

# Marco Comuzzi

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## *Education*

**PhD**, March 2004 – May 2007

Department of Electronics and Information, Politecnico di Milano (밀라노 공과대학교), Milan, Italy  
PhD in Information Technology  
Thesis title: QoS Negotiation in Service-Oriented Systems

**Italian “Laurea”, 5-year combined BSc + MSc degree**, September 1998 – December 2003

Laurea in Computer Engineering

Department of Electronics and Information, Politecnico di Milano (밀라노 공과대학교), Milan, Italy

## *Professional Experience*

**Associate Professor**, September 2017 – onwards

Department of Industrial Engineering \*, Ulsan National Institute of Science and Technology (UNIST), Republic of Korea.

**Assistant Professor**, February 2016 – August 2017

Department of Industrial Engineering\*, Ulsan National Institute of Science and Technology (UNIST), Republic of Korea.

\* Until 2018 the Department of Industrial Engineering was part of the UNIST School of Business Administration and known as the School of Management Engineering.

**Assistant Professor**, May 2013 – January 2016

Department of Computing – City, University of London, London, United Kingdom

**Assistant Professor**, July 2009 – April 2013

School of Industrial Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands

**Postdoctoral Researcher**, July 2008 – June 2009

School of Informatics – City, University of London, London, United Kingdom

**Research Associate**, July 2006 – June 2008

Department of Electronics and Information, Politecnico di Milano, Milan, Italy

## *Research Visits and Exchange*

School of Information Systems, Queensland University of Technology, Brisbane, Australia, December 2022 – January 2023

University of New South Wales and Data61 (CSIRO), Sydney, Australia, December 2020

Institute of Computer Science, University of Tartu, Tartu, Estonia, January 2019

Information Systems Group, Politecnico di Milano, Milan, Italy, July 2018

Applied Software Engineering Group, University of Seville, Seville, Spain, January 2018 – February 2018

Information Systems Institute, University of Lichtenstein, Vaduz, Lichtenstein, February 2017

School of Business Administration, UNIST, Ulsan, Republic of Korea, July 2012.

McCombs School of Business, The University of Texas at Austin, Austin (TX), USA, August 2005 – February 2006.

## ***Professional Activities and Service***

*Member of the Program Committee of academic conferences (selected):*

International Conference on Business Process Management (since 2022)

International Conference on Process Mining (since 2021)

International Conference on Service-Oriented Computing (since 2021)

International Conference on Cooperative Information Systems (since 2020)

*Reviewer for international journals (selected):*

Computers in Industry

IEEE Transactions on Services Computing

Expert Systems with Applications

Information Sciences

Information Systems

Decision Support Systems

*Editorial roles in international conferences:*

Publicity co-chair, Int. Conf. on Business Process Management (BPM) 2024, Krakow, Poland.

Co-chair of the Demo Track, Int. Conf. on Process Mining (ICPM) 2022, Bolzano, Italy.

Publicity co-chair, Int. Conf. On Advanced Information Systems Engineering (CAiSE) 2022, Leuven, Belgium.

Co-chair of the Demo Track, 2020 Int. Conf. on Business Process Management (BPM) 2020, Sevilla, Spain.

Co-chair of the 1<sup>st</sup> Workshop of Quality Data for Process Analytics (QD-PA), 2017 International Conference on Business Process Management (BPM), 2017, Barcelona, Spain.

Co-chair of the 1<sup>st</sup> Workshop on Data Mining in Business Process Management (DM-BPM), 2017 Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2017, Jeju, Korea.

Member of the Local Arrangements Committee, 8th IFIP WG5.1 Int. Conf. on Product Lifecycle Management (PLM) 2011, Eindhoven, The Netherlands

*Other:*

Member of IEEE Technical Committee on Enterprise Systems (2016 – onwards)

Member of the Process-Oriented Data Science for Healthcare Alliance, a chapter of the IEEE Task Force on Process Mining (2019 – onwards)

External Expert Mentor, 2021 QUT School of Information Systems Doctoral Consortium, Queensland University of Technology, Australia.

Member of the BETA Research School of Operations Management and Logistics, September 2009 – April 2013.

## ***Institutional Service Activities***

### **UNIST**

UNIST Blockchain Research Centre, Direction (September 2019 – onwards)

Department of Industrial Engineering, Graduate Education Committee Chair (September 2018 – onwards)

Department of Industrial Engineering, member of Travel Authorization Committee (September 2018 – onwards)

### **City, University of London**

Director of the MSc Business Systems Analysis and Design (May 2013 – January 2016)

### **Eindhoven University of Technology**

Member of International Application Evaluation Committee, MSc in Operations Management and Logistics (2010-2013)

## ***Professional Honors and Awards***

### **UNIST**

ICPM Workshop on Leveraging Machine Learning for Process Mining 2022: Best Paper Award

BPM Blockchain Forum 2021: Best Paper Award

UNIST Outstanding Faculty Award (Education), 2018

PAKDD Workshop on Biologically Inspired Data Mining Techniques 2017: Best Paper Award

### **Prior to UNIST**

Teaching Talent Prize 2014, Department of Computing, City University London

## ***Invited Presentations***

### **UNIST**

December 2023, "Blockchain fundamentals: from basic mechanism to business value", invited tutorial at the 21<sup>st</sup> Int. Conf. on Service-Oriented Computing (ICSOC), Rome, Italy.

