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a: C. MESTDAGH (GB)
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b: K.-H. ANSTREICHER (USA)
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A unified approach to projective and affine algorithms for linear programming

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Analytical approach to global optimization

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a: E. BALAS (USA)
Recent advances in set covering

b: G. CARPARETO (I), M. FISCHETTI (I), P. TOTH (I)
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c: A. PRODON (CH), T. LIEBLING (CH)
Some connectivity problems on directed graphs and related polyhedra

d: A. HERTZ (CH)
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Network flow problems: parallel algorithms and computational experience
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Feasibility of integrating AI and computer graphics in solving cutting stock problems
? c:  E. BOROS (USA)
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b:  D. TEDOGRONIC (YU), T. RALLIS (DK)
A model for assigning vehicles to scheduled routes when there is a shortage of vehicles
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Vehicle routing problems with many objects alike

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b:  A. COLORNI (I), V. OZZOLA (I), L. PASSAGLIA (I)
A heuristic model for allocation of rigs to wells to be drilled
c:  D. BENHAMMOUCH (F), G. PLATEAU (F)
Optimal task allocation in distributed computing systems
WD 05    CUTTING AND PACKING PROBLEMS 3

CHAIR: W. DOWSLAND (GB)

a: J.S. FERREIRA (P), P. FONSECA E CASTRO (P), A. NEVES (P)
A two-phase roll cutting problem

b: G. WASCHER (D)
Dealing with multiple objectives in cutting problems

c: P.E. SWEENEY (USA), R.W. HAESSLER (USA)
Cutting stock decisions for rolls with multiple quality grades: results from an implemented model

WD 06    ROUTING WITH TIME WINDOWS

CHAIR: M. SOLOMOM (USA), J. DESROSIERS (CDN)

a: O. B. MADSEN (DK)
Variable splitting and vehicle routing problems with time windows

b: J. DESROSIERS (CDN), A. LANGEVIN (CDN), F. SOUMIS (CDN)
Two-commodity network flow formulation for the M-travelling salesman with time window constraints

c: M. DESROCHERS (CDN), A. KOLEN (NL), A. LUCENA (B)
A two-commodity network flow approach for the vehicle routing problem

d: Y. KOSKOSIDIS (USA), W. POWELL (CDN), M. SOLOMON (USA)
Vehicle routing and scheduling with soft time window constraints

WD 07    SCHEDULING 3

CHAIR: J. BLAZEWICZ (PL)

a: W. KUBIAK (PL)
Exact and approximate algorithms for scheduling unit time tasks with treelike precedence constraints

b: J. BLAZEWICZ (PL), G. SCHMIDT (D)
Scheduling independent two-processor tasks on a uniform duo-processor system

c: J. CARLIER (F), P. CHRETIENNE (F)
How to study scheduling problems with timed Petri nets

d: J. CARLIER (F), P. CHRETIENNE (F)
Timed Petri net schedules

WD 08    ALGORITHMS FOR TRANSPORTATION PROBLEMS

CHAIR: Y. ANEJA (CDN)

a: J.B. HUGHES (GB)
Integer solutions of the generalized transportation problem
WEDNESDAY JULY 6 16.30 - 18

b: N. MLAENOVI (YU), J. PETRIC (YU)
New method for linear and quadratic transportation problem

c: A. SATIR (CDN), O. KIRCA (TR)
A heuristic for obtaining an initial solution for the transportation problem

WD 09 MANAGEMENT AND ORGANIZATION OF LOGISTICS SYSTEMS 2

CHAIR: H. MATHE (F), J. BOOKBINDER (CDN)

a: P.P. DORNIER (F)
The learning of strategic decision making in logistics

b: J.H. BOOKBINDER (CDN), D.A. DILTS (CDN)
Logistics information systems in a just-in-time environment

WD 10 PRODUCTION PLANNING

CHAIR: S. SARIN (USA)

a: J. WEST-HANSEN (USA), S. SARIN (USA)
The long-term production scheduling problem in a mining application

b: B. FLEISCHMANN (D)
The dynamic lot sizing and scheduling problem

c: G. BUŒY (AUS)
Aggregate planning with seasonally-biased demand

WD 11 SIMULATION

CHAIR: R. SARGENT (USA)

a: H. PIERREVAL (F), F. PERRAUD (F), A. DUSSAUCHDY (F)
Simulation as an aid to manufacturing control: case study of a mechanical parts workshop

b: A. CÂMARA (P), M. PINHEIRO (P), P. ANTUNES (P), J. SEIXAS (P)
Formulation of natural language simulation models

c: A. DE SILVA (USA), G. DE LEO (I), N. GENNARI (I)
Equipment and system dimensioning using heuristics and simulation

WD 12 STOCHASTIC MODELS IN MANUFACTURING

CHAIR: S. CHAKRAVARTHY (USA)

a: J.A. BUZACOTT (CDN), X.G. LIU (CDN)
Approximate models of assembly systems with inventory banks

b: S. GERSHWIN (USA)
Extension of the Dallery-David-Xie algorithm to exponential transfer lines
C: N.-M. VAN DIJK (NL)
Simple performance bounds for non product-form queueing on computer systems

WD 13 NETWORKS OF QUEUES
CHAIR: J. TEGHEM (B)

a: R. SERFOZO (USA),
Networks of queues with system-dependent transition rates

b: E. GELENBE (F), S. LEFEBVRE (F)
Robustness of queueing network models to small perturbations of service time distributions

WD 14 RELIABILITY 1
CHAIR: R. DEKKER (NL)

a: T.-H. SAVITS (USA)
A cost relationship between age and block replacement policies

b: H.W. BLOCK (USA), W.S. GRIFFITH (USA), T.H. SAVITS (USA)
Properties of a new structure function in reliability theory

WD 15 FMS 3
CHAIR: J. ASHAYERI (B)

a: S. ANDREOU (USA)
Flexible plant capacity with multiple products

b: R. COMPANYS (E), J. BAUTISTA (E), F. ANGAS (E)
Optimum planning of modular units (POUM)

c: L. ONUR (TR)
Modeling the job loading and labor assignment problem in a cell environment

d: B. DURMUŞOĞLU (TR), H. HEKİMBAŞI (TR), S. DURMUŞOĞLU (TR)
The role of loading policies in FMS

WD 16 EXPERT SYSTEMS AND DECISION SUPPORT METHODOLOGY 3
CHAIR: R.M. O'KEEFE (USA)

a: G.I. DOUKIDIS (GB)
Decision support system concepts in expert systems: an empirical study

b: P.C. BELL (CDN)
Visual interactive simulation modelling in a decision support role

c: B. FARRAH (USA), M. HIGBY (USA)
Decision support systems and expert systems in marketing: a survey
WD 17  COMPUTER SCIENCE 1

CHAIR: H. LEVY (IL)

a: T.D. KLASTORIN (USA), K. MOINZADEH (USA)
On the management of optical storage devices

b: A.G. ASAND (USA)
Multi-tier information system

c: H. LEVY (IL), L. KLEINROCK (USA)
Polling systems with zero switch-over periods: a general method for analyzing the expected delay

WD 18  NEW DEVELOPMENTS IN DECISION SUPPORT SYSTEMS 3

CHAIR: A. CHECROUN

a: E. JACQUET-LAGREZE (F), R. MEZIANI (F)
Linear programming and interactivity: an illustration of a man power scheduling DSS

b: P. KORHONEN (SF), S. NARULA (USA)
An evolutionary approach to solving linear decision models

c: A. SCHENKER-WICKI (CH)
Co-op: a multicriteria group decision support system

WD 19  MULTIATTRIBUTE UTILITY THEORY

CHAIR: M. HENIG (IL)

a: A. FEINSERG (USA), J.H. SMITH (USA)
Probabilistic simulation of multi-attribute utilities

b: G.H. TZENG (RC), H.H. SHIEH (RC), J.Y. TENG (RC), C.C. CHEN (RC)
Pairwise comparison for utility measurement: application to preference in travel behaviour

c: G.H. TZENG (RC), C.M. FENG (RC), H.H. SHIEH (RC), H.D. CHEN (RC), C.P. HU (RC)
Evaluation of urban environment by multiattribute utility

WD 20  OUTRANKING METHODS IN MCDM

CHAIR: P. KUNSCH (B)

a: B. ROY (F)
About some requirements to found a selection of alternatives on pairwise comparisons

b: H. PASTIJN (B), J. LEYSSEN (B)
Incomparability in Oreste and Promethee

c: J. TEGEM (B), C. DELHAYE (B), P. KUNSCH (B)
An interactive DSS for multicriteria analysis
WD 21  MCDM

CHAIR: J.C. POMEROL (F)

a: G. BALESTRA (I), A. TSOUKIAS (I)
Multicriteria analysis expert's knowledge representation by A.I. formalisms

? b: R.R. MISHRA (IND), B.K. MOHANTY (IND)
A linguistic approach for assessing weights and compensation in multiple criteria fuzzy decision

? c: H. DELGADO (E), J.L. VERDEGAY (E), M.-A. VILA (E)
On a decision problem with linguistic data

d: O. COSKUNOGLU (USA)
Coupling numerical and symbolic computation for optimal facilities replacement

WD 22  OR/MS SUPPORT TO SENIOR MANAGEMENT 3

CHAIR: R. STAINTON (GB)

a: K. BOWEN (GB)
Getting into the mess and helping others out

b: E. FIELD (GB), M. SHUTLER (GB)
Service with a smile: the public face of public sector industries

c: J. Sussams (GB)
Modelling logistic systems

d: R. STAINTON (GB)
The simulation of competitor activity in marketing

WD 23  TECHNOLOGY STRATEGY IN EUROPE

CHAIR: P. NUENO (E)

a: S. DE TREVILLE (SF)
Technology and modern manufacturing philosophies

b: R. FERRATA (I)
The relationship between public policy and technology

c: H. MAK (NL)
Directing technological efforts

d: J. RIVEROLA (E)
Managing qualified technicians and scientists in projects with high technological uncertainty

WD 24  STRATEGIC DECISION-MAKING IN HI-TECH ENTREPRENEURIAL FIRMS

CHAIR: R. BURGELMAN (USA)

a: H. BAZWHI (USA)
The empiricist mode of strategy-making in high technology firms
b: R. Burgelman (USA), S. Evans (USA)
Technology strategy in the disc controller industry: a comparative study

c: K. Eisenhardt (USA), L. J. Bourgeois (USA)
Power and politics in strategic decision processes: eight cases in the microcomputer industry

d: W. Huang (F)
Industrial management of software production: cases and new concept

WD 25 MODELLING ISSUES IN MARKETING 2

CHAIR: J.M. Choffray (F)

a: W.A. Kamakura (USA)
Estimating multimodal distributions of ideal points

b: P. Windal (F), D. Brehon (F)
Comparison of the predictive validity of estimation methods in multiattribute preference models

c: O. Gensch (USA)
Differentiating the types of hierarchical choice models

WD 26 TOPICS IN MARKETING 1

CHAIR: H. Schmaelen (D)

a: H. Schmaelen (D)
A modification of the Bass-Model: presentation and computer-based simulation analysis

b: P.V. Balakrishnan (USA), N. Hall (USA)
The optimal timing of information to maximize minimum exposure

c: A. Mitra (USA), J. Patankar (USA)
A multiobjective model for warranty estimation

WD 27 MANAGEMENT SCIENCE AND PORTFOLIO CHOICE 2

CHAIR: M. Weingartner (USA)

a: R. Clark (CDN), W.T. Ziemba (CDN)
Playing the turn of the year effect with index futures

b: A. Nielsen (DK), B.A. Jensen (DK)
Some aspects on the pricing of options on default-free bonds

