

Dr. Mohamed Labidi

Assistant Professor

Personal details: 34 years old, Tunisian citizen,
Single

Languages: Arabic, English, French, Italian

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Education

- February 2011** Ph.D. in Operations Research, High Institute of Management, University of Tunis Thesis title: "*New Bounding Approaches for the Job Shop Scheduling Problem*". Supervisor: Prof. Anis Gharbi.
- July 2006** M. Sc. in Operations Research, High Institute of Management, University of Tunis. Supervisor: Prof. Anis Gharbi.
- June 2004** B. Sc. in Computer Science for Management, High Institute of Management, University of Tunis.
- June 2000** Baccalaureate in Economics, Secondary School of Rue de Pacha, Tunis.

Academic experience

Assistant Professor (since 2011)

Industrial Engineering Department, College of Engineering, King Saud University.

Lecturer (2010 - 2011)

Industrial Engineering Department, College of Engineering, King Saud University.

Lecturer (2006 - 2009)

Department of Economics, High School of Economy and Business, University of Tunis.

Area of Interest

- ✓ Systems Engineering
- ✓ Operations Research
- ✓ Machine Scheduling
- ✓ Workforce Staffing and Scheduling
- ✓ Health Care Management
- ✓ Cutting and Packing Problems
- ✓ Warehousing Management

Distinctions and Awards

- ✓ Supervisor of the Fourth Best Industrial Engineering Graduation Project, College of Engineering, King Saud University, January 2015.

Publications

❖ International refereed journals

- ✓ Anis Gharbi, Mohamed Labidi, Mohamed Haouari (2015), "*An Exact Approach for Single Machine Scheduling with Unavailability Periods*", European Journal of Industrial Engineering, in Press.
- ✓ Mohamed Labidi, Mehdi Mrad (2015), "*A MIP Model based on Graph Theory for the Physician Scheduling Problem*", to appear in International Journal of Science and Technology.
- ✓ Anis Gharbi, Mohamed Labidi, Mohamed Ali Louly (2014), "*The Non-Permutation Flow Shop Scheduling problem: Adjustment and Bounding procedures*", Journal of Applied Mathematics, vol. 2014, doi: 10.1155/2014/273567.
- ✓ Mohamed Labidi, Mehdi Mrad, Anis Gharbi, Mohamed Ali Louly (2014), "*Scheduling IT Staff at a Bank: A Mathematical Programming Approach*", The Scientific World Journal - Operations Research, vol. 2014, doi: 10.1155/2014/768374.
- ✓ Mehdi Mrad, Olfa Chebbi, Mohamed Labidi, Mohamed Ali Louly (2014), "*Synchronous Routing for Personal Rapid Transit Pods*", Journal of Applied Mathematics (Special Issue: Recent Advances on Mathematical Modeling and Control Methods for Complex Vehicle Systems), vol. 2014, doi: 10.1155/2014/623849.
- ✓ Anis Gharbi, Mohamed Labidi (2014), "*New Approaches for Flow Shop Scheduling*", The Business Review Cambridge, vol 22, pp. 176-181.
- ✓ Anis Gharbi, Mohamed Labidi (2010), "*Jackson's Semi-Preemptive Scheduling on a Single Machine*", Computers and Operations Research 37, 2082-2088.
- ✓ Anis Gharbi, Mohamed Labidi (2010), "*Extending the Single Machine-Based Relaxation Scheme for the Job Shop Scheduling Problem*", Electronic Notes in Discrete Mathematics 36, 1057-1064.

❖ Conference proceedings

- ✓ Mohamed Labidi, Mehdi Mrad (2015), "*A MIP Model based on Graph Theory for the Physician Scheduling Problem*", International Conference on Healthcare, Applied Science and Technology, Las Vegas, USA.
- ✓ Anis Gharbi, Mohamed Labidi (2014), "*New Approaches for Flow Shop Scheduling*", The Global Business, Marketing, Finance & Economics Research Conference, Los Angeles, USA.
- ✓ Anis Gharbi, Mohamed Labidi (2009), "*Jackson's Semi-Preemptive Schedule for the One Machine Problem*", Société Française de Recherche Opérationnelle et d'Aide à la Décision. (ROADEF), Nancy, France.

❖ Published abstract

- ✓ Mohamed Labidi, Anis Gharbi, Mohamed Haouari (2014), "*Single Machine Scheduling under availability constraints*", INFORMS Annual Meeting, San Francisco, California, USA.
- ✓ Mohamed Labidi (2014), "*A Shift Scheduling Model for a Bank IT Staff*", The fifth INFORMS Optimization Society Conference, Rice University in Houston, Texas, USA.
- ✓ Mohamed Labidi, Anis Gharbi (2013), "Adjustment and heuristic methods for the classical flow shop scheduling problem", Annual conference for industry, Engineering, and Management Systems. (AIEMS), Orlando, Florida, USA.

❖ Papers submitted for publication

- ✓ Mohamed Labidi, Anis Kooli, Talel Ladhari (2015), "*A computational study of the two-machine no-wait flow shop problem subject to unequal release dates and non-availability constraints*", submitted to Journal of the Operational Research Society.
- ✓ Talel Ladhari, Chalghouni Sabrine, Mehdi Mrad, Mohamed Labidi (2015), "*MILP formulations for minimizing the total completion time in a two-machine permutation flowshop subject to release dates*", submitted to Engineering Optimization.

