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**PROFESSOR IN INDUSTRIAL and LOGISTICS
ENGINEERING
ENSA Marrakesh, Cadi Ayyad University**

EDUCATION

2016	Online Training, Mooc Edulib, Polytechnique Montréal, « The engineer, source of sustainable solutions »
2015	APICS - Certified Production Inventory Management (CPIM)
2004	Habilitation (HDR) in Industrial and Logistics Engineering
2001	University degree in information and communication technology for education (DUTICE). Luis Pasteur Strasbourg University France
1998	Diploma of Higher Education (DESA). Mohammedia School of Engineers (EMI). UFR: Simulation, Instrumentation and Measurement
1993	Engineering degree in Industrial and Logistics Engineering. Mohammedia School of Engineers (EMI)
1988/1990	Preparatory classes for engineering schools (Math Sup. / Math Special.). Ibn Tymia School, Marrakesh

PROFESSIONAL EXPERIENCE

2018 to date	Project Manager of the MOOC « Solving inventive problems methods », platform "Maroc Université Numérique (MUN)"
2017 to 2020	CNRST Expert
2016 to date	Higher Education Professor in industrial and logistics engineering. ENSA Marrakesh, Cadi Ayyad University
2013 to date	Founder and President of the Moroccan Association for Innovation (AMINOV)
2012 to 2014	Local coordinator at ENSA Marrakesh of OFPEL Tempus project (Logistics in Morocco) for a period of 3 years
2011 to 2014	Local coordinator at ENSA Marrakesh of PARENIS Tempus project for a period of 4 years
2010 to 2013	Former deputy director in charge of research and cooperation at ENSA Marrakesh
2010 to 2019	Founder and Head of the research laboratory: Information Systems, Logistics, Productics (SyLPro)
2008 to 2010	Founder and Head of Industrial and logistics Engineering degree
2008 to 2013	Founder and Head of Software Engineering and Information Systems Master (continuous training)
2006 to 2008	Founder and Head of Computer Engineering degree
2004 to 2016	HDR Professor in Industrial and Logistics Engineering. ENSA Marrakesh, Cadi Ayyad University
1993 to 2004	Assistant Professor in industrial and logistics engineering. ENSA Marrakesh and EST Safi, Cadi Ayyad University

EXPERTISE FIELDS

- ❖ Supply Chain Management (APICS Program): The fundamentals of supply chain management; Demand management and forecasting techniques; Capacity Management and Production Planning (MRP); OPT, Stock, Supply and Storage management.
- ❖ Lean Management and 6 Sigmas: VSM mapping, DMAIC approach, Tools and Techniques for diagnosis, analysis and continuous improvement of the value chain and Quality.
- ❖ Business Process Management (BPM): Process Approach, Process Modeling (MERISE, UML, BPMN), Process Key Performance Indicator (KPI), Process Simulation (ARENA), Process Improvement and Control.
- ❖ Industrial and Logistics Information Systems (IS): IS Specification, Integrated Management Software (ERP, SCE, APS, MES, ...).
- ❖ Environment and sustainable development (SD): Basic concepts, the challenges of sustainable development, Environmental analysis tools, SD improvement tools, SD integration.
- ❖ Innovation: Solving inventive problems, TRIZ Theory, Inventive Principles, Standards, ARIZ algorithm.
- ❖ Cyber Physical Production and Logistics Systems (CPPLS) : Concepts, Techniques and Approaches.
- ❖ Animator of several serious games

RESEARCH BOOKS

- ❖ Ingénierie des processus métiers : Principes, Techniques et Méthodes, R. BENMOUSSA, Presses Académiques Francophone, ISBN. 978 3-8416-3800-7, 232 pages, 2018
- ❖ New Opportunities for Innovation Breakthroughs for Developing Countries and Emerging Economies, Springer, ISBN 978-3-030-32497-1, Editors: Benmoussa, R., De Guio, R., Dubois, S., Koziółek, S. (Eds.), 2019