? c: F.J. Gould (USA)
The re-emergence of relative strength tactics in active asset allocation: new evidence

d: B.C. Ball Jr. (USA)
The black hole of retained earnings
WD 28  WATER RESOURCES MANAGEMENT

CHAIR: L. VALADARES TAVARES (P)

a: M. PETRIĆEC (YU), N. MLADINEO (YU)
Multipurpose reservoir operation study using stochastic DP

b: G. ORON (IL), G. RABINOWITZ (IL), A. MAHREZ (IL)
The role of information in optimizing a water system for energy generation and irrigation

? c: C. CAO (I), G.M. SECHI (I), P. ZUDDAS (I)
An algorithm for the analysis of large-scale water resource systems

d: FU ZHAOYANG (RC)
Theory of multireservoir dispatching optimization: SEPOA method

WD 29  MILITARY APPLICATIONS: OPEN DISCUSSION

CHAIR: H. LOFSTEDT (S), T. LEDERGERBER (CH)

WD 30  HEALTH 2

CHAIR: A.K. SHAHANI (GB)

a: W. PAPE (USA), U. SAXENA (USA)
An economic analysis of a medical treatment procedure

? b: L.L. BARROS (GB)
Constrained optimization models applied to animal health economics

? c: M. BOSCH (RCH)
Design of a line of services for a special kind of firm
THURSDAY JULY 7 9 - 10.30

TA 01 LINEAR PROGRAMMING: SENSITIVITY ANALYSIS

CHAIR: E. JACQUET-LAGREZE (F)

a: R. WENDELL (USA)
A generalized tolerance approach to sensitivity analysis

b: T. GAL (D), F. GEUE (D), H. KRUSE (D), G. PICHLER (D), P. ZORNIG (D)
New results in the theory and application of degeneracy graphs

? c: E.A. SIDIERI (I)
Dual simplex method for L.P. and for semi infinite L.P.: similarity and difference

TA 02 NON LINEAR INTEGER PROGRAMMING

CHAIR: P. HANSEN (USA)

a: R. SOLAND (USA)
Integer and mixed-integer nonlinear programming by implicit enumeration

b: R.H. JAN (RC), M.S. CHERN (RC)
Multi-level nonlinear integer programming

c: M.S. CHERN (RC), R.H. JAN (RC), R.J. CHERN (RC)
Parametric nonlinear integer programming: the right-hand side case

d: D. LAFON (F), A. LAHRICHI (F)
A nonlinear integer problem

TA 03 TRAVELING SALESMAN PROBLEM

CHAIR: G. LAPORTE (CDN)

a: J. PERTTUNEN (SF)
A new combined heuristic for the traveling salesman problem

b: J. FONLUP (F), A. NACHEF (F)
Polynomial algorithm for solving the traveling salesman problem on certain classes of graphs

? c: A. CLAUS (F)
A multi commodity approach towards the traveling salesman problem

d: J. CURRENT (USA), D. A. SCHILLING (USA)
The covering salesman problem

TA 04 GRAPHS

CHAIR: P. HAMMER (USA)

a: C. BERGE (F)
Hypergraphs

b: A. HERTZ (CH), D. DE WERRA (CH)
Connected sequential colorings
THURSDAY JULY 7 9 - 10.30

TA 05  CUTTING AND PACKING PROBLEMS 4

CHAIR: E. BISCHOFF (GB)

a: M. RODE (D)
Interactive computer-aided simulation of two-dimensional packing problems

b: J.S. FERREIRA (P), J.F. OLIVEIRA (P), J.C. ALVES (P)
Solving two-dimensional cutting problems and comparing well-known algorithms

c: K.A. DOWSLAND (GB)
Efficient automated pallet loading

TA 06  DISTRIBUTION AND ROUTING

CHAIR: M.W. SAVELSBERGH (NL)

a: K. NYGARD (USA), P. JUELL (USA), N. KADABA (USA)
Vehicle routing model management

b: N. CHRISTOFIDES (GB), A. LUCENA (B)
Optimization algorithm for the vehicle routing problem based on the elimination of suboptimal routes

c: H. FLEUREN (NL)
A computational study of the set partitioning approach for vehicle routing and scheduling problems

d: B. RANIS (CDN), F. SOUMIS (CDN), M. GENDREAU (CDN)
Routing models and applications in telecommunication networks

TA 07  SCHEDULING 4

CHAIR: J. BLAZEWICZ (PL)

a: M. VLACH (CS)
Scheduling to minimize earliness and tardiness penalties

b: A. COROMINAS (E), A.M. COBES (E), F. VILLALBI (E)
Timetabling of sporting events and their TV transmission

c: K. RAMAMRITHAM (GB)
Heuristic on-line scheduling algorithms for time and resource constrained systems

d: S. GUPTA (USA), A.S. KUNNARTH (USA)
Single machine scheduling with fixed + variable processing times

TA 08  CONTINUOUS LOGISTICS MODELING: PEOPLE TRANSPORTATION

CHAIR: M. BECKMANN (USA), C. DAGANZO (USA)

a: A. LANGEVIN (CDN), F. SOUMIS (CDN)
Approximate analytic model of zones design for multiple-vehicle routing and scheduling
THURSDAY JULY 7 9 - 10.30

b: J.P. BELISLE (CDN)
Modeling door-to-door transportation services for the handicapped

c: S.C. WIRASINGHE (CDN)
Approximate and continuous modelling of passenger walking distance within linear airport terminals

d: M. KUWAHARA (J)
Equilibrium queueing patterns at a two-tandem bottleneck

TA 09 AIRLINE LOGISTICS

CHAIR: M. ODIER (F), T. COOK (USA)

a: K. RAPLEY (GB)
The role for O.R. in logistics planning
b: G.E. FOX (USA)
A model based support system for schedule development
c: S. LAVOIE (F), M. MINOUX (F), E. ODIER (F), B. RANNOU (F)
A new approach for crew pairing problems by column generation with application to air transportation

TA 10 MANUFACTURING STRATEGY

CHAIR: P. LEDERER (USA)

a: M. COHEN (USA), H.L. LEE (USA)
Global manufacturing strategies
b: H. GRENEVELT (USA), U. SUMITA (USA)
Logistics of parts manufacturing and suppliers: Japanese approach
c: P. LEDERER (USA)
Justification and evaluation of new technologies
d: A. HATCHUEL (F), J.C. SARDAS (F)
Production planning in complex and long cycle industries: an integrated scheme

TA 11 EXPERIMENTS ANALYSIS OF SIMULATION

CHAIR: P.A. LEWIS (USA)

a: R.G. SARGENT (USA)
Frequency domain simulation experiments
b: M. KOKSALAN (TR), N. ERKIP (TR)
An improved method of estimating percentiles of a performance measure in simulation
c: D.R. CHEN (RC)
Batch means method in multivariate steady-state simulation
THURSDAY JULY 7 9 - 10.30

TA 12 MARKOV MODELS

CHAIR: B. STEECE (USA)

a: P. L'ECUYER (CDN), M. MAYRAND (CDN), M. DRAOR (CDN)
Dynamic scheduling of a robot servicing machines on a one-dimensional line

b: H. STERN (IL)
Optimal picking policies for carousel storage systems

c: P. CONSTANTOPULOS (GR)
Efficient multimedia document retrieval using a finite state model

d: A. HORDIJ (NL)
A new formula for the deviation matrix

TA 13 CONTROL OF QUEUES

CHAIR: F.M. SPIEKSMA (NL)

a: E. ALTMAN (IL), A. SHWARTZ (IL)
Non-stationary optimal policies for Markov chains and for queueing systems

b: W.M. NAWIJK (NL)
Look-ahead policy for admission control to a single server loss system

c: F. SPIEKSMA (NL)
The structure of optimal flow control in a queueing system with a constraint on the average cost

TA 14 RELIABILITY 2

CHAIR: R. DEKKER (NL)

a: P.R. MORAIS (BR), S.V. CARVALHO (BR)
Optimal control of a maintenance system with a variable number of servers

b: J. MONTERO (E), J. TEJADA (E), J. YANEZ (E)
Structural properties of fuzzy systems

c: K.A. KOBAC (GB)
An information oriented maintenance management system

TA 15 FMS 4

CHAIR: A. VILLA (I)

a: A. KUSIAC (CDN)
Design of manufacturing systems: an expert system approach

b: P. SOLOT (CH)
Optimizing a flexible manufacturing system with several pallet types
THURSDAY JULY 7 9 - 10.30

C: M. WIDMER (CH), P. SOLOT (CH)
Don't forget the breakdowns and the maintenance operations in FMS design problems!

D: R. LOULOU (CDN)
Probabilistic analysis of a new heuristic for the 2-center-in-series flowshop

TA 16 PANEL DISCUSSION ON DECISION SUPPORT METHODOLOGY
CHAIR: R.M. O'KEEFE (USA)
See the abstract

TA 17 COMPUTER SCIENCE 2
CHAIR: H. THIRIEZ (F)

A: M. JANSON (USA)
Improving data quality in end-user computing using exploratory techniques

B: K.J. EUSKE (USA), D. DOLK (USA)
A model for the control of end-user computing

C: H. THIRIEZ (F)
Modelling with microcomputers: a software analysis

TA 18 NEW DEVELOPMENTS IN DECISION SUPPORT SYSTEMS 4: PANEL

CHAIR: M. SHAKUN (USA)
See the abstract

TA 19 RISK ANALYSIS
CHAIR: V. BELTON (GB)

A: C. DINCER (TR), J.E. HODDER (USA)
A comparison of mean-variance based models for plant location under uncertainty

B: J. TANG (T), C. ESPINAL (T)
A model to assess country risk

C: P. ANSELMO (USA), J.S. DVER (USA), W. WILSON (USA)
Capital budgeting based on a synthesis of the CAPM and decision analysis

TA 20 USING OUTRANKING METHODS
CHAIR: G. D'AVIGNON (CDN)

A: J. COULLARD (CDN), G. D'AVIGNON (CDN)
A decision support system for vehicle fleet planning: a multicriteria approach
b:  J-M. MARTEL (CDN), N. KHOURY (CDN)
Performance ranking of mutual funds: a PROMETHEE application

c:  N. PLAZIBAT (YU), M. MILICIC (YU), Z. BABIC (YU), D. SLISKOVIC (YU)
Efficiency assessment based on Promethee methods

TA 21  MCDM AND EXPERT SYSTEMS

CHAIR: R. COOKE (NL)

a:  J-C. POMEROL (F)
A.I. and MCDM : heuristics, expert and multi-expert systems

b:  Y. ROMMEL (F)
An illustration of the expert system approach for MCDM

c:  R. COOKE (NL), J. PINTER (H)
Combining expert opinions: an optimization approach

TA 22  SYMPOSIUM DEALING WITH DESIGN FAILURE 1: PANEL

CHAIR: P. NUTT (USA)

See the abstract

TA 23  GLOBAL TECHNOLOGY STRATEGY

CHAIR: Y. DOZ (F)

a:  H. ERGAS (F)
The technology development, acquisition and exploitation policies of the OECD countries and the NICS

b:  G. HAMEL (GB)
Borrowing technology: a comparative analysis of Western and Far Eastern corporate techn. strategies

o:  Y. DOZ (F)
Skill-based partnerships and organizational learning

? d:  J.C. PETERSCHMITT (CH)
Technology strategies in the computer industry

TA 24  A LARGE SCALE LONGITUDINAL STUDY OF ENTREPRENEURSHIP

CHAIR: A. COOPER (USA)

a:  W. DUNKELBERG (USA)
An overview of the longitudinal project

b:  C. WOO (USA)
Determinants of survival

c:  A. COOPER (USA)
A methodological perspective on entrepreneurship research
THURSDAY JULY 7 9 - 10.30

