

# Seppo A Sierla

## List of Publications by Year in Descending Order

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**Version:** 2024-04-19

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

72  
papers

639  
citations

12  
h-index

21  
g-index

81  
ext. papers

901  
ext. citations

4.8  
avg, IF

4.38  
L-index

#	Paper	IF	Citations
72	An overview of machine learning applications for smart buildings. <i>Sustainable Cities and Society</i> , <b>2022</b> , 76, 103445	10.1	17
71	A taxonomy of machine learning applications for virtual power plants and home/building energy management systems. <i>Automation in Construction</i> , <b>2022</b> , 136, 104174	9.6	4
70	Whitening CNN-Based Rotor System Fault Diagnosis Model Features. <i>Applied Sciences (Switzerland)</i> , <b>2022</b> , 12, 4411	2.6	0
69	A Review of Reinforcement Learning Applications to Control of Heating, Ventilation and Air Conditioning Systems. <i>Energies</i> , <b>2022</b> , 15, 3526	3.1	1
68	Exploiting Battery Storages With Reinforcement Learning: A Review for Energy Professionals. <i>IEEE Access</i> , <b>2022</b> , 10, 54484-54506	3.5	1
67	A methodology for generating a digital twin for process industry: a case study of a fiber processing pilot plant. <i>IEEE Access</i> , <b>2022</b> , 1-1	3.5	
66	Hybrid Digital Twin for process industry using Apros simulation environment <b>2021</b> ,		1
65	Validating the Real-Time Performance of Distributed Energy Resources Participating on Primary Frequency Reserves. <i>Energies</i> , <b>2021</b> , 14, 6914	3.1	0
64	A Virtual Power Plant Solution for Aggregating Photovoltaic Systems and Other Distributed Energy Resources for Northern European Primary Frequency Reserves. <i>Energies</i> , <b>2021</b> , 14, 1242	3.1	7
63	Robust Multi-Step Predictor for Electricity Markets with Real-Time Pricing. <i>Energies</i> , <b>2021</b> , 14, 4378	3.1	2
62	Solar Irradiance Nowcasting for Virtual Power Plants Using Multimodal Long Short-Term Memory Networks. <i>Frontiers in Energy Research</i> , <b>2021</b> , 9,	3.8	3
61	A Simulation Environment for Training a Reinforcement Learning Agent Trading a Battery Storage. <i>Energies</i> , <b>2021</b> , 14, 5587	3.1	1
60	Roadmap to semi-automatic generation of digital twins for brownfield process plants. <i>Journal of Industrial Information Integration</i> , <b>2021</b> , 100282	7	4
59	Towards Semi-Automatic Generation of a Steady State Digital Twin of a Brownfield Process Plant. <i>Applied Sciences (Switzerland)</i> , <b>2020</b> , 10, 6959	2.6	6
58	Generating an industrial process graph from 3D pipe routing information <b>2020</b> ,		2
57	. <i>IEEE Industrial Electronics Magazine</i> , <b>2020</b> , 14, 57-72	6.2	12
56	An Artificial Intelligence framework for bidding optimization with uncertainty in multiple frequency reserve markets. <i>Applied Energy</i> , <b>2020</b> , 280, 115918	10.7	8

55	Integrating 2D and 3D Digital Plant Information Towards Automatic Generation of Digital Twins <b>2020,</b>		6
54	Applying graph matching techniques to enhance reuse of plant design information. <i>Computers in Industry, 2019, 107, 81-98</i>	11.6	9
53	. <i>IEEE Transactions on Industrial Informatics, 2019, 15, 677-688</i>	11.9	14
52	Design to automation continuum for industrial processes: ISO 15926 IEC 61131 versus an industrial case <b>2019,</b>		2
51	Service-based Architecture with Product-centric Control in a Production Island-based Agile Factory <b>2019,</b>		1
50	Towards Product Centric Manufacturing: From Digital Twins to Product Assembly <b>2019,</b>		10
49	Adapting an agile manufacturing concept to the reference architecture model industry 4.0: A survey and case study. <i>Journal of Industrial Information Integration, 2019, 15, 147-160</i>	7	69
48	Automatic assembly planning based on digital product descriptions. <i>Computers in Industry, 2018, 97, 34-46</i>	11.6	49
47	An Integrated Implementation Methodology of a Lifecycle-Wide Tracking Simulation Architecture. <i>IEEE Access, 2018, 6, 15391-15407</i>	3.5	9
46	Automatic Generation of a Simulation-Based Digital Twin of an Industrial Process Plant <b>2018,</b>		25
45	Automatic Generation of a High-Fidelity Dynamic Thermal-Hydraulic Process Simulation Model From a 3D Plant Model. <i>IEEE Access, 2018, 6, 45217-45232</i>	3.5	14
44	Internet of Energy Approach for Sustainable Use of Electric Vehicles as Energy Storage of Prosumer Buildings. <i>Energies, 2018, 11, 2165</i>	3.1	18
43	Exploiting Artificial Neural Networks for the Prediction of Ancillary Energy Market Prices. <i>Energies, 2018, 11, 1906</i>	3.1	12
42	Tutorial: Road Lighting for Efficient and Safe Traffic Environments. <i>LEUKOS - Journal of Illuminating Engineering Society of North America, 2017, 13, 223-241</i>	3.5	12
41	. <i>IEEE Access, 2017, 5, 26591-26603</i>	3.5	7
40	Towards an aggregator that exploits big data to bid on frequency containment reserve market <b>2017,</b>		6
39	A framework for runtime verification of industrial process control systems <b>2017,</b>		2
38	Requirement verification in simulation-based automation testing <b>2016,</b>		3

