



## Curriculum Vitae January/ 2021

### Personal information

Name **Dr. Miguel Mujica Mota**

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Nationality Mexican-Spanish

Date of birth 05.22.1973, 47 years old

Gender Male

### Occupational field **Associate Professor**

Simulation/optimization

(Aviation Academy, Amsterdam U. of Applied Sciences | School of Technology)  
Visiting Professor at University of Aviation in Queretaro (UNAQ), 2016

Visiting Professor at The National University of Mexico

Visiting Professor at the Ecole National De L'Aviation Civile, Toulouse France

### Work experience

Dates September 2013 – Up to Date

Occupation or position held Associate Professor

Main activities and responsibilities Research in aeronautical and multi modal operations.

Name and address of employer **Aviation Academy, Amsterdam University of Applied Sciences** | Faculty of Engineering;  
Weesperzijde 190, 1097 DZ Amsterdam, Amsterdam (The Netherlands)

Type of business or sector Academia

Dates March 2011 – September 2013

Occupation or position held Post-Doc Researcher, **Sub-director of the Aeronautical Management studies**

Main activities and responsibilities Research in the area of manufacturing process optimization and aviation

Project Manager of WP2 of the FUPOL FP7 project.

Teaching:

- Logistics Operations Management (undergraduate level)
- Simulation of Aeronautical Processes (MSc in Aeronautical Management)

Name and address of employer **Universitat Autònoma de Barcelona**; 08193 Bellaterra, Barcelona (Spain)

Type of business or sector Academia

Dates	May 2005 – February 2011
Occupation or position held	Master/PhD Student, Teaching Assistant, Sub-director of the Aeronautical Management studies
Main activities and responsibilities	Research in process optimization Coordinator of the Aeronautical Management studies Teaching Activities: - Logistics Operations Management (undergrad level) - Simulation of Aeronautical Processes(MSc in Aeronautical Management) - Robotics and Automation (practical session; undergraduate level) - Production and Planning (practical session; undergraduate level) - Supply Chain Optimization (practical session; grad. level: MSc in Aeronautical Management)
Name and address of employer	Universitat Autònoma de Barcelona; Dept. Telecommunication and Systems Engineering 08193 Bellaterra, Barcelona (Spain)
Type of business or sector	Academia

Dates	October 2000 – September 2004
Occupation or position held	Master Production Planner and Scheduler (Supply Chain Department)
Main activities and responsibilities	Production planning and operations scheduling.
Name and address of employer	Avon Cosmetics Mexico; Rancho Seco; 38090, Celaya, Guanajuato (Mexico)
Type of business or sector	Manufacturing Sector

Dates	February 2003 - June 2003
Occupation or position held	Lecturer
Main activities and responsibilities	Teaching (Systems Engineering Department): - Advanced Course in Digital Simulation (graduate level: MSc of Operational Research) * Discrete event systems simulation using ARENA and Promodel Simulation Software
Name and address of employer	Universidad Nacional Autónoma de México; Ciudad Universitaria; 04360 México D.F. (Mexico)
Type of business or sector	Academia

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## Education and training

Dates	<b>February 2013</b>
Title of qualification awarded	Accredited Evaluator of the Iberoamerican Database of Evaluators: Sector Engineering and Industry
Principal subjects/occupational skills	Assessment and evaluation of proposals for research and technological projects
Name and type of organisation	RCEA, Code: RCEA-07-26570-2013
Dates	<b>September 2012</b>
Title of qualification awarded	Professional Certification (ACTIVE)
Principal subjects/occupational skills	Researcher Level I in the Mexican National Council of Science and Technology
Name and type of organisation providing education and training	National Research System of Mexico
Dates	<b>September 2008 – February 2011</b>
Title of qualification awarded	PhD Industrial Informatics, CUM LAUDE, European Mention
Principal subjects/occupational skills covered	Thesis Title: "Systems Optimization based on the Exploration of Timed Coloured Petri Nets State Space", research that contribute to the simulation/optimization approach.
Name and type of organisation providing education and training	Universitat Autònoma de Barcelona, Barcelona (Spain)
Dates	<b>September 2004 – September 2011</b>
Title of qualification awarded	PhD Operations Research, graduated with Honours
Principal subjects/occupational skills covered	Thesis Title: "Optimización de Sistemas Discretos a través de Simulación basada en el árbol de alcance".
Name and type of organisation providing education and training	Universidad Nacional Autónoma de México, México D.F. (Mexico)

