Tsung-Yi Ho

List of Publications by Year
in descending order

268 papers	3,447 citations	279487 23 h-index	360668 35 g-index
279 all docs	279 docs citations	279 times ranked	715 citing authors

#	Article	IF	Citations
1	Error Recovery in Cyberphysical Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 59-72.	1.9	126
2	A fast routability- and performance-driven droplet routing algorithm for digital microfluidic biochips. , 2009, , .		67
3	Testing of Flow-Based Microfluidic Biochips: Fault Modeling, Test Generation, and Experimental Demonstration. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 1463-1475.	1.9	64
4	A Reagent-Saving Mixing Algorithm for Preparing Multiple-Target Biochemical Samples Using Digital Microfluidics. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 1656-1669.	1.9	58
5	A Reliability-Oriented Placement Algorithm for Reconfigurable Digital Microfluidic Biochips Using 3-D Deferred Decision Making Technique. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 1151-1162.	1.9	58
6	Exact One-pass Synthesis of Digital Microfluidic Biochips. , 2014, , .		58
7	A Contamination Aware Droplet Routing Algorithm for the Synthesis of Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2010, 29, 1682-1695.	1.9	57
8	CloudLeak: Large-Scale Deep Learning Models Stealing Through Adversarial Examples. , 2020, , .		57
9	High-level synthesis for micro-electrode-dot-array digital microfluidic biochips. , 2016, , .		52
10	Digital microfluidic biochips: A vision for functional diversity and more than moore. , 2010, , .		50
11	Droplet Size-Aware High-Level Synthesis for Micro-Electrode-Dot-Array Digital Microfluidic Biochips. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 612-626.	2.7	50
12	Leveraging Strategic Detection Techniques for Smart Home Pricing Cyberattacks. IEEE Transactions on Dependable and Secure Computing, 2016, 13, 220-235.	3.7	46
13	Digital microfluidic biochips. , 2011, , .		45
14	Control-Layer Routing and Control-Pin Minimization for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 55-68.	1.9	45
15	Close-to-optimal placement and routing for continuous-flow microfluidic biochips. , 2017, , .		45
16	Control synthesis for the flow-based microfluidic large-scale integration biochips. , 2013, , .		43
17	A Two-Stage Integer Linear Programming-Based Droplet Routing Algorithm for Pin-Constrained Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2011, 30, 215-228.	1.9	39
18	Multilevel routing with antenna avoidance. , 2004, , .		38

#	Article	IF	Citations
19	A top-down synthesis methodology for flow-based microfluidic biochips considering valve-switching minimization. , 2013, , .		38
20	A network-flow-based optimal sample preparation algorithm for digital microfluidic biochips. , 2014, , .		38
21	Micro-Electrode-Dot-Array Digital Microfluidic Biochips: Technology, Design Automation, and Test Techniques. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 292-313.	2.7	38
22	Crosstalk- and performance-driven multilevel full-chip routing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2005, 24, 869-878.	1.9	37
23	Biochip Synthesis and Dynamic Error Recovery for Sample Preparation Using Digital Microfluidics. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 183-196.	1.9	36
24	Columba 2.0: A Co-Layout Synthesis Tool for Continuous-Flow Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 1588-1601.	1.9	36
25	Real-Time Error Recovery in Cyberphysical Digital-Microfluidic Biochips Using a Compact Dictionary. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 1839-1852.	1.9	35
26	Design and Optimization of a Cyberphysical Digital-Microfluidic Biochip for the Polymerase Chain Reaction. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 29-42.	1.9	35
27	Columba. , 2016, , .		35
28	A Novel Analog Physical Synthesis Methodology Integrating Existent Design Expertise. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 199-212.	1.9	34
29	Storage and Caching: Synthesis of Flow-Based Microfluidic Biochips. IEEE Design and Test, 2015, 32, 69-75.	1.1	34
30	An EDA framework for large scale hybrid neuromorphic computing systems. , 2015, , .		34
31	Reliability-oriented broadcast electrode-addressing for pin-constrained digital microfluidic biochips. , 2011, , .		33
32	PACOR. , 2015, , .		33
33	Reliability-aware synthesis for flow-based microfluidic biochips by dynamic-device mapping. , 2015, , .		33
34	Error recovery in a micro-electrode-dot-array digital microfluidic biochip?. , 2016, , .		33
35	Multilevel full-chip routing for the X-based architecture. , 2005, , .		32
36	Integrated Flow-Control Codesign Methodology for Flow-Based Microfluidic Biochips. IEEE Design and Test, 2015, 32, 60-68.	1.1	32

