Twan Basten

List of Publications by Year in Descending Order

171 papers	2,277 citations	22 h-index	42 g-index
191 ext. papers	2,715 ext. citations	2.3 avg, IF	5.09 L-index

#	Paper	IF	Citations
171	Delay-Aware Multi-Layer Multi-Rate Model Predictive Control for Vehicle Platooning Under Message-Rate Congestion Control. *IEEE Access*, **2022**, 10, 44583-44607	3.5	0
170	Partial-Order Reduction for Supervisory Controller Synthesis. *IEEE Transactions on Automatic Control*, **2021**, 1-1	5.9	0
169	Design and management of image processing pipelines within CPS: acquired experience towards the end of the FitOptiVis ECSEL Project. *Microprocessors and Microsystems*, **2021**, 104350	2.4	0
168	Multi-layer multi-rate model predictive control for vehicle platooning under IEEE 802.11p. *Transportation Research Part C: Emerging Technologies*, **2021**, 124, 102905	8.4	5
167	Receiver-Sensitivity Control for Energy-Efficient IoT Networks. *IEEE Communications Letters*, **2021**, 25, 1383-1386	3.8	2
166	Model-driven system-performance engineering for cyber-physical systems **2021**,		1
165	Optimising Multiprocessor Image-Based Control Through Pipelining and Parallelism. *IEEE Access*, **2021**, 9, 112332-112358	3.5	
164	A scenario- and platform-aware design flow for image-based control systems. *Microprocessors and Microsystems*, **2020**, 75, 103037	2.4	9
163	A Compositional Model for Multi-Rate Max-Plus Linear Systems. *IFAC-PapersOnLine*, **2020**, 53, 54-61	0.7	
162	Introduction and Organization of Book Material **2020**, 1-5		
161	Programming tensor cores from an image processing DSL **2020**,		1
160	Firmness Analysis of Real-time Tasks. *Transactions on Embedded Computing Systems*, **2020**, 19, 1-24	1.8	1
159	Schedule Synthesis for Halide Pipelines on GPUs. *Transactions on Architecture and Code Optimization*, **2020**, 17, 1-25	1.3	3
158	Scenarios in Dataflow Modeling and Analysis **2020**, 145-180		
157	Scenarios in the Design of Flexible Manufacturing Systems **2020**, 181-224		2
156	Trading Sensitivity for Power in an IEEE 802.15.4 Conformant Adequate Demodulator **2020**,		1
155	Reconfigurable Pipelined Control Systems. *IEEE Design and Test*, **2020**, 1-1	1.4	

154	Design and management of image processing pipelines within CPS: 2 years of experience from the FitOptiVis ECSEL Project **2020**,		2
153	Designing a Controller with Image-based Pipelined Sensing and Additive Uncertainties. *ACM Transactions on Cyber-Physical Systems*, **2019**, 3, 1-26	2.3	2
152	Trading Digital Accuracy for Power in an RSSI Computation of a Sensor Network Transceiver **2019**,		3
151	The FitOptiVis ECSEL project **2019**,		10
150	Schedule Synthesis for Halide Pipelines through Reuse Analysis. *Transactions on Architecture and Code Optimization*, **2019**, 16, 1-22	1.3	4
149	Topology Management and TSCH Scheduling for Low-Latency Convergecast in In-Vehicle WSNs. *IEEE Transactions on Industrial Informatics*, **2019**, 15, 1082-1093	11.9	22
148	Parametric Scheduler Characterization. *Transactions on Embedded Computing Systems*, **2019**, 18, 1-25	1.8	
147	Kahn Process Networks and a Reactive Extension **2019**, 865-906		2
146	Designing image-based control systems considering workload variations **2019**,		3
145	Control of Platooned Vehicles in Presence of Traffic Shock Waves **2019**,		2
144	Monotonic Optimization of Dataflow Buffer Sizes. *Journal of Signal Processing Systems*, **2019**, 91, 21-32	1.4	3
143	Loop transformations leveraging hardware prefetching **2018**,		2
142	Dependable Interference-Aware Time-Slotted Channel Hopping for Wireless Sensor Networks. *ACM Transactions on Sensor Networks*, **2018**, 14, 1-35	2.9	13
141	Parametric Critical Path Analysis for Event Networks With Minimal and Maximal Time Lags. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2018**, 37, 2697-2708	2.5	2
140	Scalable Analysis for Multi-Scale Dataflow Models. *Transactions on Embedded Computing Systems*, **2018**, 17, 1-26	1.8	2
139	Partial-Order Reduction for Performance Analysis of Max-Plus Timed Systems **2018**,		3
138	Hybrid Timeslot Design for IEEE 802.15.4 TSCH to Support Heterogeneous WSNs **2018**,		2
137	Compositional Dataflow Modelling for Cyclo-Static Applications **2018**,		1

