

Mario Vanhoucke



UCL School of Management

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Department of Business Informatics and Operations Management

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Technology and Operations Management Area

Vlerick Business School, Bolwerklaan 21, Brussels 1210, Belgium
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Academic Appointments

- 2017 - present **Northwestern Polytechnical University** (Xi'an, China)
School of Management
Adjunct Professor (2017 - present)
- 2010 - present **University College London** (London, UK)
UCL School of Management (2015 - present) and Department of Management Science & Innovation (2010 - 2015)
Senior Teaching Fellow and Honorary Senior Research Associate
- 2001 - present **Ghent University** (Ghent, Belgium)
Department of Business Informatics and Operations Management
Head of Department and Full Professor (2008 - present), Associate Professor (2006 - 2008), Assistant Professor (2001 - 2006)
- 2001 - present **Vlerick Business School** (Brussels, Belgium)
Technology and Operations Management Area
Full Professor (2015 - present), Associate Professor (2006 - 2015), Assistant Professor (2001 - 2006)

Education

- 1996 - 2001 **PhD in Operations Management**
"Exact algorithms for various types of project scheduling problems: Non-regular objectives and time/cost trade-offs" (June 7, 2001)
University of Leuven, Belgium
- 1994 - 1996 **M.Sc. in Business Engineering**
University of Leuven, Belgium
- 1991 - 1994 **B.Sc. in Business Engineering**
University of Leuven, Belgium

Awards

www.or-as.be/awards

Research Ranking

- 2022 **Top Scientists Ranking on research.com**
Ranked #164 in the world and #1 in Belgium in "Business and Management" discipline (<https://research.com/scientists-rankings/business-and-management>)

Research Awards

- 2020 **IPMA Research Award: Outstanding Contribution**
for the research "Data-driven project management: Research by and for academics, students, and practitioners"
International Project Management Association (IPMA), Berlin (Germany)
- 2020 **Vlerick Researcher of the Year 2020 Award**
for the 14 articles published in 2020 and the 8 case studies written for the "Data-driven project management" course module

- 2018 **PMI Belgium PhD Award**
for the PhD by Annelies Martens "Buffer management methods for project control", Brussels, Belgium
- 2017 **Elsie Cropper Award for Best Paper**
for the paper "In pursuit of more accurate project forecasts: Integration of earned value management with exponential smoothing and reference class forecasting" at the Young OR Conference in London (presented by Jordy Batselier)
- 2015 **Editors' Award for Excellence in Reviewing**
for the recognition of an outstanding contribution to the quality of the European Journal of Operational Research in 2014
- 2011 **Notable Contributions to Management Accounting Literature Award**
for the paper "A Simulation Analysis of Interactions among Errors in Costing Systems" Denver (US)
- 2008 **IPMA Research Award**
for the research "Measuring Time using Earned Value Management" International Project Management Association (IPMA), Rome (Italy)
- 2007 **Research Collaboration Fund Award**
PMI Belgium, Brussels (Belgium)

Teaching Awards

- 2019 **Best Teacher Award Masters International Management and Strategy**
Vlerick Business School, Brussels (Belgium)
- 2018 **Best Teacher Award Masters International Management and Strategy**
Vlerick Business School, Brussels (Belgium)
- 2015 **Best Teacher Award Business Engineering program**
Faculty of Economics and Business Administration, Ghent University, Ghent (Belgium)
- 2014 **Best Teacher Award Business Engineering program**
Faculty of Economics and Business Administration, Ghent University, Ghent (Belgium)
- 2013 **Best Teacher Award Business Engineering program**
Faculty of Economics and Business Administration, Ghent University, Ghent (Belgium)
- 2002 **Best Teacher Award International MBA**
Vlerick Business School, Ghent (Belgium)