Dates	May 2005 – September 2008
Title of qualification awarded	MSc in Industrial Informatics/Advanced Studies Diploma, graduated with Honours
Principal subjects/occupational skills covered	Thesis: "Optimization of a Coloured Petri Net Simulator"
Name and type of organisation providing education and training	Universitat Autònoma de Barcelona, Barcelona (Spain)
Dates	September 1996- September 1998
Title of qualification awarded	MSc in Operations Research
Principal subjects/occupational skills covered	Thesis: "Simulation as an Analysis and Optimization Tool in Manufacture Processes"
Name and type of organisation providing education and training	Universidad Nacional Autónoma de México, México D.F. (Mexico)
Dates	September 1992- September 1996
Title of qualification awarded	Chemical Engineering
Principal subjects/occupational skills covered	Thesis: "Development of a Photo catalytic Reactor of fluidized bed for Decomposition of pollutants in Waste Water Treatment"
Name and type of organisation providing education and training	Universidad Autónoma Metropolitana, México D.F. (Mexico)
<b>Projects/Grants</b>	
Date/Title Funding Entity	- <b>2021-2022</b> , "A-BOOST", M-FUND, German Ministry for Transport and Digital Infrastructure, <b>100 K EUR, Project</b>
Date/Title Funding Entity	- <b>2020 – 2022</b> "IMHOTEP: Integrated Multimodal Airport Operations for Efficient Passenger Flow Management", H2020 – SESAR, RIA, No. 891287, <b>2 Mill EUR Project, P.I. WP4</b>
Date/Title Funding Entity	- <b>2020– 2022</b> "X-TEAM D2D: XTended AtM for Door2Door travel"-H2020 – SESAR, RIA, No. 891061, <b>1 Mill EUR Project, P. I. WP5</b>
Dates/ Title Funding Entity	- <b>2019-2022</b> : "2 <sup>nd</sup> Generation Agent-based Modelling for Improving APOC Operations" SESAR's Engage KTN Program Grant, <b>EUR 150K</b>
Dates/ Title Funding Entity	- 2017-2018: "Toward a Sustainable Agro-logistics in Developing Countries: Simulation of Cocoa Supply Chain in Cote D'Ivoire" <b>The World Bank, P.I. Contract 7182068 EUR150K</b>
Dates/ Title Funding Entity	2017-2019 "SCCAS- Smartest Connected Cargo Airport Schiphol" <b>TKI DIALOG, 1.3 Mill EURO, P.I. WP2</b>
Dates / Title	-2016 KennisDC Logistiek," Air-freight Schiphol: Surface and terminal Access, Capacity and Multimodal transportation in the Metropolitan Region Amsterdam (MRA)", ID:S40304.302.02 <b>KDC Netherlands</b>
Dates / Title	2011-2012, FUPOL: Future Policy Modelling, 7 <sup>th</sup> Framework Programme, 6 Mill EUR Project, European Commission, GA-287119
Dates	Sept 2011 – Sept 2013, "Simulation and Optimization of Logistics and Manufacture Systems", National University of Mexico, IN-116012 (PAPIIT)
Dates	2008 – 2010
Title	"Methodology for modelling and optimization of logistics processes using distributed simulation"
Funding Entity	National Autonomous University of Mexico
Reference	IN100608 (PAPIIT)

Dates 2009 – 2011  
 Title “Simulation and Optimization applications”  
 Funding Entity National Autonomous University of Mexico  
 Reference 102709 (PAPIME)

Dates 2006 – 2007  
 Title “International Mediterranean Modelling Multiconference”  
 Funding Entity Spanish Ministry of Science and Technology  
 Reference DPI2006-27224-E

Dates 2005 – 2006  
 Title “Network in Advanced Methodologies of Modelling and Simulation”  
 Funding Entity Spanish Ministry of Science and Technology  
 Reference DPI2004-21096-E

**2011- 2013, Post Doc Grant, National Council of Science and Technology, Mexico**  
**2008 – 2011, Research Personnel in Formation, Autonomous University of Barcelona**  
**1996 – 1998 MSc Research Grant, National Council of Science and Technology, Mexico**

**Supervision Master and PhD Theses**

PhD thesis: Paolo Scala (Graduated: 07/10/2019 ; jointly with Daniel Delahaye, ENAC, France)  
 PhD thesis: Javier Lara (starting date: 09/2015; jointly with Idalia Flores, UNAM, Mexico)  
 PhD thesis: Margarita Bagamanova (jointly with Juan Jose Ramos, Universitat Autònoma de Barcelona)  
 PhD thesis: Sashiko Shirai Reyna,(starting date: Oct 2019; jointly with Daniel Delahaye, J.M Ortiz ENAC, France)

**International Stays**

Dates June 2013 – July 2013  
 Principal subjects/occupational skills Simulation of Facility Infrastructures  
 Name and type of organisation providing education and training SMART research group, University of Wollongong; Wollongong (Australia)

Dates February 2013 – April 2013  
 Principal subjects/occupational skills Simulation/optimization of Aeronautical Operations  
 Name and type of organisation providing education and training University of Applied Sciences; Amsterdam (Netherlands)

Dates January 2009 - March 2009  
 Principal subjects/occupational skills Modelling and Simulation with Coloured Petri Net Models  
 Supervisor: Prof. Kurt Jensen  
 Name and type of organisation providing education and training Department of Computer Science, Aarhus University; Aarhus (Denmark)

**Personal skills and competences**

Mother tongue  
 Self-assessment  
 European level (\*)

**Spanish**

<b>Understanding</b>		<b>Speaking</b>		<b>Writing</b>
<i>Listening</i>	<i>Reading</i>	<i>Spoken interaction</i>	<i>Spoken production</i>	
Proficient User	Proficient User	Proficient User	Proficient User	Proficient User
Good	Good	Good	Good	Good
Good	Good	Good	Good	Good
Good	Good	Fair	Fair	Fair
Limited	Basic	Basic	Basic	Limited