136	Optimising Quality-of-Control for Data-Intensive Multiprocessor Image-Based Control Systems Considering Workload Variations **2018**,		2
135	Co-simulation Framework for Control, Communication and Traffic for Vehicle Platoons **2018**,		6
134	Effective link quality estimation as a means to improved end-to-end packet delivery in high traffic mobile ad hoc networks ?. *Digital Communications and Networks*, **2017**, 3, 150-163	5.9	2
133	xCPS. *ACM SIGBED Review*, **2017**, 14, 81-95	1.3	9
132	Special Section. *ACM Transactions on Design Automation of Electronic Systems*, **2017**, 22, 1-2	1.5	
131	Task-FIFO Co-Scheduling of Streaming Applications on MPSoCs with Predictable Memory Hierarchy. *Transactions on Embedded Computing Systems*, **2017**, 16, 1-25	1.8	1
130	Mapping of synchronous dataflow graphs on MPSoCs based on parallelism enhancement. *Journal of Parallel and Distributed Computing*, **2017**, 101, 79-91	4.4	13
129	Performance Analysis of Weakly-Consistent Scenario-Aware Dataflow Graphs. *Journal of Signal Processing Systems*, **2017**, 87, 157-175	1.4	13
128	Analyzing execution traces: critical-path analysis and distance analysis. *International Journal on Software Tools for Technology Transfer*, **2017**, 19, 487-510	1.3	4
127	Online Scheduling of 2-Re-entrant Flexible Manufacturing Systems. *Transactions on Embedded Computing Systems*, **2017**, 16, 1-20	1.8	6
126	Exploring the trade-off between processing resources and settling time in image-based control through LQR tuning **2017**,		4
125	Robust online face tracking-by-detection **2016**,		2
124	An Experimental Study of Cross-Technology Interference in In-Vehicle Wireless Sensor Networks **2016**,		5
123	A Fast Estimator of Performance with Respect to the Design Parameters of Self Re-Entrant Flowshops **2016**,		1
122	**2016**,		10
121	A blueprint for system-level performance modeling of software-intensive embedded systems. *International Journal on Software Tools for Technology Transfer*, **2016**, 18, 21-40	1.3	4
120	. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2016**, 35, 905-918	2.5	8
119	INLyD **2016**,		1