Student Awards

PMI Belgium Best Thesis Award

- 2021 Project portfolio management: Analysing different ways of clustering projects wherein resources can be freely shared - Vincent D'hooge
- 2020 Quality objectives in project scheduling: A simulation and case study to assess the implementation of showstoppers - Brent Cathelyn and Arne Van de Walle
- 2019 Functional requirement-based forecasting: Estimating the cost and duration of early-stage projects - Arne Van Belleghem
- 2018 Earned Duration Management: Evaluation and extension of a novel project control technique for the time dimension - Evelyn Mareels and Jens Martens
- 2017 Incentive contract design for stochastic projects - Jeroen Santens
- 2016 Using Data Envelopment Analysis to support project success - Thomas Govaert
- 2015 A study to the impact of schedule adherence on the accuracy and stability of forecasts - Tom Servranckx
- 2014 Statistical project control - Annelies Martens
- 2012 A genetic algorithm for the multi-mode resource-constrained project scheduling problem with discounted cash flows - Pieter Leyman
- 2011 An accuracy study on Earned Value Management extensions using Monte-Carlo simulations - Evelyn De Blicke and Ellen De Groot

PMI Belgium University Contest Award

- 2019 Project recovery: different failures and how to get rid of them - Inès De Braekeleer, Marie-Julie De Bruyne, Renée De Visscher, Louise Martens, Eva Moens
- 2017 Baseline schedule and risk analysis: Exhibition stand at BISbeurs - Olivier Van Raemdonck, Gauthier Dejonckheere, Bram Devlieghere, Maxim Pitteman, Laura Vanacker
- 2016 De Waalse Krook: Risk Assessment using the Fuzzy Set Theory - Ellen De Backer, Rani Torrekens, Laurine Van Buggenhout, Mathilde Van Caeckenbergh, Karen Verhaeghe
- 2015 Dynamic scheduling of a new project: Building wireless smart cities - Camille De Cock, Ellen Dekoning, Adeline Dewaele, Miguel Garcia Casado, Jessica Seurinck and Ann-Sophie Tytgat
- 2014 Managing product innovation: A study of product innovation in project management - Astrid De Keyzer, Jolien Dobbelaere, Shana Raes, Lisa Vandevoorde and Dorien Van Steenberge
- 2013 How to improve project team dynamics: Team building workshop - Pearl Debeurme, Sanne Diependaele, Ann-Sophie Parmentier, Julie Scheipers, Hanne Vanaelst and Eline Van Lombeek
- 2012 Windmolenpark Maldegem - Lien Vehent, Mélanie Decq, Jannig Theeten, Philippe Peelman and Philip Pensaert
- 2011 Impact of methodology and software on the planning of a construction project - Alexander De Cuyper, Jan Dierckx, Peter Van Vooren and Hristo Petrov

Arcelor Mittal Best Thesis Award

- 2019 The impact of failure predictive information in maintenance planning in the aviation industry - Baptiste Bovyn
- 2018 Practical application of Reference Class Forecasting: Identifying the drivers of similarity between projects - Maarten De Smyter and Wout Vandoorne
- 2017 Multi-project scheduling: The application of a decoupled schedule generation scheme and a game mechanic - Rob Van Eynde
- 2016 On the use of artificial intelligence for project control - Thomas Carrolo and Mathieu Degrande
- 2015 Control techniques for maintenance and repair of windmill projects - Mick Van Den Eeckhout
- 2014 The introduction of team rotation in a project management environment - Bert Aelter and Jules Branswyck
- 2013 An accuracy study and improvement of a time-dependent EV model using Monte Carlo simulation - Pieter Beeckman and Kenny Vanleeuwen
- 2012 A study of exact and meta-heuristic planning techniques for unrelated parallel machines with common servers in the textile industry - Louis-Philippe Kerkhove
- 2011 A case study for multi-project planning - Len Vandenheede
- 2010 Applying the shifting bottleneck procedure for a real-life production problem - Frederic Steen
- 2007 Personnel scheduling in the airline sector: Case Brussels Airlines - Bruce Fecheyr-Lippens

Research Grants

www.or-as.be/grants

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- 2018 - 2022 **University Research Fund (BOF), Ghent University € 245,000**
The resource-constrained project scheduling problem: Predicting problem complexity and enhancing solution algorithms
- 2017 - 2021 **University Research Fund (BOF), Ghent University € 190,000**
A comprehensive framework and solution approach for scheduling flexible projects
- 2017 - 2021 **The Research Foundation - Flanders (FWO) € 202,750**
An integrated analysis of incentive contracting for project management
- 2017 - 2020 **The Research Foundation - Flanders (FWO) € 160,000**
Judgmental adjustment in forecasting with formal models: biases - cause, effect, and solutions
- 2016 - 2020 **The Research Foundation - Flanders (FWO) € 187,000**
Resource-constrained project scheduling with outsourcing options: Mathematical formulations, scheduling policies, risk mitigation and reconciling conflicting objectives