October 2023, "Blockchain for business: understanding blockchain and how it creates business value", invited tutorial at the 27<sup>th</sup> Int. Conf. on Enterprise Computing (EDOC), Groningen, The Netherlands.

April 2022, "Blockchain and Cryptocurrency: An Introduction", Global Youth Academy 2022, Beomeo Library, Daegu, Korea

April 2020, "Blockchain and Cryptocurrency: An Introduction", Global Youth Academy 2020, Beomeo Library, Daegu, Korea (online)

December 2019, "Data quality control in blockchain applications", CSIRO Data61, Sydney, Australia

October 2018, "Blockchain for inter-organisational information systems principles, applications, and research questions" Graduate Seminar Series at POSTECH, Pohang, Republic of Korea

December 2017, "Process mining for evidence-based business process analysis: an overview", POSTECH International Symposium on Smart Factory, Pohang, Republic of Korea

November 2017, "Process mining for evidence-based business process analysis: an overview", UNIST 2017 Big Data Symposium, Ulsan, Republic of Korea

March 2017, "RISE\_BPM Project Overview", 2017 EU-Korea R&D Research Fair, Seoul, Republic of Korea

February 2017, "Evidence-based Business Process Management: methodologies and tools", University of Liechtenstein, Vaduz, Liechtenstein

November 2016 "Business process operational support for optimal process execution", 2016 Asia-Pacific Symposium on Business Process Management, Pohang, Republic of Korea

#### **Prior to UNIST**

September 2015, "Monitoring and Compliance in Cross-Organisational Business Processes", Loughborough University, Loughborough, UK

May 2015, "Monitoring and Compliance in Cross-Organisational Business Processes", Nottingham Trent University, Nottingham, UK

April 2015, "How City University London use MS Dynamics in the Classroom", Microsoft Dynamics Business Solutions in Academia Conference, London, UK

June 2014, "Flexible Business Process Management", Politecnico di Milano, DEIB, Milan, Italy

December 2012, "Business Process Monitoring and Customisation – Highlights and Perspectives", City University London, Department of Computing, London, UK.

September 2012, "Business Process Monitoring Mass-Customization", invited seminar at Politecnico di Milano, Dipartimento di Elettronica e Informazione, Milan, Italy.

January 2011, "Contract-driven business process management", invited lecture for the SenterNovem SeQual (Quality of Service for composite services) Project; IBM Amsterdam, The Netherlands.

June 2010, "Continuous Monitoring in Evolving Business Networks", Eindhoven University of Technology, School of Industrial Engineering.

### ***Research Grant Support***

<i>Funding Agency</i>	<i>Grant Amount</i>	<i>Project Title</i>	<i>Project Duration</i>	<i>Role</i>
NRF National Research Foundation of Korea	~45,000 USD p.a.	AutoML and explainable AI in Proces Mining	Mar 2022 – Feb 2025	PI
Korea Hydro and Nuclear Power Agency	~230,000 USD	Blockchain-based IoT-enabled platform for radioactive waste management	Mar 2020 – Mar 2022	Col
UNIST A.I. Incubation	80,000,000 KRW (~70,000 USD)	AI for streaming process mining	Jan 2021 – Dec 2022	PI
IITP-ITRC Korea	80,000,000 KRW (~70,000 USD))	Interblockchain Research Center	Jan 2018 – Dec 2019	Col
UNIST Seed Funding	90,000,000 KRW (~80,000 USD)	Blockchain-based System Engineering	Jan 2018 – Dec 2019	PI
NRF Young Researcher Programme	60,000,000 KRW (~52,000 USD)	Development of techniques for improving quality of event logs for process mining	Sept 2017 – Aug 2019	PI
UNIST Starting Research Grant	20,000,000 KRW (~17,000 USD)	Techniques and Tools for controlled change	Mar 2016 – Sep 2017	PI

		management in ERP post-implementation		
City University London – Research Competition 2015	12,000 GBP (~15,000 USD)	Making Impact in Tech City for City's Research on Entrepreneurship	Jul 2015 – Jun 2016	Col

## Citation Summary and Report

Web of Science:	H-Index: 18	Number of Citations: 1067	
Scopus:	H-Index: 22	Number of Citations: 1603	
Google Scholar:	H-Index: 26	Number of Citations: 2835	i10-index: 50

## Publications

Throughout, Prof Comuzzi's name is always in **bold**, marked with \*\* if corresponding author with one of his students as first author. Names marked with \* are the corresponding authors of each paper. For each paper, the journal ranking is indicated as [SCIE/SSCI 2Y IF, 5Y IF, Eigenfactor], L1 levels in bold; number of citations indicated as {WoS, Scopus, Google Scholar}. Data is up to date as of October 5<sup>th</sup>, 2023.