118	Tight temporal bounds for dataflow applications mapped onto shared resources **2016**,		2
117	Reconfigurable pipelined sensing for image-based control **2016**,		3
116	A Distributed Reconfiguration Approach for Quality-of-Service Provisioning in Dynamic Heterogeneous Wireless Sensor Networks. *ACM Transactions on Sensor Networks*, **2015**, 11, 1-41	2.9	1
115	Online multi-face detection and tracking using detector confidence and structured SVMs **2015**,		9
114	Modular model-based supervisory controller design for wafer logistics in lithography machines **2015**,		16
113	Multi-Domain Virtual Prototyping in a SystemC SIL framework: A heating system case study **2015**,		1
112	Wireless Body Area Network Protocols **2015**, 191-210		
111	Wireless Body Area Network Data Delivery **2015**, 211-230		
110	A re-entrant flowshop heuristic for online scheduling of the paper path in a large scale printer **2015** ,		3
109	xCPS **2015**,		4
108	Iterative robust multiprocessor scheduling **2015**,		1
107	Multi-Constraint multi-processor Resource Allocation **2015**,		2
106	Task-FIFO Co-scheduling of Streaming Applications on MPSoCs with Predictable Memory Hierarchy **2015**,		1
105	Enhanced Time-Slotted Channel Hopping in WSNs Using Non-intrusive Channel-Quality Estimation **2015**,		19
104	Performance Engineering for Industrial Embedded Data-Processing Systems. *Lecture Notes in Computer Science*, **2015**, 399-414	0.9	2
103	Efficient Cluster Mobility Support for TDMA-Based MAC Protocols in Wireless Sensor Networks. *ACM Transactions on Sensor Networks*, **2014**, 10, 1-32	2.9	4
102	Memory-constrained static rate-optimal scheduling of synchronous dataflow graphs via retiming **2014**,		1
101	A tool for fast ground truth generation for object detection and tracking from video **2014**,		4

100	Fault-tolerant embedded control systems for unreliable hardware **2014**,		4
99	Performance analysis of weakly-consistent scenario-aware dataflow graphs **2014**,		3
98	Robustness analysis of multiprocessor schedules **2014**,		10
97	Fast-performance simulation for Gossip-based Wireless Sensor Networks. *Simulation*, **2014**, 90, 103-126	1.2	
96	Memory-constrained static rate-optimal scheduling of synchronous dataflow graphs via retiming **2014**,		3
95	Semantic interoperability in sensor applications making sense of sensor data **2013**,		5
94	. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2013**, 21, 1308-1321	2.6	1
93	RASW: A run-time adaptive sliding window to improve Viola-Jones object detection **2013**,		6
92	Schedule-Extended Synchronous Dataflow Graphs. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2013**, 32, 1495-1508	2.5	12
91	Throughput-constrained DVFS for scenario-aware dataflow graphs **2013**,		13
90	Aspects of Adaptive Systems Engineering: A Professional Printing Case. *Embedded Systems*, **2013**, 11-40		
89	Model-Driven Design-Space Exploration for Software-Intensive Embedded Systems. *Embedded Systems*, **2013**, 189-244		8
88	A fast and scalable multidimensional multiple-choice knapsack heuristic. *ACM Transactions on Design Automation of Electronic Systems*, **2013**, 18, 1-32	1.5	22
87	Architecture for self-organizing, co-operative and robust Building Automation Systems **2013**,		3
86	Fast Multiprocessor Scheduling with Fixed Task Binding of Large Scale Industrial Cyber Physical Systems **2013**,		7
85	Kahn Process Networks and a Reactive Extension **2013**, 1041-1081		8
84	Efficient Retiming of Multirate DSP Algorithms. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2012**, 31, 831-844	2.5	15
83	Demonstrating on-demand listening and data forwarding in wireless body area networks **2012**,		2

82	**2012**,		3
81	**2012**,		1
80	Parametric throughput analysis of scenario-aware dataflow graphs **2012**,		14
79	Static Rate-Optimal Scheduling of Multirate DSP Algorithms via Retiming and Unfolding **2012**,		9
78	A Distributed Feedback Control Mechanism for Quality-of-Service Maintenance in Wireless Sensor Networks **2012**,		1
77	Playing games with scenario- and resource-aware SDF graphs through policy iteration **2012**,		1
76	Modeling static-order schedules in synchronous dataflow graphs **2012**,		18
75	On-demand data forwarding for automatic adaptation of data propagation in WBANs **2012**,		7
74	Model-Driven Design-Space Exploration for Software-Intensive Embedded Systems. *Lecture Notes in Computer Science*, **2012**, 1-6	0.9	2
73	Dynamic data prioritization for quality-of-service differentiation in heterogeneous Wireless Sensor Networks **2011**,		6
72	MoBAN: A Configurable Mobility Model for Wireless Body Area Networks **2011**,		43
71	Parameterized Partial Orders for Modeling Embedded System Use Cases: Formal Definition and Translation to Coloured Petri Nets **2011**,		2
70	Pareto Analysis with Uncertainty **2011**,		7
69	A Probabilistic Acknowledgment Mechanism for Wireless Sensor Networks **2011**,		5
68	Scenario-aware dataflow: Modeling, analysis and implementation of dynamic applications **2011**,		57
67	Hybrid Code-Data Prefetch-Aware Multiprocessor Task Graph Scheduling **2011**,		2
66	Distributed maintenance of minimum-cost path information in wireless sensor networks **2011**,		2
65	Integrated model-driven design-space exploration for embedded systems **2011**,		8

