**PERSONAL INFORMATION** Marco BORTOLINI

| Enterprise | University | EPR |
|---|---|---|
| ☐ Management Level | ☐ Full professor | ☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist |
| ☐ Mid-Management Level | ☒ Associate Professor | ☐ Level III Researcher and Technologist |
| ☐ Employee / worker level | ☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator | ☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator |

## WORK EXPERIENCE

Current Position
(from Oct '21 to date)

### Associate Professor of Industrial Systems' Engineering

Alma Mater Studiorum – University of Bologna, Italy – Department of Industrial Engineering (DIN)

- Scientific sector: ING/IND-17 Industrial Mechanical Plants

Teaching, research and technology transfer activities in the fields of industrial systems' design, prototyping, simulation, assessment and optimization; logistic operations and supply chain management.

Business or sector: University and higher education

Past position
(from Oct '18 to Oct '21)

### Senior Researcher (RTD-b)

Alma Mater Studiorum – University of Bologna, Italy – Department of Industrial Engineering (DIN)

- Scientific sector: ING/IND-17 Industrial Mechanical Plants

Study and industrial applications of innovative tools for the design, management and optimization of production systems, logistic activities and facility service plants from a multi-objective perspective.

Business or sector: University and higher education

Past position
(from May '15 to Oct '18)

### Junior Researcher (RTD-a)

Alma Mater Studiorum – University of Bologna, Italy – Department of Industrial Engineering (DIN)

- Scientific sector: ING/IND-17 Industrial Mechanical Plants

Study and industrial applications of advanced methods for the long-term lean, green and cost sustainability of production and logistic systems.

Business or sector: University and higher education

Past position
(from Mar '13 to May '15)

### Post-Doctoral Fellow

Alma Mater Studiorum – University of Bologna, Italy – Department of Industrial Engineering (DIN)

- Scientific sector: ING/IND-17 Industrial Mechanical Plants

Energy systems to fuel green circular supply chains: technologies, methods and data management.

Business or sector: University and higher education

Past position
(from Jan '06 to Jun '06)

**Traineeship**

CAT di Corsini G. & C. S.p.A., Pontecchio Marconi (Bologna), Italy

Re-layout planning, stock management and inbound logistics.

Business or sector: Mechanics and automation

## EDUCATION AND TRAINING

From Jan '10 to Mar '13

### Ph.D. in Industrial Engineering *EQF 8*

University of Padova, Italy

- Mechatronics and Industrial Systems' curriculum

Final dissertation title: 'Design, control and management of renewable energy plants and technologies'
Supervisor: Prof. Emilio Ferrari, Co-Supervisor: Prof. Mauro Gamberi.
*Final grade: Excellent*

From Jan '12 to Apr '12

### Visiting Scholarship *EQF 8*

University of California, Berkeley, USA

- Renewable & Appropriate Energy Laboratory (RAEL)

Assessment of the world energy scenario, study and development of optimal approaches, models and tools for the long-term design of dynamic smart energy grids in developed and developing countries.
Supervisor: Prof. Daniel M. Kammen.

Jul '09

### Engineer *EQF 7*

Alma Mater Studiorum – University of Bologna, Italy

- Enabled to the Profession of Engineer by passing the Italian Practice Exam for the Industrial Sector, Master Section.

From Sep '06 to Dec '08

### Master in Engineering Management *EQF 7*

Alma Mater Studiorum – University of Bologna, Italy

- Industrial Engineering master class group

Final dissertation title: 'Software platform for the design and strategic planning of logistic networks'
Supervisor: Prof. Riccardo Manzini, Co-Supervisors: Prof. Alberto Regattieri, Dr. Filippo Bindi.
*Final grade: 110/110 cum laude*

From Sep '03 to Dec '06

### Bachelor in Engineering Management *EQF 6*

Alma Mater Studiorum – University of Bologna, Italy

- Industrial Engineering bachelor class group

Final dissertation title: 'Comparative study of assembly line balancing techniques to face the Single Assembly Line Balancing Problem (SALBP)'
Supervisor: Prof. Emilio Ferrari.
*Final grade: 110/110 cum laude*

## PERSONAL SKILLS

Mother tongue: Italian

Other languages: English (Level C1)

French (Level A2)

Job-related skills and experiences: Participation, management and technical support within co-financed local, regional, national and EU competitive projects in the fields of industrial systems' engineering, high-tech engineering applications

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

for smart and green industry. List of Projects:

- ErgoLogico - Collaborative logistics and ergonomics for advanced manufacturing systems - Big Data Innovation & Research Excellence (BI-REX). Piano nazionale Impresa 4.0 Ministero dello Sviluppo Economico.
- Less Water Bev-Tech - Innovative combination of water treatment technologies for the reduction of water consumption and waste in the beverage industry - CIP-EIP-Eco-Innovation-2013.
- SUrPass - Smart & Sustainable Packaging Solutions - Mistero dello Sviluppo Economico - Fondo Crescita Sostenibile.
- Generator - Pervasive and innovative street lamp to generate electric energy from PV-Wind sources having. Bando del Progetto di Innovazione Industriale "Efficienza Energetica", (D.M. 5 Marzo 2008) - Industria 2015 - Ministero dello Sviluppo Economico.
- PCO - PreLeveling & Plan Cost Optimization, advanced models for multi-level supply chain logistics and economic optimization - POR FESR 2014-2020.
- REPACKER - Reseach and development of a new automated high-flexible soft-drink packaging line to get multi-item unit-loads from single-item pallets - POR FESR 2014-2020.
- Sustainable and flexible haymaking machine for high quality agricultural products - POR FESR 2014-2020.
- Design of an innovative multifunctional welding system for plastic materials joining high-frequency and ultrasounds technologies in the same working cell - POR FESR 2014-2020.
- Mi.S.T.I.Co. - Micro-systems and innovative technologies for the solar energy cogeneration, Fondazione Cassa di Risparmio di Trento e Rovereto.
- C.Hea.P.S.E. - Cogenerator of heat and power from solar energy, Rotary International 2030, 2040, 2050, 2070, 2080, 2090, 2100, 2110, 2120 districts.
- Project Solar heat and power system with Fresnel lens, Fondazione Cassa di Risparmio in Bologna.
- Project Energy saving for heating systems: data acquisition and optimized control, Fondazione Cassa di Risparmio in Bologna.

Participation and/or coordination of commissioned Research Projects in collaboration with private companies developing activities in the fields of industrial systems' engineering, operations and logistics.

National and international partnerships with universities, research centres, public and private entities in the current fields of teaching and research. The list of the main collaborations is at this link:
https://www.unibo.it/sitoweb/marco.bortolini3/collaborations

Participation to the editorial board and international scientific committee for international conferences over the theory and applications of sustainable design and manufacturing, operations, engineering applications, supply chain management, smart production and Industry 4.0. Coordination of invited special issues for peer-reviewed journals. Invitation to chair the next 2023 edition of the "Changeable, Agile, Reconfigurable and Virtual Production Conference" (CARV) and "World Mass Customization & Personalization Conference" (MCPC).

Teaching in management, mechanical, automotive and automation master classes at Bologna University. Teaching in management masters at Bologna Business School. Teaching in undergraduate courses held by training institutions within financed regional programmes.

The full description of the personal skills, experiences and participations is at this link:
https://www.unibo.it/sitoweb/marco.bortolini3/cv-en

**Digital skills**

Advanced digital skills in data management, optimization and simulation software, automation and control tools, operations' data management systems, software for design, engineering, quality, statistical and environmental assessment of products and processes.
List of the main software and programming languages: Automod, Labview, Matlab, Minitab, SQL, C, C#, Office suite, SimaPro, AutoCAD, AMPL.
Advanced skills on ICT platforms for remote networking, teaching, emailing and meeting.

**Other skills and activities**

Useful links with info on other research and teaching skills and activities.
Research interests and topics:
https://www.unibo.it/sitoweb/marco.bortolini3/research
Teaching (courses, dissertations, Erasmus actions):
https://www.unibo.it/sitoweb/marco.bortolini3/teachings

## ADDITIONAL INFORMATION

Publications

The updated full list of the scientific publications is available at this link:
https://www.unibo.it/sitoweb/marco.bortolini3/publications

Bibliometric indices (Scopus database)
- Documents by Author: 121
- Citations: 1816
- h-index: 23

Orcid code: https://orcid.org/0000-0002-1779-6362

List of some recent relevant publications:

1. M. Bortolini, E. Ferrari, F.G. Galizia, A. Regattieri (2021) An optimisation model for the dynamic management of cellular reconfigurable manufacturing systems under auxiliary module availability constraints, Journal of Manufacturing Systems, ISSN: 0278-6125, Vol. 58:442-451, DOI: 10.1016/j.jmsy.2021.01.001
2. F. Calabrese, A. Regattieri, M. Bortolini, M. Gamberi, F. Pilati (2021) Predictive maintenance: a novel framework for a data-driven, semi-supervised, and partially online Prognostic Health Management application in industries, Applied Sciences, ISSN: 2076-3417, Vol. 11:1-28,3380, DOI: 10.3390/app11083380
3. M. Bortolini, M. Faccio, M. Gamberi, F. Pilati (2020) Assembly kits with variable part physical attributes: warehouse layout design and assignment procedure, Assembly Automation, ISSN: 0144-5154, Vol. 40(6):857-868, DOI: 10.1108/AA-10-2019-0173
4. M. Bortolini, M. Faccio, M. Gamberi, F. Pilati (2020) Motion Analysis System (MAS) for production and ergonomics assessment in the manufacturing processes, Computers & Industrial Engineering, ISSN: 0360-8352, Vol. 139:1-13,105485, DOI: 10.1016/j.cie.2018.10.046
5. F.G. Galizia, H. ElMaraghy, M. Bortolini, C. Mora (2020) Product platforms design, selection and customisation in high-variety manufacturing, International Journal of Production Research, ISSN: 1366-588X, Vol. 58(3):893-911, DOI: 10.1080/00207543.2019.1602745
6. M. Bortolini, F.G. Galizia, C. Mora, F. Pilati (2019) Reconfigurability in cellular manufacturing systems: a design model and multi-scenario analysis, International Journal of Advanced Manufacturing Technology, ISSN: 1433-3015, Vol. 104(9-12):4387-4397, DOI: 10.1007/s00170-019-04179-y
7. M. Bortolini, F.G. Galizia, C. Mora (2018) Reconfigurable manufacturing systems: Literature review and research trend, Journal of Manufacturing Systems, ISSN: 0278-6125, Vol. 49:93-106, DOI: 10.1016/j.jmsy.2018.09.005
8. M. Bortolini, F.G. Galizia, C. Mora, L. Botti, M. Rosano (2018) Bi-objective design of fresh food supply chain networks with reusable and disposable packaging containers, Journal of Cleaner Production, ISSN: 0959-6526, Vol. 184:375-388, DOI: 10.1016/j.jclepro.2018.02.231.
9. M. Bortolini, M. Faccio, M. Gamberi, F. Pilati (2017) Multi-objective assembly line balancing considering component picking and ergonomic risk, Computers & Industrial Engineering, ISSN: 0360-8352, Vol. 112:348-367, DOI: 10.1016/j.cie.2017.08.029
10. M. Bortolini, M. Faccio, E. Ferrari, M. Gamberi, F. Pilati (2017) Time and energy optimal unit-load assignment for automatic S/R warehouses, International Journal of Production Economics, ISSN: 0925-5273, Vol. 190:133-145, DOI: 10.1016/j.ijpe.2016.07.024
11. E.F. Alsina, M. Bortolini, M. Gamberi, A. Regattieri (2016) Artificial Neural Network Optimisation for Monthly Average Daily Global Solar Radiation Prediction, Energy Conversion and Management, ISSN: 0196-8904, Vol. 120:320-329, DOI: 10.1016/j.enconman.2016.04.101
12. M. Faccio, M. Gamberi, M. Bortolini (2016) Hierarchical approach for paced mixed-model assembly line balancing and sequencing with jolly operators, International Journal of Production Research, ISSN: 1366-588X, Vol. 54(3):761-777, DOI: 10.1080/00207543.2015.1059965
13. M. Bortolini, M. Gamberi, A. Graziani, F. Pilati (2015) Economic and environmental bi-objective design of an off-grid photovoltaic-battery-diesel generator hybrid energy system, Energy Conversion and Management, ISSN: 0196-8904, Vol. 106:1024-1038, DOI: 10.1016/j.enconman.2015.10.051
14. M. Bortolini, E. Ferrari, M. Gamberi, R. Manzini, A. Regattieri (2015) New Kanban model for tow-train feeding system design, Assembly Automation, ISSN: 0144-5154, Vol. 35(1):128-136, DOI: 10.1108/AA-05-2014-039
15. M. Bortolini, M. Gamberi, A. Graziani, F. Pilati (2015) Economic and environmental bi-objective design of an off-grid photovoltaic-battery-diesel generator hybrid energy system, Energy Conversion and Management, ISSN: 0196-8904, Vol. 106:1024-1038, DOI: 10.1016/j.enconman.2015.10.051

Bologna, March 16th 2022

Yours faithfully,

*Marco Bortolini, Ph.D.*