PUBLICATIONS

1. Zineb Nafi, Fatima Ezzahra Essaber, Fatine Elharouni, and Rachid Benmoussa, An approach based on machine learning and discrete event simulation for supply chain optimization: the case of on-stock chains, International Journal of Industrial Engineering (Publication in progress)
2. Aziz, S.; Maltese, I.; Marcucci, E.; Gatta, V.; Benmoussa, R.; Irhirane, E.H. Energy Consumption and Environmental Impact of E-Grocery: A Systematic Literature Review. *Energies* 2022, 15, 7289. <https://doi.org/10.3390/en15197289>
3. Aziz, S., Gatta, V., Marcucci, E., Benmoussa, R., et al. (2022) 'E-grocery behavioural analysis for Sustainable Urban Logistics in Morocco', International journal of transport economics, XLIX(1), pp. 9-32. doi:10.19272/202206701001.
4. Essaber, F. E., Benmoussa, R., De Guio, R., & Ben Moussa, F. Z. (2022). ASSESSING LEAN AND GREEN COEXISTENCE, AN APPROACH BASED ON TRIZ AND DISCRETE EVENT SIMULATION TECHNIQUE. International Journal of Industrial Engineering: Theory, Applications, and Practice, 28(5), DOI 10.23055/IJIETAP.2021.28.5.6703
5. Fatima Ezzahra Essaber, Rachid Benmoussa, Roland De Guio, Sébastien Dubois, A Hybrid Supply Chain Risk Management Approach for Lean Green Performance Based on AHP, RCA and TRIZ: A Case Study, Sustainability, vol. 13, issue 15, p. 8492, July 2021, DOI 10.3390/su13158492
6. Ali Allaoui, Rachid Benmoussa, Employees' attitudes toward change with Lean Higher Education in Moroccan public universities, Journal of Organizational Change Management, January 2020, vol. 33, issue 2, p. 253-288, DOI 10.1108/jocm-08-2018-0232

7. Fatima Zahra Ben Moussa, Ivana Rasovska, Sébastien Dubois, Roland De Guio, Rachid Benmoussa, "Study of an innovative method based on complementarity between ARIZ, lean management and discrete event simulation for solving warehousing problems", *Computers & Industrial Engineering*, Vol: 132, June 2019, Pages 124-140
8. Elhassan Irhirane, Ahmed Bounit, Badr Dakkak, Rachid Benmoussa, Nawal Bourquia, New approach integrating the health, safety, and environment systems for the maintenance function in industries, *Journal of process mechanical engineering*, Volume: 233 issue: 4, page(s): 926-941, 2019
9. Rachid Benmoussa, Fatima Ezzahra Essaber, Roland De Guio, Fatima Zahra Ben Moussa, Simulating Lean and Green Correlation in Supply Chain Context, *International Journal of Industrial and Manufacturing Engineering* Vol:12, No:8, 2018
10. Benmoussa Rachid, Deguo Roland, Dubois Sebastien, Rasovska Ivana, Risk Management Approach for Lean, Agile, Resilient and Green Supply Chain, *International Journal of, Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, Vol:11, No:4, 2017
11. Fatima Zahra Ben Moussa, Ivana Rasovska, Sébastien Dubois, Roland De Guio, Rachid Benmoussa, "Reviewing the use of the theory of inventive problem solving (TRIZ) in green supply chain problems", *Journal of Cleaner Production* ISSN: 0959-6526, Volume 142, Part 4, 20 January 2017, Pages 2677-2692.
12. Ahmed Bounit, Elhassan Irhirane, Rachid Benmoussa, Nawal Bourquia, Elkhouchi Baba, Integration of the Risk Management Approach in the ISO 9001 V 2015, *International Journal of Scientific Engineering and Technology* ISSN: 2277-1581, 2016, Volume No.5 Issue No.6, pp: 358-361
13. Ahmed Bounit, Elhassan Irhirane, Nawal Bourquia, Rachid Benmoussa, "Design of a fuzzy model that integrates hygiene, safety, and environment systems for the assessment of the overall risk of machines", *Journal of Risk and Reliability*, 2016, Volume: 230 issue: 4, page(s): 378-390
14. Rachid Benmoussa, Charkaoui Abdelkadir, Achraf Abd, Marouane Hassou, (2015) "Capability/maturity based model for logistics processes assessment: Application to distribution processes", *International Journal of Productivity and Performance Management*, Vol. 64 Issue: 1, pp.28 - 51
15. S. Saib, R. Benmoussa, K. Bengoud, "Collaborative Business Process Specification and a Mapping from BPMN Model to Service Model", *International Review On Computers and Software*, Vol 10 No.3, 2015
16. Fatine Elharouni, Rachid Benmoussa, Abdellah Ait Ouahman, "Incentives for the Development of the Automotive Sector in Morocco and the Truth of Local Stakeholders", *International Journal of Science and Research*, Volume 4 Issue 5, May 2015

