

INFORMATION

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CONFERENCE VENUE

Facultés Universitaires Notre-Dame de la Paix

Registration / Plenary sessions

Faculté de Droit

Room D1
Rempart de la Vierge, 5
B-5000 Namur

Parallel sessions

Faculté des Sciences Economiques, Sociales et de Gestion

Département de Mathématique (2nd floor)
Rempart de la Vierge, 8
B-5000 Namur

REGISTRATION FEE

- | | |
|----------|---|
| 5000 BEF | Includes 1997 membership fee to SOGESCI - B.V.W.B., lunches, coffee breaks and booklet of abstracts |
| 500 BEF | Students (with student card) for registration, coffee break and booklet of abstracts,
+ 600 BEF (optional) per lunch |
| 1500 BEF | Conference Dinner, January 16, 1997 |

to be transferred to the order of

Facultés Universitaires Notre-Dame de la Paix,
account number **350-000001-23**

(with mention : **ORBEL 11**, compte 9480, and the name of the person(s) for whom the payment is being made)

Eleventh Conference on Quantitative Methods for Decision Making

ORBEL
11

A MEETING PLACE FOR INDUSTRY AND UNIVERSITY

Invitation program

January 16-17, 1997

Organized by

SOGESCI - B.V.W.B.
The Belgian Operations Research Society

with the collaboration of

**FACULTES UNIVERSITAIRES
NOTRE-DAME DE LA PAIX**



NAMUR

Department of Mathematics

**The SOGESCI - B.V.W.B. and
the Department of Mathematics of FUNDP
invite you to attend the Eleventh ORBEL conference
which will take place on
January 16-17, 1997
at the Facultés Universitaires Notre-Dame de la Paix (FUNDP)**

The SOGESCI - B.V.W.B. is
the Belgian Operations Research (OR) Society and
the Belgian representative in IFORS
(International Federation of OR Societies) and in
IAPR (International Association for Pattern Recognition).

STRUCTURE OF THE CONFERENCE

The conference is intended to be a meeting place for researchers, users and potential users of Operations Research, Statistics, Pattern Recognition, Computer Science and related fields. It will provide managers, practitioners and researchers with a unique opportunity to exchange information on quantitative techniques for decision making.

Plenary lectures will be delivered by five distinguished guest speakers:

H.H. Bock	(Aachen, Germany),
J. Kittler	(Guildford, England),
A.T. Langeveld	(Amsterdam, The Netherlands),
Cl. Lemaréchal	(Paris, France)
P. Toth	(Bologna, Italy).

More than 60 contributed papers presented in several parallel sessions will be devoted to various techniques of operations research: *pattern recognition, combinatorial optimization, production and logistics, stochastic processes, metaheuristics, linear and integer programming, scheduling, decision support systems and multicriteria decision making, location and distribution, mixed integer programming, logic, information systems, clustering, nonlinear programming, job shop scheduling, fuzzy logic and applications, financial applications.*

SOGESCI - B.V.W.B. PRIZE

The SOGESCI - B.V.W.B. Prize is awarded yearly to the author of an excellent undergraduate thesis describing the application of advanced quantitative methods to the solution of management problems. On the first day of the Conference, a special plenary session will be devoted to the award ceremony and to the presentation of the Prize winning paper.

SOFTWARE AND BOOK EXHIBITION

Commercial software and books will be on display throughout the Conference.

SOCIAL PROGRAM

The Conference Dinner will take place on Thursday evening, January 16, 1997, in a specially selected restaurant and will be preceded by a conference reception offered by the Department of Mathematics of FUNDP.