### Publications in Peer Reviewed Journals

#### UNIST (since Feb 1st 2016)

- Hofstede AH\*, Koschmider A, Marrella A, Andrews R, Fischer DA, Sadeghianasl S, Wynn MT, **Comuzzi M**, De Weerd J, Goel K, Martin N. (2023) Process-Data Quality: The True Frontier of Process Mining. ACM Journal of Data and Information Quality, 15(3), p. 1-21 [no SSCI/SCIE] {0,0,0}.
- Grefen, P.\*; Vanderfeesten, I.; Wilbik, A.; **Comuzzi, M.**; Ludwig, H.; Serral, E.; Kuitems, F.; Blanken, M.; Pietrasik, M. (2023) "Towards Customer Outcome Management in Smart Manufacturing." Machines, 11, 636 [SCIE L4, L4, L4] {0,0,0}.
- K. Schaerer and **M. Comuzzi\*** (2023) "The Quantum Threat to Blockchain: Summary and Timeline Analysis", Quantum Machine Intelligence, 5(1), 1-12 [no SSCI/SCIE] {0,0,0}.
- J. Ko and **M. Comuzzi\*\*** (2023) "A Systematic Review of Anomaly Detection for Business Process Event Logs", Business & Information Systems Engineering, 65(4), 441-462 [SCIE L2, **L1**, L4] {0,0,2}.
- B. Tama and **M. Comuzzi\*** (2022) "Leveraging a Heterogeneous Ensemble Learning for Outcome-Based Predictive Monitoring Using Business Process Event Logs" Electronics- Special issue on Predictive and Learning Control in Engineering Applications, 11(16), 2548 [SCIE L4, L4, **L1**] {1,1,1}.
- S. Lee, **M. Comuzzi\*\***, N. Kwon (2022) "Exploring the suitability of rule-based classification to provide interpretability in outcome-based process predictive monitoring" Algorithms- Special issue on Algorithms for Machine Learning and Pattern Recognition Tasks, 15(6):187 [no SSCI/SCIE] {0,0,1}.
- M. Comuzzi\***, C. Cappiello, F. Daniel and G. Meroni (2022) "Toward Quality-Aware Transaction Validation in Blockchains", IEEE Software, 39(4), 54-62 [SCIE L3, L3, L3] {0,0,1}.
- Jorge Munoz-Gama, Niels Martin\*, Carlos Fernández-Llatas, Owen A. Johnson, Marcos Sepúlveda, Emmanuel Helm, Victor Galvez-Yanjari, Eric Rojas, Antonio Martínez-Millana, Davide Aloini, Ilaria Angela Amantea, Robert Andrews, Michael Arias, Iris Beerepoot, Elisabetta Benevento, Andrea Burattin, Daniel Capurro, Josep Carmona, **M. Comuzzi**, Benjamin Dalmas, Rene de la Fuente, Chiara Di Francescomarino, Claudio Di Ciccio, Roberto Gatta, Chiara Ghidini, Fernanda Gonzalez-Lopez, Gema Ibáñez-Sánchez, Hilda B. Klasky, Angelina Prima Kurniati, Xixi Lu, Felix Mannhardt, Ronny Mans, Mar Marcos, Renata Medeiros de Carvalho, Marco Pegoraro, Simon K. Poon, Luise Pufahl, Hajo A. Reijers, Simon Remy, Stefanie Rinderle-Ma, Lucia Sacchi, Fernando Seoane, Minseok Song, Alessandro Stefanini, Emilio Sulis, Arthur H. M. ter Hofstede, Pieter J. Toussaint, Vicente Traver, Zoe Valero-Ramon, Inge van de Weerd, Wil M. P. van der Aalst, Rob J. B. Vanwersch, Mathias Weske, Moe Thandar Wynn, Francesca Zerbato (2022) "Process Mining for Healthcare: Characteristics and Challenges," Journal of Biomedical Informatics, 127: 103994 [SCIE L3, L2, L2] {44,60,110}.
- J. Kim and **M. Comuzzi\*\*** (2021) "Stability metrics for enhancing the evaluation of outcome-based business process predictive monitoring," IEEE Access, 9: 133461-133471, [SCIE L3, L3, **L1**] {1,2,3}.