64	Iteration-Based Trade-Off Analysis of Resource-Aware SDF **2011**,		6
63	Proactive reconfiguration of wireless sensor networks **2011**,		3
62	Predicting the throughput of multiprocessor applications under dynamic workload **2010**,		3
61	Automated bottleneck-driven design-space exploration of media processing systems **2010**,		9
60	A Predictable Multiprocessor Design Flow for Streaming Applications with Dynamic Behaviour **2010** ,		35
59	A pareto-algebraic framework for signal power optimization in global routing **2010**,		2
58	MCMAC: An Optimized Medium Access Control Protocol for Mobile Clusters in Wireless Sensor Networks **2010**,		13
57	Buffer Sizing for Rate-Optimal Single-Rate Data-Flow Scheduling Revisited. *IEEE Transactions on Computers*, **2010**, 59, 188-201	2.5	25
56	A robust protocol stack for multi-hop wireless body area networks with transmit power adaptation **2010**,		28
55	Thermal-aware scratchpad memory design and allocation **2010**,		3
54	Model-Driven Design-Space Exploration for Embedded Systems: The Octopus Toolset. *Lecture Notes in Computer Science*, **2010**, 90-105	0.9	22
53	Kahn Process Networks and a Reactive Extension **2010**, 967-1006		5
52	Exploring trade-offs between performance and resource requirements for synchronous dataflow graphs **2009**,		14
51	Configuring multi-objective evolutionary algorithms for design-space exploration of wireless sensor networks **2009**,		7
50	A parameterized compositional multi-dimensional multiple-choice knapsack heuristic for CMP run-time management **2009**,		30
49	Fast simulation methods to predict wireless sensor network performance **2009**,		7
48	Quality-of-service trade-off analysis for wireless sensor networks. *Performance Evaluation*, **2009**, 66, 191-208	1.2	12
47	System-scenario-based design of dynamic embedded systems. *ACM Transactions on Design Automation of Electronic Systems*, **2009**, 14, 1-45	1.5	96

46	QoS Management for Wireless Sensor Networks with a Mobile Sink. *Lecture Notes in Computer Science*, **2009**, 53-68	0.9	3
45	Application Scenarios in Streaming-Oriented Embedded-System Design. *IEEE Design and Test of Computers*, **2008**, 25, 581-589		11
44	Formal Modeling and Scheduling of Datapaths of Digital Document Printers. *Lecture Notes in Computer Science*, **2008**, 170-187	0.9	12
43	Throughput-Buffering Trade-Off Exploration for Cyclo-Static and Synchronous Dataflow Graphs. *IEEE Transactions on Computers*, **2008**, 57, 1331-1345	2.5	85
42	Parametric Throughput Analysis of Synchronous Data Flow Graphs **2008**,		25
41	Scenario Selection and Prediction for DVS-Aware Scheduling of Multimedia Applications. *Journal of Signal Processing Systems*, **2008**, 50, 137-161	1.4	10
40	Analyzing concurrency in streaming applications. *Journal of Systems Architecture*, **2008**, 54, 124-144	5.5	2
39	Resource-efficient routing and scheduling of time-constrained streaming communication on networks-on-chip. *Journal of Systems Architecture*, **2008**, 54, 411-426	5.5	15
38	A monitoring-aware network-on-chip design flow. *Journal of Systems Architecture*, **2008**, 54, 397-410	5.5	10
37	SPaC **2008**,		2
36	A Calculator for Pareto Points **2007**,		9
35	Latency Minimization for Synchronous Data Flow Graphs **2007**,		25
34	Analysing qos trade-offs in wireless sensor networks **2007**,		7
33	Execution-time Prediction for Dynamic Streaming Applications with Task-level Parallelism **2007**,		8
32	Multiprocessor Resource Allocation for Throughput-Constrained Synchronous Dataflow Graphs. *Proceedings - Design Automation Conference*, **2007**,		20
31	Exploring trade-offs in buffer requirements and throughput constraints for synchronous dataflow graphs **2006**,		87
30	Application Scenarios in Streaming-Oriented Embedded System Design **2006**,		12
29	Transaction Monitoring in Networks on Chip: The On-Chip Run-Time Perspective **2006**,		26