2011 - 2020	Concerted Research Action (GOA) , Ghent University € 1,113,000 Searching for static and dynamic project drivers to predict and control the impact of management/contingency reserves on a project's success
2011 - 2014	The Research Foundation - Flanders (FWO) € 256,000 Staffing and scheduling projects under multiple activity execution modes and with a multi-skilled workforce
2010 - 2013	The Research Foundation - Flanders (FWO) € 254,000 Assessing the relation between schedule adherence, project performance stability and project success: the time dimension
2010	Academic Research Fund (ARF) , Vlerick Business School € 24,200 On the design of custom pack: Grouping of medical disposable items for surgical procedures
2008 - 2011	The Research Foundation - Flanders (FWO) € 236,000 The influence of rostering systems on personnel satisfaction and quality of care: an optimization approach
2008 - 2011	The Research Foundation - Flanders (FWO) € 231,000 An integrated approach for personnel rostering and project optimization in a multi-project environment
2008	Academic Research Fund (ARF) , Vlerick Business School € 33,000 Improving performance measurement by novel earned value management systems
2007 - 2011	University Research Fund (BOF) , Ghent University € 156,000 An integrated optimization approach for personnel staffing/scheduling and patient scheduling
2006 - 2009	The Research Foundation - Flanders (FWO) € 20,500 Design of efficient exact and heuristic algorithms for financial resource optimisation in a multiproject environment
2004 - 2007	The Research Foundation - Flanders (FWO) € 224,800 Design of efficient exact and heuristic algorithms for strategic and operational planning in hospitals
2003 - 2007	University Research Fund (BOF) , Ghent University € 140,000 Operational research and application in health-care systems
2003 - 2006	University Research Fund (BOF) , Ghent University € 140,000 Optimization in project scheduling: exact and heuristic methods

Teaching

2016 - present	Data-driven Project Management Master in General Management, Vlerick Business School, Belgium Master in International Management and Strategy, Vlerick Business School, Belgium
2008 - present	Applied Operations Research M.Sc. in Business Engineering, Ghent University, Belgium
2006 - present	Integrated Management Exercise M.Sc. in Business Engineering, Ghent University, Belgium
2001 - present	Project Management M.Sc. in Transportation Sciences, Hasselt University, Belgium (2019 - present) M.Sc. in Business Engineering, Ghent University, Belgium (2007 - present) M.Sc. in Civil Engineering, Ghent University, Belgium (2001 - present) M.Sc. in Management, University College London, UK (2013 - present) M.Sc. in Civil Engineering, University College London, UK (2010 - 2013) Executive Teaching at Vlerick Business School, Belgium (2001 - present) The International Academy of Osteopathy (2016 - 2020) University of Hasselt, Belgium (2019-2020) M.Sc. in Sustainable Management of Natural Resources, Anton De Kom University, Suriname (2014, 2017) Executive Teaching at Baltic Management Institute, Lithuania (2013) M.Sc. in Operations and Technology Management, Ghent University, Belgium (2001 - 2007)
2001 - present	Decision Making for Business International MBA, Vlerick Business School, Belgium (2001 - 2020) Master in General Management, Vlerick Business School, Belgium (2001 - present) Beijing International MBA, Peking University, China (2010 - present)
2014 - 2015	Dynamic Project Planning International MBA, Vlerick Business School, Belgium
2001 - 2013	Statistics for Business Master in General Management, Vlerick Business School, Belgium