TA 25  PROBABILISTIC MODELS IN MARKETING

CHAIR: D. HANSSENS (USA)

a: J. ROSSITER (AUS), F. WINTER (AUS)
A pattern-matching purchase model with stochastic brand choice

b: D. SCHMITTEIN (USA), K. HELSEN (USA)
New methods for analyzing duration times in marketing

c: A. JEULAND (USA)
Static and dynamic characteristics of brand choice sequences via a multivariate Markov chain

TA 26  TOPICS IN MARKETING 2

CHAIR: T.D. KLASTORIN (USA)

a: F.H. HAYS (USA), P. ROY (USA)
A nonparametric approach to psychographic segmentation of banking consumers

b: K. LOCH (USA), M. SCHNIEDERJANS (USA)
Markov analysis procedure for market segmentation in the U.S. banking industry

c: T.D. KLASTORIN (USA)
On the optimal design and response of inquiry cards

d: M. BERGADA (F), E. ROUX (F)
In-store mother-child interaction

TA 27  EMPIRICAL STUDIES OF EUROPEAN EXCHANGES

CHAIR: K. GORDON (F)

a: I. VIRTANEN (SF), P. YLI-OLLI (B)
Cross-sectional properties and time-series persistence of financial ratio distributions

b: P. YLI-OLLI (B)
The random walk hypothesis on a thin security market: empirical evidence with Finnish data

c: V. ANGIRAY (USA), E.B. BOOTH (USA), G. BOOTH (USA), D. LOISTL (D)
Models of west german and american stock returns: an empirical comparison

d: D. WYGAL (USA), J. ALBERT (USA), A. FRANCFORT (D), H. HOBSON (USA)
Financial reporting changes in West-Germany: implications for the global market
THURSDAY JULY 7 9 - 10.30

TA 28 ENERGY AND ECONOMY

CHAIR: L. VALADARES TAVARES (P)

a: M. M. TEIXEIRA DE ARAUJO (P)
Economic planning in industrial wastewater systems using O.R. techniques and Woda package

b: D. FULLER (CDN)
A model of Canada-U.S. energy trade

c: F. POIRIER (F)
Etude des substitutions inter-énergétiques dans le secteur industriel américain

TA 29 MILITARY APPLICATIONS 1

CHAIR: H. LOFSTEDT (S)

a: T. LERGERBER (CH)
Terrain digitalisation in divisional wargame

b: H. PASTIJN (B), M. R. VAN BUSSEL (B)
Exploring an international military naval industry with MCDM tools

c: C. LEAKE (NL)
Using operations research to change decision makers philosophy

TA 30 THE GROWTH OF SMALL BUSINESSES 1

CHAIR: M.A. WILLMER (GB)

a: J. KENWORTHY (GB), M. A. WILLMER (GB)
In the ocean of commerce, small firms are the plankton

b: M. HORNE (GB)
Small firm competitiveness: a guide to intervention
TB 01  PROBABILISTIC ANALYSIS OF THE SIMPLEX METHOD

CHAIR: K. BORGWARDT (D)

a: M. TODD (USA)
Polynomial expected behaviour of a pivoting algorithm for linear programming

b: R. SHAMIR (IL)
The efficiency of the simplex method: a survey

c: K.-H. BORGWARDT (D)
Probabilistic analysis of the simplex method under the rotations-symmetry-model

TB 02  QUADRATIC PROGRAMMING

CHAIR: J. FACO (F)

a: J.-J. JUDICE (P), F.-M. PIRES (P)
A comparison between direct and iterative methods for solving large-scale convex quadratic programs

b: T. TERLAKY (H), E. KLAFSZKY (H)
A generalization of the criss-cross method for quadratic programming

c: S. EASA (CDN)
Earthmoving logistics with linear unit costs

TB 03  ASSIGNMENT PROBLEM

CHAIR: G. PLATEAU (F)

a: J. BOURJOLLY (CDN), W.-R. FULLEYBLANK (CDN)
Konig-Egervary graphs, 2-bicritical graphs and fractional matchings

b: A. GANI (RI)
The application of the interaction theory for solving the assignment problem

c: I. KARA (TR), M. KAPANOGLU (TR)
An algorithm for preference bottleneck assignment problem

TB 04  PARALLEL ALGORITHMS IN COMBINATORIAL OPTIMIZATION

CHAIR: J.L. KENNINGTON (USA)

a: T. MÖHR (CH), C. PASCHE (CH)
A parallel shortest path algorithm

b: C. ROUCALROL (F)
Parallel tree search algorithms

c: T.-R. HOFFMANN (USA)
Micros and supercomputers: their impact on algorithm development
TB 05 CUTTING AND PACKING PROBLEMS 5

CHAIR: H. DYCKHOFF (D)

a: W. DOWSLAND (GB)
Computational considerations in packing algorithm development

b: E.-E. BISCHOFF (GB), M.-D. MARRIOTT (GB)
A comparative evaluation of heuristics for container loading

c: R.-W. HAESSLER (USA), F.-B. TALBOT (USA)
Vehicle loading of low density products

TB 06 MARITIME LOGISTICS

CHAIR: K. WOOD (USA)

a: G.-G. BROWN (USA), C.-E. GOODMAN (USA), K. WOOD (USA)
Annual scheduling of Atlantic fleet naval combatants

b: P. THOMPSON (USA), H. PSARAFTIS (USA), J. ORLIN (USA)
Cyclic transfers: local improvement algorithms for multi-vehicle routing problems

c: J. JARVIS (USA), D. RATLIFF (USA)
Optimization issues in deployment planning

TB 07 SCHEDULING 5

CHAIR: L. BIANCO (I)

a: T.-S. ABDUL-RAZAQ (GB), C.-N. POTTS (GB)
Dynamic programming state-space relaxation for scheduling with a composite objective

b: H. BELOUMAH (GB), C.-N. POTTS (GB)
Scheduling identical parallel machines to minimize total weighted completion time

c: L. BIANCO (I), A. MINIOZZI (I), S. RICCIARDELLI (I)
Minimizing mean flowtime with sequence dependent processing times

d: R. KLEPIPOUS (PL), J. KOTOWSKI (PL), J. ULASIEWICZ (PL)
An algorithm for optimal planning process in an opencast lignite mine

TB 08 PUBLIC TRANSPORTATION

CHAIR: J. VIEGAS (P)

a: J. PAIXAO (P), I.-M. BRANCO (P)
The bus scheduling problem with time constraint

b: J.-M. VIEGAS (P)
Route choice in urban public transport networks using shortest paths with memory
A decision support system for scheduling vehicles and crews in mass transit agencies

TB 09  FLEET MANAGEMENT IN FREIGHT TRANSPORTATION 1

CHAIR: W.B. POWELL (CDN), T. CRAINIC (CDN)

a: M. GENDREAU (CDN)
A survey of stochastic models for fleet management

b: W.B. POWELL (CDN), J. FARVOLDEN (USA)
A dynamic optimization model for less-than-truckload consolidation networks

c: T. CRAINIC (CDN), J. ROY (CDN), L. DEORME (CDN)
Design of driver routes in the LTL motor carrier industry

TB 10 DISTRIBUTION MANAGEMENT AND LOGISTICS

CHAIR: L. SCHWARZ (USA)

a: G. GUTIERREZ (USA), W. HAUSHAN (USA)
Rationing and stocking in a multi-echelon assembly-to-order system

b: M.A. DE BOOT (B), L.N. VAN WASSENBOY (B)
Multilevel production/distribution system: a missing link?

c: L.B. SCHWARZ (USA)
Model for assessing the value of warehouse risk pooling: risk pooling over outside supplier leadtimes

TB 11 FORECASTING

CHAIR: K. BOWEN (GB)

a: H. ELWANI (SAU), K. EL-GANDOUR (SAU), F. AL-NAJJAR (SAU)
A forecasting module for inventory management

b: C. BAYNE (CDN)
Forecasting the demand for style goods

c: D. ATWATER (USA), E. BRES (USA), R. NIEHAUS (USA)
A variable horizon model for forecasting civilian personnel retention

TB 12 STOCHASTIC PROCESSES

CHAIR: D. YAO (USA)

a: E. ALTMAN (IL), A. SHWARTZ (IL)
Time sharing policies for Markov decision problems

b: J.L. BALINTFY (USA), A. PREKOPA (USA)
Modeling choices over time by nonhomogeneous Markov chains
THURSDAY JULY 7 11 - 12.30

C: W. JAMMERNEGG (A), P. KISCHKA (D)
Bayesian dynamic models of insurance demand

TB 13 VACATION MODELS IN QUEUEING SYSTEMS

CHAIR: J. LORIS-TEGHEM (B)

a: C. BLONDIA (B)
An M/G/1 finite capacity queue with vacations and priorities

b: J. TEGHEM (B)
The (N;W)-policy for the M/G/1 queue

c: J. LORIS-TEGHEM (B)
An extension of the (T (MV);N)-policy for the M/G/1 queueing system

TB 14 QUALITY CONTROL AND MAINTENANCE

CHAIR: J. DEVOOGHT (B)

a: M. MELLICHAMP (USA), D. MILLER (USA)
Computer aided machine qualification system (CAMQ)

b: F.J. ARCELOS (CDN), M.A. RAHIM (CDN), O. CARLSSON (S)
Optimal process levels for the joint control of variables and attributes

c: J.S. BURTON (USA), A. BANERJEE (USA)
Equipment utilization based maintenance task scheduling in a job shop

TB 15 DESIGN AND PLANNING IN FMS

CHAIR: K. STECKE (USA)

a: P. AFENTAKIS (USA)
A method for layout design in FMS

b: M. BITTON (F), G. DOUMENETS (F)
Advanced manufacturing systems and economical evaluation

c: L.F. ESCUDERO (E)
Models' integration for production planning in FMS

d: P. AFENTAKIS (USA), R.A. MILLEN (USA), M. SOLOMON (USA)
Grouping part types to maximize throughput in FMS

TB 16 EXPERT SYSTEMS 1

CHAIR: A.S. CAMARA (P)

a: G. ANANDALINGAM (USA)
Expert system for requirements specification of computer networks

b: D. DUBOIS (B), J.L. GILSON (B)
TIMEXPERT: an expert system for professors time management in schools
THURSDAY JULY 7 11 - 12.30

? c: R.A. FLECK (USA), B.M. SHIRLEY (USA)
   Expert systems for MBA admissions

   d: M.P. ANTUNES (P), A.S. CAMARA (P), M.A. GUIMARAES (P), S.G. VAZ (P)
   Expert system shell for environmental impact assessment

TB 17  EXPERT SYSTEMS

CHAIR: M. BIELLI (I)

   a: W. O'BRIEN (USA), V. ADLAKHA (USA)
   Expert systems for lawyers: the state of the art in theory and practice

   b: M. BIELLI (I), M. CINI (I)
   Integration of O.R. and knowledge representation methodologies in DSS

   o: A. HOCINE (F)
   GENES: application à la résolution de problèmes de recherche opérationnelle