28	Dynamic-SIMD for lens distortion compensation **2006**,		1
27	Profiling Driven Scenario Detection and Prediction for Multimedia Applications **2006**,		6
26	Liveness and Boundedness of Synchronous Data Flow Graphs **2006**,		24
25	A domain-independent descriptive design model and its application to structured reflection on design processes. *Research in Engineering Design - Theory, Applications, and Concurrent Engineering*, **2006**, 16, 147-173	3.5	30
24	An event-based monitoring service for networks on chip. *ACM Transactions on Design Automation of Electronic Systems*, **2005**, 10, 702-723	1.5	37
23	Automatic scenario detection for improved WCET estimation **2005**,		23
22	Intra-task scenario-aware voltage scheduling **2005**,		17
21	Designing Area and Performance Constrained SIMD/VLIW Image Processing Architectures. *Lecture Notes in Computer Science*, **2005**, 689-696	0.9	3
20	Cluster-Based Partial-Order Reduction. *Automated Software Engineering*, **2004**, 11, 365-402	1.5	8
19	**2004**,		21
18	Reactive process networks **2004**,		35
17	PARS: A Process Algebra with Resources and Schedulers. *Lecture Notes in Computer Science*, **2004**, 134-150	0.9	7
16	Static resource models for code-size efficient embedded processors. *Transactions on Embedded Computing Systems*, **2003**, 2, 219-250	1.8	
15	Inheritance of workflows: an approach to tackling problems related to change. *Theoretical Computer Science*, **2002**, 270, 125-203	1.1	304
14	Inheritance of behavior. *The Journal of Logic and Algebraic Programming*, **2001**, 47, 47-145		97
13	Diagnosing Workflow Processes using Woflan. *Computer Journal*, **2001**, 44, 246-279	1.3	221
12	Identifying Commonalities and Differences in Object Life Cycles Using Behavioral Inheritance. *Lecture Notes in Computer Science*, **2001**, 32-52	0.9	32
11	Process Algebra in PVS. *Lecture Notes in Computer Science*, **1999**, 270-284	0.9	5

List of Publications

10	Parsing Partially Ordered Multisets. *International Journal of Foundations of Computer Science*, **1997**, 08, 379-407	0.6	2
9	Vector time and causality among abstract events in distributed computations. *Distributed Computing*, **1997**, 11, 21-39	1.2	9
8	Branching bisimilarity is an equivalence indeed!. *Information Processing Letters*, **1996**, 58, 141-147	0.8	58
7	Simulating and analyzing railway interlockings in ExSpect. *IEEE Parallel and Distributed Technology*, **1995**, 3, 50		13
6	Predictable embedding of large data structures in multiprocessor networks-on-chip		2
5	An algebra of Pareto points		18
4	Ambient intelligence visions and achievements: linking abstract ideas to real-world concepts		21
3	CAST - a task-level concurrency analysis tool		1
2	Modeling and validating globally asynchronous design in synchronous frameworks		4
1	Using Aspect-GAMMA in the design of embedded systems		2