(\*) Common European Framework of Reference for Languages

Organisational skills and competences

- **PRESIDENT of EUROSIM (2019-2023)**, [www.eurosim.info](http://www.eurosim.info)
- **International Group on Aviation and Multimodal Transport Research, Founder and Scientific Coordinator for Europe**, [www.igamt.eu](http://www.igamt.eu)
- **President of the Dutch Benelux Simulation Society(2016-2023)**, **Vice-Chair 2013-2016**,
- Executive Board Member of EUROSIM (2016-2019)- Secretary 2016-2019
- Evaluator at Research Promotion Foundation,Cyprus
- **Winter Simulation Conference: Chair of Aviation modelling and analysis and Vendor Track (2018-2022)**. Chair of Simulation in Healthcare and Aviation modelling and analysis (2017)
- **General Chair of Multilog Conference (Multimodality in Transport) 2018,2019, 2021**
- General Chair of the 30<sup>th</sup> Anniversary Symposium of the Dutch Benelux Simulation Society
- President and founder of the *Talented Mexicans Abroad Network-Chapter Spain (2011-2013)*
- General Chair of the INAIR'15 International Conference, Amsterdam, The Netherlands
- Organizing committee of the International Simulation Congress (I3M'06) in Barcelona
- PM in the WP6 in the FP7:FUPOL research project
- **Chair of the Track "Simulation and Optimization Approaches in Industry, Aviation and Logistics" at the I3M International Simulation Conference, 2011-2021**
- Organizational member of the I3M International Simulation Congresses
  
- **Refereeing Activity:** Transportation Research Part A, C, D,E; Journal of Air Transport Management, SIMULATION, I.J. of Simulation and Process Modelling, I. J. of Computer Integrated Manufacturing, J. of Mechanical Engineering, , Informatics, I.J. of Computer Theory and Engineering, J. of Scheduling, Simulation Modelling Practice and Theory, J. of Production Research
  
- **PhD Defence committees:**
- April 2020, "Spatio-Temporal Regions in the Context of Aircraft En-route Tactical Conflict Resolution", Thimjo Koca, Universitat Autònoma de Barcelona,Spain
- Oct 2019, "Optimization-Simulation implementations for harmonizing operations at big airports", Paolo Scala, ENAC, France
- January 2019, "Causal Models for the tool Implementation for lean manufacturing and supply chain", Jorge Luis Garcia Alcaraz, Univ. La Rioja, Spain
- 29 October, 2018, "SMED Modelling Processes and TPM with Structural equations: Study on the Mexican Industry", Jose Roberto Diaz Reza, Univ. La Rioja Spain.

Computer skills and competences

- Programming Languages: Pascal, Visual C#, C ++, Visual Net, JAVA,R
- Continuous Simulation Modelling Languages: Dynamo, Vensim
- Processes Modelling Software: Aspen +
- Simulation Software: CAST, SIMIO, ARENA, Promodel, CPNTools, NetLogo, Anylogic

Research Interests

- Simulation/optimization/ human behaviour techniques and heuristics in Transport Logistics, Supply Chain and Aviation Operations

- Scala P., Mujica Mota M., Delahaye D., Wu R., 2020 "An Optimization-Simulation Closed-Loop Feedback Framework for Modeling the Airport Capacity Management Problem Under Uncertainty", *Transportation Research Part C*, 2020, **I.F. 6.077**
- Bagamanova, M., Mujica Mota, M., 2020, "Reducing Airport Environmental Footprint using a Disruption-Aware Stand Assignment Approach", *Transportation Research Part D*, Nov 2020. **I.F. 4.577**
- Bagamanova, M., Mujica Mota, M., 2019, "A Multi-Objective Optimization with a Delay-Aware Component for Airport Stand Allocation", *J. of Air Transport Management*, November 2019. 10.1016/j.jairtraman.2019.101757, Q1, **I.F. 2.811**
- Mujica Mota M., Makhloufi A., Scala P., 2019 "ON THE LOGISTICS OF COCOA SUPPLY CHAIN IN CÔTE D'IVOIRE: SIMULATION-BASED ANALYSIS", *Computers and Industrial Engineering*, Q1, September, 2019. **I.F. 4.135**
