Martin Fischer

List of Publications by Year
in descending order

97 papers	4,526 citations	172457 29 h-index	144013 57 g-index
98 all docs	98 docs citations	98 times ranked	2986 citing authors

#	Article	IF	Citations
1	3D Semantic Parsing of Large-Scale Indoor Spaces. , 2016, , .		820
2	Determinants of residential electricity consumption: Using smart meter data to examine the effect of climate, building characteristics, appliance stock, and occupants' behavior. Energy, 2013, 55, 184-194.	8.8	439
3	Feasibility Study of 4D CAD in Commercial Construction. Journal of Construction Engineering and Management - ASCE, 2000, 126, 251-260.	3.8	331
4	Areas of Application for 3D and 4D Models on Construction Projects. Journal of Construction Engineering and Management - ASCE, 2008, 134, 776-785.	3.8	215
5	Climate change impacts on international seaports: knowledge, perceptions, and planning efforts among port administrators. Climatic Change, 2012, 110, 5-29.	3.6	184
6	Automated Generation of Work Spaces Required by Construction Activities. Journal of Construction Engineering and Management - ASCE, 2002, 128, 306-315.	3.8	140
7	Generating, evaluating and visualizing construction schedules with CAD tools. Automation in Construction, 1998, 7, 433-447.	9.8	122
8	3D Scene Graph: A Structure for Unified Semantics, 3D Space, and Camera. , 2019, , .		115
9	Teaching construction project management with BIM support: Experience and lessons learned. Automation in Construction, 2011, 20, 115-125.	9.8	114
10	Construction payment automation using blockchain-enabled smart contracts and robotic reality capture technologies. Automation in Construction, 2021, 132, 103926.	9.8	100
11	Implementing information systems with project teams using ethnographicâ€"action research. Advanced Engineering Informatics, 2009, 23, 57-67.	8.0	98
12	Supporting the constructability review with 3D/4D models. Building Research and Information, 2007, 35, 70-80.	3.9	92
13	Role of Blockchain-Enabled Smart Contracts in Automating Construction Progress Payments. Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, 2021, 13, .	1.4	90
14	Research in Visualization Techniques for Field Construction. Journal of Construction Engineering and Management - ASCE, 2011, 137, 853-862.	3.8	83
15	Integrating Project Delivery. , 2017, , .		67
16	Representing Work Spaces Generically in Construction Method Models. Journal of Construction Engineering and Management - ASCE, 2002, 128, 296-305.	3.8	64
17	The application of blockchain-based crypto assets for integrating the physical and financial supply chains in the construction & engineering industry. Automation in Construction, 2021, 127, 103711.	9.8	64
18	Strategy for Computer Integrated Construction Technology. Journal of Construction Engineering and Management - ASCE, 1994, 120, 117-131.	3.8	63

#	Article	IF	Citations
19	THE SCOPE AND ROLE OF INFORMATION TECHNOLOGY IN CONSTRUCTION. Doboku Gakkai Ronbunshu, 2004, 2004, 1-31.	0.2	62
20	Towards seaport resilience for climate change adaptation: Stakeholder perceptions of hurricane impacts in Gulfport (MS) and Providence (RI). Progress in Planning, 2015, 99, 1-49.	4.3	60
21	Ranking appliance energy efficiency in households: Utilizing smart meter data and energy efficiency frontiers to estimate and identify the determinants of appliance energy efficiency in residential buildings. Energy and Buildings, 2015, 99, 220-230.	6.7	54
22	A generic feature-driven activity-based cost estimation process. Advanced Engineering Informatics, 2003, 17, 23-39.	8.0	53
23	A method to compare simulated and measured data to assess building energy performance. Building and Environment, 2012, 56, 241-251.	6.9	52
24	BIM-based decision-support method for master planning of sustainable large-scale developments. Automation in Construction, 2015, 58, 95-108.	9.8	51
25	Capitalizing on early project decision-making opportunities to improve facility design, construction, and life-cycle performance—POP, PM4D, and decision dashboard approaches. Automation in Construction, 2004, 13, 53-65.	9.8	49
26	An Ontology for Relating Features with Activities to Calculate Costs. Journal of Computing in Civil Engineering, 2003, 17, 243-254.	4.7	44
27	Quantitative analysis of workflow, temporary structure usage, and productivity using 4D models. Automation in Construction, 2008, 17, 780-791.	9.8	41
28	Parametric analysis of design stage building energy performance simulation models. Energy and Buildings, 2018, 172, 78-93.	6.7	36
29	BIM-Centric Daylight Profiler for Simulation (BDP4SIM): A methodology for automated product model decomposition and recomposition for climate-based daylighting simulation. Building and Environment, 2012, 58, 114-134.	6.9	34
30	A feature ontology to support construction cost estimating. Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM, 2003, 17, 133-154.	1.1	33
31	Digital Twin: From Concept to Practice. Journal of Management in Engineering - ASCE, 2022, 38, .	4.8	33
32	Fully Constrained Design: A general and scalable method for discrete member sizing optimization of steel truss structures. Computers and Structures, 2014, 140, 55-65.	4.4	30
33	Formalizing Construction Knowledge for Concurrent Performance-Based Design. Lecture Notes in Computer Science, 2006, , 186-205.	1.3	28
34	Can we grow buildings? Concepts and requirements for automated nano- to meter-scale building. Advanced Engineering Informatics, 2011, 25, 390-398.	8.0	27
35	A knowledge-based framework for automated space-use analysis. Automation in Construction, 2013, 32, 165-176.	9.8	27
36	Perspectors: composable, reusable reasoning modules to construct an engineering view from other engineering views. Advanced Engineering Informatics, 2004, 18, 49-67.	8.0	26

