

Alessio Trivella

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Position PhD student in Operations Research
 Supervisors: David Pisinger, Stein-Erik Fleten

Affiliation Technical University of Denmark
 Department of Management Engineering
 Produktionstorvet 424, 2800 Kgs. Lyngby, Denmark

Research interests

- Energy operations and investments with focus on commodity and energy production (e.g., power plants, metal smelters), including renewable energy
- Approximate dynamic programming algorithms for solving high-dimensional stochastic optimization problems
- Linear and mixed-integer programming with focus on bin-packing and knapsack problems

Education

- 2010-2012 University of Milan, Italy
 ▷ Master of Science in Mathematics. Grade: 110/110 summa cum laude
 European Consortium for Mathematics in Industry (ECMI)
 ▷ ECMI Technomathematics Diploma
 Technical University of Denmark
 Exchange program (one semester), Mathematical Modelling and Computation
- 2007-2010 University of Milan, Italy
 ▷ Bachelor of Science in Mathematics. Grade: 110/110 summa cum laude

Journal publications

1. Modeling of electricity savings in the Danish households sector: from the energy system to the end-user (with M. Baldini), 2017. *Energy Efficiency*, pp1–19, [doi:10.1007/s12053-017-9516-5](https://doi.org/10.1007/s12053-017-9516-5)
2. The load-balanced multi-dimensional bin-packing problem (with D. Pisinger), 2016. *Computers & Operations Research*, 74, pp152–164, [doi:10.1016/j.cor.2016.04.020](https://doi.org/10.1016/j.cor.2016.04.020)
3. Managing shutdown risk in merchant commodity and energy production (with S. Nadarajah, S.-E. Fleten, D. Maziers and D. Pisinger), 2017. *Submitted*. <https://ssrn.com/abstract=3034869>
4. The impact of socioeconomic factors in the purchase of household energy efficient appliances: A case study for Denmark (with M. Baldini and J. Wentze). *In preparation*.

Talks at conferences

“Managing shutdown risk in commodity and energy production”

- ECSO 2017 - 2nd European Conference on Stochastic Optimization, Rome, Italy (invited talk)
- IFORS 2017 - 21st Conference of the International Federations of OR Societies, Quebec City, Canada (invited talk)
- POMS 2017 - 28th Conference of the Production and Operations Management Society, Seattle, USA (invited talk)

“Bin-packing problems with load balancing and stability constraints”

- INFORMS TSL 2017 - INFORMS Transportation and Logistics Society Conference, Chicago, USA

“Modeling of electricity savings in the Danish household sector using Balmorel”

- BEHAVE 2016 - 4th European Conference on Behaviour and Energy Efficiency, Coimbra, Portugal

“Optimal operation and electricity sourcing in the aluminium industry”

- OR 2016 - International Conference on Operations Research, Hamburg, Germany
- “Integrating load-balancing into multi-dimensional packing problems”
 - EURO 2016 - 28th European Conference on Operational Research, Poznan, Poland (invited talk)
- “Optimal bidding and operating strategies for a Virtual Power Plant”
 - Energy Market Seminars, Norwegian University of Science and Technology, Trondheim, 2016 (invited talk)

Teaching

2017. Mathematical Programming with Modelling Software (MSc course) - teaching assistant
 Introduction to the software GAMS for formulating and solving large operations research models, including both Linear Programs and Mixed-Integer Linear Programs
2016. Network Optimization (MSc course) - teaching assistant
 Algorithms for shortest paths, maximal flows in capacitated networks, minimal cost flows and multicommodity flows. Application to problems arising in areas like traffic, transportation optimization and production planning

Visiting positions

- Mar-Jul 2017 University of Illinois at Chicago, Chicago, USA
 Visiting PhD Student at the Department of Information and Decision Sciences
- May-Jun 2016 Norwegian University of Science and Technology, Trondheim, Norway
 Visiting PhD Student at the Department of Industrial Economics and Technology Management

Schools and conferences attended

- Jan 2017. Winter School on Stochastic Programming, Passo del Tonale, Italy (poster presentation)
 Stochastic programming and robust optimization with applications in energy, logistics and finance
- Nov 2016. SESO 2016 Winter School - Smart Energy and Stochastic Optimization, Paris, France
 Numerical methods for multistage stochastic optimization with application to energy storage management
- Jul 2015. EURO 2015 - 27th European Conference on Operational Research, Glasgow, Scotland, UK
- May 2015. CMS 2015 - 12th Computational Management Science Conference, Prague, Czech Republic

Professional experience

- 2012-2015 Bip. Business Integration Partners, Milan, Italy
 Management consultant for the UniCredit Group
- Activities: Project Management for IT banking projects, business and functional requirements collection and analysis, feasibility studies, gap analyses, individuation and monitoring of project issues, project time and cost management, design and certification of user acceptance testing, coordination of younger resources

Other

- Services Reviewer for the Journal of the Operational Research Society
 Co-supervisor of MSc thesis. “A new column generation-based heuristic for the 3D bin-packing problem”, Dennis S. Holm, 2016
- Grants I received 5 grants/scholarships for research collaborations abroad and conference participation
 (2 grants from Otto Mønstedts Fond, 2 grants from Oticon Fonden, 1 grant from INFORMS)
- Languages Italian: mothertongue
 English: fluent
 Danish: basic
- Software Matlab, GAMS, C, C++, Java, CPLEX, Gurobi, HTML, MS Office, \LaTeX