2001 - 2006

Advanced Production Management

M.Sc. in Operations and Technology Management, Ghent University, Belgium

PhD Supervision

2021 - present	Xi Wu Project forecasting and data calibration Ghent University, Ghent, Belgium
2021 - present	Wanjun Liu Multi-project scheduling with transfer times Ghent University, Ghent, Belgium
2021 - present	Fangfang Cao Project scheduling under uncertainty Ghent University, Ghent, Belgium
2020 - present	Forough Vaseghi Statistical project risk and control analysis Ghent University, Ghent, Belgium
2020 - present	Rojin Nekoueian Scheduling project with alternative subgraphs Ghent University, Ghent, Belgium
2019 - present	Dries Bredael Project and portfolio management algorithms Ghent University, Ghent, Belgium
2017 - present	Weikang Guo Machine learning algorithms for project scheduling Ghent University, Ghent, Belgium
2017 - present	Izel Unsal Risk management in project management Ghent University, Ghent, Belgium
2017 - present	Jingyu Luo Machine learning algorithms for project scheduling Ghent University, Ghent, Belgium
2017 - present	Jakob Snauwaert Resource skills for the resource renting project scheduling problem Ghent University, Ghent, Belgium
2017 - 2022	Rob Van Eynde Multi-project resource constrained project scheduling problems with quality restrictions Ghent University, Ghent, Belgium
2018 - present	Xin Guan Risk management in project management Ghent University, Ghent, Belgium (PhD: 15/04/2021) - Postdoctoral researcher at Ghent University
2017 - present	Jie Song Analytical control algorithms in project management Ghent University, Ghent, Belgium (PhD: 03/03/2021) - Postdoctoral researcher at Ghent University
2014 - 2020	Jeroen Burgelman The resource-constrained project scheduling problem with dynamic project arrivals Ghent University, Ghent, Belgium (PhD: 02/09/2020)
2015 - present	Tom Servranckx Activity and resource flexibility in project scheduling Ghent University, Ghent, Belgium (PhD: 18/07/2020) - Currently Postdoctoral research at Ghent University
2014 - present	Annelies Martens Timing and accuracy of control points in project management Ghent University, Ghent, Belgium (PhD: 18/05/2018) - Currently Postdoctoral research at Ghent University
2012 - 2016	Jordy Batselier Empirical evaluation of existing and novel approaches for project forecasting and control Ghent University, Ghent, Belgium (PhD: 02/09/2016)

2012 - 2016	Louis-Philippe Kerkhove Improving decision making for incentivised and weather-sensitive projects Ghent University, Ghent, Belgium (PhD: 09/09/2016)
2012 - 2016	Pieter Leyman Heuristic algorithms for payment models in project scheduling Ghent University, Ghent, Belgium (PhD: 16/09/2016)
2009 - 2012	Christophe Van Huele The influence of rostering systems on personnel satisfaction and quality of care Ghent University, Ghent, Belgium
2010 - 2015	Mathieu Wauters Time/cost optimization and forecasting in project scheduling and control Ghent University, Ghent, Belgium (PhD: 18/09/2015)
2009 - 2015	Jeroen Colin Single and multi-variate methods for statistical project control using earned value management Ghent University, Ghent, Belgium (PhD: 17/04/2015)
2007 - 2011	Sophie Hoozée On the determinants and the role of costing accuracy of time-drive activity-based costing Ghent University, Ghent, Belgium (PhD: 03/06/2011) - Co-advisor
2007 - 2011	Veronique Sels Hybrid (meta-)heuristic optimization for single machine, parallel machine and job shop scheduling problems Ghent University, Ghent, Belgium (PhD: 26/08/2011)
2005 - 2010	Vincent Van Peteghem Meta-heuristic procedures for the multi-mode project scheduling problem Ghent University, Ghent, Belgium (PhD: 28/05/2010)
2003 - 2007	Broos Maenhout Exact and meta-heuristic algorithms for nurse shift scheduling problems Ghent University, Ghent, Belgium (PhD: 25/09/2007)
2002 - 2006	Dieter Debels Exact and heuristic optimization for various resource-constrained project scheduling problems Ghent University, Ghent, Belgium (PhD: 31/11/2006)

Professional Activities

Program Director	M.Sc. in Operations and Technology Management (2003 - 2007) B.Sc. and M.Sc. in Business Engineering (2004 - present)
Founder	EVM Europe (2009 - 2017) Operations Research - Applications and Solutions (OR-AS bvba) (2007 - present)
Editor	Associate Editor of Journal of Scheduling (2018 - present)
Editorial Board	Virtual Scheduling Seminar - schedulingseminar.com (2021 - present) Computers & Operations Research (2014 - present) European Working Group on Project Management and Scheduling (2014 - present) International Conference on Applied Operational Research (2014) Journal of Modern Project Management (2012 - present) Operations Research for Health Care (2012 - present)
Member	Institute for Operations Research and Management Science (INFORMS) Project Management Institute (PMI)
Developer	ProTrack: Project Management software - www.protrack.be P2 Engine: Project Management research tool - www.p2engine.com PM Knowledge Center: Online learning platform - www.pmknowledgecenter.com ORASTalks: Student mobile app - www.or-as.be/orastalks PSG and PSG Extended: Project scheduling business games - www.or-as.be/psg