ORGANIZING AND PROGRAM COMMITTEE

Annick SARTENAER (FUNDP)

Members :

Dirk CATTRYSE	(KUL)
Yves CRAMA	(ULg)
André HARDY	(FUNDP-FUSL)
Gerrit JANSSENS	(UA-RUCA)
Pierre KUNSCH	(ONDRAF)
Martine LABBE	(ULB)
Jan LEYSEN	(KMS-ERM)
Christiaan PERNEEL	(KMS-ERM)
Marc PIRLOT	(FPMs)
Frank PLASTRIA	(VUB)
Yves POCHET	(UCL)
Geert TILBORGHS	(EDS)
Etienne TRAUWAERT	(Policy Research)
Daniel TUYTTENS	(FPMs)

Thursday, January 16, 1997					
8:15-9:15	Registration				
9:15-9:30	Welcoming Address				
9:30-10:15	Plenary Session: Prof. Cl. Lemaréchal (INRIA, Paris, France) Lagrangian Decomposition in Action: the Unit-Commitment Problem				
10:15-10:45	Coffee Break - Software and Book Exhibition				
10:45-12:25	A 1 : PATTERN RECOGNITION M. Rémon (FUNDP) Utility of Discriminant Analysis in Pattern Recognition E. Nyssen (VUB) Testing the Significance of the Efficiency of Multiclass Pattern Classifiers P. Druyts (KMS-ERM) A Modular Multi Layer Perceptron (MMLP) to Identify Objects Composed of Characteristic Sub-Parts D. Borghys, C. Perneel, M. Acheroy (KMS-ERM) Multi-Sensor Data Fusion for the Detection of Targets in a Cluttered Environment	B 1 : COMBINATORIAL OPTIMIZATION B. Fortz, M. Labbé (ULB) Designing Reliable Networks with Bounded Rings M. Dell'Amico (Univ. of Modena, Italy), F. Maffioli (Politecnico di Milano, Italy), M. Trubian (Univ. of Bologna, Italy) New Upper and Lower Bounds for SS/TDMA Satellite Communication V. Rebetez (ULB) On the Exact Resolution of the Bin Packing Problem W. Rezig, G. Finke (ULB) Problèmes de Multiflots, Cas Particulier le Biflot	C 1 : PRODUCTION AND LOGISTICS P. Buellens, L. Gelders (KUL) Research Topics in Reverse Logistics W. Blondeel (OM Partners) Integration of Master Production Scheduling and Detailed Scheduling Using OMP/MPS and GMP L. Pintelon, L. Debo (KUL) A Two-Echelon Inventory Problem in the Food-Processing Industry J.-L. Guerrero-Cusumano (Georgetown Univ., Washington, USA) Information-Theoretic Quality Control Charts	D 1 : STOCHASTIC PROCESSES Ph. Carette (VUB) On the Estimation of the Transition Rates in a Homogeneous Markov Model in Continuous Time by Several Waves of Panel Data M.-A. Guerry (VUB) Personnel Distributions Realised According to Calculated Predictions Based on Markov Manpower Models M.-A. Remiche (ULB) A New Family of Planar Processes B. Andries, L. Gelders (KUL) New Approximations for Variances of Lead Time in Σ GI/G/m Queues and an Application in Complexity Reduction Through Partitioning	E 1 : METAHEURISTICS H. A. J. Crauwels (De Nayer Inst.), D. Van Oudheusden (KUL), L. N. Van Wassenhove (INSEAD, Fontainebleau, France) Neighbourhood Search Heuristics and Solution Surfaces N. Mezdaoui, X. Gandibleux (Univ. of Valenciennes, France), B. Ulungu (FPMS-Univ. of Valenciennes, France) Evaluation of Multiobjective Tabu Search Procedure on a Multiobjective Permutation Problem G. Seront (ULB) Fitting Phase Type Distributions via a Genetic Algorithm P. De Causmaecker, G. Vanden Berghe (KaHo Sint-Lieven) A Cost Function Approach Towards Scheduling of Highly-Constrained Resources: LINEAR NUMBERINGS