TB 18  NEW DEVELOPMENTS IN DECISION SUPPORT SYSTEMS 5

CHAIR: A. SCHENKER-WICKI (CH)

   a: G. MELON (USA), E. SUDIT (USA)
   Productivity criteria for decision support of strategic planning in banking

   b: J.O. NYHART (USA)
   The uses of models and modeling in negotiation management

   c: G. KERSTEN (CDN), V. RAKOVSKI (CDN)
   NEGO: a prototype for negotiation support

   d: M.J. OLIVEIRA (P), P. PIMENTA DE CASTRO (P)
   Tagus estuary water quality management-DSS

TB 19  AMBIGUITY AND DECISION MAKING UNDER UNCERTAINTY

CHAIR: R.L. WINKLER (USA)

   a: R. HOGARTH (USA)
   Risk and ambiguity aversion: effects of probabilities and payoffs

   b: R.F. NAU (USA)
   Ambiguity and paradoxes of choice under uncertainty

   c: R. SARIN (USA), R. WINKLER (USA)
   Modeling ambiguity
TB 20 MCDM: RANKING AND PAIRWISE COMPARISONS

CHAIR: J.C. VAN SNICK (B)

a: G.H. TZENG (RC), H.M. SHIEH (RC), T.A. SHIAU (RC), C.H. CHEN (RC)
Hierarchical structural analysis for MCDM: application of energy conservation strategies in railway

b: B. MARESCHAL (B), G. D'AVIGNON (CDN)
A time-dependant outranking method

c: P. VAN ASBROECK (B), A. HENNEN (B)
The use of nonparametric statistics techniques in MCDA rank order method

d: O. KETTANI (CDN), M. ORAL (CDN)
Electre I as a mathematical programming model

TB 21 VALIDATION OF EXPERT SYSTEMS

CHAIR: D. MERUNKA (F)

? a: R. YAGER (USA)
On representing commonsense knowledge

b: M. BERGAOAN (F)
An ex-ante validation of expert systems

c: S. HAYAT (F)
Using expert choice for communication strategy design and evaluation

? d: J.M. GRAND (F)
Application of the analytical hierarchy process to price decisions

TB 22 SYMPOSIUM DEALING WITH DESIGN FAILURE 2

CHAIR: P. NUTT (USA)

a: P.C. NUTT (USA)
Procedural bases of design failure

b: Panel
See the abstract

TB 23 CORPORATE ALLIANCES IN TECHNOLOGY STRATEGY

CHAIR: D.J. TEECE (USA)

a: M. GERLACH (USA)
Business alliances in Japan

b: W. SHAH (USA)
Cooperation and competition in the development and commercialization of new technology

c: D. TEECE (USA)
Cooperation and competition in innovation
THURSDAY JULY 7 11 - 12.30

TB 24  CONTRIBUTIONS TO INNOVATION AND ENTREPRENEURSHIP

CHAIR: M. LIPPI T NICHOLS (USA)

a:  M. LIPPI T NICHOLS (USA), P. REYNOLDS (USA)
Interdisciplinary perspectives on innovation and entrepreneurship from research programs in the SMRC
b:  S. POOLE (USA)
Minnesota innovation research program
c:  B. CHAKRAVARTHY (USA)
Strategic management of innovation and productivity

TB 25  DSS AND EXPERT SYSTEMS IN MARKETING

CHAIR: G. LAURENT (F)

a:  H. GATIGNON (USA), R. BURKE (USA)
Uncertainty and bayesian inference in expert systems
b:  J. CHOFFRAY (F)
Produitest: a visual decision aid for new product evaluation
c:  J. LITTLE (USA), D. HONNOLD (USA)
Expert systems for scanner data

TB 26  TOPICS IN MARKETING 3

CHAIR: S. OREN (USA)

a:  O. BREGEN (USA), S. OREN (USA)
Nonlinear pricing to reduce demand uncertainty
b:  J. CHIANG (USA)
A model of simultaneous brand choice and purchase quantity decisions in partitioned markets
c:  Y. ALLAIRE (CDN), M. FIRSIROTU (CDN)
The strategic meaning of markets

TB 27  TOPICS IN FINANCE AND ECONOMICS 1

CHAIR: J. LARGAY (USA)

a:  D.B. HAUSCH (USA)
Auctions and pricing with costly information
b:  W.R. GREER JR. (USA), J. LARGAY (USA)
The relative efficacy of managerial skill, accounting and regulatory policy
c:  J.R. CALLAHAN (CDN), D. CRAV (CDN), G.H. HAINES JR. (CDN)
Testing a theory of task complexity applied to pension fund management
d:  C. BALL (USA), U. VASAVADA (USA), A. SCHWARTZ (USA)
A convex value function for analyzing agricultural investment decisions
TB 28  ELECTRIC GENERATION MODELS

CHAIR: J. CLIMACO (P)

a: J.S. ROGERS (CDN), M. ROLKO (CDN)
A quadratic programming model for planning electric generation and transmission

b: K. VLAHOS (GB), O. BUNN (GB)
Decomposition methods in electric power system planning

? c: M. CHRISTOU (GR), T. GOMAS (GR), J.E. SAMOUILIDIS (GR)
A simulation tool for decision making on small hydros

TB 29  MILITARY APPLICATIONS 2

CHAIR: T. LEDERGERBER (CH)

a: T. CHRISTENSEN (DK), S. CLAUSEN (DK)
Stochastic combat modeling based on a representative pair of opposing units

b: OUDIN-DARRIBERE (F)
Model for lifetime, cost and availability evaluation of repairable equipment

c: D. FADDY (GB)
A review of progress on some problems in military O.R.

TB 30  THE GROWTH OF SMALL BUSINESSES 2

CHAIR: M.A. WILLMER (GB)

a: J. SAKER (GB), D. BROWN (GB)
Franchising & small business growth

b: S. MIRESKANDARI (GB)
Small businesses and management information systems

? c: M.A. WILLMER (GB)
On the spread of enterprise in society
TC 01  MIXED INTEGER PROGRAMMING
CHAIR: P. BARCIA (P)

a: J.E. FENSTERSEIFER (BR)
A branch-and-bound approach to make-buy decisions for
interdependent products

b: P. BARCIA (P), J. PAIXAO (P)
Combining bound improving sequences with surrogate
duality

c: B. SHETTY (USA)
Network problems with VUB constraints

TC 02  NON LINEAR PROGRAMMING 1
CHAIR: J. ELZINGA (USA)

a: N.I. DJURANOVIĆ-MILICIC (YU)
A coordinate projection method

b: M. SNIEDOVICH (ZA)
A classical setting for fractional programming

c: T. ILLES (H)
Optimality criteria for general unconstrained geometric
programming problems

d: J.J. JUDICE (P), A.M. FAUSTINO (P)
Solving nonconvex programs by using the linear
complementarity problem

TC 03  KNAPSACK PROBLEM 1
CHAIR: C. ARBIB (I)

a: P. BOURGEOIS (F), G. PLATEAU (F)
An improved hybrid algorithm for the 0-1 knapsack
problem

b: C. METAIRIE (F), N. POLIAN (F)
Efficient data structure to solve the 0-1 knapsack with
branch and bound

c: E.S. GOTLIB (USA), M.R. RAO (USA)
Facets of the knapsack polytope derived from overlapping
index configurations

TC 04  RANDOMIZED ALGORITHMS
CHAIR: F. MAFFIOLE (I)

a: L. STOUGIE (NL)
A fast randomized algorithm for covering a graph with
paths of fixed length.

b: U. VAZIRANI (USA)
Asymmetry and efficient randomized computation

c: Y. VAZIRANI (USA)
Matching is as easy as matrix inversion
TC 05 THE COMPULSORY PARTS THEORY IN SCHEDULING AND BIN-PACKING

CHAIR: A. LAHRICHI (F)

a: A. LAHRICHI (F)
The compulsory parts theory and its use for scheduling and bin-packing

b: M. GONDAN (F), A. LAHRICHI (F)
The compulsory parts theory and its use for 2D bin-packing problem

c: B. GERARDIN (F), M. GONDAN (F), A. LAHRICHI (F), J.-L. MOLIERES (F)
New methods for the environment constrained 2D bin-packing problem

TC 06 ROUTING AND SCHEDULING

CHAIR: M. BALL (USA)

a: J. SHAPIRO (USA)
Column generation methods for scheduling models with imbedded traveling salesman problem

b: W. POWELL (CDN), L. FRANTZESKAKIS (USA)
Stochastic optimization algorithms for the dynamic vehicle allocation problem

? c: C. TOMEY (USA)
Routing and design for manufacturability of electronic circuit boards

d: L. BODIN (USA), L. LEVY (USA), G. FAGAN (USA), R. WEINS (USA)
Postal carrier delivery problems

TC 07 SCHEDULING 6

CHAIR: J.K. LENSTRA (NL)

a: I. OSMAN (GB), C. POTTS (GB)
Simulated annealing for permutation flow-shop scheduling

b: A. TAKER (TR), S. KONDAKCI (TR), N. ERKIP (TR)
General job-shop scheduling under nonrenewable resource constraint

c: D. BOIVIN (F), E. PINSON (F)
Daily flexible-workshop’s production scheduling: a double approach by optimization and simulation
TC 08  TRANSPORTATION

CHAIR: C. VERCELLIS (I)

a:  C. LARDINOIS (CDN)
Simulation and gaming in a competitive multimodal multi-company passenger transport environment

b:  J.T. LUNDGREN (S), K. JOHNSTEN (N), T. LARSSON (S), S. MIGDALAS (S)
An entropy model with partially undetermined targets

c:  O. KALPIC (YU), S. KENDA (YU), V. MORNAR (YU)
Microcomputer multicriteria transportation system

TC 09  FLEET MANAGEMENT IN FREIGHT TRANSPORTATION 2

CHAIR: T. CRAINIC (CDN), W. POWELL (CDN)

a:  K. ANTONISSE (NL)
A decision support system for container replenishment

b:  P. DEJAX (F), T. CRAINIC (CDN), L. DELORME (CDN)
Strategic/tactic planning of container land transportation systems

TC 10  PRODUCTION CONTROL

CHAIR: L. VAN WASSENHOVE (B)

a:  M. HARIGA (USA), P. JACKSON (USA), J.A. MUCKSTADT (USA)
The inventory packing problem

b:  J.C. WORTMANN (NL)
Information systems for different types of production control

c:  W. DANGELMIER (D), H. KUHNLLE (D)
Foundations of integrated production planning and control

d:  J.L. DELEERSNYSER (B), T.J. HODGSON (USA), P.J. O'GRADY (USA)
Models for analyzing forecast driven hybrid production control strategies

TC 11  FORECASTING FOR MANUFACTURING

CHAIR: J. McCLAIN (USA)

a:  R. HIGHFIELD (USA)
Forecasting similar time series using Bayesian shrinkage methods

b:  D. MONTGOMERY (USA), G. WEATHERBY (USA)
Aggregation, disaggregation and combination of forecasts using ARIMA models

c:  J. McCLAIN (USA)
Using false alarms to improve forecast accuracy
TC 12  PROBABILITY-STATISTICS 1

CHAIR: A.M. DUSSAIX (F)

a:  P. MASSACCI (I), G. PATRIZI (I)
Closed loop techniques of optimal control of mineral and
metallurgical processes
b:  P. BADEKAS (USA), A.R. ODONI (USA)
A probabilistic model to predict ATC conflicts
C:  J.M. FOURNEAU (F), B. PLATEAU (F)
PEPS, performance evaluation of parallelism and
synchronization