#	Article	IF	Citations
37	A two-stage ILP-based droplet routing algorithm for pin-constrained digital microfluidic biochips. , 2010, , .		32
38	Efficient and Adaptive Error Recovery in a Micro-Electrode-Dot-Array Digital Microfluidic Biochip. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 601-614.	1.9	30
39	A Network-Flow Based Pin-Count Aware Routing Algorithm for Broadcast-Addressing EWOD Chips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2011, 30, 1786-1799.	1.9	29
40	On-chip biochemical sample preparation using digital microfluidics. , 2011, , .		28
41	Design methodology for sample preparation on digital microfluidic biochips. , 2012, , .		28
42	Reliability-Aware Synthesis With Dynamic Device Mapping and Fluid Routing for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 1981-1994.	1.9	28
43	Testing microfluidic Fully Programmable Valve Arrays (FPVAs). , 2017, , .		28
44	Dictionary-based error recovery in cyberphysical digital-microfluidic biochips. , 2012, , .		27
45	Control-layer optimization for flow-based mVLSI microfluidic biochips. , 2014, , .		25
46	Physical Co-Design of Flow and Control Layers for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 1157-1170.	1.9	25
47	Reliability-Driven Pipelined Scan-Like Testing of Digital Microfluidic Biochips. , 2014, , .		24
48	Timing-Driven Flow-Channel Network Construction for Continuous-Flow Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 1314-1327.	1.9	24
49	Statistical Training for Neuromorphic Computing using Memristor-based Crossbars Considering Process Variations and Noise. , 2020, , .		24
50	Piracy prevention of digital microfluidic biochips. , 2017, , .		23
51	Vulnerability assessment and defense technology for smart home cybersecurity considering pricing cyberattacks. , 2014, , .		22
52	Exploring Feasibilities of Symmetry Islands and Monotonic Current Paths in Slicing Trees for Analog Placement. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 879-892.	1.9	22
53	Integrated Functional and Washing Routing Optimization for Cross-Contamination Removal in Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 1283-1296.	1.9	22
54	Wash Optimization and Analysis for Cross-Contamination Removal Under Physical Constraints in Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 559-572.	1.9	22

#	Article	IF	Citations
55	Built-in self-test for micro-electrode-dot-array digital microfluidic biochips. , 2016, , .		21
56	Structural and Functional Test Methods for Micro-Electrode-Dot-Array Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 968-981.	1.9	21
57	Voltage-aware chip-level design for reliability-driven pin-constrained EWOD chips. , 2012, , .		20
58	Droplet Size-Aware and Error-Correcting Sample Preparation Using Micro-Electrode-Dot-Array Digital Microfluidic Biochips. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 1380-1391.	2.7	20
59	MiniControl. , 2019, , .		20
60	Physical Synthesis of Flow-Based Microfluidic Biochips Considering Distributed Channel Storage. , 2019, , .		20
61	Predicting the fluid behavior of random microfluidic mixers using convolutional neural networks. Lab on A Chip, 2021, 21, 296-309.	3.1	20
62	Hamming-distance-based valve-switching optimization for control-layer multiplexing in flow-based microfluidic biochips. , 2017, , .		19
63	Transport or Store?. , 2017, , .		19
64	Multicontrol: Advanced Control-Logic Synthesis for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2489-2502.	1.9	19
65	Sieve-valve-aware Synthesis of Flow-based Microfluidic Biochips Considering Specific Biological Execution Limitations. , 2016, , .		19
66	Performance-driven analog placement considering monotonic current paths. , 2012, , .		18
67	Control-fluidic CoDesign for paper-based digital microfluidic biochips. , 2016, , .		18
68	DCSA: Distributed Channel-Storage Architecture for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 115-128.	1.9	18
69	Progressive network-flow based power-aware broadcast addressing for pin-constrained digital microfluidic biochips. , 2011, , .		17
70	An efficient algorithm of adjustable delay buffer insertion for clock skew minimization in multiple dynamic supply voltage designs. , 2011, , .		17
71	Design of cyberphysical digital microfluidic biochips under completion-time uncertainties in fluidic operations. , 2013, , .		17
72	Test generation and design-for-testability for flow-based mVLSI microfluidic biochips. , 2014, , .		17