- Scala, P., Mujica Mota, M., Ji M. Delahaye, D., 2019 "Tackling Uncertainty for the Development of Efficient Decision Support System in Air Traffic Management", *IEEE Transactions on Intelligent Transportation Systems.*, V1 (8), pp. 3233-3246, DOI 10.1109/TITS.2019.2924981. **I.F. 6.319**
- Ji MA, Delahaye D., Sbihi M., Scala P., Mujica Mota, M., 2019, "Integrated Optimization of Terminal Maneuvering Area and Airport at the Macroscopic Level", *Transportation Research Part C*. V.98, pp. 338-357, January 2019. 10.1016/j.trc.2018.12.006 **I.F. 6.077**
- Mujica Mota, M., Flores, I., 2019 "Model-based Methodology for Identifying Capacity Limitations in Airports: Mexico City Airport Case", *Simulation Notes Europe*, V29(1), 2019 pp.13-25, 10.11128/sne.29.on.10462
- Makhloufi A, Mujica Mota, M., Damme D.V., Langenberg, V., 2019, "Towards Sustainable Agrologistics in Developing Countries – Cocoa Supply Chain in Cote D Ivoire", World Bank, Report No.135501
- Mujica, Mota M., Scala P., 2019, "Simulation of a Remote Runway Solution for a congested Airport: Mexico City Airport", *I. Journal of Simulation and Process Modelling*, v.14(4). 10.1504/IJSPM.2019.103584
- Mujica Mota, Di Bernardi A., Scala P., Ramirez-Diaz G., 2018, "Simulation-based Virtual Cycle for Multi-level Airport Analysis", *Aerospace*, Vol 5(2), pp. 44, April 2018. 10.3390/aerospace5020044
- Mujica Mota, M., Flores I., 2018, "Revisiting the Flaws and Pitfalls using Simulation in the Analysis of Aviation Capacity Problems", *Case Studies on Transport Policy*, March 2018, 10.1016/j.cstp.2018.03.004
- Mujica Mota, M., Boosten G., Zuniga C., 2017 "Time to Sweat the Assets? The analysis of two airport cases of restricted capacity in different continents", *Discussion Paper 2017.26*, International Transport Forum, OECD
- Mujica, Boosten, DeBock, De Souza, Jimenez, 2017, "Simulation-Based Turnaround Evaluation for Lelystad Airport", *J. of Air Transport Management*, Vol. 64 (A), pp. 21-32 DOI:10.1016/j.jairtraman.2017.06.021
- Scala, P., Mujica M., De Bock, 2017, "A divide and Conquer Approach for Simulating an Airport System", *I.J. of Simulation and Process Modelling*, Vol 12, No. 6, pp.470 – 484, DOI: 10.1504/IJSPM.2017.10010587
- Mujica M., "Check-In allocation improvements through the use of a Simulation-Optimization Approach", *Transportation Research Part A* (2015), Vol.77 (0), pp. 320-335 DOI information: 10.1016/j.tra.2015.04.016, ISSN: 0965-8564, I.F.2.855
- Mujica, M., Piera, M.A., "An improved time-line search algorithm for manufacturing decision making", *International Journal of Production Research*. Taylor & Francis, DOI: 10.1080/00207543.2013.839892, ISSN:1366-588X I.F.1.73
- Buil, R., Piera, M.A., Mujica, M., "Specification of CPN Models into MAS Platform for the modelling of Political Issues: FUPOL project", *International Journal of Simulation and Process Modelling*, March, Vol9 (3), 2014, DOI: 10.1504/IJSPM.2014.064389
- Mujica, M., Piera, M.A., "Revisiting State Space Exploration of Timed Coloured Petri Net Models to Optimize Manufacturing System's Performance", *Simulation Modelling Practice and Theory* vol.18(9) Oct 2010, pp.1225-1241, Elsevier, ISSN:1569-190X. DOI: 10.1016/j.simpat.2010.04.010
- Mujica, M., Piera, M.A., "A compact timed state space approach for the analysis of manufacturing systems: key algorithmic improvements", *International Journal of Computer Integrated Manufacturing*, vol.24(2), pp. 135-153, Feb 2011, Taylor & Francis, ISSN: 0951-192X. DOI: 10.1080/0951192X.2010.543153
- Mujica, M., Piera, M.A., "Performance Optimization of a CNC Machine through exploration of the Timed State Space", *International Journal of Simulation and Process Modelling*, vol. 6(2), pp. 165-174, 2010, Inderscience. DOI: 10.1504/IJSPM.2010.036020