TC 13  QUEUEING NETWORKS

CHAIR: K. OHNO (J)

a:  E. GELENEC (F), Z. LIU (F)
Approximate solutions to network of queues with tasks
having precedence constraints
b:  S. DASKALAKI (USA), J. MACGREGOR SMITH (USA)
Optimal routing and buffer space allocation in series-
parallel queueing networks
C:  K. OHNO (J)
An optimal control of the degree of multiprogramming in
a computer system

TC 14  DIFFERENTIAL GAMES AND MANAGEMENT SCIENCE
APPLICATIONS

CHAIR: S. JORGENSEN (DK)

a:  J. RUUSUNEN (SF), H. EHTAMO (SF), R.P. HAMALAINEN (SF)
A hierarchical bargaining model in energy management
b:  D. YEUNG (CDN)
Knowledge based product innovation: a closed-loop
feedback Nash equilibrium approach
C:  E.J. DOCKER (CDN)
Price versus quantity competition in an oligopoly with
and without learning

TC 15  SCHEDULING IN FLEXIBLE FLOW SYSTEMS AND FMS

CHAIR: K. STECKE (USA)

a:  M. DIMASCOLO (F), R. DAVID (F), V. DALLERY (F)
An approximate technique for analysis of assembly lines
with unreliable machines and finite buffers
b:  C. SRISKANDARAJAH (CDN), S.P. SETHI (CDN)
Performance of scheduling algorithms for flexible
flowshops
c: B. FAALAND (USA), T. SCHMITT (USA)
Scheduling products through integrated FMS, dual resource fabrication and assembly process

d: W.H. HAUSMAN (USA), S. MASRI (USA)
Dynamic scheduling in a FMS with failure-prone machines

TC 16   EXPERT SYSTEMS 2

CHAIR: D. DUBOIS (F)

a: Y. LIROV (USA), D. ST. CLAIR (USA), O.-C. YUE (USA)
Automated knowledge engineering in circuit pack diagnostic expert systems

b: S. ALEXANDER (USA)
The integration of multiple knowledge sources

c: I. COSTEA (USA)
Expert systems shells for micro-computers

d: P. JENSEN (IS), R. OZA (USA), J-P. YOON (USA)
Object oriented programming approach to OR problems

TC 17   EXPERT SYSTEMS IN MANAGEMENT

CHAIR: D. O'LEARY (USA)

a: S. BIGGS (USA)
GC/X: a cognitive expert system for making going concern judgments

b: D.-E. O'LEARY (USA)
Ordering rules in expert systems: implications and methods

c: D.-E. O'LEARY (USA), P. WATKINS (USA)
A comparative analysis of knowledge elicitation methodologies

TC 18   NEW DEVELOPMENTS IN DECISION SUPPORT SYSTEMS 6

CHAIR: T. JELASSI (USA)

a: J-F. NUNMAKER (USA)
The evolution of group decision support systems

b: J-C. HENDERSON (USA)
Emerging DSS technology: implications for DSS strategy

c: D. KING (USA)
From decision support to executive support: role of demons, agents, blackboards and other AI things

d: T. JELASSI (USA), R. PAREESWARAN (USA)
The role of decision support systems in the diffusion of organizational culture
TC 19  
**FUZZY SETS, RANDOM SETS AND CONFIDENCE INTERVALS**

**CHAIR:** H. ZIMMERMANN (D)

*a:* D. DUBOIS (F), H. PRADE (F)  
Fuzzy sets, random sets and confidence intervals

*b:* J. RAES (B)  
Fuzzy linear programming with several objective functions

**TC 20**  
**APPLICATIONS OF THE MCDM PROMETHEE METHODS**

**CHAIR:** B. MARESCHAL (B)

*a:* W. STRUYS (B), H. PASTIJN (B)  
A MCDM approach for the European burden sharing of defense expenditures within NATO

*b:* J.-P. BRANS (B), B. MARESCHAL (B)  
A financial application of the Promethee methods: the Bank Adviser system for client evaluation

*c:* J.-P. BRANS (B), B. MARESCHAL (B)  
Demonstration of Bank Adviser

**TC 21**  
**GROUP DECISION-MAKING**

**CHAIR:** G. COLSON (B)

*a:* G. ISLEI (GB), A.G. LOCKETT (GB)  
Judgemental modelling with groups: a case study of partnership choice

*b:* P.-R. KLEINDORFER (A), R. VETSCHERA (A)  
Bargaining under uncertainty with potential losses: an empirical study

*c:* A. PEARMAN (GB)  
Partial information methods in MCDM

**TC 22**  
**PROMISES IN MS OF SIGNIFICANCE TO SENIOR MANAGERS**

**CHAIR:** R. BALACHANDRA (USA)

*a:* L. BRENNER (IRL), S. GUPTA (USA)  
Simulation in manufacturing: myths and realities

*b:* V. SRINIVASAN (USA), Y. KIM (USA)  
Financial theory and corporate strategy

*c:* T. MANDAKOVIC (USA)  
Impact of computers in R & D

*d:* R. BALACHANDRA (USA)  
Expert systems: claims vs performance
TC 23  STRATEGIC PERSPECTIVES ON INFORMATION TECHNOLOGY

CHAIR: N. VENKATRAMAN (USA)

a:  J. REECE (USA)
Professional challenges in linking strategy and information technology
b:  J. BERNARD (F)
Implementing the strategy information technology linkage

c:  P. FREDERICKS (USA), N. VENKATRAMAN (USA)
The emergence of strategy support systems: exploiting analysis of multiple business dimensions
d:  R. ANDREU (E), J. VALOR (E)
Information systems strategic actions

TC 24  ENTREPRENEURSHIP

CHAIR: I. MACMILLAN (USA)

a:  I. MACMILLAN (USA), M. LOW (USA)
Preliminary models of the entrepreneurial process
b:  M. LOW (USA), J. STARR (USA), I. MACMILLAN (USA)
CEO entrapment: why entrepreneurs can't escape failing ventures

c:  P. DUBINI (I)
The role of networking in the start up of a new venture: a model of evaluation

TC 25  COMPETITION

CHAIR: D.G. MORRISON (USA)

a:  A. BULTEZ (B), E. GIJBRECHTS (B), P. NAERT (F), P. VANDEN ABEELE (B)
Product line pricing in oligopoly: asymmetries due to cannibalistic and competitive interactions
b:  M. SULLIVAN (USA)
Use of brand extension by pioneering firms

c:  J. LITTLE (USA), J. GINISE (USA), P. GUARDINI (USA)
Price-endings: does 9 really make a difference?

TC 26  DECISION SUPPORT FOR ORGANIZATIONAL DESIGN

CHAIR: B. OBEL (DK)

a:  H. BALIGH (USA)
Using A.I. to design organizations: the knowledge base and the literature on organizations
b:  R. BURTON (USA), B. OBEL (DK)
Orgdesign: an expert system to support organizational design

c:  K.D. MACKENZIE (USA)
Taking the drudgery out of organizational design
TC 27  TOPICS IN FINANCE AND ECONOMICS 2

CHAIR: R. FREIFELDER (USA)

a: L.R. FREIFELDER (USA), R. ROSENBERG (USA)
The economics of financial guarantee insurance
b: D.I. CALVERT (GB), A.P. HARE (GB), T. SHARKEY (GB)
Finance and insurance for Airbus aircraft sales
c: B. RAPP (S), A. THORSTENSON (S)
Inflation and the value of loans

TC 28  POWER SYSTEMS PLANNING

CHAIR: D. BABUSIAUX (F)

a: F. GLOVER (USA), D. KLINGMAN (USA), N. PHILLIPS (USA)
A network-related model for nuclear power plants
b: D.S. HIRSHFELD (USA)
Directions in optimization in the petroleum and process industries
c: J. CLIMAÇO (P), A. MARTINS (P), A. TRAÇA-ALMEIDA (P)
Some experiments on power systems planning using fuzzy linear programming
d: M. RAKIC (YU), S. RUZIC (YU)
Decomposition technique in short-term operation planning of combined power systems

TC 29  TEACHING O.R.

CHAIR: J. PASQUIER-DORTHE (CH)

a: P.G. SURMAN (AUS), J.P. STEWART (AUS)
Operations research: a topic for upper secondary school curricula
b: A. GABBAY CANEN (BR), H. THIOLLENT (BR)
O.R. and organizational analysis: a new course in the OR curriculum
c: H. PSARRAFIS (USA)
Mathematical programming on project Athena at M.I.T.
d: G. COLLAUD (CH), J. SAVOY (CH), J. PASQUIER (CH)
Le livre électronique EBOOK3
TD 01  SOFTWARE IN MATHEMATICAL PROGRAMMING

CHAIR: E. KALVELAGEN (NL)

a:  S. RUUTH (SF), R. LAHDELMA (SF), O. TAIMISTO (SF), A. PITKANEN (SF)
A heuristic algorithm for solving large scale unit commitment problems in energy management

b:  A. VAN LOOVEREN (B)
OMP-optimization: software package for linear and mixed integer programming with model generator

c:  E. KALVELAGEN (NL), M. DRAPER (NL)
PC-PROG: a powerful and userfriendly mathematical programming package for PC’s

d:  D.S. HIRSHFELD (USA)
MathPro: a platform for integrated model management

TD 02  NON LINEAR PROGRAMMING 2

CHAIR: P. TOLLA (F)

a:  J-L. FACO (F)
On the use of nonlinear programming for modelling and control of natural resources exploitation

b:  J-F. BONNANS (F)
A new software for large scale nonlinear optimization

c:  H-C. HENDERSON (NL), W. DE KONING (NL), M. KOK (NL)
Computer aided spillway design using the boundary element method

d:  M. BLOCH (F)
Optimization of industrial energy systems management

TD 03  KNAPSACK PROBLEM 2

CHAIR: G. REINELT (D)

a:  G. PLATEAU (F), C. ROUCAIROL (F)
A parallel algorithm for the 0-1 multiknapsack problem

b:  A. FREVILLE (F)
Efficient algorithms yielding strong bounds for multiconstraint 0-1 knapsack problems

c:  S. MARTELO (I), P. TOTH (I)
Upper and lower bounds for the multiple-choice knapsack problem

TD 04  APPROXIMATION ALGORITHMS

CHAIR: D.B. SHMOYS (USA)

a:  C.W. POTTS (GB)
Earliest completion time and linear progr. heuristics for scheduling unrelated parallel machines
b: D.-B. SHMOYS (USA)
Dual approximation algorithms: easy solutions to hard problems

TD 05 BIN PACKING PROBLEM

CHAIR: M. GONDRAN (F)

a: R. WOHLA (USA), O. P. FOSTER (USA)
Probabilistic analysis of a heuristic for the dual bin-packing problem
b: G. GALAMBOS (H)
A linear-time \(\frac{5}{4}\) bin-packing algorithm

TD 06 LOCATION PROBLEMS I

CHAIR: B. FLEISCHMANN (D)

a: G. LAPORTE (CDN)
Location-routing problems
b: Y.-P. ANEJA (CDN), R. CHANDRA (CDN), K.-P. NAIR (CDN)
The 1-center problem on the plane with a polygonal forbidden region

TD 07 MANPOWER SCHEDULING

CHAIR: G. SCHMIDT (D)

a: O. BACIC (YU), V. TOSIC (YU), D. TEOGOROVIC (YU)
Aircraft ground handling personnel planning: a comparison of two methods
b: N. BLESSEDOS (GR), G. PATRIKALAKIS (GR)
Manpower scheduling in the service sector: a survey of problems and models