37	An auction-based smart district heating grid <b>2015</b> ,		1
36	Vehicle and pedestrian aware street lighting automation <b>2015</b> ,		5
35	Capturing Deviations From Design Intent in Building Simulation Models for Risk Assessment. <i>Journal of Computing and Information Science in Engineering</i> , <b>2015</b> , 15,	2.4	3
34	A SysML profile supporting change orders in model driven engineering <b>2015</b> ,		1
33	<b>2015</b> ,		7
32	Automated Fault Location and Isolation in Distribution Grids With Distributed Control and Unreliable Communication. <i>IEEE Transactions on Industrial Electronics</i> , <b>2015</b> , 62, 2612-2619	8.9	25
31	<b>2014</b> ,		5
30	Security risk analysis for smart grid automation <b>2014</b> ,		3
29	Energy efficient traffic-based street lighting automation <b>2014</b> ,		9
28	Smart indoor lighting control: Power, illuminance, and colour quality <b>2014</b> ,		8
27	Safety analysis of mechatronic product lines. <i>Mechatronics</i> , <b>2014</b> , 24, 231-240	3	6
26	Security impact assessment of industrial automation systems using genetic algorithm and simulation <b>2014</b> ,		1
25	Co-simulation of a dynamic process simulator and an event-based control system: Case district heating system <b>2014</b> ,		4
24	Adapting Keyword driven test automation framework to IEC 61131-3 industrial control applications using PLCopen XML <b>2014</b> ,		5
23	Common cause failure analysis of cyberphysical systems situated in constructed environments. <i>Research in Engineering Design - Theory, Applications, and Concurrent Engineering</i> , <b>2013</b> , 24, 375-394	3.5	25
22	Generating an Object Oriented IEC 61131-3 software product line architecture from SysML <b>2013</b> ,		11
21	Industrial evaluation of functional Model-Based Testing for process control applications using CAEX <b>2013</b> ,		10
20	An industrial evaluation of SysML: The case of a nuclear automation modernization project <b>2013</b> ,		4

19	A Simulation Based Approach to Automate Event Tree Generation for Early Complex System Designs <b>2013</b> ,		2
18	Early integration of safety to the mechatronic system design process by the functional failure identification and propagation framework. <i>Mechatronics</i> , <b>2012</b> , 22, 137-151	3	51
17	Early phase fault propagation analysis of safety critical factory automation systems <b>2012</b> ,		2
16	Using Fault Propagation Analyses for Early Elimination of Unreliable Design Alternatives of Complex Cyber-Physical Systems <b>2012</b> ,		4
15	Simulation of Interactions and Emergent Failure Behavior During Complex System Design. <i>Journal of Computing and Information Science in Engineering</i> , <b>2012</b> , 12,	2.4	12
14	Generating and validating product instances in IEC 61131B from feature models <b>2011</b> ,		4
13	Object oriented extensions of IEC 61131B as an enabling technology of software product lines <b>2011</b> ,		7
12	Challenges in industrial adoption of model-driven technologies in process control application design <b>2011</b> ,		3
11	Capturing Interactions and Emergent Failure Behavior in Complex Engineered Systems at Multiple Scales <b>2011</b> ,		7
10	Reducing redesign of safety critical control systems by early risk assessment <b>2010</b> ,		3
9	Assessing the industrial applicability and adoption potential of the AUKOTON model driven control application engineering approach <b>2010</b> ,		12
8	Distributed Problem Solving in Software Development: The Case of an Automation Project. <i>Social Studies of Science</i> , <b>2008</b> , 38, 133-158	2.4	8
7	An IEC 61499 Based Approach for Distributed Batch Process Control. <i>Industrial Informatics, 2009 INDIN 2009 7th IEEE International Conference on</i> , <b>2007</b> ,		4
6	A Migration Path to IEC 61499 for the Batch Process Industry <b>2007</b> ,		21
5	Educational approaches for the industrial acceptance of IEC 61499 <b>2007</b> ,		5
4	Process Control with IEC 61499: DesignersXChoices at Different Levels of the Application Hierarchy <b>2006</b> ,		7
3	Professional designersXadaptations of IEC 61499 to their individual work practices <b>2006</b> ,		10
2	An Infrastructure for Open Service Architectures in MMM Industries. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2004</b> , 37, 275-280		

1 Real-time middleware for the requirements of distributed process control

3