10. J. Kim, **M. Comuzzi\*\***, M. Dumas, F.M. Maggi, and I. Teinmaa (2022) "Encoding Resource Experience for Predictive Process Monitoring," *Decision Support Systems*, 153: 113669, [SCIE L2, L2, L2] {8,10,16}.
11. J. Ko and **M. Comuzzi\*\*** (2022) "Keeping our rivers clean: information-theoretic online anomaly detection for streaming business process events," *Information Systems*, 104: 101894, [SCIE L4, L4, L4] {4,4,7}.
12. **M. Comuzzi\***, C. Cappiello, P. Plebani, and M. Fim (2021) "Assessing and Improving Measurability of Process Performance Indicators based on Quality of Logs ", *Information Systems*, 103: 101874. [SCIE L4, L4, L4] {1,3,7}.
13. J. Kim and **M. Comuzzi\*\*** (2021) "A diagnostic framework for imbalanced classification in business process predictive monitoring" *Expert Systems with Applications*, 184, 115536. [SCIE L1, L2, L1] {2,1,6}.
14. J. Ko and **M. Comuzzi\*\*** (2020) "Detecting anomalies in business process event logs using statistical leverage", *Information Sciences*, 549, 53-67 [SCIE L2, L2, L1] {6,7,14}.
15. **M. Comuzzi\***, C. Cappiello and G. Meroni (2020) "On the Need for Data Quality Assessment in Blockchains", *IEEE Internet Computing*, 25(3): 71-78 [SCIE L3, L3, L4] {4,3,7}.
16. B. Tama, **M. Comuzzi\*** and J. Ko (2020) "An empirical investigation of different classifiers, encoding and ensemble schemes for next event prediction using business process event logs", *ACM Transactions on Intelligent Systems and Technology*, 11(6):68 [SCIE L3, L1, L2] {3,5,13}.
17. Daniel Beverungen, Joos C. A. M. Buijs, Jörg Becker, Claudio Di Ciccio\*, Wil M. P. van der Aalst, Christian Bartelheimer, Jan vom Brocke, **M. Comuzzi**, Karsten Kraume, Henrik Leopold, Martin Matzner, Jan Mendling, Nadine Ogonek, Till Post, Manuel Resinas, Kate Revoredo, Adela del-Río-Ortega, Marcello La Rosa, Flávia Maria Santoro, Andreas Solti, Minseok Song, Armin Stein, Matthias Stierle, Verena Wolf: (2021) "Seven Paradoxes of Business Process Management in a Hyper-Connected World", *Business & Information Systems Engineering*, 63(2), pp. 145-156 [SCIE L2, L1, L4] {25,33,67}.
18. M. Vargas and **M. Comuzzi\*\*** (2020) "A multi-dimensional model of Enterprise Resource Planning Critical Success Factors", *Enterprise Information Systems*, 14(1), 38-57 [SCIE L3, L4, L4] {18,29,38}.
19. B. Tama, **M. Comuzzi**, and Rhee, K.-H\*. (2019) "TSE-IDS: A Two-Stage Classifier Ensemble for Intelligent Anomaly-based Intrusion Detection System", *IEEE Access*, 7, 94497-94507. [SCIE L3, L3, L1] {142,190,260}.
20. H. Nguyen, S. Lee, J. Kim, J. Ko and **M. Comuzzi\*\*** (2019) "Autoencoders for Improving Quality of Process Event Logs", *Expert Systems with Applications*, 131, 132-147. [SCIE L1, L2, L1] {19,31,42}.
21. B. Tama and **M. Comuzzi\*** (2019) "An empirical comparison of classification techniques for next event prediction using business process event logs", *Expert Systems with Applications*, 129, 233-245. [SCIE L1, L2, L1] {29,40,49}.
22. **M. Comuzzi\*** (2019) "Ant-colony Optimisation for Path Recommendation in Business Process Execution", *Journal on Data Semantics*, 8(2), 113-128. [no SSCI/SCIE] {3,5,7}.
23. **M. Comuzzi\*** (2019) "Optimal directed hypergraph traversal with ant-colony optimisation", *Information Sciences*, 471, 132-148. [SCIE L2, L2, L1] {6,7,8}.
24. M. Cho, M. Song\*, **M. Comuzzi**, and S. Yoo (2017) "Evaluating the effect of best practices for business process redesign: an evidence-based approach based on process mining techniques", *Decision Support Systems*, 104, 92-103. [SCIE L2, L2, L2] {29,42,74}.
25. Y. Djenouri and **M. Comuzzi\*** (2017) "Combining Apriori Heuristic and Bio-Inspired Algorithms for Solving the Frequent Itemsets Mining Problem", *Information Sciences*, vol. 420, pp. 1-15. [SCIE L2, L2, L1] {85,98,120}.
26. **M. Comuzzi\*** and M. Parhizkar (2017) "A methodology for enterprise systems post-implementation change management", *Industrial Management & Data Systems*. 117(10), 2241 – 2262 [SCIE L3, L3, L3] {3,12,32}.
27. M. Parhizkar and **M. Comuzzi\*** (2017) "Impact analysis of ERP post-implementation modifications: design, tool support and evaluation", *Computers in Industry*, 84, 25-38. [SCIE L1, L2, L3] {22,24,51}.
28. **M. Comuzzi\*** and A. Patel (2016) "How Organisations Leverage Big Data: A Maturity Model", *Industrial Management & Data Systems*, vol. 116, no. 8, 1468-1492. [SCIE L3, L3, L3] {66,96,186}.
29. M. Rangih, **M. Comuzzi\*** (2016) "A framework to capture and reuse process knowledge in business process design and execution using social tagging", *Business Process Management Journal*, vol. 22, no. 4, 835-859 [SSCI L4, L4, L4] {5,9,15}.
30. **M. Comuzzi\*** (2017) "Alignment of Process Compliance and Monitoring Requirements in Dynamic Business Collaborations", *Enterprise Information Systems*, 11(6), 884-908. [SCIE L3, L4, L4] {5,6,6}.
31. E. Lüftenegger, **M. Comuzzi\***, and P. Grefen (2017) "Designing a Tool for Service-Dominant Business Strategies Using Action Design Research", *Service Business*, 11(1), 161-189. [SSCI L3, L4, L4] {22,25,42}.
32. **M. Comuzzi\*** and S. Angelov (2016) "Patterns and Tools for Business Process Monitoring Customization" *Service Oriented Computing and Applications*, 10(3), 253-271. [no SSCI/SCIE] {0,1,2}.