TD 08 APPLIED TRANSPORTATION MODELS

CHAIR: J. KARKAZIS (GR)

a: M. PIRLOT (B)
Transportation network optimization for a fertilizer company using a microcomputer
b: A. LUNA (SF)
Distribution costs in jor environment and with areal constraints
A corporate model for supporting decisions on the distribution of exports: the case of Greece

The multilevel systems of excavators planning process

A stratified sampling approach to the vehicle loading problem

Testing of an approximate solution method for the crane scheduling problem

Distribution of perishable items: transshipments allowed

Modeling freight terminal location for an increasing density of demand

Interactive GPSS-PC program generator for automated material handling systems

Channelized information flow for integrating production and administration

Production control and equipment control: a new challenge

Impact of presentation scale on judgemental confidence interval calibration

Determinants of judgemental confidence intervals

Decomposition: a strategy for judgemental forecasting
THURSDAY JULY 7 16.30 - 18

TD 12  PROBABILITY-STATISTICS 2

CHAIR: J.L. BALINTFY (USA)

a: B.M. STEECE (USA)
The Bayesian hat matrix
b: E. BILIKAM (USA)
Programming of the Weibull maximum likelihood ratio software
c: B. POLLACK-JOHNSON (USA)
The supremum of the difference between the mean and a median: special cases
d: A.M. DUSSAIX (F)
Model-based estimation in survey sampling

TD 13  QUEUEING:MISCELLANEOUS

CHAIR: R. SERFOZO (USA)

? a: E. GELNBE (F), J.M. VINCENT (F)
Resequencing with partial order and time dependent arrivals
b: S.G. JOHANSEN (DK)
The optimal pricing of the Job Shop
c: J.L. VAN DEN BERG (NL), O.J. BOXMA (NL)
Sojourn times in feedback queues
d: A. LEVINE (USA), D. FINKEL (USA)
Optimal load balancing in a multiserver queueing system

TD 14  APPLIED SYSTEMS APPROACH IN MANAGEMENT

CHAIR: N. ASSIMAKOPOULOS (GR)

? a: N. ASSIMAKOPOULOS (GR)
The problem structuring in flexible organizational situations
b: V. ATVALIOTIS (GR), T. GIANNAKOPOULOS (GR), M. GRATSIOS (GR), D.
PANAGIOTAKOPOULOS (GR)
Strategic planning for waste treatment plants in Greece: a systems approach

TD 15  RULE-BASED FMS SCHEDULING

CHAIR: K. STECKE (USA)

a: G. MENDA (I), A. VILLA (I)
Rule-based scheduling of FMS in presence of secondary constraints
? b: A.E. SMITH (USA), T.D. FRY (USA), J.R. WEITZEL (USA), J.R.
SWEIGART (USA)
An intelligent FMS scheduler
c: A. KUSTAK (CDN)
An optimization based expert scheduling system: EXSAS
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TD 16 EXPERT SYSTEMS 3

CHAIR: F. DRECHSLER (IRL)

a: C. ROLLAND-MAY (F)  
2/3 D constraints in an expert system building tool for space management

b: W. KLOSGEN (D)  
Expert systems for the application of numerical methods

? c: F.S. DRECHSLER (IRL), A. HUSKA (CZ)  
A selfreference expert system for managers, specialists and clerks

d: J. HADDOCK (USA), R. O'KEEFE (USA)  
Using artificial intelligence to facilitate manufacturing systems simulation

TD 17 CRITICAL EVALUATION OF EXPERT SYSTEMS

CHAIR: L.A. ZADEH (USA)

a: B. MARTINAUD (F), P. AUSTRY (F)  
An expert choice model for managerial performance evaluation

? b: I.B. TURKSEN (CDN), N. MORAY (CDN), E. KRUSENHUYCK (CDN)  
Linguistic rules for mental workload estimation

c: L.A. ZADEH (USA)  
Theories of evidential reasoning: a critical analysis

TD 18 NEW DEVELOPMENTS IN DECISION SUPPORT SYSTEMS 7

CHAIR: J. PASQUIER (CH)

a: A. SCHENK-HICKI (CH)  
Where are we in the development of crisis management systems?

b: P. HATTENSDMULER (CH)  
A DSS for swiss food rationing in crisis time: practical requirements, methodology, software

c: P. HATTENSDMULER (CH)  
A DSS for swiss food rationing in crisis time: software demonstration

d: B. SCHWARZ (S)  
Decision support systems for public policies

TD 19 EURO WORKING GROUP ON FUZZY SETS

CHAIR: M. ROUBENS (B)
TD 20  APPLICATIONS OF THE MCDM PROMETHEE METHODS IN HEALTH CARE

CHAIR: J.P. BRANS (B)

a: G. D’AVIGNON (CDN), B. MARESCHAL (B)
Specialization of hospital services in Quebec: an application of the Promethee and Gaia methods

b: P. DU BOIS (B), F. CANTRAINE (B)
The use of a multicriteria decision method in medical diagnosis: the CARAD program

c: P. DU BOIS (B), F. CANTRAINE (B)
Demonstration of CARAD

TD 21  GROUP DECISION

CHAIR: G. COLSON (B)

a: T. JELASSI (USA), P. IZ (USA)
Interactive multiobjective methods for group decision making: an empirical assessment

b: G. COLSON (B), B. MARESCHAL (B)
Consensus and irreducible disagreements in a small participative group

TD 22  SENIOR MANAGEMENT AND COMPETITIVE EXCELLENCE: PANEL

CHAIR: M. STARR (USA)

See the abstract

TD 23  STRATEGIES AND MANAGEMENT OF MACRO-PROJECTS

CHAIR: G. SCHILLINGER (USA)

a: P. MORRIS (GB)
Visions and constraints for european macro-projects

b: P. MUNDO (E)
Models to promote major projects

c: G. GHOSHAL (F), C. BARTLETT (F)
Managing global innovations: the new challenge for multinationals

TD 24  NEW FRAMEWORKS AND MEASURES FOR STUDYING ENTREPRENEURSHIP

CHAIR: A. MILLER (USA)

a: R. HUDSON (USA)
Entrepreneurship as deal making

b: J. MAYO (USA)
Quantification of entrepreneurship: the determinants of firm entry, exit and survival
c: A. MILLER (USA)
Modelling the competitive process of new business entry: an analysis of new corporate ventures

TD 25 ADVERTISING AND PROMOTION

CHAIR: A. JEULAND (USA)

a: D. JAIN (USA), K. RAMAN (USA)
Advertising policies in an uncertain environment
b: D.-M. HANSENS (USA)
Long-run advertising response modeling
c: G. LAURENT (F), I. LE ROY (F)
Analyzing the impact of promotions across competing stores

TD 26 ORGANIZATIONAL CHANGE AND SURVEYS

CHAIR: K. MACKENZIE (USA)

a: P.D. REYNOLDS (USA)
Value and limitations on representative surveys of organizations
b: D.-J. TUCKER (USA), J.-Y. SINGH (USA), A.-G. MEIRHAID (USA)
Founding conditions, environmental change, organizational mortality
c: K.-D. MACKENZIE (USA)
Organizations as processes of becoming rather than as entities

TD 27 MANAGEMENT SCIENCE TECHNIQUES FOR ASSET ALLOCATION

CHAIR: K. GORDON

a: M. WELScheid (D)
Profit calculation via capital allocation and distribution procedures
b: R.G. DYSON (GB), R.W. ASHFORD (GB), M.-C. Guedes (GB)
Models for capital investment appraisal with tax effects and uncertainty
c: J. HEGARTY (USA)
Continuous depreciation models
d: M.-I. KUSY (CDN), D. KIRA (CDN)
A stochastic financial planning model: an application

TD 28 ENERGY MODELS

CHAIR: D. BABUSIAUX (F)

a: I. GAILDRAUD (F)
MAREN, the TOTAL-CFP international energy world model
b: J. REMMERS (D), T. MORGENSTERN (D), H. HAASIS (D), G. SCHONS (D), O. RENTZ (D)
Integration of air pollution control technologies in linear energy-environmental models

TD 29 DEVELOPING EFFECTIVE CURRICULA FOR TEACHING OR/MS: PANEL
CHAIR: R.E. MARKLAND (USA)

TD 30 PRESENTATION OF EURO AND TIMS
CHAIR: B. PAULRE (F), President of AFCET
See the abstract.
FA 01  DYNAMIC PROGRAMMING 1

CHAIR: C. RIBEIRO (BR)

a: S. GAL (IL)
The parameter iteration method in dynamic programming
b: H. Ravn (DK), R.V. VALQUI VIDAL (DK)
Engineering applications of discrete time optimal control
c: Y. PERL (USA), J. MCHUGH (USA)
Small-large dynamic programming for locating service centers in a tree-like network

FA 02  RESOURCE ALLOCATION

CHAIR: S. OPRICOVIC (YU)

a: P. ROY (USA)
A nonlinear multicriterion heuristic for multilevel resource allocation
b: W. CZUCHRA (PL)
Discrete resource allocation to optimize transmission efficiency in hierarchical organizations
c: D. BOZOVIC (YU), S. OPRICOVIC (YU)
The optimization of railway hump yard construction
d: J. PETRIC (YU), N. MLADENOVIC (YU), M. MARTIC (YU)
Integer goal programming model in dietal nutrition planning

FA 03  SET PARTITIONING

CHAIR: E. BALAS (USA)

a: G.L. THOMPSON (USA)
Recent results on solving large set covering and set partitioning problems
b: P. HANSEN (USA), B. JAUMARD (CDN)
Two clustering problems
c: L.H. TSAI (USA)
The modified differencing method for set partitioning problem with capacity constraints
d: B. SIMEDNE (I), R. KWATERA (I)
Clustering heuristics for set covering

FA 04  APPLICATIONS OF COMBINATORIAL OPTIMIZATION PROBLEMS

CHAIR: M. LABBE (B)

a: P.O. BOAVENUTRA NETTO (BR)
Un modèle quadratique du clavier de la machine à écrire: application à la langue portugaise
b: M. M. JARDIM-CAMPOS (BR), N. MACULAN (BR)
Problèmes d'optimisation liés à la découpe de bobines de papier

c: J. M. ATTONATY (F), P. LEROY (F)
Branch & Bound technique to provide nearly optimal cropping plan for a farm

d: A. HERRIGEL (CH), W. FICHTNER (CH)
A new approach for placement of rectangular blocks

FA 05 CUTTING AND PACKING PROBLEMS: BIBLIOGRAPHY AND PANEL

CHAIR: G. WASCHER (D), H. DYCKHOFF (D)

a: P. E. SWEENEY (USA)
A bibliography for cutting stock problems

b: H. DYCKHOFF (D), G. WASCHER (D)
Foundation of a special interest group on cutting and packing problems

FA 06 LOCATION PROBLEMS 2

CHAIR: R. L. FRANCIS (USA), T. LOWE (USA)

a: B. FLEISCHMANN (D), J. PARASCHIS (D)
Solving a large scale districting problem: a case report

b: D. LEPFEBRE (F), C. MICHELOT (F), F. PLASTRIA (B)
Optimality in continuous minisum multifacility location problems

C: E. ERMUT (CDN), R. L. FRANCIS (USA), T. J. LOWE (USA), A. TAKIR (IL)
Structure-exploiting column pricing algorithms for L.P.formulations of tree network location probl.