COMMUNICATIONS

1. Rachid Benmoussa, Fatima Ezzahra Essaber, Zineb Nafi, Discrete Event Simulation based Approach for Cyber Physical Logistics System development, *ICCPS 2024* (In progress)
2. Zineb Nafi, Rachid Benmoussa, Fatine Elharouni, Assessing the Environmental Performance of the Food Industry Using Unsupervised Machine Learning, *TFC'23, Offenburg University, Germany*, 12-14 September 2023
3. Fatima Ezzahra Essaber, Rachid Benmoussa, Roland De Guio, The Path to a Resilient Lean Green Supply Chain *International Symposium for Production Research 2022*, 06-08 October 2022, Antalya-Türkiye
4. Rachid Benmoussa. Eco-Design Pilot Improvement Based on TRIZ and ASIT Tools. *TFC22*, 27-29 September 2022, University of Technology Warsaw, Poland.
5. Aziz, S., Gatta, V., Marcucci, E., Leite, C.D.O., Benmoussa, R., Irhirane, E., (2022) 'Comparison of consumer behavior towards e-grocery adoption in Norway- Before and during the pandemic', in *SINTEF- E-commerce Conference 2022*.

6. Rachid Benmoussa. DE LA SIMULATION A EVENEMENT DISCRET AU MACHINE LEARNING POUR LA CHAINE LOGISTIQUE. 13ème CONFERENCE INTERNATIONALE DE MODELISATION, OPTIMISATION ET SIMULATION (MOSIM2020), 12-14 Nov 2020, AGADIR, Maroc
7. Rachid Benmoussa, MOOC vs Face to Face (F2F) model: what relevance for creativity development? TFC'20, 14 -16 October 2020, II Cluj-Napoca, Romania
8. Fatima Zahra Ben Moussa, Fatima Ezzahra Essaber, Rachid Benmoussa, Sébastien Dubois, Enhancing Eco-Design Methods Using TRIZ Tools: the Case of ECOFAIRE, TFC'19, ENSA Marrakech, Maroc, 09-11 Octobre 2019
9. Soukaina Aziz, Rachid Benmoussa and El Hassan Irhirane, A LITERATURE REVIEW AND FUTURE RESEARCH GUIDELINE TO CITY LOGISTICS MODELLING, 11th International Conference on City Logistics, Dubrovnik, Croatia, 12th - 14th June 2019
10. Fatima Zahra Ben Moussa, Sebastien Dubois, Roland De Guio, Ivana Rasovska and Benmoussa Rachid, Combining the theory of inventive problem solving with discrete event simulation for solving supply chain problems, TFC'18, INSA Strasbourg, France, 29-31 Octobre 2018
11. Rachid Benmoussa, Fatima Ezzahra Essaber, Roland De Guio, Fatima Zahra Ben Moussa, Simulating Lean and Green Correlation in Supply Chain Context, ICIMEO 2018: International Conference of Industrial Management Engineering and Organisation, 27 - 28 August 2018, New York - USA.
12. S. Aziz, R. Benmoussa, and E. hassan IRHIRANE, "City logistics problems identification: A first step toward an analysis approach," 2018 IEEE 5th Int. Congr. Inf. Sci. Technol., 2018, doi: 10.1109/CIST.2018.8596321.
13. Rasovska Ivana, Rachid Benmoussa, Deguio Roland, Dubois Sebastien, Risk Management Approach for Lean, Agile, Resilient and Green Supply Chain, ICPLSCM 2017: 19th International Conference on Procurement, Logistics and Supply Chain Management, Boston, USA
14. Rachid Benmoussa , Supply chain improvement in LARG (Lean, Agile, Resilient, Green) context: A Risk Management Approach, 6th IEEE International Conference on Advanced Logistics and Transport (ICALT17), Bali, Indonesia
15. Sebastien Dubois, Roland De Guio, Ivana Rasovska, Fatima Zahra Ben Moussa, Rachid Benmoussa, From simulation to inventive problem resolution, a global method, DS 87-4 Proceedings of the 21st International Conference on Engineering Design (ICED 17) Vol 4: Design Methods and Tools, Vancouver, Canada, 21-25.08. 2017
16. Fatima Zahra BEN MOUSSA, Rachid BENMOUSSA, Roland DE GUIO, Sébastien DUBOIS, Ivana RASOVSKA, An algorithm for inventive problem solving coupled with optimization for solving inventive problems encountered in supply chains, SIL'16 Marrakech, 20, 21 Octobre 2016
17. Ali ALLAOUI, Rachid BENMOUSSA, Application des concepts du Lean Manufacturing au système éducatif : Lean Education, SIL'16 Marrakech, 20, 21 Octobre 2016
18. Bounit Ahmed, Elhassan Irhirane, Benmoussa Rachid, Nawal Bourquia, Nouvelle approche intégrant les systèmes hygiène, sécurité et environnement (HSE) pour la fonction maintenance, SIL'16 Marrakech, 20, 21 Octobre 2016
19. Rachid BENMOUSSA, Kenza BENGOUUD, An approach for the identification of misalignement in ERP implementation, 11th annual international conference on information technology & computer science, 18-21 May 2015, Athens, Greece