#	Article	IF	Citations
73	Computer-aided Design Techniques for Flow-based Microfluidic Lab-on-a-chip Systems. ACM Computing Surveys, 2022, 54, 1-29.	16.1	17
74	On Producing Linear Dilution Gradient of a Sample with a Digital Microfluidic Biochip. , 2013, , .		16
75	Reliability-Driven Chip-Level Design for High-Frequency Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 529-539.	1.9	16
76	Optimization of 3D Digital Microfluidic Biochips for the Multiplexed Polymerase Chain Reaction. ACM Transactions on Design Automation of Electronic Systems, 2016, 21, 1-27.	1.9	16
77	Flexible Droplet Routing in Active Matrixâ€"Based Digital Microfluidic Biochips. ACM Transactions on Design Automation of Electronic Systems, 2018, 23, 1-25.	1.9	16
78	Multi-channel and fault-tolerant control multiplexing for flow-based microfluidic biochips. , 2018, , .		16
79	Countering variations and thermal effects for accurate optical neural networks. , 2020, , .		16
80	ACER: An Agglomerative Clustering Based Electrode Addressing and Routing Algorithm for Pin-Constrained EWOD Chips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 1316-1327.	1.9	15
81	A general testing method for digital microfluidic biochips under physical constraints. , 2015, , .		15
82	A network-flow based pin-count aware routing algorithm for broadcast electrode-addressing EWOD chips. , 2010, , .		14
83	Voltage-Aware Chip-Level Design for Reliability-Driven Pin-Constrained EWOD Chips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 1302-1315.	1.9	14
84	A routability-driven flow routing algorithm for programmable microfluidic devices. , 2016, , .		14
85	Component-Oriented High-level Synthesis for Continuous-Flow Microfluidics Considering Hybrid-Scheduling. , 2017, , .		14
86	Pressure-Aware Control Layer Optimization for Flow-Based Microfluidic Biochips. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 1488-1499.	2.7	14
87	Sound valve-control for programmable microfluidic devices. , 2018, , .		14
88	Columba S. , 2018, , .		14
89	A Survey of DMFBs Security: State-of-the-Art Attack and Defense. , 2020, , .		14
90	Optimization of polymerase chain reaction on a cyberphysical digital microfluidic biochip. , 2013, , .		13

