

MISTA 2011

Proceedings of the 5th Multidisciplinary International Conference on Scheduling: Theory and Applications

9th - 11th August 2011 (Tempe Mission Palms, Arizona, USA)

Edited by:

- John Fowler, Arizona State University, USA
- Graham Kendall, University of Nottingham, UK
- Barry McCollum, Queens University Belfast, UK

Table of Contents

Plenary Papers

Fordyce K. and Milne J. <i>The Ongoing Challenge – A Responsive Enterprise-Wide Demand Supply Network for Semiconductor Based Package Goods – Something for Everyone</i>	10
K.D. Glazebrook K.D., Hodge D.J. Kirkbride C. and Minty R.J. <i>Stochastic scheduling: A short history of index policies and some key recent developments</i>	94
Whitley D. <i>Quasi-Elementary Landscapes</i>	113

Papers

Borgulya I. <i>An Evolutionary Algorithm for the large Size One-Commodity Pickup and Delivery Travelling Salesman Problems</i>	127
Brandinu G. and Trautmann N. <i>An MILP-Approach to the Optimization of Event-Bus Schedules: A Scheduling Application in the Tourism Sector</i>	137
Atkin J.A.D, Burke E.K. and Ravizza S. <i>A More Realistic Approach for Airport Ground Movement Optimisation with Stand Holding</i>	146
Bai R., Li J., Atkin J.A.D. and Kendall G. <i>A Game Theoretic Approach for Taxi Scheduling Problem with Street Hailing</i>	161
Shufan E., Ilani H. and Grinshpoun T. <i>A Two-Campus Transport Problem</i>	173
Ramacher R. and Mönch L. <i>Hybridized Genetic Algorithms to Schedule Interfering Job Sets on a Single Machine</i>	185
Lin Y.K., Hsieh F.Y. and Lin G.J. <i>Scheduling Identical Jobs on Uniform Parallel Machines to Minimize Maximum Lateness</i>	195
Herrmann J.W. <i>Generating Better Cyclic Fair Sequences Faster with Aggregation.....</i>	200
Atakan S., Tezel B., Bülbül K. and Noyan N. <i>Minimizing Value-at-Risk in the Single-Machine Total Weighted Tardiness Problem.....</i>	215
Vakhania N. <i>Minimizing the Maximal Lateness on a Single-Machine: A New Polynomially Solvable Case</i>	230
Croce F. D. and Koulamas C. <i>Minimizing the Sum of Quadratic Completion Times on Two Identical Parallel Machines.....</i>	240
Hanzálek Z. and Hanen C. <i>Impact of Core Precedences in a Cyclic RCPSP with Temporal Constraints</i>	245
Seddik Y., Gonzales C. and Kedad-Sidhoum S. <i>Single Machine Scheduling with Delivery Dates and Cumulative Payoffs</i>	261

Bispo C.F. <i>Single Server Scheduling Problem: Optimal Policy for Convex Costs Depends on Arrival Rates</i>	275
Dobson R. and Steinhöfel K. <i>Low Energy Scheduling with Power Heterogeneous Multiprocessor Systems</i>	297
Ásgeirsson E.I., Kyngäs J., Nurmi K. and Stølevik M. <i>A Framework for Implementation-Oriented Staff Scheduling</i>	308
Mareček J., Parkes A. J., Burke E.K., Elliot R., Francis H. and Lokhmotov A. <i>Dynamic Data Structures for Taskgraph Scheduling Policies with Applications in OpenCL Accelerators</i>	322
Burke E.K. and Pais T.C. <i>Using Differential Evolution to Identify Fuzzy Measures for the Exam Timetabling Problem</i>	335
Marla L. and Barnhart C. <i>A Decomposition Approach for Shipment Pickup and Delivery with Time-Windows Under Uncertainty</i>	352
Rizzo L.M. and Urrutia S. <i>A GRASP Heuristic to the Extended Car Sequencing Problem</i> ..	366
Misir M., Verbeeck K., De Causmaecker P. and Vanden Berghe G. <i>A New Hyper-Heuristic Implementation in HyFlex: A Study on Generality</i>	374
Ng T.S.A. and Sy C.L. <i>Robust Target Achievement for Decision-Making with Application to Workforce-Inventory Planning</i>	394
Cheng J., Fowler J.W., Hertzler E.F., Huff J.D. and Kempf K.G. <i>Multi-Mode Resource-Constrained Project Scheduling of Semiconductor Equipment Install/Qual Process</i>	408
Ascó A., Atkin J.A.D. and Burke E.K. <i>The Airport Baggage Sorting Station Allocation Problem</i>	419
Adasme P., Lissner A. and Soto I. <i>SDP Relaxations for Two Stage OFDMA Networks with and without Probabilistic Constraints</i>	445
Uhlig T. and Rose O. <i>A Multi Species Evolutionary Algorithm for Tool Group Scheduling in Semiconductor Manufacturing</i>	459
Borodin D., Van Vreckem B. and De Bruyn W. <i>Case Study: An Effective Genetic Algorithm for the Chemical Batch Production Scheduling</i>	469