Books and Chapters

- Makhloufi, A., Mujica Mota, M., Van Damme D., Langenberg, V., 2018, "Towards a Sustainable Agro-Logistics in Developing Countries: The Case of Cocoa's Supply Chain in San Pedro Region/Cote D'Ivoire", Urban Tech, AUAS, ISBN:978-94-92644-09-1, **Author**
- "Applied Simulation and Optimization 2- New Applications In Logistics, Industrial and Aeronautical Practice", **Editor**, Springer, Book, 2017. ISBN 978-3-319-55810-3
- "Robust Modelling and Simulation: Integration of SIMIO with Coloured Petri Nets", **Author** Springer, Book, March 2017, ISBN978-3-319-53321-6
- "Applied Simulation and Optimization: In Logistics, Industrial and Aeronautical Practice", ISBN 978-3-319-15032-1, **Editor**, Springer, Book.
- "Modelos de Simulación usando SIMIO y redes de Petri", UNAM, Mexico, 2013, ISBN 978-607-02-4689-0. **Author**, Book Language: Spanish
  
- Mujica Mota, M., Flores I., Nosedal J., Ochoa J., 2020 **Guest Editor Special Issue** Journal Case Studies on Transport Policy, Journal of World Conference on Transport Research Society
- Mujica M.A., Scala P., Delahaye, 2017, "Improving Airport Performance through a Model-based analysis and optimization approach", Springer, **Book Chapter**
- Zuñiga, C.A., Mujica, M.A., Herrera, A. 2015. Analyzing Airport Capacity by simulation: a Mexican case study. In Handbook of Research on Military, Aeronautical, and Maritime Logistics and Operations. pp. IGI Global International Publisher of Progressive Academic Research. ISBN13: 9781466697799, **Book Chapter**
- "Neighbourhood Search and Simulation for Disruption Management in the Airline Industry", ISBN 978-3-319-15032-1, Springer, **Book Chapter**
- "Evolutionary Approach with Simulation for the Improvement of Check-In Desk Allocation in Facilities", ISBN 978-3-319-15032-1, Springer, **Book Chapter**
- "La simulación de redes sociales como fuente de opinión pública", UNAM editions, Mexico, 2012 ISBN:978-607-7955-69-6. Language: Spanish