#	Article	IF	Citations
91	Analog layout synthesis with knowledge mining. , 2015, , .		13
92	Sample Preparation on Micro-Electrode-Dot-Array Digital Microfluidic Biochips. , 2017, , .		13
93	Flow-Based Microfluidic Biochips With Distributed Channel Storage: Synthesis, Physical Design, and Wash Optimization. IEEE Transactions on Computers, 2022, 71, 464-478.	2.4	13
94	Pulsed-latch-based clock tree migration for dynamic power reduction. , 2011, , .		12
95	An Optimal Pin-Count Design With Logic Optimization for Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 629-641.	1.9	12
96	Hardware/Software Co-Design and Optimization for Cyberphysical Integration in Digital Microfluidic Biochips. , 2015, , .		12
97	Congestion- and timing-driven droplet routing for pin-constrained paper-based microfluidic biochips. , 2016, , .		12
98	AARF: Any-Angle Routing for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 3042-3055.	1.9	12
99	Microfluidic Design for Concentration Gradient Generation Using Artificial Neural Network. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2544-2557.	1.9	12
100	Integrated Fluidic-Chip Co-Design Methodology for Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 216-227.	1.9	11
101	Wash optimization for cross-contamination removal in flow-based microfluidic biochips. , 2014, , .		11
102	Practical Functional and Washing Droplet Routing for Cross-Contamination Avoidance in Digital Microfluidic Biochips. , 2014, , .		11
103	Module Placement under Completion-Time Uncertainty in Micro-Electrode-Dot-Array Digital Microfluidic Biochips. IEEE Transactions on Multi-Scale Computing Systems, 2018, 4, 811-821.	2.5	11
104	Pump-aware flow routing algorithm for programmable microfluidic devices. , 2018, , .		11
105	Sample preparation for multiple-reactant bioassays on micro-electrode-dot-array biochips. , 2019, , .		11
106	Multitarget Sample Preparation Using MEDA Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2682-2695.	1.9	11
107	Integrated fluidic-chip co-design methodology for digital microfluidic biochips. , 2012, , .		10
108	An Efficient Bi-criteria Flow Channel Routing Algorithm For Flow-based Microfluidic Biochips. , 2014, , .		10

#	Article	IF	Citations
109	Pulsed-Latch Utilization for Clock-Tree Power Optimization. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2014, 22, 721-733.	2.1	10
110	SVM-Based Routability-Driven Chip-Level Design for Voltage-Aware Pin-Constrained EWOD Chips. , 2015, , .		10
111	Fast architecture-level synthesis of fault-tolerant flow-based microfluidic biochips. , 2017, , .		10
112	A Comprehensive Security System for Digital Microfluidic Biochips. , 2018, , .		10
113	Zero-Shot Medical Image Artifact Reduction. , 2020, , .		10
114	LUTOSAP. , 2017, , .		10
115	A cyberphysical synthesis approach for error recovery in digital microfluidic biochips. , 2012, , .		9
116	An ILP-Based Routing Algorithm for Pin-Constrained EWOD Chips With Obstacle Avoidance. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 1655-1667.	1.9	9
117	Delay-Bounded Intravehicle Network Routing Algorithm for Minimization of Wiring Weight and Wireless Transmit Power. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 551-561.	1.9	9
118	Computer-Aided Design of Microfluidic Very Large Scale Integration (mVLSI) Biochips. , 2017, , .		9
119	Congestion-aware Global Routing using Deep Convolutional Generative Adversarial Networks. , 2019, , .		9
120	PathDriver+: Enhanced Path-Driven Architecture Design for Flow-Based Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 2185-2198.	1.9	9
121	PathDriver. , 2020, , .		9
122	An Optimal Algorithm for Splitter and Buffer Insertion in Adiabatic Quantum-Flux-Parametron Circuits. , 2021, , .		9
123	1-D Cell Generation With Printability Enhancement. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 419-432.	1.9	8
124	Multi-level droplet routing in active-matrix based digital-microfluidic biochips. , 2018, , .		8
125	Multi-terminal routing with length-matching for rapid single flux quantum circuits. , 2018, , .		8
126	Efficient Generation of Dilution Gradients With Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 874-887.	1.9	8