SUPERVISED THESIS

1. Risk management for multidimensional Lean Green performance in the supply chain context (Defended December 01, 2023)
2. E-grocery and its environmental impact: challenges and opportunities (Defended December 31, 2022)

3. Introduction of Lean Management concepts in education systems (Defended Mai 21, 2021)
4. Method for solving green logistics problems by adapting the TRIZ theory (Defended November 30, 2018)
5. Contribution to the study of collaborative innovation in the upstream supply chain: the case of Moroccan automotive supplier SMEs (Defended December 08, 2017)
6. Global HSE risk management approach for machines: Case of the food industry (defended 08 July 2017)
7. A service-oriented approach to the development of collaborative information systems (Defended February 03, 2017)
8. Alignment of information systems and its application for assistance in integrating ERP systems (Defended June 13, 2015)
9. Improving sustainable performance in supply chains: Machine Learning Approach (In progress)

SCIENTIFIC MANIFESTATIONS (MOST SIGNIFICANT)

1. 1st edition of CPPLS Workshop, ENSA Marrakech (President of the organizing committee) (In progress, 13 January 2024)
2. TRIZ Future Conference 2019 "New opportunities for innovation breakthroughs for developing countries and emerging economies", Marrakech on October 9, 10 and 11, 2019 (President of the organizing committee).
3. 7th edition of the 2019 International Conference on Advanced Logistics and Transport (IEEE ICALT 2019), Marrakech on 14, 15 and 16 June 2019 (President of the organizing committee)
4. 6th edition of the international conference on "Industrial and logistics systems (SIL 16)" under the theme "Road safety and logistics transport", Marrakech on October 20 and 21, 2016 (President of the organizing committee).
5. 5th edition of the international conference on "Industrial and logistics systems (SIL14) under the theme" towards innovative and clean systems ", Marrakech on October 23 and 24, 2014 (President of the organizing committee).
6. KTO Workshop, "role of transfer structures in promoting the work of university research", Marrakech on 25/01/2014, Tempus PARENIS project and AMINOV activities (President of the organizing committee).
7. 1st edition of the International Day of Innovation (JINOV'13), Marrakech on April 29, 2013 (President of the organizing committee).
8. 1st Innovation lab, Morocco organized on May 14, 15, 2012 at the ENSA in Marrakech as part of the PARENIS project, (President of the organizing committee).
9. 4th edition of the international conference on "Industrial and logistics systems (SIL12)" under the theme "Towards innovative and clean systems", Marrakech on 17 and 18 October 2012 (President of the organizing committee).
10. Scientific meeting for the promotion of the PARENIS project, December 19, 20 and 21, 2011, ENSA Marrakech (President of the organizing committee).
11. 2nd edition of the international conference on "Industrial and logistics systems (SIL 10)", October 20 and 21, 2010 (President of the organizing committee)