12:25-14:15	Lunch				
14:15-15:00	Plenary Session: Prof. J. Kittler (University of Surrey, Guildford, United Kingdom) Strategies for Combining Multiple Expert Opinions in Pattern Classification				
15:00-15:30	Coffee Break - Software and Book Exhibition				
15:30-17:10	A 2 : PATTERN RECOGNITION Ch. Beumier, M. Acheroy (KMS-ERM) Automatic Face Recognition by 3-D Analysis S. Pigeon, L. Vandendorpe (UCL) A Chamfer Matching Algorithm for Human Profile Recognition B. Gosselin (FPMS) A New Character Distortion Method for Improved Handwritten Character Recognition A. Abdelmadjid (Univ. of Lille 1, France) Perception and Recognition Collector Movement	B 2 : LINEAR AND INTEGER PROGRAMMING C. Cordier (UCL) A Branch & Cut code for Mixed Integer Programs Z. Degraeve (KUL) A Mixed Integer Programming Model for Solving a Layout Problem in the Fashion Industry D. De Wolf (ULB), Y. Smeers (UCL) Generalized Derivatives of the Optimal Value of a Linear Program with Respect to Matrix Coefficients E. Loute (FUSL-UCL), S. Verbois (FUSL), J.-P. Vial (Univ. of Geneva, Switzerland) A Parallelized Interior-Point Algorithm for Special Block-Structured Linear Programming Problems	C 2 : SCHEDULING Y. Crama (ULg) Tool Management Models in Automated Manufacturing H. El Maqrini, J. Teghem (FPMS) Production Scheduling with Metaheuristics in a Chemical Firm J. Goossens (ULB) Response Time Motion for Static and Preemptive Scheduling Algorithms for Hard Real-Time Systems G. Janssens (UA-RUCA), H. Pastijn (Asian Instit. of Technology, Bangkok, Thailand) Project Scheduling with Stochastic Activity Durations and Opportunity Costs	D 2 : DECISION SUPPORT SYSTEMS AND MULTICRITERIA DECISION MAKING Ph. De Beir, J. Leysen (KMS-ERM) A Case Study of the Use of Expert Systems in DSS with the Method ORESTE G. Gallenti (Univ. of Trieste, Italy) A Multicriteria Approach to Diet Problem: an Application for Quality Control of Agri-Food Products J.-M. Godart (Univ. of Mons-Hainaut) Decision Aid in Hotel Selection G. Van Velthoven (ISC St-Louis) On Quasi-Conjunctive Multicriteria Group Decision Support	E 2 : LOCATION AND DISTRIBUTION C. Musaraganyi, G. Laporte, M. Gendreau, E. Taillard (ULB) Solving Vehicle Routing Problems with Heterogeneous Fleet with the Help of a Tabu Search P. H. Peeters (VUB) Competitive Location Models on Networks F. Plastria (VUB), E. Carrizosa (Univ. of Sevilla, Spain) On the Location of a Competitive Facility for Profit Maximisation A. Van Breedam (UA-RUCA), W. Tielemans (ORINOCO) How to Choose the Most Appropriate Heuristic to Solve a Practical Vehicle Routing Problem
17:20-17:45	SOGESCI - B.V.W.B. PRIZE				
17:45	Conference Reception				
19:00	Conference Dinner				