Media Coverage

- **May, 2020, EL PAIS, Spain:** <https://elpais.com/economia/2020-05-13/avianca-la-primera-victima-de-una-industria-aerea-latinoamericana-en-la-cuerda-floja.html>"
- **July 2020, El Universal Mexico,** <https://www.eluniversal.com.mx/mundo/estos-son-los-metodos-para-desinfectar-los-aviones-en-medio-de-la-pandemia>
- **OCT 2018:** <https://www.schiphol.nl/en/cargo/page/solving-truck-congestion/>
- **Dec 2019, EL PAIS, Spain:** "La batalla global de los cielos pasa por America Latina", [https://elpais.com/economia/2019/12/19/actualidad/1576758583\\_795024.html](https://elpais.com/economia/2019/12/19/actualidad/1576758583_795024.html)
- **Oct 2018, El Universal, Mexico:** "Análisis propone base militar para aerolíneas de bajo costo", <https://www.eluniversal.com.mx/nacion/sociedad/analisis-propone-base-militar-para-aerolineas-de-bajo-costos>
- 2018, Presidencia Mexico, "REporte SLU-MEX", [https://lopezobrador.org.mx/wp-content/uploads/2018/10/ReporteSLU-MEX\\_OCT2018.pdf](https://lopezobrador.org.mx/wp-content/uploads/2018/10/ReporteSLU-MEX_OCT2018.pdf)
- **January 2012:** <https://www.muycomputer.com/2012/01/13/fupol-herramienta-para-que-los-politicos-evaluen-las-opiniones-en-redes-sociales/>
- <https://www.computescotland.com/fupol-smart-politics-or-an-ant-approach-4947.php>

- Di Vito, V., Dziugiel, B., Classen, A., Mujica Mota, M., Bagamanova, M., Makhloufi, A., Ciaburri, M., Duca, G., Brucculeri, L., Proietti, S., 2020, "X-Team D2D Extended ATM for Door-to-Door Travel", Poster, SESAR Innovation Days 2020.
- Blasco, J, Herrans, R., Mujica Mota, M., Scala, P., Makhloufi A., Gallardo, C., Rothe, H., Fricke H., Schultz, M., Victoria, LL., Porras, J., Casas, J. Wicks, 2020, "Integrated Multimodal Airport Operations for Efficient Passenger Flow Management", Poster, SESAR innovation Days 2020.
- Bagamanova, M., Mujica Mota, M., Dec 2020, "Reduction of Taxi-related Airport Emissions with Disruption-aware stand assignment: Case of Mexico City International Airport", in Proc. of WSC2020, USA
- Mujica Mota, M., Scala, P., Herranz, R., Schultz, M., Jimenez, E., 2020, "Creating the Future Airport Passenger Experience: IMHOTEP", in Proc. of EMSS 2020.
- Shirai Reyna, S., Mujica Mota, M., Delahaye, D., Ortiz, J., 2020, "Improvement of APOC Operations by using Simulation and Experimental Economics: Conceptual Approach", in Proc. of EMSS 2020.
- Shirai Reyna, S., Mujica Mota, M., Delahaye, D., Ortiz, J., 2020, "Modelling and Simulation of APOC Operations", Doctoral Symposium, ICRAT 2020.
- Mujica M., 2019, Design of Selective Lines for Security Filters in Airports and Multimodal Facilities, In Proc. of Multilog'19, Huatulco Mexico
- Scala, P., Mujica Mota, M., Delahaye, D., Ma, Ji., 2019, "A Generic Framework for Modelling Airport Operations at a Macroscopic Level", in Proc. of Winter Simulation Conference 2019, Maryland, US
- Mujica Mota, M., Di Bernardi A., Scala, P., Delahaye D., 2019, "Methodology for analysing Multi-Airport System Capacity: SBPL-MMMX System Case", in Proc. of RIDITA'19, Covilha, Portugal
- Mujica Mota, M., Scala, P., Spit, D., Tasdelen, R., 2019, "Modelling the Ground Connection Between Two Airports in a Multi-Airport System: Case Santa Lucia – Mexico City, in Proc. of EMSS'19, Lisbon, Portugal
- Mujica Mota, M., Makhloufi A., Romero, R., 2019, "From Full Freighters to Belly Cargo Aircraft: Stochastic Analysis of Alternatives for Freight in Schiphol Airport", in Proc. of ISPA 2019, Hong Kong, China
- Romero-Silva, R., Mujica Mota, M., 2019, "Modelling landside logistic operations of a Megahub airport with discrete-event simulation", in Proc. of EUROSIM'19, Logrono, Spain.
- Romero-Silva, R., Mujica Mota, M., 2019, "Improving Landside operations of an Air Cargo Terminal", in Proc. of World Conference on Transport Research, May, 2019, Mumbai, India
- Scala, P., Mujica, M., Wu, R., Delahaye, D., 2018. "SIM-OPT in the Loop: Algorithmic Framework for Solving Airport Capacity Problems", In Proc. of Winter Simulation Conference, Gothenburg, Sweden, December 2018
- Shaaban, S., Romero-Silva R., Mujica Mota, M., 2018, "Performance of Unreliable merging lines with uneven buffer capacity allocation", in Proc. of CIO'18, July, Girona, Spain.
- Mujica, Makhloufi, 2018, "Modelling and Improvement of Cocoa Supply Chain in Cote D'Ivoire", Multilog'18, Puerto Escondido, Mexico
- Mujica, Romero, 2018, "Modelling, specification, simulation and performance improvement of Cargo in an Airport Hub", Multilog'18, Puerto Escondido, Mexico
- Mujica Mota, M., Romero R., 2018, "Analysing the Decision-Rules for a Ground Delay Program: Mexican Airport Network", In Proc. of Int. Conf of Research in Air Transport 2018, Castelldefels, Spain
- Mujica Mota, Makhloufi, A., DeBock, N., Scala P, 2018, "MORE THAN JUST CHOCOLATE: Supply Chain Model of Production of Cocoa Crops in CÔTE D'IVOIRE", *Best Paper Award* in EMSS'18, Budapest, Hungary
- Mujica Mota, Makhloufi, A., Romero, R., 2018, "From Full Freighters to Belly Cargo Aircraft: Stochastic Analysis of Alternatives for Freight at Schiphol Airport", in Proc. Air Transport Research Society Conference, Seoul, South Korea
- Ma, J., Delahaye, D., Sbihi, M., Scala P., Mujica Mota, M, 2017 "A Study of Tradeoffs in Airport Coordinated Surface Operations", In Proc. of EIWAC 2017, Tokyo, Japan.
- Wellens A., Mujica Mota, M., 2017, "MODELLING APPROACH FOR MANAGING THE DEMAND IN CONGESTED AIRPORT NETWORKS: THE CASE OF MEXICO CITY AIRPORT", Case Study in Winter Simulation Conference, Las Vegas, USA