Ad-hoc reviewer	Annals of Operations Research, Applied Soft Computing, Automation in Construction, Computers and Industrial Engineering, Computers and Operations Research, Engineering Optimization, European Journal of Industrial Engineering, European Journal of Operational Research, IEE Transactions, INFORMS Transactions on Education, International Journal of Computer Integrated Manufacturing, International Journal of Production Economics, International Journal of Production Research, International Journal of Project Management, International Transactions in Operational Research, Journal of Civil Engineering and Management, Journal of Heuristics, Journal of Management in Engineering, Journal of Scheduling, Journal of Systems and Software, Journal of the Operational Research Society, Lecture Notes on Computer Science, Management Science, Mathematical Problems in Engineering, Naval Research Logistics, Networks, Neurocomputing, Omega - The International Journal of Management Science, Operations Research, Optimization Methods and Software
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Case Studies

Project Management	The data-driven project manager (Parts I to IV) Plan - Game - Risk - Control
Project Management	The Mutum-Parana II Bridge (A, B and C) Project scheduling - Risk analysis - Project control
Applied Operations Research	Decision-making for business: The Sint Catherina Hospital (A to F) Data modelling - Budget partitioning - Shift design - Cyclic scheduling - Rostering
Decision Making	Decision-making for business Marketing - Production - Finance (in Dutch)