Friday, January 17, 1997					
9:00-9:45	Plenary Session: Prof. H. H. Bock (Aachen University of Technology, Germany) <i>Neural Networks for Prediction and Classification : Statistical and Mathematical Aspects</i>				
9:55-10:45	A 3 : PATTERN RECOGNITION A. Postolache, J. Trecat (FPMs) Automatic Segmentation and Preprocessing of VIN in Scene Images W. Mees (KMS-ERM) Representing Scene Analysis Knowledge in a Blackboard System	B 3 : MIXED INTEGER PROGRAMMING G. Belvaux (UCL) Lot-Sizing with Minimum Batch Sizes and Cleaning Times M. Abbas, S.-A. Zahaf (USTHB, Alger, Algeria) On Extensive Semiorders Close to a Given Interval Order: a Branch and Bound Algorithm Y. Pochet (UCL), O. Günlük (Cornell Theory Center, New-York, USA) Mixing Mixed-Integer Inequalities	C 3 : LOGIC I. I. Mirita (Univ. of Petrosani, Romania) The Dynamics of Nondecidable Sentences as Axioms in Axiomatic Metatheories Converging to the Unique Nondecidable Sentence of Maximal Generality I. Ratko (Hungarian Academy of Sciences, Budapest, Hungary) Stochastic Logical Expressions	D 3 : DECISION SUPPORT SYSTEMS AND MULTICRITERIA DECISION MAKING M. Roubens (ULg) Interaction Between Criteria and Definition of Weights in MCDA Problems Ph. Vincke (ULB) A New Concept for Operations Research: Robustness	E 3 : INFORMATION SYSTEMS J. Verelst (UA-RUCA) Functional Maintainability of Information Systems: Factors on the Analysis and Architectural Level D. De Maeyer (UA-RUCA) Internet, a Future Information Highway
10:45-11:15	<i>Coffee break - Software and Book Exhibition</i>				
11:15-12:30	A 4 : CLUSTERING A. Hardy (FUNDP-FUSL) Cluster Validity - Application to the Hypervolume Clustering Method A. Sbihi, C. Botte-Lecocq, J.-G. Postaire (Univ. Ibn Tofail, Kénitra, Morocco) Clustering by Mode Extraction Using Mathematical Morphology E. Trauwaert Determination of an Optimal Number of Clusters in a Given Data Set	B 4 : NONLINEAR PROGRAMMING B. Apraxine (FUSL), E. Loute (FUSL-UCL) Generating and Solving a Class of Large Scale Structured Nonlinear Programming Models B. De Schutter, B. De Moor (KUL) The Extended Linear Complementarity Problem and its Applications in the Analysis of Discrete Event Systems E. Gourdin (ULB) Some New Approaches to Solve Bilinear Programming Problems by Generalized Benders Decomposition	C 4 : JOB SHOP SCHEDULING M. Benbrahim, J. Janssen (ULB) The Job Shop Scheduling Problem Case where the Job Shop is Formed by Some Families of Identical Jobs V. Rakotondrabe, C. Blondia (UA-UIA) Simulation Study of Integrated Scheduling Policy G. Janssens, A. Van Breedam (UA-RUCA) Rule-Based Job-Shop Scheduling via Decision Tables	D 4 : FUZZY LOGIC AND APPLICATIONS A. Bufardi (ULB) Properties of Fuzzy Preference Structures Generated by the Method of Fodor and Roubens A. Fiordaliso (FPMs) Using Takagi-Sugeno Fuzzy Systems as Forecasts Combination Methods J.-L. Marichal, P. Mathonet, E. Tousset (ULg) Characterization of Some Aggregation Functions Stable for Positive Linear Transformations	E 4 : FINANCIAL APPLICATIONS M. Bardos (Banque de France, Paris, France), W. Zhu (CEREMADE, Univ. of Paris IX Dauphine, France) Comparison of Discriminant Analysis and Neural Networks - Application for the Detection of Company Failures S. Fromme (SMH Research, Germany), E. W. Sachs, M. Schulze (Univ. of Trier, Germany) Neural Networks - An Application in Numerical Optimization and the Financial Markets F. Hamza, J. Janssen, G. Ruclas (ULB) Performance Analysis of Mean-Semivariances Portfolios Models Applied to Belgium Stock Market
12:30-14:15	<i>Lunch</i>				
14:15-15:00	Plenary session: Prof. P. Toth (University of Bologna, Italy) <i>Crew Scheduling and Rostering Problems in Railway Applications</i>				
15:00-15:45	Plenary session: A. T. Langeveld (SHELL, Amsterdam, the Netherlands) <i>Changes in the World of Operational Research in Industry</i>				
15:45	<i>Closing Drink</i>				