#	Article	IF	Citations
37	Automation of Inspection Mission Planning Using 4D BIMs and in Support of Unmanned Aerial Vehicleâ€"Based Data Collection. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	3.8	25
38	Virtual design and construction. Construction Management and Economics, 2020, 38, 355-363.	3.0	24
39	Empirical Study of Identifying Logistical Problems in Prefabricated Interior Wall Panel Construction. Journal of Management in Engineering - ASCE, 2021, 37, .	4.8	24
40	Measuring the impact of blockchain and smart contracts on construction supply chain visibility. Advanced Engineering Informatics, 2021, 50, 101444.	8.0	24
41	An analytical method to estimate the total installed cost of structural steel building frames during early design. Journal of Building Engineering, 2018, 15, 41-50.	3.4	23
42	Human-Robot Collaboration in Construction: Opportunities and Challenges. , 2020, , .		21
43	Comparative Analysis of Manual and Robotic Concrete Drilling for Installation Hangers. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	3.8	20
44	Virtual components consisting of form, function and behavior. Automation in Construction, 1999, 8, 351-367.	9.8	19
45	A formal identification and re-sequencing process for developing sequencing alternatives in CPM schedules. Automation in Construction, 2007, 17, 75-89.	9.8	19
46	A genetic algorithm-based method for look-ahead scheduling in the finishing phase of construction projects. Advanced Engineering Informatics, 2012, 26, 737-748.	8.0	19
47	Ontology for Representing Building Usersâ€™ Activities in Space-Use Analysis. Journal of Construction Engineering and Management - ASCE, 2014, 140, .	3.8	19
48	A method to estimate climate-critical construction materials applied to seaport protection. Global Environmental Change, 2016, 40, 125-136.	7.8	19
49	A method to automate look-ahead schedule (LAS) generation for the finishing phase of construction projects. Automation in Construction, 2013, 35, 157-173.	9.8	17
50	A bi-level hierarchical method for shape and member sizing optimization of steel truss structures. Computers and Structures, 2014, 131, 1-11.	4.4	16
51	Automated updating of space design requirements connecting user activities and space types. Automation in Construction, 2015, 50, 102-110.	9.8	16
52	Learning movement patterns of the occupant in smart home environments: an unsupervised learning approach. Journal of Ambient Intelligence and Humanized Computing, 2017, 8, 133-146.	4.9	16
53	Daily plan-do-check-act (PDCA) cycles with level of development (LOD) 400 objects for foremen. Advanced Engineering Informatics, 2020, 44, 101091.	8.0	15
54	Method to produce field instructions from product and process models for cast-in-place concrete operations. Automation in Construction, 2012, 22, 233-246.	9.8	13

#	ARTICLE	IF	CITATIONS
55	UAV-Enabled Site-to-BIM Automation: Aerial Robotic- and Computer Vision-Based Development of As-Built/As-Is BIMs and Quality Control. , 2018, , .		13
56	Generation of stacking plans for prefabricated exterior wall panels shipped vertically with A-frames. Automation in Construction, 2021, 122, 103507.	9.8	13
57	Automated Generation of User Activity–Space Pairs in Space-Use Analysis. Journal of Construction Engineering and Management - ASCE, 2014, 140, .	3.8	12
58	Semiautomated Scaffolding Planning: Development of the Feature Lexicon for Computer Application. Journal of Computing in Civil Engineering, 2015, 29, .	4.7	12
59	Formalization of the Features of Activities and Classification of Temporary Structures to Support an Automated Temporary Structure Planning. , 2007, , 338.		11
60	Safety, quality, schedule, and cost impacts of ten construction robots. Construction Robotics, 2022, 6, 163-186.	2.2	11
61	4-D Workplanner: A Prototype System for Automated Generation of Construction Spaces and Analysis of Time-Space Conflicts. , 2000, , 740.		10
62	Sharing of Temporary Structures: Formalization and Planning Application. Automation in Construction, 2014, 43, 187-194.	9.8	10
63	Construction Parts in Building Projects: Definition and Case Study. Journal of Management in Engineering - ASCE, 2018, 34, 04018014.	4.8	10
64	Field Study on the Connection between BIM and Daily Work Orders. Journal of Construction Engineering and Management - ASCE, 2017, 143, .	3.8	9
65	A Construction Workflow Model for Analyzing the Impact of In-Project Variability. , 2016, , .		8
66	Guiding building professionals in selecting additive manufacturing technologies to produce building components. Materials Today Communications, 2018, 15, 199-202.	1.9	8
67	Making Each Workhour Count: Improving the Prediction of Construction Durations and Resource Allocations. Lecture Notes in Computer Science, 2018, , 273-295.	1.3	8
68	Comparison of Construction Robots and Traditional Methods for Drilling, Drywall, and Layout Tasks. , 2020, , .		8
69	Is Too Much System Caution Counterproductive? Effects of Varying Sensitivity and Automation Levels in Vehicle Collision Avoidance Systems. , 2020, , .		8
70	ASSESSMENT OF ADDITIVE AND CONVENTIONAL MANUFACTURING: CASE STUDIES FROM THE AEC INDUSTRY. Proceedings of International Structural Engineering and Construction, 2017, 4, .	0.1	7
71	An Automated Approach for Accounting for Spaces Required by Construction Activities. , 2000, , 1.		6
72	Is adaptation sustainable?. Construction Innovation, 2013, 13, 202-216.	2.7	6