Publications

International Journals Web of Science	<p>Luo, J., Vanhoucke, M., Coelho, J. and Guo, W., 2022, "An efficient genetic programming approach to design priority rules for resource-constrained project scheduling problem", <i>Expert Systems With Applications</i>, To Appear</p> <p>Van Eynde, R., and Vanhoucke, M., 2022, "A reduction tree approach for the discrete time/cost trade-off problem", <i>Computers and Operations Research</i>, 143, 105750 (doi: 10.1016/j.cor.2022.105750)</p> <p>Van Eynde, R., and Vanhoucke, M., 2021, "A theoretical framework for instance complexity of the resource-constrained project scheduling problem", <i>Mathematics of Operations Research</i>, To Appear (doi: 10.1287/moor.2021.1237)</p> <p>Van Eynde, R., and Vanhoucke, M., 2022, "New summary measures and datasets for the multi-project scheduling", <i>European Journal of Operational Research</i>, 299(3), 853–868 (doi: 10.1016/j.ejor.2021.10.006)</p> <p>Song, J., Martens, A., and Vanhoucke, M., 2022, "Using Earned Value Management and Schedule Risk Analysis with resource constraints for project control", <i>European Journal of Operational Research</i>, 297(2), 451–466 (doi: 10.1016/j.ejor.2021.05.036)</p> <p>Milička, P., Šůcha, P., Vanhoucke, M., and Maenhout, B., 2022, "The bilevel optimisation of a multi-agent project scheduling and staffing problem", <i>European Journal of Operational Research</i>, 296(1), 72-86 (doi: 10.1016/j.ejor.2021.03.028)</p> <p>Guan, X., Servranckx, T., and Vanhoucke, M., 2021, "An analytical model for budget allocation in risk prevention and risk protection", <i>Computers and Industrial Engineering</i>, 161, 107657 (doi: 10.1016/j.cie.2021.107657)</p> <p>Vanhoucke, M., and Coelho, J., 2021, "An analysis of network and resource indicators for resource-constrained project scheduling problem instances", <i>Computers and Operations Research</i>, 132, 105260 (doi: 10.1016/j.cor.2021.105260)</p> <p>Snauwaert, J., and Vanhoucke, M., 2021, "A new algorithm for resource-constrained project scheduling with breadth and depth", <i>European Journal of Operational Research</i>, 292, 43–59 (doi: 10.1016/j.ejor.2020.10.032)</p> <p>Servranckx, T., Coelho, J., and Vanhoucke, M., 2021, "Various extensions in resource-constrained project scheduling with alternative subgraphs", <i>International Journal of Production Research</i>, To Appear.</p> <p>Servranckx, T., Vanhoucke, M., and Aouam, T., 2021, "Practical application of Reference Class Forecasting for cost and time estimations: Identifying the properties of similarity", <i>European Journal of Operational Research</i>, 295(3), 1161–1179 (doi:10.1016/j.ejor.2021.03.063)</p> <p>Barrientos-Orellana, A., Ballesteros-Pérez, P., Mora, D., González-Cruz, M. C., and Vanhoucke, M., 2021, "Stability and accuracy of deterministic project duration forecasting method in Earned Value Management" <i>Engineering, Construction and Architectural Management</i>, To Appear (doi: 10.1080/00207543.2021.1924411)</p>
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- Vaseghi, F., Ahmadi, M., Sharifi, M., & Vanhoucke, M., 2021, "Generalized multi-scale stochastic reservoir opportunity index for enhanced well placement optimization under uncertainty in green and brown fields", *Oil & Gas Science and Technology*, 76, 41 (doi:10.2516/ogst/2021014)
- Aouam, T., Ghadimi, F., and Vanhoucke, M., 2021, "Finite inventory budgets in production capacity and safety stock placement under the guaranteed service approach", *Computers and Operations Research*, 131, 105266 (doi:10.1016/j.cor.2021.105266)
- Guo, W., Vanhoucke, M., Coelho, J., and Luo, J., 2021, "Automatic detection of the best performing priority rule for the resource-constrained project scheduling problem", *Expert Systems with Applications*, 167, 114116 (doi: 10.1016/j.eswa.2020.114116)
- Van Den Eeckhout, M., Maenhout, B. and Vanhoucke M., 2021, "A column generation based diving heuristic to solve the multi-project personnel staffing problem with calendar constraints and resource sharing", *Computers and Operations Research*, 128, 105163 (doi: 10.1016/j.cor.2020)
- Li, X., He, Z., Wang, N. and Vanhoucke, M., 2021, "Multimode time-cost-robustness trade-off project scheduling problem under uncertainty", *Journal of Combinatorial Optimization*, To Appear (doi: 10.1007/s10878-020-00636-7)
- Song, J., Martens, A., and Vanhoucke, M., 2021, "Using schedule risk analysis with resource constraints for project control", *European Journal of Operational Research*, 288, 736–752 (doi: 10.1016/j.ejor.2020.06.015)
- Zohrehvandi, S., Vanhoucke, M., and Khalilzadeh, M., 2020, "A project buffer and resource management model in energy sector; a case study in construction of a wind farm project", *International Journal of Energy Sector Management*, 14(6), 1123–1142 (doi:10.1108/IJESM-10-2019-0025)
- Servranckx, T., Vanhoucke, M., and Vanhouwaert, G., 2020, "Analysing the impact of alternative network structures on resource-constrained schedules: Artificial and empirical experiments", *Computers & Industrial Engineering*, 148, 106706 (doi: 10.1016/j.cie.2020.106706)
- Coelho, J., and Vanhoucke, M., 2020, "Going to the core of hard resource-constrained project scheduling instances", *Computers and Operations Research*, 121, 104976 (doi: 10.1016/j.cor.2020.104976)
- Song, J., Martens, A., and Vanhoucke, M., 2020, "The impact of a limited budget on the corrective action taking process", *European Journal of Operational Research*, 286, 1070–1086 (doi: 10.1016/j.ejor.2020.03.069)
- Van Eynde, R., and Vanhoucke, M., 2020, "Resource-constrained multi-project scheduling: Benchmark datasets and decoupled scheduling", *Journal of Scheduling*, 23, 301–325 (doi: 10.1007/s10951-020-00651-w)
- Van Den Eeckhout, M., Vanhoucke, M., and Maenhout, B., 2020, "Mode generation rules to define activity flexibility for the integrated project staffing problem with discrete time/resource trade-offs", *Annals of Operations Research*, 292, 133–160 (doi: 10.1007/s10479-020-03619-3)
- Martens, A., and Vanhoucke, M., 2020, "Integrating corrective actions in project time forecasting using exponential smoothing", *Journal of Management in Engineering*, 36(5), 04020044 (doi: 10.1061/(ASCE)ME.1943-5479.0000806)
- Ghadimi, F., Aouam, T., and Vanhoucke, M., 2020, "Optimizing production capacity and safety stocks in general acyclic supply chains", *Computers and Operations Research*, 120, 104938 (doi: 10.1016/j.cor.2020.104938)
- Kerkhove, L.-P., and Vanhoucke, M., 2020, "Multi-mode schedule optimisation for incentivised projects", *Computers and Industrial Engineering*, 142, 106321 (doi: 10.1016/j.cie.2020.106321)
- Burgelman, J. and Vanhoucke, M., 2020, "Project schedule performance under general mode implementation disruptions", *European Journal of Operational Research*, 280, 295–311 (doi: 10.1016/j.ejor.2019.06.050)
- Van Den Eeckhout, M., Vanhoucke, M., and Maenhout, B., 2020, "A decomposed branch-and-price procedure for integrating demand planning in personnel staffing problems", *European Journal of Operational Research*, 280, 845–859. (doi: 10.1016/j.ejor.2019.07.069)
- Ballesteros-Pérez, A., Cerezo-Narváez, A., Otero-Mateo, M., Pastor-Fernandez, A., Zhang, J, and Vanhoucke, M., 2020, "Forecasting the project duration average and standard deviation from deterministic schedule information", *Applied Sciences*, 10, 654 (doi:10.3390/app10020654)
- Zohrehvandi, S., Vanhoucke, M., Soltani, R., and Javadi, M., 2020, "A reconfigurable model for implementation in the closing phase of a wind turbines project construction", *Engineering, Construction and Architectural Management*, 27, 502–524 (doi: 10.1108/ECAM-01-2019-0065)
- Vanhoucke, M., and Batselier, J., 2019, "A statistical method for estimating activity uncertainty parameters to improve project forecasting", *Entropy*, 21(10), 952 (doi: 10.3390/e21100952)