#	Article	IF	Citations
127	Block-Flushing: A Block-based Washing Algorithm for Programmable Microfluidic Devices. , 2019, , .		8
128	ASAP. , 2020, , .		8
129	Digital microfluidic biochips. , 2011, , .		7
130	Load-balanced clock tree synthesis with adjustable delay buffer insertion for clock skew reduction in multiple dynamic supply voltage designs. ACM Transactions on Design Automation of Electronic Systems, 2012, 17, 1-22.	1.9	7
131	Test and diagnosis of paper-based microfluidic biochips. , 2016, , .		7
132	Robust Roadside Physical Adversarial Attack Against Deep Learning in Lidar Perception Modules. , 2021, , .		7
133	A SAT-based routing algorithm for cross-referencing biochips. , 2011, , .		6
134	An ILP-based obstacle-avoiding routing algorithm for pin-constrained EWOD chips. , 2012, , .		6
135	A topology-based ECO routing methodology for mask cost minimization. , 2014, , .		6
136	Design Automation for Digital Microfluidic Biochips. IPSJ Transactions on System LSI Design Methodology, 2014, 7, 16-26.	0.5	6
137	EDA Challenges for Memristor-Crossbar based Neuromorphic Computing. , 2015, , .		6
138	ILP-Based Alleviation of Dense Meander Segments With Prioritized Shifting and Progressive Fixing in PCB Routing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 1000-1013.	1.9	6
139	Placement optimization of cyber-physical digital microfluidic biochips. , 2016, , .		6
140	Reservoir and mixer constrained scheduling for sample preparation on digital microfluidic biochips. , 2017, , .		6
141	Autonomous vehicle routing in multiple intersections. , 2019, , .		6
142	Automated calibration of 3D-printed microfluidic devices based on computer vision. Biomicrofluidics, 2021, 15, 024102.	1.2	6
143	How Secure Is Split Manufacturing in Preventing Hardware Trojan?. ACM Transactions on Design Automation of Electronic Systems, 2020, 25, 1-23.	1.9	6
144	Reliable and Robust RRAM-based Neuromorphic Computing. , 2020, , .		6

#	Article	IF	Citations
145	Multilevel routing with jumper insertion for antenna avoidance. The Integration VLSI Journal, 2006, 39, 420-432.	1.3	5
146	Reliability-Driven Power/Ground Routing for Analog ICs. ACM Transactions on Design Automation of Electronic Systems, 2012, 17, 1-26.	1.9	5
147	Design automation for digital microfluidic biochips: From fluidic-level toward chip-level. , 2012, , .		5
148	Testing of flow-based microfluidic biochips. , 2013, , .		5
149	NBTI tolerance and leakage reduction using gate sizing. ACM Journal on Emerging Technologies in Computing Systems, 2014, 11, 1-12.	1.8	5
150	Biochemistry Synthesis on a Cyberphysical Digital Microfluidics Platform Under Completion-Time Uncertainties in Fluidic Operations. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 903-916.	1.9	5
151	Sequence-pair-based placement and routing for flow-based microfluidic biochips. , 2016, , .		5
152	Supervised-Learning Congestion Predictor For Routability-Driven Global Routing. , 2019, , .		5
153	VOM: Flow-Path Validation and Control-Sequence Optimization for Multilayered Continuous-Flow Microfluidic Biochips. , 2019, , .		5
154	Open-Source Incubation Ecosystem for Digital Microfluidics â€" Status and Roadmap: Invited Paper. , 2019, , .		5
155	Integrated Control-Fluidic Codesign Methodology for Paper-Based Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 613-625.	1.9	5
156	URBER: Ultrafast Rule-Based Escape Routing Method for Large-Scale Sample Delivery Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 157-170.	1.9	5
157	Lookup Table-Based Fast Reliability-Aware Sample Preparation Using Digital Microfluidic Biochips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2708-2721.	1.9	5
158	Ct Image Denoising With Encoder-Decoder Based Graph Convolutional Networks. , 2021, , .		5
159	BigIntegr: One-Pass Architectural Synthesis for Continuous-Flow Microfluidic Lab-on-a-Chip Systems. , 2021, , .		5
160	PIXAR: A performance-driven X-architecture router based on a novel multilevel framework. The Integration VLSI Journal, 2009, 42, 400-408.	1.3	4
161	OAL: An obstacle-aware legalization in standard cell placement with displacement minimization. , 2009, , .		4
162	Bus-pin-aware bus-driven floorplanning. , 2010, , .		4