1. P. Van Gorp, **M. Comuzzi**, A. Jahnen, U. Kaymak and B. Middleton (2014) "An Open Platform for Personal Health Record Apps with Platform-Level Privacy Protection" *Computers in Biology and Medicine*, vol. 51, pp. 14-23.
2. P. Van Gorp and **M. Comuzzi** (2014) "Lifelong Personal Health Data and Application Software via Virtual Machines in the Cloud", *IEEE Journal of Biomedical and Health Informatics*, 18(1), 36-45.
3. [J9] K. Kritikos, B. Pernici, P. Plebani, C. Cappiello, **M. Comuzzi**, S. Benbernou, I. Brandic, A. Kertesz, M. Parkin, and M. Carro (2013) "A Survey on Service Quality Description", *ACM Computing Surveys*, vol. 46, no.1.
4. [J8] **M. Comuzzi\***, I. Vanderfeesten, and T. Wang (2013) "Optimized Cross-Organizational Business Process Monitoring: Design and Enactment", *Information Sciences*, vol. 244, pp. 107-118.
5. **M. Comuzzi\***, J. Vonk, and P. Grefen (2012) "Measures and Mechanisms for Process Monitoring in Evolving Business Networks" *Data & Knowledge Engineering*, 71(1), 1-28.
6. P. Plebani, C. Cappiello, **M. Comuzzi**, B. Pernici, and S. Yadav (2012) "MicroMAIS: Executing and Orchestrating Web Services on Constrained Mobile Devices" *Software: Practice & Experience*, 42(9), pp. 1075-1094.
7. D. Ardagna, L. Baresi, S. Comai, **M. Comuzzi\***, and B. Pernici (2011) "A Service-based Framework for Flexible Business Processes", *IEEE Software*, 28(2), pp. 61-67.
8. **M. Comuzzi\*** and B. Pernici (2009) "A Framework for QoS-Based Web service contracting" *ACM Transactions on the Web*, 3(3), Article 10, June 2009.
9. **M. Comuzzi\***, C. Francalanci, and P. Giacomazzi (2008) "Pricing the quality of differentiated services for media oriented real-time applications: a multi-attribute negotiation approach" *Computer Networks*, 52(18), pp. 3373-3391.
10. D. Ardagna, **M. Comuzzi**, E. Mussi, B. Pernici, and P. Plebani (2007) "PAWS: A framework for executing Adaptive Web-service Processes" *IEEE Software*, 24(6), pp. 39-46.