- Ballesteros-Pérez, P., Cerezo-Narváez, A., Otero-Mateo, M., Pastor-Fernandez, A., and Vanhoucke, M., 2019, "Performance comparison of activity sensitivity metrics in schedule risk analysis", *Automation in Construction*, 106, 102906 (doi: 10.1016/j.autcon.2019.102906)
- Vanhoucke, M., and Coelho, J., 2019, "Resource-constrained project scheduling with activity splitting and setup times", *Computers & Operations Research*, 109, 230–249 (doi: 10.1016/j.cor.2019.05.004)
- Servranckx, T., and Vanhoucke, M., 2019, "Strategies for project scheduling with alternative subgraphs under uncertainty: similar and dissimilar sets of schedules", *European Journal of Operational Research*, 279, 38–53 (doi: 10.1016/j.ejor.2019.05.023)
- Martens, A., and Vanhoucke, M., 2019, "The impact of applying effort to reduce activity variability on the project time and cost performance", *European Journal of Operational Research*, 277(2), 442–453 (doi: 10.1016/j.ejor.2019.03.020)
- Vanhoucke, M., 2019, "Tolerance limits for project control: An overview of different approaches", *Computers and Industrial Engineering*, 127, 467–479 (doi: 10.1016/j.cie.2018.10.035)
- Aouam, T., and Vanhoucke, M., 2019, "An agency perspective for the multi-mode project scheduling with time/cost trade-offs", *Computers and Operations Research*, 105, 167–186 (doi: 10.1016/j.cor.2019.01.012)
- Andrade, P., Martens, A., and Vanhoucke, M., 2019, "Using real project schedule data to compare earned schedule and earned duration management project time forecasting capabilities", *Automation in Construction*, 99, 68–79 (doi: 10.1016/j.autcon.2018.11.030)
- Vanhoucke, M., and Batselier, J., 2019, "Fitting activity distributions using human partitioning and statistical calibration", *Computers and Industrial Engineering*, 129, 126–135 (doi: 10.1016/j.cie.2019.01.037)
- Cooper Ordoñez, R. E., Vanhoucke, M., Coelho, J., Anholon, R., and Novaski, O., 2019, "A study of the critical chain project management method applied to a multiproject system", *Project Management Journal*, 50(3), 322–334 (doi: 10.1177/8756972819832203)
- Servranckx, T., and Vanhoucke, M., 2019, "A tabu search procedure for the resource-constrained project scheduling problem with alternative subgraphs", *European Journal of Operational Research*, 273(3), 841–860 (doi: 10.1016/j.ejor.2018.09.005)
- Burgelman, J., and Vanhoucke, M., 2019, "Computing project makespan distributions: Markovian PERT networks revisited", *Computers and Operations Research*, 103, 123–133 (doi: 10.1016/j.cor.2018.10.017)
- Leyman, P., Van Driessche, N., Vanhoucke, M., and De Causmaecker, P., 2019, "The impact of solution representations on heuristic net present value optimization in discrete time/cost trade-off project scheduling with multiple cash flow and payment models", *Computers and Operations Research*, 103, 184–197 (doi: 10.1016/j.cor.2018.11.011)
- Van Den Eeckhout, M., Maenhout, B., and Vanhoucke, M., 2019, "A heuristic procedure to solve the project staffing problem with discrete time/resource trade-offs and personnel scheduling constraints", *Computers and Operations Research*, 101, 144–161 (doi: 10.1016/j.cor.2018.09.008)
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Magazines