d: M. KOERKEL (D)
Improved exact algorithms for large-scale p-median problems

FA 07 PROJECT SCHEDULING 1

CHAIR: R. SLOWINSKI (PL)

a: J. WEGLAZI (PL)
Scheduling dynamic activities under continuous resources

b: A. LATI (USA)
Heuristic for scheduling jobs with precedence requirements

FA 08 INVENTORY 1

CHAIR: H. G. DAELENBACH (NZ)

a: T.M. LIEBLING (CH), A. FOYOUZI (CH)
Modern approaches to inventory control
b: M. SALOMON (NL), R. KUIK (NL)
The multilevel lotsizing problem: evaluation of a stochastic optimization heuristic

FA 09 PRODUCTION SCHEDULING 1
CHAIR: C. SRISKANDARAJAH (CDN)
a: D. DE WERRA (CH)
Preemptive scheduling for production
b: R. MARKLAND (USA), K. DARBY-DOWMAN (GB), E. MINOR (USA)
Coordinated production scheduling for make-to-order manufacturing

FA 10 PRODUCTION SYSTEMS AND CONTROL
CHAIR: J.M. PROTH (F)
a: H-P. HILLION (F), J-M. PROTH (F)
Using timed Petri nets to analyse flexible production systems
b: L. GELDERS (B), J. MAES (B), L. VAN WASSENHOVE (B)
A computational comparison of single level capacitated lotsizing algorithms
c: M-C. PORTMANN (F)
Solving scheduling problems using decomposition methods
d: J. ERSCHLIER (F), G. FONTAN (F), J-B. LASERRE (F), C. MERCE (F)
Hierarchical production planning in a non deterministic framework

FA 11 UNIVARIATE AND MULTIVARIATE TIME SERIES FORECASTING
CHAIR: J-P. INDJJEHAGOPIAN (F)
a: J-P. INDJJEHAGOPIAN (F), M. MOURAO (F)
Modelling french macroeconomic series with VAR processes
b: M. COSTANTINI (F)
Econometric multi-seasonality model
c: K. WEBER (D)
Forecasting software for business education
d: A. UNWIN (IRL), G. WILLS (IRL)
Dynamic graphics for time series

FA 12 MODELING AND ANALYSIS OF TELECOMMUNICATION SYSTEMS
CHAIR: H. HEFFES (USA)

? a: P-J. KUHN (D)
Traffic engineering for ISDN
b: G. LATOUCHE (B), V. RAMASWAMI (USA)
A point process model for arrivals to a packet network
c: M. EISENBERG (USA)
Performance of a wideband Banyan packet switch
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d: J. ROBERTS (F), Y. LIANG (F)
Performance of multilink procedures for high bit rate services in ISDN

FA 13 SEARCH GAMES, SEARCH THEORY AND APPLICATIONS 1

CHAIR: S. ALPERN (GB)

a: V. BASTON (GB)
Patrol boat games

b: F. BOSTOCK (GB)
Searchlight games

c: E.J. ANDERSON (GB), M.A. ARAMENDIA (GB)
An algorithm for a search game on a network with immobile hider

FA 14 OPTIMIZATION AND KNOWLEDGE BASED SCIENCES FOR MANAGEMENT

CHAIR: M. SINGH (GB)

a: M. SINGH (GB)
Price-strat: a hybrid knowledge based DSS for competitive pricing

b: K.S. HINDI (GB)
Optimization and knowledge based approaches in manufacturing management and control

FA 15 QUALITY AND OTHER ISSUES IN FMS

CHAIR: M. SOLOMON (USA)

a: Y. DALLERY (F), J.J. PIERRAT (F)
Queueing network models of FMS with unreliable machines

b: A. VILLA (I)
A knowledge-based/analytical approach to integrate process planning and quality insurance

c: C. TAPIERO (USA), L.F. HSU (USA)
Integrated quality control in flexible manufacturing

FA 16 EXPERT SYSTEMS 4

CHAIR: B. GARNER (AUS)

a: L.M. LANCASTER (USA)
An expert system for the planning of meals controlled for nutrition and cost

b: R.A. FLECK (USA), R.M. SHIRLEY (USA)
Expert systems for transfer credit evaluation

c: D. DUBOIS (B), P. JARDON (B)
NUCLEXPERT: an expert system for nuclear plants fuel management
FA 17 CONTRIBUTION OF A.I. TECHNIQUES TO SIMULATION

CHAIR: H. PIERREVAL (F)

a: G. BEL (F), J.-B. CAVAILLE (F), O. LEVEQUE (F)
Simulation and object-oriented languages for manufacturing systems: description and control

b: V. DESSLANDRES (F), H. PIERREVAL (F)
An expert system approach for validating discrete simulation models

c: C. BENDIT (F)
Symbolic simulation environment

FA 18 DSS IN BANKING

CHAIR: B. MUNIER (F)

a: A. BRILIS (GR), G.-P. PRASTACOS (GR)
SMEP: a decision support for asset and liability management

b: M. KALOGERAKIS (GR), P. IPSILANDIS (GR), G.-P. PRASTACOS (GR)
SPAP: a DSS for manpower planning in a bank

c: G. PRASTACOS (GR)
O.R. and computer science in banking: an overview of theory and practice

d: M. CUPIC (YU), P. BATAVELJIC (YU), S. MROALJ (YU)
Application of decision support systems to a certain class of decision processes

FA 19 ADVANCES IN APPROXIMATE REASONING

CHAIR: J. KACPRZYK (PL)

a: D. DUBOIS (F), H. PRADE (F)
Advances in approximate reasoning using fuzzy sets and possibility theory

b: H. AKAGI (F), D. PACHOLCZYK (F)
Management of uncertainty by means of linguistic variables

? c: S.T. WIERCHON (PL)
Random sets basis for representing vague concepts

d: V. MIRANDA (P), M. MATOS (P)
A holistic approach and a close to natural interface in a decision aid system

FA 20 MCDM: CASE STUDIES 1

CHAIR: L. JENKINS (CDN)

a: Y. SISKOS (GR), N. ASSIMAKOPOULOS (GR)
Multicriteria highway planning: a case study
b: J. Mourmouris (GR)
Computerized interviewing approach to improve information acquisition & processing interactive tools
?
c: J. Grefford (CDN), L. Jenkins (CDN)
A multiobjective naval ship allocation model

FA 21 DECISION CONFERENCEING

CHAIR: L.D. Phillips (GB)

a: L.D. Phillips (GB)
Decision conferencing: a new approach to group decision making
b: P. Hall (GB)
Using decision conferencing to manage change in organizations
?
c: S. Wooler (GB)
Analysis of decision conferences

FA 22 STRATEGIC MANAGEMENT 1

CHAIR: G. Gastou (F)

a: M. Hirand (J)
Strategic implication of the rate of change in diversification posture
b: G.E. Gastou (F)
Multiple point competition: a competitive decision support system
c: R. Banker (USA), R. Kauffman (USA)
Strategic value of electronic banking network participation
d: S.K. Gupta (USA)
Law and ethical issues in multinational organizations

FA 23 INNOVATION MANAGEMENT 1

CHAIR: A. Chakrabarti (USA), K. Brockhoff (D)

a: M.J. Liberatore (USA), G.J. Titus (USA)
In search of the missing links between R&D planning and business strategy
b: A.K. Chakrabarti (USA)
Innovation and productivity: the case of three industries in the U.S.
c: H. Muller-Merbach (D)
Europe's technological competitiveness: a portfolio analysis of the world trade
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FA 24 ENTREPRENEURSHIP: A MULTIDISCIPLINARY APPROACH

CHAIR: H. STEVENSON (USA)

a: H. STEVENSON (USA)
A general management perspective
b: M. J. ROBERTS (USA)
Managing growth
c: J. KAO (USA)
The human and organisational dimensions of entrepreneurship

FA 25 NEW PRODUCTS

CHAIR: D. GENSCH (USA)

a: D. HORSKY (USA), M. GIVON (IL)
Untangling of dynamic effects: purchase reinforcement versus carry over effects of advertising
b: I. BOCKENHOLT (D), W. GAUL (D)
Decision support for new product introduction management
c: D. MORRISON (USA), R. COLUMBO (USA)
All successful new product modelers are closet bayesians
d: B. S. DESGAGNE (F)
Technical design and pricing through procurement

FA 26 TOPICS IN ORGANIZATION MANAGEMENT

CHAIR: J.E. BARTON (GB)

a: J.E. BARTON (GB)
O.R. and the telecommunications revolution; one organisation's story
b: M.F. NORESI (I), L. MUCCI (I)
Acting on the representations to support the change management
? c: Y. SANKAR (CDN), Y. SHAFAI (CDN)
New technologies and organizational culture
d: T.C. PAUCHANT (CDN)
Information technologies and organizational information processing: an empirical assessment

FA 27 MANAGEMENT SCIENCE TECHNIQUES IN CREDIT EVALUATION

CHAIR: G. MELLON (USA)

a: L.C. THOMAS (GB)
Setting credit limits using repayment histories
b: A. LEVY (IL), H. LEVY (IL)
An economic evaluation of lock vs. no-lock mortgage plans: a queuing analysis
c: R. DE MORI (CDN), L. KRYZANOWSKI (CDN), G. PETERZOLI (CDN)
Expert systems for credit-granting decision-making

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FA 28 IMPLEMENTATION OF PROJECT MANAGEMENT SYSTEMS

CHAIR: A. ASSAD (USA), E. WASIL (USA)

a: S. ELMAGHRABY (USA)
Project bidding under deterministic and probabilistic activity durations

b: J. GORDON (GB)
A review of U.K. micro-based project management software

c: A. ASSAD (USA), E. WASIL (USA)
Trends in commercial project management software for the microcomputer

FA 29 WORKSHOP ON EDUCATION

CHAIR: B. KAVANAGH (AUS)

FA 30 MODELS FOR FISHERY MANAGEMENT

CHAIR: M. NEDZELA (CDN)

a: D.E. LANE (CDN)
Managing fisheries investment and resource stock

b: J.P. REVERET (CDN), M. MORISSET (CDN), S. DROIN (CDN)
Gestion des pêches du St-Laurent par quotas individuels transférables: scénarios pour crabe et morue

c: M. NEDZELA (CDN)
Le modèle FERN: une simulation des activités de la flotte hauturière de l'Atlantique
FB 01  DYNAMIC PROGRAMMING 2

CHAIR: A. TAYLOR (CDN)

a: S. AMADO (BR), C. RIBEIRO (BR)
Optimal weekly generation scheduling of multi-valley hydraulic interconnected systems

b: B.M. SHIRLEY (USA), R.A. FLECK (USA)
Applications of dynamic programming to leisure activities

c: E.R. PETERSEN (CDN), A. TAYLOR (CDN), G. THOMPSON (CDN)
PROPS: Probabilistic optimization in a spreadsheet

FB 02  MULTIOBJECTIVE PROGRAMMING

CHAIR: M. GRAUER (D)

a: M.W. COOPER (USA), K. FARKHANGIAN (USA)
Possible efficiencies in two objective non linear programming

b: I.M. STANCU-MINASIAN (R), S. TIGAN (R)
On some stochastic vectorial fractional programming problems

c: A. IDNANI (USA), M. GRAUER (D)
Combining symbolic and numeric methods in optimization

d: M. PREVOT (F)
Duality applied to the multiobjective linear programming: a survey

FB 03  PROBABILISTIC ASPECTS IN COMBINATORIAL OPTIMIZATION

CHAIR: A. PRODON (CH)

a: O. BERTSIMAS (USA), P. JAILLET (F), A.R. ODONI (USA)
Probabilistic combinatorial optimization problems

b: O. DEBOIS (F)
Probabilistic approach to the satisfiability problem

c: A. WARBURTON (CDN), J. SIDNEY (USA), S. SIDNEY (USA)
Average properties of two dimensional partial orders

d: A. JAIN (USA)
Probabilistic analysis of LP relaxation bounds for the Steiner problem in networks

FB 04  SOFTWARE IN COMBINATORIAL OPTIMIZATION

CHAIR: P. TOTH (I)

a: J.M. FOURNEAU (F), I. FOURNIER (F), A. GERMA (F), D. SOTTEAU (F)
Software tools for graph theory: the unicorn approach

b: C. MARIE (USA)
ADLnet: logistics network modeling system
c: A. Diegel (ZA)
Dynamic local or global solution of the trim problem?