- Scala P., Mujica Mota, M., Delahaye, D., 2017, "DOWN TO EARTH SOLUTION: APPLYING A ROBUST SIM-OPT APPROACH TO RESOLVE AVIATION PROBLEMS", in Proc. Of Winter Simulation Conference, Las Vegas, USA
- Scala P., Mujica Mota, Delahaye, D., 2017, "Using optimization and simulation to improve the quality of the solution for the airport conflict detection and resolution problem", Poster in Sesar Innovation Days, Belgrade, Serbia
- Mujica Mota, M., Scala P., 2017," MODEL-BASED REMOTE RUNWAY SOLUTION FOR A CONGESTED AIRPORT: MEXICO CITY AIRPORT CASE STUDY", in Proc. Of EMSS 2017, Barcelona, Spain.
- Wellens, A., Mujica Mota M., 2017, "SIMULATION OF THE MEXICAN AIRPORT NETWORK FOR ADDRESSING A GROUND DELAY PROGRAM", in Proc. Of EMSS 2017, Barcelona, Spain
- Mujica Mota M., Makhloufi A, Gonzales H., P, 2017, "DOWNSIZING THE AIR FREIGHTER: SIMULATION-BASED STUDY OF KLM CARGO IN SCHIPHOL AIRPORT", in Proc. Of EMSS 2017, Barcelona, Spain
- Mujica Mota M., Makhloufi A., Boosten, G., Van Damme, D., Hunt, E., 2017, "IS YOUR BELLY EMPTY? THE ANALYSIS OF THE TRANSITION FROM FULL FREIGHTERS TO BELLY CARGO OF KLM", In Proc. of ATRS 2017, Antwerp, Belgium
- Scala P., Mujica Mota, M., December 2016, "OPTIMIZATION AND SIMULATION BASED APPROACH FOR AN ARRIVAL AND DEPARTURE MANAGER TOOL", Poster presentation in WINTERSIM 2016, Washington DC., USA
- Mujica Mota, M, Scala P., De Bock, N., December 2016, "RAISING THE DYNAMICS: SIMULATION-BASED PERFORMANCE ANALYSIS FOR LELYSTAD AIRPORT", Case Study in WINTERSIM 2016, Washington DC.USA
- Scala, P., Mujica, M., Delahaye, D., September 2016, "Implementation of an Optimization and Simulation based approach for detecting and resolving conflicts at airports", in Proc. Of EUROSIM 2016, Oulu, Finland.
- Mujica, M., Zuniga, C., Bosten G., September 2016, "Make Space!: Simulating the A380 Operations in Mexico City Airport, Model-based disruption analysis", in Proc. Of EUROSIM 2016, Oulu, Finland.
- Mujica, M., Zuniga, C., Boosten, G., June 2016, "MODEL-BASED CAPACITY ANALYSIS OF INTRODUCING A380 IN MEXICO CITY AIRPORT", in Proc. Of International Conference on OR for Development, Mexico City, Mexico
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- Mujica, M., Zuniga, C., Scala, P., Boosten, G., June 2016, "IMPACT ANALYSIS OF REGULAR OPS OF A380 IN MEXICO CITY AIRPORT", in Proc. of ATRS, Rhodes, Greece.
- Scala, P., Mujica, M., Delahaye, D., September 2016, "No more Conflicts: The development of a generic airport model in a sequence-optimization framework", in the Proc. Of EMSS 2016, Cyprus.
- Mujica, M., Scala, P., Delahaye, D., 2015, "Methodology for Assessing and Optimizing Operation Performance in Airport Systems", in Proc. of the EIWAC 2015, Tokyo, Japan.
- Mujica, M., 2015, "Flaws and Pitfalls using Simulation in the Analysis of Aviation capacity Problems", in the Proc. of AirDEv 2015, Bangalore, India
- Mujica M., Flores I., 2015, "CPN-DES Modular Simulator For Assessing Boarding Performance of Aircraft", Wintersim 2015, Case Study Presentation, Huntington Beach, Ca, USA.
- October 2015, "Model-based Evaluation of B-787 disruption in the performance of a low-cost airport" in the Proc. of RIDITA conference, Barcelona, Spain.
- July 2015, "Simulation-based Turnaround Evaluation for Lelystad Airport", In Proc. of ATRS 2015, Singapore
- Scala P., Mujica M., DeBock N., Sept 2015, "Modular Approach for Modelling an Airport System", In Proc. of EMMS'15, Berggeggi, Italy. best Student Paper award
- Sept 2015, "Urban Transport Infrastructure: A Survey", In Proc. of EMSS'15, Berggeggi, Italy
- July 2015, "Assessing the future TMA Capacity of Lelystad Airport using Simulation", in Proc. of ATOS, Delft, The Netherlands.
- Mendoza-Dorantes, Mujica M, Zuniga C., Delahaye D., July 2015, "Simulating Airport Capacity: Mexico City Airport Case", In Proc. of ATOS, Delft, The Netherlands, best student paper Award.
- Zuniga C.A., Olivares-Benitez E., Tenahua A.M., Mujica M.A., May, 2015. "A methodology to solve the Order Batching Problem". In Proc. of the International IFAC Symposium on Information Control in Manufacturing (INCOM 2015), 48-3 PP. 1380-1386. Ottawa, Canada, ISSN 1474-6670.
- Nov, 2014, "The new definition of Capacity", Poster Session in the SESAR Innovation Days, Madrid, Spain
- Nov, 2014, "Airport Slots and Slot Allocation: Driver for Mismatch between Airline Network and City Needs?", in the Proc. of INAIR'14, Prague, Czech Republic.
- Oct, 2014, "Extended Definition of Capacity in Airport Systems", in the Proc. of ISNGI'14, Vienna, Austria.
- Oct, 2014, "Optimizing TMA Capacity: Case Mexico City Airport" in the Proc. of CLAIO XVII, Monterrey, Mexico
- Sept. 2014, "CPN-Simulation Methodology for the Boarding Process of Aircraft", in the Proc. of EMSS'14, Bordeaux, France.
- July, 2014, "An Evolutionary Algorithm for Check-In Desk Allocation" in the Proc. of IFORS 2014, Barcelona, Spain
- Feb, 2014, "Simulation-based Capacity Analysis for a Future Airport", in the Proc. of APCASE 2014, Bali, Indonesia.
- Nov. 2013, "Assessing the Impact of A constrained Airport on the Capacity of an Airport Network with Simulation Techniques", in the Proc. of INAIR 2013, Zilina, Slovakia.
- Sept. 2013, "Development and Simulation of a new Scheme for the Aircraft Cleaning Service", in the Proc. of the EMSS'13 Simulation Symposium, Athens, Greece
- Oct. 2013, "A methodology combining optimization and simulation for real applications of the Stochastic Aircraft Recovery Problem", in Proc. of the EUROSIM'13 , Cardiff, U.K
- July 2013, "A Simulation-evolutionary approach for the allocation of Check-In desks in Airport Terminals", in the Proc. of the Air Transport and Operations Symposium, Toulouse, France.
- July 2013, "Combining Simulation and Optimization for Solving the Stochastic Aircraft Recovery Problem", in Proc. of the Air Transport and Operations Symposium, Toulouse, France.
- June 2013, "Innovative framework for simulating industrial environments: An application in the Shoe Industry", Proc. of Int. Conf. in Flex Automation and Intelligent Manufacturing, Lisbon.
- Sept. 2012, "The translation of CPN into NetLogo Environment for the Modelling of Political Issues: FUPOL Project", in Proc. of the I3M Multiconference, Viena, Austria.
- July, 2012, "Simulating Land-Use policies with the use of CPN formalism.", in Proc. of the SCS SummerSim'12, Genoa, Italy.