❖ Work in progress

- ✓ Anis Gharbi, Mohamed Labidi (2011), New lower bounds for the Job Shop scheduling problem which dominates the best-known lower bounds of the literature ("http://mistic.heigvd.ch/taillard/problemes.dir/ordonnancement.dir/jobshop.dir/best_lb_up.txt").
- ✓ Anis Gharbi, Mohamed Labidi, "Effective Lower Bounds for the Job Shop Scheduling Problem: A Multiple Machine-Based Approach", to be submitted to Operations Research.
- ✓ Anis Gharbi, Mohamed Labidi, "An Improved Shifting Bottleneck Procedure for the Job Shop Scheduling Problem", to be submitted to IMA Journal of Management Mathematics.

Collaboration with companies

❖ Consulting activities

Warehousing management of The Saudi National Security.

❖ Graduation Projects

- ✓ King Khalid International Airport (On-going): Design of a DSS for Scheduling flight landings.
- ✓ Al-Babtain Steel Company (2014): Design of Cutting Steel Bar DSS for Saudi Companies.
- ✓ Al-Jazirah Hospital (2014): Design of a DSS for Physician Scheduling.
- ✓ Al-Hammad Hospital (2013): Improving Nurse Staff Efficiency.
- ✓ Dallah Hospital (2012): Design of a DSS for Nurse Scheduling.
- ✓ The Saudi Hollandi Bank (2012): Design of a Scheduling System for IT Department.

Funded Research Projects

- ✓ Enhancing Saudi Hospital Physician Scheduling Using Optimization Techniques (2014-2016), National Plan for Science and Technology, King Saud University, Riyadh.
- ✓ Cutting Stock Optimization Tool for Saudi Factories (2014-2016), National Plan for Science and Technology, King Saud University, Riyadh.

Administrative Position

- ✓ Since 2012: Present Chair of the Registration Committee in the IE Department in King Saud University.
- ✓ Since 2012: Member of the Time tabling and Exams Committee in the IE Department in King Saud University.
- ✓ 2011-2012: Chair of the Statistics Committee IE Department in King Saud University.

Refereeing

- ✓ European Journal of Operational Research (Elsevier).
- ✓ Journal of Management and Engineering Integration.
- ✓ 5th International Conference Modeling, Simulation, and Applied Optimization.
- ✓ 2014 International Conference on Control, Decision and Information Technologies.

Taught courses

- ✓ **Operations Research I:** Introduction to linear programming, The Simplex method, Duality theory, Sensitivity analysis, Integer programming. Applications: Economics and Finance, Planning and Scheduling, Ground and Air Transport, Public Services, Telecommunication, Timetabling, Mining and Process industry, Loading and Cutting.
- ✓ **Operations Research II:** Discrete Optimization, Integer Linear Programming (nature of integer linear programming, problem structure, mathematical formulation and Branch and bound method), Dynamic Programming (characteristics of nature of dynamic programs, Formulation and applications), Nonlinear Programming, Stochastic Processes and Applications (Discrete time Markov chains, Queuing Models), Decision Analysis.

- ✓ **Operations management I:** Introduction to operations management and Productivity, Forecasting methods and analysis, Capacity planning, Inventory Management, Supply Chain Management.
- ✓ **Graph Theory and Applications:** Shortest path, Maximum flow, Minimal cut, Minimum cost flow, Flows with lower bounds, Minimum flow, Optimal spanning trees, Assignment problems, The traveling salesman problem.
- ✓ **Engineering Management:** Project organizing, project planning, project financing and control.
- ✓ **Theory of Compilation:** Compiler structure overview, Lexical analysis, Syntax analysis, Semantic analysis, code generation, code optimization.
- ✓ **Computer Organization I:** Overview and history of computer architecture, Bits byte and words, Numeric data representation and number bases, Fixed-and floating-point systems, Signed and twos-complement representations, Representation of nonnumeric data, Basic organization of the Von Neumann machine.
- ✓ **Computer Organization II:** Memory basics, Memory hierarchy, Main memory organization and operations, Addressing modes, Arithmetic/logic unit, Control unit (instruction fetch, decode and execution), Instruction sets and types, Instruction formats, RISC and SISC central processing units, Input-output and communication.
- ✓ **System Analyses and Design:** Introduction: The need for competent System Analysis, Nature and characteristics of the systems Analyst, The systems Development Life Cycle, The MERISE method, The conceptual model of communication, The data conceptual model, The processes conceptual model, The processes organizational model, The data logical and physical model.

Affiliations

- ✓ Since 2014: Member of The Institute for Operations Research and the Management Sciences (INFORMS).
- ✓ Since 2010: Princess Fatimah Alnijris's Research Chair for Advanced Manufacturing Technology, Industrial Engineering Department, College of Engineering, King Saud University.
- ✓ Since 2005: Combinatorial Optimization Research Group (CORG), Unité de Recherche ROI (Operations Research for Industry), Polytechnic School of Tunisia.
- ✓ Since 2006: Tunisian Management Science Society (TMSS)

Visiting position

April 2008: Department of Industrial Engineering, College of Engineering, King Saud University.

Training

April 2014: “Applied Optimization”, Department of Industrial Engineering, College of Engineering, King Saud University

Computer skills

- ✓ Microsoft Word, Excel, PowerPoint, Outlook
- ✓ C-Programming
- ✓ Lingo, CPLEX, GUROBI
- ✓ TORA
- ✓ Legin
- ✓ DBMS MySQL v4.0
- ✓ Scientific Work Place
- ✓ Dreamweaver, Rational Rose