FB 05 LOGISTIC PLANNING
CHAIR: A. Rinnooy Kan (NL)

a: S. Axmacher (S)
Simple solution procedures for a class of two-echelon inventory problems

b: J. Wijngaard (NL), J.W. Bertrand (NL)
The role of slack in production control

c: T. Harrison (USA), G.B. Brown (USA), G.W. Graves (USA)
Large-scale production in the pharmaceutical industry

d: G. Brown (USA), A. Vassiliou (GR)
Ares: an optimization-based system for guiding disaster relief

FB 06 LOCATION/ROUTING AND DISTRIBUTION SYSTEMS PLANNING
CHAIR: G. Laporte (CDN), M. Labbe (B)

a: T. Crainic (CDN), L. Delorme (CDN), P. Dejax (F)
Algorithms for location/distribution problems with balancing requirements

b: A. Lucena (B), M. Desrochers (CDN)
An optimization algorithm for minimizing the time required by a service unit to visit customers

c: P. Hansen (USA), M. Labbe (B), M. Minoux (F)
The p-center sum location problem

d: M. Daskin (USA)
Solving the maximum covering location problem using simulated annealing

FB 07 PROJECT SCHEDULING 2
CHAIR: J. Weglarz (PL)

a: L. Valadares Tavares (P), F. Rafael (P)
PROFIDO: a decision-aid for project management and appraisal

b: J.J. Chai (USA), K.G. Mehrotra (USA), Y. Park (USA)
Dependence among paths in PERT and its effect on the distribution of job completion time

c: T. Samik (PL)
Modelling and scheduling a flexible manufacturing system

d: J. Erschler (F), C. Hartmann (F), F. Rourellat (F)
A closed loop simulation approach to solve scheduling problems
FB 08  INVENTORY 2

CHAIR: I. THEMIDO (P)

a: Y. GERCHAK (CDN), M. HENIG (IL)
The structure of periodic review policies in the presence of variable yield
b: H. NOORI (CDN)
Quality consideration in lot size reorder point model
? c: D.A. BERKIN (CDN)
Duality for a stochastic inventory control problem
d: S.K. GOYAL (CDN)
Formulation of a supplier's ordering policy

FB 09  PRODUCTION SCHEDULING 2

CHAIR: S. SARIN (USA)

a: B. DOOIN (USA)
A heuristic algorithm for the M-machine,N-job stochastic flow-shop problem
b: J. SIDNEY (CDN), D. LANE (CDN)
Improving flow times in FMS hubs
c: B. SARIN (USA), E. EREL (USA)
Sequencing jobs on a single machine with a common due date and stochastic processing times

FB 10  PRODUCTION - INVENTORY

CHAIR: C. SCHNEEWEISS (D)

a: C. OZUZ (TR), C. DINCER (TR)
Design of just-in-time production system under uncertainty
b: J. HWYA (USA), M. HOOPER (USA), D. WILSON (USA)
Single versus multiple sourcing
c: C.A. YANO (USA)
Analytical models for just-in-time systems with random demand and supply
d: W. PRICE (CDN), M. GRAVEL (CDN)
L'implantation de la méthode Kanban en contexte d'entreprise

FB 11  LEADING INDICATORS AND FORECASTING ACCURACY

CHAIR: P.A. KLEIN (USA)

a: J. CULLITY (USA)
An appraisal of Worldscan consensus forecasts, 1982-1989
b: B. WELLER (USA)
Predicting regional sectoral responses to change in aggregate economic activity: time series approach
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c: P. KLEIN (USA), M. NIEHIRA (USA)
A new look at forecasting the great depression
d: F. LANTZ (F), F. POIRIER (F)
PERICOLES: logiciel interactif d'Econométrie

FB 12 PROBABILITY MODELS 1

CHAIR: D. STIRZAKER (GB)

a: O. BELL (USA), J. FERREIRA JR. (USA)
Obeying speed limits may be hazardous to your health
b: C. MCIARMID (GB)
On the minimum cost of a spanning tree in a random network
c: C. SCHAAP (USA), R.C. LARSON (USA)
When unresponsive servers improve service

FB 13 SEARCH GAMES, SEARCH THEORY AND APPLICATIONS 2

CHAIR: S. ALPERN (GB)

a: W. RUCKLE (USA)
Win lose draw games
b: G. PAPAVASSILOPOULOS (USA)
Learning algorithms for bimatrix Nash and Stackelberg games
c: M. ASIC (USA)
On search games in narrow rectangles

FB 14 CONTROL AND FINANCE APPLICATION

CHAIR: P. KLEINDORFER (A)

a: M. CREW (USA), P. KLEINDORFER (A)
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b: E. HAKANOGLU (USA), P. KNEZ (USA)
Portfolio insurance with correlated risky assets and liabilities
c: S.R. PLISKA (USA)
Minimum variance market baskets
d: E. BRIYS (F), M. CROUHY (F), R. SCHOBEL (D)
The pricing of interest rate cap and collar agreements

FB 15 TECHNOLOGY IN MANUFACTURING STRATEGY

CHAIR: J. ETTLIE (USA)

a: P.R. RICHARDSON (CDN), J.R. GORDON (CDN)
The role of technology in manufacturing strategy
b: H. WILDEMANN (D)
Technology and manufacturing strategy
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Manufacturing flexibility and programmable automation in French industry

Manufacturing innovation and manufacturing strategy

FB 16 EXPERT SYSTEMS 5

CHAIR: G. DOUKIDIS (GB)

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The optimal network design problem revisited: an expert systems’ view

Developing an intelligent simulation environment

Resource allocation seen as problem-solving handled with an expert system approach

FB 17 KNOWLEDGE REPRESENTATION

CHAIR: A. GUINET (F)

Connecting O.R. and knowledge base by a dynamic model for planning

Modelling and visual languages in O.R.

Knowledge acquisition and assessment about production management systems

FB 18 INTELLIGENT SYSTEMS

CHAIR: C.C. WHITE (USA)

An intelligent decision aid for telecommunications planning

Efficient use of preference information in multiorriteria decision support

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FB 19 MANAGEMENT OF UNCERTAINTY IN EXPERT SYSTEMS

CHAIR: J. KACPRZYK (PL)

a: M. GUPTA (USA)
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b: M. SPIES (D)
The combination of evidence with fuzzy quantifiers and support intervals

c: J. KACPRZYK (PL), M. FEDELI (I)
Handling belief qualified if-then rules by possibility theory

FB 20 MCDM CASE STUDIES 2

CHAIR: B. ROY (F)

a: Z. BAJIC (YU), M. MILICIC (YU), N. PLAZIBAT (YU), M. MLADINEO (YU)
Optimal location choice for power plant in Dalmatia by the Promethee methods

b: H. BARDA (F), J. DUPUIS (F), P. LENCIONI (F)
Multicriteria location of thermal power plants

c: C. FALSTEAS (GR), J. HATZINAKOS (GR), D. YANNACOPOULOS (GR), C. ZIOURKAS (GR)
Application of the MINORA decision making program to landslide phenomena

d: C.-W. FENG (RC), G.-H. TZENG (RC)
Multicriteria evaluation for a new community development

FB 21 EXPERT SYSTEMS APPLICATIONS FOR BARGAINING AND NEGOTIATION

CHAIR: S. GAUVIN (USA)

a: J. ELIASHBERG (USA), A. RANGASWAMY (USA)
Bargain: an expert system for international negotiations

b: L. ANTRIM (USA)
Incorporating expert advice into a system for planning negotiation strategy

c: S. GAUVIN (USA), G. LILIEN (USA), K. CHATTERJEE (USA)
The effect of computer based training on negotiators' performance

FB 22 STRATEGIC MANAGEMENT 2

CHAIR: J.P. PONSSARD (F)

a: D. KUMLACA (YU)
Competitiveness and technological contents: multicriteria approach
b: K. Nakajima (J), M. Yamada (J)  
Pricing strategies of the Japanese camera industry  
c: J-P. Ponssard (F), H. Tanguy (F)  
A framework for economic analysis of strategic business decisions  

FB 23  INNOVATION MANAGEMENT 2  
CHAIR: K. Brockhoff (D)  

a: S. Stoppler (D), K. Schiesesch (D)  
Many competing innovators  
b: S-B. Graves (USA)  
Innovation and institutional ownership: a multi-industry study  
c: K. Brockhoff (D)  
A simulation model of R&D budgeting  

FB 24  ENTREPRENEURSHIP IN EUROPE  
CHAIR: J. Roure (E)  

a: C. Jarillo (E)  
Entrepreneurship in Europe: establishing networks  
b: G. Lorenzoni (I)  
Entrepreneurship in Europe: strategic partnerships  
c: S. Slatter (GB)  
Entry strategies in emerging industries  
d: A. Picot (D), U. Laub (D), D. Schneider (D)  
Comparing successful and less successful new innovative businesses  

FB 25  NEW PRODUCT DECISION MAKING  
CHAIR: F. Sultan (USA)  

a: R. Glazer (USA), J. Steckel (USA), R. Winer (USA)  
New product design and marketing performance: an example of locally rational decision making  
b: G. Ortmeier (USA)  
Coordinated advertising and promotional campaigns for new products  
c: K. Rangan (USA), H. Menezes (USA)  
Distribution channels for new products  
d: F. Sultan (USA)  
Generalizations from new product diffusion models: a meta analysis
FB 26 PERSONNEL MANAGEMENT

CHAIR: S.L. MEHAY (USA)

a: A.G. KALAMATIANOU (GR)
Social factors may settle upon decision making in manpower planning; are expert systems then useful?
b: S.L. MEHAY (USA), G. THOMAS (USA)
Reserve manpower supply models: overview and analysis
c: J. MECCOF (CDN)
Information technology, work collaboration and job growth opportunity

FB 27 FINANCE SOFTWARE

CHAIR: D. NEBENHAUS (F)

a: G.M. FRANKFURTER (USA), L. COLETTE (USA)
SOCOF: simulation of corporate financial decisions
b: E. BLOCHER (USA)
Answers
c: D. NEBENHAUS (F)
Financial analysis

FB 28 RECENT ADVANCES IN PROJECT MANAGEMENT TECHNIQUES

CHAIR: E. WASIL (USA), A. ASSAD (USA)

a: J. PATTERSON (USA)
Scheduling a project to maximize the present value of cash flows
b: D. SMITH-DANIELS (USA), V. SMITH-DANIELS (USA)
Materials lot-sizing in project networks with progress payments

FB 29 WORKSHOP ON INTERACTIVE COMPUTING MODELLING AND ANALYSIS

CHAIR: M. SNIEDOVICH (ZA)

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FB 30 COMMUNITY O.R.

CHAIR: C. THUNHURST (GB)

a: C. THUNHURST (GB)
Community O.R.

b: C. EDEN (GB)
Reflections on Community O.R.
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C:  J-Y. ROSENHEAD (GB)
O.R. for the Community
D:  J. BRYANT (GB)
Community O.R.: rethinking the process?