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Demeulemeester, E., Herroelen, W. and Vanhoucke, M., 2000, "A new random network generator for activity-on-the-node networks", in Proceedings of the 7th International Workshop on Project Management and Scheduling.

Conferences

Creative Construction Conference (CCC)

1 presentation and 1 keynote speech (2016)

International Workshop on Project Management and Scheduling (PMS)

30 presentations and 2 keynote speeches (1998 - 2021)

European Conference on Operational Research (EURO)

44 presentations (1998 - 2021)

International Federation of Operational Research Societies (IFORS)

5 presentations (2014)

International Conference on Applied Operational Research (ICAOR)

1 presentation, 1 keynote speech and 1 x member of organizing committee (2012 - 2014)

Multidisciplinary International Scheduling Conference: Theory & Applications (MISTA)

6 presentations (2009 - 2015)

EVM Europe - Yearly European Conference

5 presentations and 5 x local organizer (2009 - 2013)

European Conference on Evolutionary Computation in Combinatorial Optimization (EVOCOP)

6 presentations (2005 - 2013)

EVM World - Annual International Workshop

1 presentation and 1 keynote speech (2012)

Belgian OR Society (ORBEL)

3 presentations (2011 - 2018)

INFORMS Annual Meeting

16 presentations (1998 - 2011)

Technical Workshop on Optimization (TWO)

2 presentations (2005 - 2006)

Invited Talks

Selection

Northwestern Polytechnical University, China

A statistical fight against project obstacles: A summary of project management research (Xi'an, October 31, 2018)

Luxatia International, Construction Planning & Scheduling Summit, Germany

The big data project manager: A story about project data for academics and professionals (Berlin, February 15, 2018)

Xi'an Jiaotong University, China

A summary of data-driven project management research and a personal reflection on doing good research (Xi'an, October 31, 2017)

MundoPM, Brazil

The big data project manager: Harder, better, faster, stronger (São Paulo and Rio de Janeiro, 2016)

INESC Technology and Science (INESC TEC), Portugal

An overview of the current research on project and machine scheduling at Ghent University and Vlerick Business School (2015)

Aarhus School of Business, Denmark

If time is money, accuracy pays: An Overview of Past and Future Research on Integrated Project Management and Control Research (2014)

Technical University Munich, Germany

Measuring Time: A simulation study of earned value metrics to forecast the total project duration (2008)

London School of Economics, UK

The discrete time/cost trade-off problem: New computation results (2007)

The University of Nottingham, UK

Exact & heuristic procedures for the discrete time/cost trade-off problem under various assumptions (2004)

Technical University Lisbon, Portugal

Combinatorial optimization in project scheduling (2003)

Research Stays

Universidade Aberta (Lisbon, Portugal)

and **INESC Technology and Science** (INESC TEC, Porto, Portugal)

May 2016 - August 2016

April 2015 - September 2015