- April, 2012, "Recent Developments for the Use of Digital Simulation in Airport Performance Evaluation", in Proc. of AIRDEV 2012, Lisbon, Portugal.
- Sept. 2011, "Coding TCPN Models into the SIMIO Simulation Environment", in Proc. of the I3M Multiconference, Rome, Italy.
- Sept. 2011, "An Improved Time-Line Search Algorithm to Optimize Industrial Systems", in Proc. of the I3M Multiconference, Rome, Italy.
- June, 2011, "Integrating Coloured Petri Net Models in the SIMIO Simulation Environment", in Proc. of the SummerSIM'11, Den Haag, The Netherlands.

Courses and  
Lectures Given

- Sept. 2010, "Heuristic Algorithms to Obtain Optimized Schedules of Manufacture TCPN Models", in Proc. of the 7th EUROSIM, Prague Czech Republic.
  - Sept. 2010, "Time Line Search for the State Space-based Optimization Algorithm for Timed Coloured Petri Nets", in Proc. of the MCPL'10 IFAC congress, Coimbra, Portugal.
  - July, 2010, "Hybrid Search Algorithm to Optimize Scheduling Problems for TCPN Models", in Proc. of the SCSC Simulation Conference, Ottawa, Canada.
  - Sept, 2009, "Performance Optimization of a CNC Machine Through Exploration of Timed State Space", in Proceedings of the I3M 2009 Simulation Conference, Canary Islands, Spain.
  - July, 2009, "Optimizing Systems Performance Exploring the Timed State Space of Coloured Petri Nets", in Proc. of the EURO Conference, Bonn, Germany.
  - June, 2009, "A Two Step Algorithm to Improve Systems Optimization based on the State Space Exploration for Timed Coloured Petri Nets", in Proceedings of the TiSto 2009, Paris, France.
  - Sept, 2008, "Optimizing Time Performance in Reachability Tree-based Simulation", in Proc. of the International Mediterranean Modelling Conference, Campora Sant Giovanni, Italy.
  - Oct, 2007, "Data Management to Improve CPN Simulation Performance", in Proceeding of the International Mediterranean Modelling Conference, Briatico, Italy.
  - Sept, 2007, "Improvements for a Coloured Petri Net Simulator", in Proceedings of the EUROSIM, Ljubljana, Slovenia.
  - June, 2007, "Improving CPN Model Simulations by Intelligent Evaluation Techniques", in the Proc. of INFORMS, San Juan, Puerto Rico.
  - Sept, 2006, "Building an Efficient Coloured Petri Net Simulator", in Proceedings of the International Mediterranean Modelling Conference, Barcelona Spain
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- Cranfield U, UK, Jan 2021, "Blending Simulation with Optimization for understanding problems in Aviation", Invited Talk
  - III Encuentro Investigación Desarrollo e Innovación CEA Aeronautica civil Colombia, Keynote Speaker, "The importance of Simulation and optimization in Aviation", Oct 2020
  - EMSS 2020, Keynote Speaker, "Blending Simulation with Optimization for Logistics and Transport Systems under a sociotechnical perspective". Sept 2020
  - Autonomous University of Ciudad Juarez, November 2019, "Modelling and Analysis of Multi Airport Systems: Case Mexico City Airport", Invited talk
  - ACCENTURE, June 2019, "Modeling Multi Airport Systems", invited talk
  - National University of Mexico, Feb 2019, "Modelling Airspace Operations using Object Oriented approaches", Mexico City, 3-day course
  - Universidad del Mar, Mexico, August 2017, "Understanding the Dynamics: The use of computers and simulation for the analysis of Systems", Puerto Escondido, Mexico, Invited Talk
  - National University of Mexico, Feb 2017, "Flaws and Pitfalls when Modelling Aviation Problems", Invited Talk
  - University of Oulu, Finland, 19 September, 2016 "Uncovering the Dynamics!: Model-based Decision Making in the Aviation and other industries", Invited Talk
  - National University of Mexico 23-25 August, 2016 "Course: Introduction to Modelling and Analysis of Dynamic Systems using Coloured Petri Nets"
  - National University of Mexico, 21,22,25 April,2016 "Course: Modelling of Service Systems using Coloured Petri Nets", Mexico City, Mexico
  - National University of Mexico, 15 April, 2016 "Challenges in the Airport of Mexico City", Invited Talk, Mexico City, Mexico
  - Universidad Panamericana, January 2016, "Advanced Simulation using SIMIO", course 5,6,7 January 2016, Mexico City
  - Universidad Nacional Autónoma de México, August, 2015, "Simulation-based Aviation cases.", 25th April., Invited Talk, Mexico City, Mexico
  - Universidad Nacional Autónoma de México, April 2015, "Applied Simulation and Optimization in Industrial and Aeronautical Problems", 13-15 April., Course, Mexico City, Mexico
  - Universidad Nacional Autónoma de México, Nov 2014, "Modelling and Simulation of Logistic and Aviation Systems using Coloured Petri Nets", 3-7 Nov., Course, Mexico City, Mexico
  - Universidad Popular autónoma del Estado de Puebla, June 2014, "Introduction to SIMIO and SIMULATION", 23-25 June, Course, Puebla, Mexico
  - Universidad Nacional Autónoma de México, May 2014, "Simulation of Dynamic Systems using SIMIO", 5-7 May, Course, Mexico City, Mexico
  - Universidad Nacional Autónoma de México, Nov 2013, "Simulation Applied in Transport and Industry", 28 nov, Invited Talk, Mexico City, Mexico
  - National ICT Australia Ltd (NICTA), July 2013, "The Use of Heuristics and Simulation for Optimising Real-Case Scenarios", Invited talk, Sydney Australia

- Universidad Nacional Autónoma de México, November 2012, "Course:Simulation Case Studies", Course, Mexico City, Mexico.
  - Instituto Politécnico Nacional México, May 2012, "Course: Simulation of Aeronautical Operations using SIMIO", Course, Mexico City.
  - Universidad Nacional Autónoma de México, March 2011, "Introduction to SIMIO modelling software",Course, Mexico City, Mexico
  - Alestis Aerospace, February 2011, "Simulation of Aeronautical Manufacturing Processes with SIMIO", Course, Puerto de Santa María, Spain
  - Universidad Complutense, December 2009, "Systems Optimization through the State Space Exploration of Coloured Petri Nets Models",Invited Talk, Madrid, Spain
  - Instituto Tecnológico Autónomo de México (ITAM), Sept 2009, "Industrial Systems Optimization through the Coloured Petri Net State Exploration",Invited Talk, Mexico City, Mexico
  - Universidad de Valladolid, December 2007, "Discrete Event System Optimization through the Exploration of CPN Simulation Models",Invited Talk, Valladolid, Spain
- Courses Taken
- Fundamentals of ATFCM [NMO-FMP-1], EUROCONTROL, Jan 2021
  - Inside ATM [GEN-ATM-INTRO], EUROCONTROL, Dec 2020
  - Development of Apps with Shiny in R, National University of Mexico, Mexico,Aug 2016
  - Simulation with CAST Terminal, Airport Research Centre, Aachen, Germany, Feb 2014
  - Simulation with CAST Vehicle, Airport Research Centre, Aachen Germany, Feb 2012
  - Simulation with CAST Aircraft, Airport Research Centre, Aachen, Germany July 2011
  - Advanced Modelling and Simulation with SIMIO, SIMIO Headquarters, Pennsylvania, US
  - Introduction to Agent Technology, Universitat Autonoma de Barcelona, Barcelona May 2005
  - Simulation-based Analysis and Metamodelling of Supply Chains, Universitat Autonoma de Barcelona, Barcelona February 2006
  - Global Optimization, Polytechnical University of Barcelona, Barcelona November 2004
  - Multivariable Decision Making, National Autonomous University of Mexico, Mexico June 2004
  - Total Quality, Metropolitan Autonomous University, Mexico December 1991
  - Total Quality Management, Metropolitan Autonomous University, Mexico, Feb 1995
  - Digital Simulation of Chemical Processes, Metropolitan Autonomous University, Mexico, March1995