Heuristic Algorithms for Facility Location and Design Problem  
*Tatyana Levanova*
  - Material Point Dynamics-based Levy Particle Swarm Optimization  
*Abida Toumi, Abdelmalik Taleb-Ahmed*
  - A Solving Approach for the DVRP Based on Hierarchical Self-Organizing Maps  
*Jaber Jemai*
  - An Ant Colony Optimization for Solving the HFFS problem  
*Aymen Sioud, Caroline Gagné, Marc Gravel*
  - Applying VNS with ILP neighbourhoods on EURO/ROADEF 2010's challenge scheduling problem of nuclear power plants' outages and refueling  
*Nicolas Dupin, El-Ghazali Talbi*
  - A Genetic Algorithm for Flattening Cumulated Household Load Curves  
*Jean-Yves Lucas, Rhiad Zorgati, Leticia De Alvaro, Olivier Carre, Nicolas Kong*
  - Fuzzy Edge Detection In Computed Tomography Through Particle Swarm Optimization  
*Ali Mohamedtahir Gouicem, Mostpha Yah, Abdelmalik Taleb-Ahmed, Redouane Draï*
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**Room 1 - Hybrid and parallel algorithms (N. Zuffery)**

- Tabu search with guided restarts for a car production problem with a 2/3 balancing penalty  
*Jean Respen, Nicolas Zufferey*
- A Two-Step Hybrid Metaheuristic for Flight Level Allocation in 4D Trajectory Generation  
*Jérémy Omer, Alexandre Gondran*
- An Island-inspired Genetic Algorithm with Adaptive Parameters Applied to the Multiple Knapsack Problem  
*Leanderson André, Rafael Parpinelli*
- A performance study of crossover operators for the SAT problem  
*Mohamed Slim Kassis, Giacomo Di Tollo, Hend Bouziri*
- A Parallel Bee Life Algorithm for DCVRP on GPUs  
*Maroua Grid, Salim Bitam, NourEddine Djedi*

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**Room 2 - High performance computing (S. Varette)**

- Mapping Parallel Task Graphs on cluster platforms  
*Ania KACI, Amir Nakib, Nguyen Huy-Nam, Patrick Siarry*
- A hybrid particle swarm optimization algorithm PSO-LS for multiprocessor scheduling problem with communication delays  
*Dalila tayachi, Hana Charaabi*
- Performance tuning of applications in HPC environments employing Simulated Annealing  
*Valentin Plugaru, Sébastien Varette, Pascal Bouvry*
- Hierarchy of the CONCORD Platform for P2P Computing  
*Abdelkhalek El Hami*
- Global Synchronizations for Two-Dimensional Cellular Arrays with Local Communications  
*Hiroshi Umeo*

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**Room 3 - Multi-objective optimization (A. Nakib)**

- A multi-objective optimization approach for hub connections. Application to the insertion of new flights in airline schedule  
*Rahil Hicham, Abou El Majd Badr*
- A posteriori Pareto front diversification using a Copula-based Estimation of Distribution algorithm.  
*Abdelhakim Cheriet, Foudil Cherif, Salim Bitam*
- Agricultural land use optimisation using many-objective preference-inspired co-evolutionary algorithm  
*Mohamed-Mahmoud Memmah, Lionel Roques, Mamadou Ciss, Sylvain Poggi, Xin Yao, Nicolas Parisey*
- Controlled Local Search for the Hybridization of Evolutionary Algorithms in Multi-Objective Optimization  
*Abdelfatteh Haidine, Abdelhak Aqqal, Sanae El Hassani*
- Evaluation of Multi-criteria Methods  
*Chergui zhor, Moncef Abbas*

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**16h10 – 16h40 – Coffee break**

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**16h40-18h10**

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**Room 1 - Tutorial 4 (P. Isasi)****Tutorial 4: The Clonal Selection Paradigm for Optimization in Continuous and Discrete Search Spaces**

Dr. Mario Pavone, University of Catania, Italy

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**Room 2 - Continuous optimization(R. Ellaia)**

- A new algorithm for solving convex quadratic programs  
*Mohand Ouamer Bibi, Nacera Ikhenche, Mohand Bentobache*
  - On the application of Particle Swarm Optimization to Differential Equations  
*Naceur Khelil, Leila Djerou, Nacer Rahmani, Hassiba Dakhia*
  - Particle Swarm Optimization Algorithm for Improve the Gregory's formula  
*Khelil Naceur, Djerou Leila, Khernane Abdelaziz, Aichouche Samah*
  - Solving global optimization problems with constraints via reducing transformation  
*Rahal Mohamed*
  - Solving a Stochastic Inverse Problems using an iterative method  
*Karima Belaide*
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**Room 3 - Supply chain and production (A. Sbihi)**

- A genetic algorithm approach for reverse supply chain optimization  
*Bensmain Yassir, Belkaid Fayçal Mohammed Bennekrouf, Zaki Sari*
  - Investigation for solving hybrid flow shop problem with consumable resource  
*Imane Laribi, Farouk Yalaoui, Zaki Sari, Fayçal Belkaid*
  - Metaheuristics for parallel machine scheduling problem under unconventional constraints  
*Fayçal Belkaid, Zaki Sari, Farouk Yalaoui, Mohammed Dahane*
  - Artificial Bee Colony (ABC) algorithm for the job-shop scheduling problem  
*Khedim Amaria, Mehdi Souier, Zaki Sari*
  - A genetic algorithm for optimal joint inspection and maintenance of stochastic degrading systems  
*Imene Djelloul, Abdelhakim Khatab, Mehdi Souier, Zaki Sari*
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**18h10 – Room 1: Closing of the conference – E-G. Talbi**

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**NOTES :**

[illegible]









## Conference Place



## Organizers

