



Ruslan SADYKOV

Research assistant, INRIA,
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Born on September 21, 1980.
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Education

IX/06 Ph.D. in Operations Research , Université Catholique de Louvain, Belgium.

Thesis: “*Integer Programming-based Decomposition Approaches for Solving Machine Scheduling Problems*”.

Ph.D. advisor: Prof. Laurence A. Wolsey.

VI/02 Master in Operations Research, State University of Kazan, Russia.

Work

IX/08–now Research assistant, INRIA Bordeaux — Sud-Ouest, France.
RealOpt team.

IX/06–VIII/08 Post-doc researcher, Ecole Polytechnique, Paris, France.
Collaboration: Prof. Philippe Baptiste.

IX/04–VIII/06 Teaching assistant, Université Catholique de Louvain.

Projects

2011–13 INRIA Associated Team SAMBA: Synergies for Ameliorations and Mastering of Branch-and-price Algorithms (France–Brazil)

Publications

Working papers

1. R. Sadykov, F. Vanderbeck. “Bin packing with conflicts: a generic branch-and-price algorithm”, *revision submitted*.
2. R. Sadykov, F. Vanderbeck. “Column generation for extended formulations”, *submitted*
3. R. Sadykov. “Scheduling incoming and outgoing trucks at cross docking terminals to minimize the storage cost”, *submitted*.
4. C. Joncour, S. Michel, R. Sadykov, F. Vanderbeck. “Primal heuristics for branch-and-price”.

International refereed journals

1. R. Sadykov. “A dominant class of schedules for malleable jobs in the problem to minimize the total weighted completion time”, accepted for *Computers & Operations Research*.
2. Ph. Baptiste, R. Sadykov. “Time-indexed formulations for scheduling chains on a single machine: An application to airborne radars”, *European Journal of Operations Research*, 203(2):476–483, 2010.

3. Ph. Baptiste, R. Sadykov. 2009. “On scheduling a single machine to minimize a piecewise linear objective function : A compact MIP formulation”, *Naval Research Logistics*, 56(6):487–502, 2009.
4. R. Sadykov. “A branch-and-check algorithm for minimizing the sum of the weights of the late jobs on a single machine with release dates”, *European Journal of Operations Research*, 189(3):1284–1304, 2008.
5. A.A. Lazarev, R. Sadykov, S.V. Sevastianov. “A scheme of approximation solution of problem $1 \mid r_j \mid L_{\max}$ ”, *Journal of Applied and Industrial Mathematics*, 1(4):468–480, 2007.
6. R. Sadykov, L. Wolsey. “Integer Programming and Constraint Programming in Solving a Multi-Machine Assignment Scheduling Problem with Deadlines and Release Dates”, *INFORMS Journal on Computing*, 18(2):209–217, 2006.

International conferences/workshops with proceedings

1. R. Sadykov, F. Vanderbeck. “Machine scheduling by column-and-row generation on the time-indexed formulation”, Book of Abstracts, the 10th International Workshop on Models and Algorithms for Planning and Scheduling Problems, Nymburk, Czech Republic, 55–57, 2011.
2. R. Sadykov, F. Vanderbeck. “Column generation for extended formulations”, 6th Latin-American Algorithms, Graphs and Optimization Symposium, Bariloche, Argentina, *Electronic Notes in Discrete Mathematics*, 37:357–362, 2011.
3. C. Joncour, S. Michel, R. Sadykov, D. Sverdlov, F. Vanderbeck. “Column generation based heuristics”, International Symposium on Combinatorial Optimization, Hammamet, Tunisia, *Electronic Notes in Discrete Mathematics*, 36:695–702, 2010.
4. R. Sadykov. “A polynomial algorithm for a simple scheduling problem at cross docking terminals”, Book of Abstracts, the 12th International Workshop on Project Management and Scheduling, Tours, France, 345–348, 2010.
5. R. Sadykov. “On scheduling malleable jobs to minimise the total weighted completion time”, Proceedings of the 13th IFAC Symposium on Information Control Problems in Manufacturing, Moscow, Russia, 1497–1499, 2009.
6. Y. Hendel, R. Sadykov. “Timing problem for scheduling an airborne radar”, Book of Abstracts, the 11th International Workshop on Project Management and Scheduling, 132–135, 2008.
7. E. Winter, R. Sadykov. “Computing Lower Bounds for the Schedule of a Multifunction Radar”, Proceedings of the 3rd Multidisciplinary International Conference on Scheduling : Theory and Applications, 523–530, 2007.
8. Ph. Baptiste, R. Sadykov. “Compact MIP formulations for minimizing total weighted tardiness”, Book of Abstracts, the 10th International Workshop on Project Management and Scheduling, 63–67, 2006.
9. R. Sadykov, A. Lazarev. “Experimental comparison of branch-and-bound algorithms for the $1 \mid r_j \mid L_{\max}$ problem”, Book of Abstracts, the 7th International Workshop on Models and Algorithms for Planning and Scheduling Problems, 239–241, 2005.
10. R. Sadykov. “A hybrid branch-and-cut algorithm for the one-machine scheduling problem”, Proceedings of the 1st International Conference CP–AI–OR’2004, *Lecture Notes in Computer Science*, 3011:409–414, 2004.

Co-supervision

Nastaran Rahmani Ph.D, April 2011 – now: “Planning and Routing via decomposition approaches”

André Linhares Internship, April–August 2011: “Dynamic Programming Algorithms for the Resource Constrained Shortest Path Problem”

Dmitry Fedorov Internship, August–December 2009: “Algorithms for the knapsack problem with conflicts”

Ruud van den Beukel Master thesis, January–June 2008: “Column Generation approaches for Job-Shop Scheduling”

Teaching

- *Modeling, optimization, complexity and algorithms*, CNAM Aquitaine, Master (Spring 2009–11, Fall 2009, 2011).
- *Introduction to Constraint Programming*, University Bordeaux I, Master MIMSE (Fall 2008–11).
- *Operations Research*, Ecole Polytechnique, Master ISIC (Fall 2006–07).
- *Linear Programming* (assistant), University Bordeaux I, Master MIMSE (Fall 2010).
- *Algorithms and Programming* (assistant), Ecole Polytechnique (Fall 2007).
- *Programming Languages* (assistant), Ecole Polytechnique (Spring 2008).
- *Constraint Programming and Combinatorial Problems* (assistant), Ecole Polytechnique (Fall 2007–08).
- *Theory and Algorithms for Graphs* (assistant), Catholic University of Louvain (Spring 2004–06).

Languages

English, French, Russian.

Prepared on September 23, 2011.