#	Article	IF	Citations
163	PRICE: Power reduction by placement and clock-network co-synthesis for pulsed-latch designs. , 2011, , .		4
164	Placement optimization of flexible TFT circuits with mechanical strain and temperature consideration. ACM Journal on Emerging Technologies in Computing Systems, 2014, 11, 1-28.	1.8	4
165	An efficient bi-criteria flow channel routing algorithm for flow-based microfluidic biochips. , 2014, , .		4
166	Reliability-driven chip-level design for high-frequency digital microfluidic biochips. , 2014, , .		4
167	Intra-vehicle network routing algorithm for wiring weight and wireless transmit power minimization. , 2015, , .		4
168	Parasitic-Aware Common-Centroid FinFET Placement and Routing for Current-Ratio Matching. ACM Transactions on Design Automation of Electronic Systems, 2016, 21, 1-22.	1.9	4
169	Reliability Hardening Mechanisms in Cyber-Physical Digital-Microfluidic Biochips. ACM Journal on Emerging Technologies in Computing Systems, 2018, 14, 1-22.	1.8	4
170	SOLAR: Simultaneous optimization of control-layer pins placement and channel routing in flow-based microfluidic biochips. , 2018, , .		4
171	Scheduling algorithms for reservoir- and mixer-aware sample preparation with microfluidic biochips. The Integration VLSI Journal, 2019, 65, 428-443.	1.3	4
172	Co-placement optimization in sensor-reusable cyber-physical digital microfluidic biochips. Microelectronics Journal, 2019, 83, 185-196.	1.1	4
173	Detailed profiling of carbon fixation of in silico synthetic autotrophy with reductive tricarboxylic acid cycle and Calvin-Benson-Bassham cycle in Esherichia coli using hydrogen as an energy source. Synthetic and Systems Biotechnology, 2019, 4, 165-172.	1.8	4
174	A General Cache Framework for Efficient Generation of Timing Critical Paths. , 2019, , .		4
175	Test Generation for Flow-Based Microfluidic Biochips With General Architectures. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2530-2543.	1.9	4
176	Splitter-Aware Multiterminal Routing With Length-Matching Constraint for RSFQ Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 2251-2264.	1.9	4
177	Recent research and emerging challenges in design and optimization for digital microfluidic biochips. , 2011, , .		3
178	Chip-level design and optimization for digital microfluidic biochips. , 2011, , .		3
179	A Hierarchy-Based Distributed Algorithm for Layout Geometry Operations. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 1546-1557.	1.9	3
180	Bus-driven floorplanning with thermal consideration. The Integration VLSI Journal, 2013, 46, 369-381.	1.3	3

#	ARTICLE	IF	CITATIONS
181	Post-route alleviation of dense meander segments in high-performance printed circuit boards. , 2013, , .		3
182	A logic integrated optimal pin-count design for digital microfluidic biochips. , 2014, , .		3
183	Practical functional and washing droplet routing for cross-contamination avoidance in digital microfluidic biochips. , 2014, , .		3
184	Optimization of heaters in a digital microfluidic biochip for the polymerase chain reaction. , 2014, , .		3
185	How secure is split manufacturing in preventing hardware trojan?. , 2016, , .		3
186	Adaptation of Biochemical Protocols to Handle Technology-Change for Digital Microfluidics. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, , 1-1.	1.9	3
187	On reliability hardening in cyber-physical digital-microfluidic biochips. , 2017, , .		3
188	Design-for-testability for paper-based digital microfluidic biochips. , 2017, , .		3
189	Digital Rights Management for Paper-Based Microfluidic Biochips. , 2018, , .		3
190	Design-for-testability for continuous-flow microfluidic biochips. , 2018, , .		3
191	Footprint Classification of Electric Components on Printed Circuit Boards. , 2020, , .		3
192	NR-Router: Non-Regular Electrode Routing with Optimal Pin Selection for Electrowetting-on-Dielectric Chips. , 2022, , .		3
193	A distributed algorithm for layout geometry operations. , 2011, , .		2
194	Bus-driven floorplanning with bus pin assignment and deviation minimization. The Integration VLSI Journal, 2012, 45, 405-426.	1.3	2
195	A clique-based approach to find binding and scheduling result in flow-based microfluidic biochips. , 2013, , .		2
196	A logic integrated optimal pin-count design for digital microfluidic biochips. , 2014, , .		2
197	A thermal resilient integration of many-core microprocessors and main memory by 2.5D TSI I/Os. , 2014, , .		2
198	Design and optimization of 3D digital microfluidic biochips for the polymerase chain reaction. , 2015, , .		2