#### Full Paper Publications in Peer-Reviewed Conferences, Workshops and Symposia

1. S. Lee, X. Lu, **M. Comuzzi**, and H.A. Reijers (2023) "Measuring the Stability of Process Outcome Predictions in Online Settings." 5th Int. Conf. on Process Mining (ICPM)- to appear
2. N. Kwon\*\* and **M. Comuzzi** (2022) "Genetic algorithms for AutoML in process predictive monitoring" Proc. 3rd Int. Workshop on Leveraging Machine Learning in Process Mining (ML4PM) held in conjunction with ICPM 2022 (accepted)\*\***Best Paper Award\*\***
3. G. Park, **M. Comuzzi**, and van der Aalst, W.M.P. (2022) "Supporting Impact Analysis of Process-Aware Information System Updates Using Digital Twins of Organizations" Proc. 16th Int. Conf. on Research Challenges in Information Science (RCIS), pp. 158-176.
4. S. Lee, **M. Comuzzi**, and X. Lu (2021) "Continuous performance evaluation for business process outcome monitoring," Proc. 2nd Int. Workshop on Streaming Analytics for Process Mining (SA4PM) held in conjunction with ICPM 2021 (accepted)
5. **M. Comuzzi**, C. Cappiello, and G. Meroni (2021) "An empirical evaluation of smart contract-based data quality assessment in Ethereum", Proc. Blockchain Forum 2021 held in conjunction with BPM 2021, pp. 51-66. **\*\*Best Paper Award\*\***
6. J. Ko\*\* and **M. Comuzzi** (2020) "Online anomaly detection using statistical leverage for streaming business process events", 1st Workshop on Streaming Analytics for Process Mining (SA4PM) held in conjunction with ICPM 2020 (accepted)
7. [C39] J. Ko\*\*, J. Lee, and **M. Comuzzi** (2020) "AIR-BAGEL: An Interactive Root cause-Based Anomaly Generator for Event Logs", 2nd Int. Conf. on Process Mining (ICPM)- Demonstration Track (accepted)
8. **M. Comuzzi**, J. Ko and S. Lee (2019) "Predicting outpatient process flows to minimise the cost of handling returning patients: A case study", Workshop on Process-Oriented Data Science for Healthcare (PODS4H 2019) held in conjunction with BPM 2019 (accepted)
9. C. Cappiello, **M. Comuzzi**, F. Daniel and G. Meroni (2019) "Data quality control in blockchain applications", Blockchain Forum 2019 held in conjunction with BPM 2019 (accepted)
10. **M. Comuzzi**, A. E. Marquez-Chamorro, and M. Resinas (2018) "A Hybrid Reliability Metric for SLA Predictive Monitoring", 34th ACM Symposium on Applied Computing (accepted)
11. **M. Comuzzi**, A. Marquez-Chamorro and M. Resinas (2018) "Does your accurate process predictive monitoring model give reliable predictions?" 1st ICSOC Workshop on AI and Data Mining for Services.
12. H. Nguyen\*\* and **M. Comuzzi** (2018) "Event log reconstruction using autoencoders", 1st ICSOC Workshop on AI and Data Mining for Services.
13. **M. Comuzzi**, E. Unurjargal, and C.H. Lim (2018) "Towards a design space for blockchain-based system reengineering", 1st Workshop on Blockchains for Inter-Organizational Collaboration (BIOC'18), in conjunction with CAISE 2018, pp. 138-143