Abstracts

Mirchandani P. and Li J-Q. <i>Schedule Recovery Strategies in Public and Freight Transportation Systems under Disruptions</i>	484
Khosravi B., Bennell J.A. and Potts C.N. <i>Train Scheduling in the UK using a Job Shop Scheduling Approach</i>	486
Silva-Lugo R., Kozma R., Werbos L. and Pazienza G.E. <i>Optimization of Scheduling for Large-Scale Logistics Tasks</i>	489
Hieu T.T. and Ming N.K. <i>Two-Level Water-Flow Algorithm for Vehicle Routing Problems</i>	493
Xie L., Ma S. Huang P. and Gui H. <i>Supply Logistics Synchronization: Scale Development and Empirical Study of Chinese Manufacturing</i>	497
Shen C-W. and Quadrioglio L. <i>An Insertion Heuristic for Coordinated Zoning Paratransit Systems</i>	502
Akkan C. <i>Improving Schedule Stability in Single-Machine Rescheduling due to New Operation Insertion</i>	506
Shen L., Mönch L. and Buscher U. <i>An Iterative Scheme for Parallel Machine Scheduling with Sequence Dependent Family Setups</i>	519
Lenté C., Liedloff M., Soukhal A. and T'Kindt V. <i>Sort & Search Exponential-Time Algorithms for Scheduling Problems</i>	523
Fleszar K. and Charalambous C. <i>Hybridizing Local Search with MIP for Unrelated Parallel Machine Scheduling Problems with Makespan Minimization</i>	529
Zajiček T. and Šůcha P. <i>Flow Shop Scheduling on GPU</i>	532
Kuhpfahl J. and Bierwirth C. <i>Computational Comparison of Neighbourhoods for the Job Shop Scheduling Problem with Total Weighted Tardiness Objective</i>	536
Baumann P. and Trautmann N. <i>Minimizing Changeover Times of a Make-and-Pack Production Process: Model and Case Study</i>	539
Dimitrov T., Baumann M. and Schenk M. <i>Scheduling of Large Dynamic Job Shop Problems by Concurrent Non-Blocking Threads</i>	542
Sun Y, Li X. and Fowler J.W. <i>Job Scheduling to Minimize Weighted Completion Time Variance on Identical Parallel Machines</i>	546
Smet P, Vancroonenburg W. and Vanden Berghe G. <i>Automated Scheduling at a Joinery Site</i>	549
Bürgy R. and Gröflin H. <i>Optimal Job Insertion in the No-Wait Job Shop</i>	553
Almeder C. and Mönch L. <i>A GRASP Approach for Scheduling Jobs with Incompatible Families on Parallel Batch Machines</i>	557

Čapek R., Šůcha P. and Hanzálek Z. <i>Minimizing Total Weighted Tardiness and Total Processing Costs for the Scheduling with Alternative Process Plans</i>	561
Lozano A.J. and Medaglia A.L. <i>Scheduling of Parallel Machines with Sequence-Dependent Batches and Product Incompatibilities in an Automotive Glass Facility</i>	564
Khowala K., Fowler J., Keha A. and Balasubramanian H. <i>Single Machine Scheduling with Interfering Job Sets to Minimize Total Weighted Completion Time and Maximum Lateness</i>	568
Pfund M.E. and Fowler J.W. <i>Investigating the Boundary between Scheduling and Dispatching</i>	573
Bäumelt Z., Šůcha P. and Hanzálek Z. <i>A Parallel Approach for a Nurse Rostering Problem on the GPU</i>	576
Haspeslagh A. and De Causmaecker P. <i>Pareto Optimal Negotiation for Nurse Rostering Problems</i>	579
Thompson J. and Dowsland K. <i>An Exact and Heuristic Hybrid for Solving a Medical Student Scheduling Problem</i>	584
Herring W.L. and Herrmann J.W. <i>Scheduling Impatient Jobs with Diminishing Rewards: The Impact of Deteriorating Survival Probabilities on Mass Casualty Incident Triage</i>	587
Riise A. and Mannino C. <i>Operational Surgery Scheduling Problems: Modelling and Solving</i>	592
Trautmann N., Baumann P., Saner N. and Schäfer T. <i>Decomposition Approaches for Multi-Stage Multi-Product Batch-Production Scheduling: A Refined Batching Model</i>	596
Pabst D., Fowler J.W. and Mackulak G.T. <i>Flexible Constraint Optimization of Product Profits: A Responsive Approach to Determine Profit-Optimal Product Start Rates Subject to Mean Cycle Time and Product Volume Constraints in Support of Production Planning for Semiconductor Fabrication Facilities</i>	599
Hui Y.V., Gao J., Leung L.C.K. and Wallace S.W. <i>Two-Stage Shipment Planning with Uncertainties: A Stochastic Programming Approach</i>	602
Wallace S.W. and Zhao Y. <i>Facility Layout with Random Demand: A Reduction to the Classical Deterministic QAP</i>	605
Vespucci M.T., Bertocchi M., Innorta M. and Zigrino S. <i>Deterministic and Stochastic Models for Investment in Different Technologies for Electricity Production in the Long Period</i>	607
Donaldson J., McCollum B. and Scott S. <i>Ring Out the Bells</i>	624
Pillay N. <i>A Hyper-Heuristic Approach to Solving School Timetabling Problems</i>	628
Li S., Hajjam A., Créput J.C. and Koukam A. <i>Two Phases Parallel Hyperheuristic Approach to the Bus Driver Scheduling Problem</i>	633

Romeijnders W. and Sierksma G. <i>Off-shore Helicopter Routing with Asymmetric Demands and Refueling Options</i>	637
Park K. and Morrison J.R. <i>Scheduling Wafer Release in Clustered Photolithography Tools</i>	639
Rainwater C.E., Mason S.J., Fowler J.W. and Mönch L. <i>Algorithmic Parallelization in Multi-Criteria Semiconductor Scheduling</i>	642
Obeid A., Dauzère-Pérès S. and Yugma C. <i>Scheduling Job Families on Parallel Machines with a Bi-Criteria Objective Function under Time Constraints</i>	645
Rudová H. and Müller T. <i>Rapid Development of University Course Timetables</i>	649
Kurz M.E. and Sankaran V. <i>Adapting Particle Swarm Optimization for the Flexible Flow Line</i>	653