Lei LIU

RESEARCH DISCIPLINE

Operations Management, Industrial Engineering, Stochastic Scheduling

ACADEMIC EXPERIENCE

Assistant Professor Sept., 2023-present

- Management Science and Analytics
- Business School, University of Nottingham Ningbo China (UNNC)

Marie Curie Research Fellow Feb., 2020-Jan., 2023

- Horizon 2020 Framework Programme for Research and Innovation, European Union
- Industrial Collaborator: Ansaldo Energia S.p.A, Italy

EDUCATION

Ph.D. in Mechanical Engineering June, 2023

- Industrial Engineering Sector
- Politecnico di Milano, Milano, Italy
- Advisor: Prof. Marcello Urgo
- Thesis: Risk-based scheduling in the re-manufacturing of turbine blades

M.S. in Logistics Engineering July, 2017

- Tsinghua University, Beijing, China
- Advisor: Prof. Canrong Zhang
- Thesis: A branch and bound algorithm for the robust parallel machine scheduling with sequence dependent set-up time

B.S. in Information Management and System July, 2013

- Northeast Forestry University,Harbin, China

AWARDS

Marie Curie Fellowship, 2020-2023
Finalist, **PMS Best Student Paper Award**, 2022
Finalist, **AITeM Young Researcher Award**, 2021

WORKING PAPER

Lei Liu, Walter Terkaj, Marcello Urgo. A review and classification of release and dispatching control policies in manufacturing systems, *to be submitted to CIRP journal of manufacturing science and technology*

PUBLICATIONS

Lei Liu, Marcello Urgo. Robust scheduling in a two-machine re-entrant flow shop to minimise the value-at-risk of the makespan: a branch-and-bound and heuristic algorithms based on Markovian Activity Networks and phase-type distribution, *minor revision at Annals of Operations Research*

Lei Liu, Marcello Urgo, 2023. Robust scheduling of a remanufacturing process for the repair of turbine blades, *CIRP Annals - Manufacturing Technology*

Lei Liu, Marcello Urgo, 2023. Risk-based robust production scheduling: a branch-and-bound approach for the stochastic two-machine ow shop scheduling problem to minimise the value-at-risk, *International Journal of Production Research*

Lei Liu, Marcello Urgo, 2022. A robust scheduling framework for re-manufacturing activities of turbine blades, Applied Sciences.

Lei Liu, Marcello Urgo, 2022. Scheduling remanufacturing activities for the repair of turbine blades: an approximate branch and bound approach to minimize a risk measure. In Selected Topics in Manufacturing. Springer, Cham.

CONFERENCE TALKS

A branch and bound approach for stochastic 2-machine flow shop scheduling with rework

- 18th International Workshop on Project Management and Scheduling(PMS), Ghent, Belgium 2022
- Finalist, Best Student Award

Scheduling re-manufacturing activities for the repair of turbine blades: an approximate branch and bound approach to minimize a risk measure

- XV AITeM Conference (Italian Association of Manufacturing Technology), Milano, Italy 2022
- Finalist, Young Researcher Award

A branch-and-bound approach for the two-machine flow shop stochastic scheduling problem to minimize the value-at-risk

- 31st European Conference on Operational Research(EURO), Athens, Greece 2021

TEACHING

TA, Mentor, Smart Manufacturing Lab

- 2021, 2022, 2023

OTHER PROFESSIONAL EXPERIENCES

Algorithm Engineer 2018-2019

- ZheJiang Transportation Big Data Center, Hangzhou, China

Software Engineer 2017-2018

- Hundsun Technologies Inc. Hangzhou, China

MEMBERSHIPS

Member, EURO Working Group on Project Management and Scheduling (PMS)

COMPUTER SKILLS

Languages: C++, Python, Java, Latex
Software and tools: Gurobi, Pyomo, Plant simulation