14. **M. Comuzzi** (2017) "Optimal paths in business processes: framework and applications", 1st Workshop on Business Process Innovations with Artificial Intelligence, in conjunction with BPM 2017, pp. 107-123.
15. J. Ko\*\* and **M. Comuzzi** (2017) "Fuzzy Analytic Network Process for evaluating ERP post-implementation alternatives", 2017 IEEE International Conference on Fuzzy Systems- FUZZ-IEEE 2017, pp. 1-6.
16. Y. Djenouri, Z. Habbas, D. Djenouri and **M. Comuzzi** (2017) "Diversification Heuristics in Bees Swarm Optimization for Association Rules Mining", 6th PAKDD Workshop on Biologically Inspired Data Mining Techniques **\*\*Best paper award\*\***
17. Y. Djenouri and **M. Comuzzi** (2017) "GA-Apriori: combining Apriori Heuristic and Genetic Algorithms for Solving the Frequent Itemsets Mining Problem", 6th PAKDD Workshop on Biologically Inspired Data Mining Techniques (accepted)
18. Y. Djenouri, **M. Comuzzi**, D. Djenouri (2017) "SS-FIM: Single Scan for Frequent Itemsets Mining in Transactional Databases", Proc. 2017 Pacific-Asia Conference on Knowledge and Data Mining- PAKDD 2017 (accepted)
19. Y. Djenouri, A. Bendjoudi, D. Djenouri and **M. Comuzzi** (2017) "GPU-based bio-inspired model for solving association rule mining problem", Proc. 25th Euromicro Int. Conf. on Parallel, Distributed and Network-based Processing- PDP 2017 (accepted).
20. M. Parhizkar and **M. Comuzzi** (2016) "A framework for impact analysis of post-implementation Enterprise Resource Planning modifications", Proc. SAI Computing Conference 2016 (accepted for publication)
21. M. Parhizkar and **M. Comuzzi** (2015) "An AHP-Based analysis of the cost of ERP Modification" Proc. 3rd International Conference on Enterprise Systems, pp. 200-205.
22. M. E. Rangihia, **M. Comuzzi**, and B. Karakostas (2015) "Role and task recommendation and social tagging to enable Social Business Process Management" Proc. 16th Business Process Modeling, Development, and Support Working Conference (BPMDS) in conjunction with CAiSE'15, pp. 68-82.
23. **M. Comuzzi** (2014) "Aligning Monitoring and Compliance Requirements in Evolving Business Networks" Proc. 22nd Int. Conf. on Cooperative Information Systems- CoopIS 2014, pp. 166-183.
24. **M. Comuzzi** and R.I. Rafael Martinez (2014) "Customized Infrastructures for Monitoring Business Processes," Proc. 8th IEEE Symposium on Service-Oriented System Engineering (SOSE), Oxford, UK, pp. 122-127.
25. E. Luftenegger, **M. Comuzzi**, and P. Grefen (2013) "The Service Dominant Ecosystem: Mapping a Service Dominant Strategy to a Product-Service Ecosystem," Proc. 14th IFIP Working Conference on Virtual Enterprises (PRO-VE), Dresden, Germany.
26. **M. Comuzzi**, G. Jacobs, and P. Grefen (2013) "Understanding SLA elements in Cloud Computing," Proc. 14th IFIP Working Conference on Virtual Enterprises (PRO-VE), Dresden, Germany.
27. P. Van Gorp, **M. Comuzzi**, A. Fiahlo, and U. Kaymak (2012) Addressing Health Information Privacy with a novel cloud-based PHR system architecture. Proc. 2012 IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC), pp. 1841-1846.
28. P. Van Gorp and **M. Comuzzi** (2012) MyPHRMachines: lifelong Personal Health Records in the Cloud. Proc. 25th IEEE Int. Symposium on Computer-Based Medical Systems (CBMS), Special Track on Informatics Challenges of Patient Centric Health and Social Care, pp. 1-6.
29. **M. Comuzzi**, S. Angelov, and J. Vonk (2012) Patterns to Enable Mass-Customized Business Process Monitoring. Proc. 24th Int. Conf. on Advanced Information Systems Engineering (CAiSE 2012), pp. 445-459.
30. **M. Comuzzi** and I. Vanderfeesten (2011) Product-Based Workflow Design for Monitoring of Collaborative Business Processes. Proc. 23rd Int. Conf. on Advanced Information Systems Engineering (CAiSE 2011), pp. 154-168.
31. **M. Comuzzi**, J. Vonk, and P. Grefen (2010) Continuous Monitoring in Evolving Business Networks. Proc. 18th Int. Conf. on Cooperative Information Systems (CoopIS 2010), pp. 168-185.
32. **M. Comuzzi** and G. Spanoudakis (2010) Dynamic set-up of monitoring infrastructures for Service-Based systems. Proc. of the 2010 ACM Symposium on Applied Computing (SAC 2010), pp. 2414-2421.
33. **M. Comuzzi**, K. Kritikos, and P. Plebani "A Semantic based framework for supporting negotiation in Service Oriented Architectures" Proc. 11th IEEE Conf. on Commerce and Enterprise Computing (CEC 2009), Vienna, Austria.
34. **M. Comuzzi**, C. Kotsokalis, G. Spanoudakis, and R. Yahyapour (2009) "Establishing and Monitoring SLAs in Complex Service-Based Systems" Proc. 7th IEEE Int. Conf. on Web Services (ICWS'09)- Applications and Industry Track, Los Angeles (CA), USA.
35. C. Cappiello and **M. Comuzzi** (2009) "A utility-based model to define the optimal data quality level in IT service offerings" Proc. 17th European Conference on Information Systems (ECIS 2009), Verona, Italy.
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39. E. Capra, M. Corso, **M. Comuzzi**, C. Francalanci, A. Giacobbe, and S. Modafferi (2007) Knowledge Management benefits from cooperation: evidence on SMEs, Proc. 2nd Knowledge Management in Organizations Conference, KMO 2007, Lecce, Italy.
40. **M. Comuzzi** and M. Malatesta (2007) Knowledge Management in the Italian landscape: insights from a desk review of case studies, Proc. 2nd Knowledge Management in Organizations Conference, KMO 2007, Lecce, Italy
41. C. Cappiello, **M. Comuzzi**, P. Plebani (2007) On Automated Generation of Web Service Level Agreements, Proc. 19th Int. Conf. Advanced Information Systems Engineering, CAiSE 2007, Trondheim, Norway, pp. 264-278.
42. D. Ardagna, C. Cappiello, **M. Comuzzi**, C. Francalanci, and B. Pernici (2005). A broker for selecting and provisioning high quality syndicated data, Proc. 10th International Conference on Information Quality, ICIQ 2005, Cambridge (MA), USA.
43. **M. Comuzzi** and B. Pernici. (2005) An Architecture for Flexible Web Service QoS Negotiation, Proc. 9th IEEE EDOC Conference, EDOC 2005, Enschede, The Netherlands, pp. 70-79.
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45. **M. Comuzzi** and C. Francalanci (2004). Agent-based negotiation in cooperative processes: automatic support to underwriting insurance policies, Proc. 6th International Conference on Electronic Commerce, ICEC'04, Delft, The Netherlands, pp. 121-129