#	Article	IF	Citations
73	Digital Twin in Practice: Emergent Insights from an Ethnographic-Action Research Study. , 2022, , .		6
74	A robot evaluation framework comparing on-site robots with traditional construction methods. Construction Robotics, 2022, 6, 187-206.	2.2	6
75	Generation and evaluation of excavation schedules for hard rock tunnels in preconstruction and construction. Automation in Construction, 2018, 96, 378-397.	9.8	5
76	Formalisms and Mechanisms Needed to Maintain Cost Estimates Based on an IFC Product Model. , 2000, , 716.		4
77	CAD-Centric Attribution Methodology for Multidisciplinary Optimization Environments: Enabling Parametric Attribution for Efficient Design Space Formulation and Evaluation. Journal of Computing in Civil Engineering, 2014, 28, 284-296.	4.7	4
78	Evaluation of Reshuffling Efforts to Comply with Installation Sequences of Prefabricated Interior Wall Panels from Bunks Delivered On Site. , 2019, , .		4
79	Measuring Progress and Productivity in Model-Driven Engineering for Capital Project Delivery. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	3.8	4
80	A Comparative Analysis of Production Metrics across VDC Implementations. , 2022, , .		4
81	Reshaping the Life Cycle Process with Virtual Design and Construction Methods. , 2009, , 104-112.		3
82	UAV Mission Planning Using Swarm Intelligence and 4D BIMs in Support of Vision-Based Construction Progress Monitoring and As-Built Modeling. , 2018, , .		3
83	The Car That Cried Wolf: Driver Responses to Missing, Perfectly Performing, and Oversensitive Collision Avoidance Systems. , 2019, , .		3
84	A design-focused, cost-ranked, structural-frame sizing optimization. Journal of Building Engineering, 2020, 30, 101269.	3.4	3
85	Assessment Framework for Additive Manufacturing in the AEC Industry. Journal of Construction Engineering and Management - ASCE, 2022, 148, .	3.8	3
86	Closure to â€œFeasibility Study of 4D CAD in Commercial Constructionâ€•by Bonsang Koo and Martin Fischer. Journal of Construction Engineering and Management - ASCE, 2002, 128, 274-275.	3.8	2
87	Closure to â€œAreas of Application for 3D and 4D Models on Construction Projectsâ€•by Timo Hartmann, Ju Gao, and Martin Fischer. Journal of Construction Engineering and Management - ASCE, 2010, 136, 932-934.	3.8	2
88	Model Maturity Risk Index Framework for Tracking Progress in Model-Based Engineering. , 2018, , .		2
89	Empirical Determination of the Smallest Batch Sizes for Daily Planning. Journal of Construction Engineering and Management - ASCE, 2020, 146, 04020011.	3.8	2
90	Methodology to estimate logistics costs for vertically transported prefabricated wall panels. Journal of Computational Design and Engineering, 2022, 9, 1348-1368.	3.1	2

#	Article	IF	Citations
91	Formal representation of cost and duration estimates for hard rock tunnel excavation. Automation in Construction, 2018, 96, 337-349.	9.8	1
92	Generating a Daily Bill of Materials at Level of Development 400 Using the Smallest Workface Boundary. Journal of Construction Engineering and Management - ASCE, 2020, 146, 04020035.	3.8	1
93	Cost-based optimization of steel frame member sizing and connection type using dimension increasing search. Optimization and Engineering, 2022, 23, 1525-1558.	2.4	1
94	Narratives: Extensible Distributed Multidisciplinary Parametric Models. , 2005, , 1.		0
95	Application of Design Scenarios Methodology to Evaluate the Effectiveness of Transparent Parametric Design Spaces. Journal of Architectural Engineering, 2014, 20, 04013009.	1.6	0
96	A Method to Provide Integrated Design through Systems-Level Automation. , 2019, , .		0
97	Impacts of Stacking Plans on Carbon Emissions during Transportation of Prefabricated Exterior Wall Panels. , 2022, , .		0