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Nota di contenuto	Towards a MIP-Cut Metascheme -- Challenges for CPAIOR in Computational Sustainability -- Lazy Clause Generation: Combining the Power of SAT and CP (and MIP?) Solving -- On Matrices, Automata, and Double Counting -- The Increasing Nvalue Constraint -- Improving the Held and Karp Approach with Constraint Programming --

Characterization and Automation of Matching-Based Neighborhoods -- Rapid Learning for Binary Programs -- Hybrid Methods for the Multileaf Collimator Sequencing Problem -- Automatically Exploiting Subproblem Equivalence in Constraint Programming -- Single-Facility Scheduling over Long Time Horizons by Logic-Based Benders Decomposition -- Integrated Maintenance Scheduling for Semiconductor Manufacturing -- A Constraint Programming Approach for the Service Consolidation Problem -- Solving Connected Subgraph Problems in Wildlife Conservation -- Consistency Check for the Bin Packing Constraint Revisited -- A Relax-and-Cut Framework for Gomory's Mixed-Integer Cuts -- An In-Out Approach to Disjunctive Optimization -- A SAT Encoding for Multi-dimensional Packing Problems -- Job Shop Scheduling with Setup Times and Maximal Time-Lags: A Simple Constraint Programming Approach -- On the Design of the Next Generation Access Networks -- Vehicle Routing for Food Rescue Programs: A Comparison of Different Approaches -- Constraint Programming and Combinatorial Optimisation in Numberjack -- Automated Configuration of Mixed Integer Programming Solvers -- Upper Bounds on the Number of Solutions of Binary Integer Programs -- Matrix Interdiction Problem -- Strong Combination of Ant Colony Optimization with Constraint Programming Optimization -- Service-Oriented Volunteer Computing for Massively Parallel Constraint Solving Using Portfolios -- Constraint Programming with Arbitrarily Large IntegerVariables -- Constraint-Based Local Search for Constrained Optimum Paths Problems -- Stochastic Constraint Programming by Neuroevolution with Filtering -- The Weighted Spanning Tree Constraint Revisited -- Constraint Reasoning with Uncertain Data Using CDF-Intervals -- Revisiting the Soft Global Cardinality Constraint -- A Constraint Integer Programming Approach for Resource-Constrained Project Scheduling -- Strategic Planning for Disaster Recovery with Stochastic Last Mile Distribution -- Massively Parallel Constraint Programming for Supercomputers: Challenges and Initial Results -- Boosting Set Constraint Propagation for Network Design -- More Robust Counting-Based Search Heuristics with Alldifferent Constraints.

Sommario/riassunto

The 7th International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR 2010) was held in Bologna, Italy, June 16-18, 2010. The conference is intended primarily as a forum to focus on the integration and hybridization of the approaches of constraint programming (CP), arti'cial intelligence (AI), and operations research (OR) technologies for solving lar- scale and complex real-life combinatorial optimization problems. CPAIOR is focused on both theoretical and practical, application-oriented contributions. The interest of the researchcommunity in this conference is witnessed by the highnumber ofhigh-qualitysubmissions receivedthis year, reaching39 long and 33 short papers. From these submissions, we chose 18 long and 17 short papers to be published in full in the proceedings.
ThisvolumeincludesextendedabstractsoftheinvitedtalksgivenatCPAIOR. Namely, one by Matteo Fischetti (University of Padova) on cutting planes and their use within search methods; another by Carla Gomes (Cornell University) on the recently funded NSF "Expedition in Computing" grant on the topic of computationalsustainabilityandonthepotentialapplicationofhybridoptimi - tion approachesto this area;a third by Peter Stuckey (University of Melbourne) on the integration of SATis'ability solvers within constraint programming and integer programming solvers.