## ***Publication of Books and Edited Volumes***

1. **M. Comuzzi**, Grefen, P., & Meroni, G. (2023). *Blockchain for Business: IT Principles into Practice*. Routledge, Taylor & Francis.
2. Wil M. P. van der Aalst, Jan vom Brocke, **M. Comuzzi**, Claudio Di Ciccio, Félix García, Akhil Kumar, Jan Mendling, Brian T. Pentland, Luise Pufahl, Manfred Reichert, Mathias Weske: Proceedings of the Best Dissertation Award, Doctoral Consortium, and Demonstration & Resources Track at BPM 2020 co-located with the 18th International Conference on Business Process Management (BPM 2020), Sevilla, Spain, September 13-18, 2020. CEUR Workshop Proceedings 2673, CEUR-WS.org 2020
3. Marwan Hassani, Agnes Koschmider, **M. Comuzzi**, Fabrizio Maria Maggi, Luise Pufahl: Proceedings of the ICPM Doctoral Consortium and Demo Track 2022 co-located with 4th International Conference on Process Mining (ICPM 2022), Bolzano, Italy, October, 2022. CEUR Workshop Proceedings 3299, CEUR-WS.org 2022

## ***Master and Doctoral Student Supervision***

### **PhD and Combined MS-PhD students at UNIST (since Feb 1<sup>st</sup> 2016)**

1. *Sungkyu Kim*, MSc-PhD program in Industrial Engineering (ongoing from September 2022)  
Thesis topic: "AutoML for Predictive Monitoring of Business Processes".
2. *Astria Hijriani*, PhD program in Industrial Engineering (ongoing from March 2022)  
Thesis topic: "Assessing the Maturity of Process Mining in Organizations".
3. *Jonghyeon Ko*, Combined MSc-PhD program in Industrial Engineering, defended in December 2021  
Thesis Title: "Information-theoretic detection of control-flow anomalies in business process event logs"
4. *Jongchan Kim*, Combined MSc-PhD program in Industrial Engineering, defended in June 2021  
Thesis Title: "Model-agnostic improvement of predictive business process monitoring"
5. *Minsu Cho*, PhD program in Industrial Engineering, defended in June 2018  
Thesis title: "A Data Analysis Methodology for Process Diagnosis and Redesign in Healthcare"

### **Master students at UNIST (since Feb 1<sup>st</sup> 2016)**

6. *Kim Yeonsu*, MSc in Industrial Engineering (ongoing from March 2023)  
Thesis topic: "Dataset Complexity in Predictive Monitoring of Business Processes"
7. *Kwon Nahyun*, MSc in Industrial Engineering, defended in December 2022  
Thesis title: "Genetic Algorithm for AutoML in predictive process monitoring"

8. *Lee Suhwan*, MSc in Industrial Engineering, defended in December 2021  
Thesis title: "A rule-based framework for interpretable predictions of business process outcomes using event logs"
9. *Erdenekhuu Unurjargal*, MSc in Management Engineering, defended in December 2019  
Thesis title: "Blockchain-Supported Food Supply Chain Reference Architecture"
10. *Marcela Alejandra Vargas Santamaria*, MSc in Management Engineering, defended in June 2018  
Thesis title: "A Multi-Dimensional Model of Enterprise Resource Planning Systems Critical Success Factors: Design and Evaluation"
11. *Hoang Thi Cam Nguyen*, MSc in Management Engineering, defended in December 2017  
Thesis title: "Neural Computing for Event Log Quality Improvement"

**Prior to UNIST (PhD-level only)**

12. *Minou Parhizkar* – City, University of London, Department of Computing, defended in June 2016  
Thesis title: "Impact Analysis of ERP post-implementation modifications"
13. *Mohammad Ehsan Rangiha*- City, University of London. Department of Computing, defended in January 2016.  
Thesis Title: "A framework for Social Business Process Management"
14. *Egon Luftenegger*- Eindhoven University of Technology, School of Industrial Engineering, defended in June 2014  
Thesis Title: "Service-Dominant Business Design"

## ***Courses Taught***

**UNIST**, Assistant/Associate Professor, 2016 – onwards

Blockchain Systems (Graduate and undergraduate program)  
 Predictive Analytics for Business Processes (Graduate program)  
 Business Process Management and Process Mining/ Data-driven Process Management (Undergraduate)  
 Applied Programming for Data Science (Undergraduate)  
 Introduction to Industrial Engineering (Undergraduate)

**City, University of London**, Assistant Professor, 2013- 2016

Management of IT Strategy  
 Business Engineering with ERP Systems  
 Electronic Commerce

**Eindhoven University of Technology**, Assistant Professor, 2009- 2013

Enterprise Information Systems  
 Design of Business Information Systems  
 Business Process Modelling  
 Product Lifecycle Management

**Politecnico di Milano**, Research Associate/ Adjunct lecturer, 2004 – 2009

Corporate Information Systems  
 Database Design  
 Business Process Re-engineering