#	Article	IF	Citations
199	Cyber-physical integration in programmable microfluidic biochips. , 2015, , .		2
200	Common-Centroid FinFET Placement Considering the Impact of Gate Misalignment. , 2015, , .		2
201	More Effective Randomly-Designed Microfluidics. , 2018, , .		2
202	Design Automation and Test for Flow-Based Biochips: Past Successes and Future Challenges. , 2018, , .		2
203	Cloud Columba: Accessible Design Automation Platform for Production and Inspiration: Invited Paper. , 2019, , .		2
204	Conquering the Tyranny of Number With Digital Microfluidics. Frontiers in Chemistry, 2021, 9, 676365.	1.8	2
205	Placement of Digital Microfluidic Biochips via a New Evolutionary Algorithm. ACM Transactions on Design Automation of Electronic Systems, 2021, 26, 1-22.	1.9	2
206	A Verification Guided Approach for Selective Program Transformations for Approximate Computing. , 2016, , .		2
207	Fault Modeling, Testing, and Design for Testability. , 2017, , 81-115.		2
208	Do Noises Bother Human and Neural Networks In the Same Way? A Medical Image Analysis Perspective. , 2020, , .		2
209	3D-Adv: Black-Box Adversarial Attacks against Deep Learning Models through 3D Sensors. , 2021, , .		2
210	HTcatcher: Finite State Machine and Feature Verifcation for Large-scale Neuromorphic Computing Systems. , 2020, , .		2
211	A fast crosstalk- and performance-driven multilevel routing system. , 2003, , .		1
212	Multilevel full-chip routing for the X-based architecture. , 2005, , .		1
213	Fast legalization for standard cell placement with simultaneous wirelength and displacement minimization. , 2010, , .		1
214	Thermal-aware bus-driven floorplanning. , 2011, , .		1
215	An Effective and Efficient Framework for Clock Latency Range Aware Clock Network Synthesis. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2011, 30, 1045-1057.	1.9	1
216	A novel cell placement algorithm for flexible TFT circuit with mechanical strain and temperature consideration. , 2013, , .		1

#	Article	IF	Citations
217	A network-flow based valve-switching aware binding algorithm for flow-based microfluidic biochips. , 2013, , .		1
218	Post-route refinement for high-frequency PCBs considering meander segment alleviation. , 2013, , .		1
219	Recent trends in chip-level design automation for digital microfluidic biochips. , 2014, , .		1
220	Triangle-based process hotspot classification with dummification in EUVL. , 2014, , .		1
221	A thermal resilient integration of many-core microprocessors and main memory by 2.5D TSI I/Os. , 2014, , .		1
222	Obstacle-avoiding wind turbine placement for power-loss and wake-effect optimization. , 2015, , .		1
223	Testing of digital microfluidic biochips with arbitrary layouts. , 2015, , .		1
224	Thermal optimization for memristor-based hybrid neuromorphic computing systems. , 2016, , .		1
225	Scheduling and optimization of genetic logic circuits on flow-based microfluidic biochips. , 2017, , .		1
226	Mechanical strain and temperature aware design methodology for thin-film transistor based pseudo-CMOS logic array. , 2018, , .		1
227	Design Methodology for TFT-Based Pseudo-CMOS Logic Array With Multilayer Interconnection Architecture and Optimization Algorithms. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 2043-2057.	1.9	1
228	Transfer Learning-Based Microfluidic Design System for Concentration Generation. , 2020, , .		1
229	ATM. , 2021, , .		1
230	Robustness of Neuromorphic Computing with RRAM-based Crossbars and Optical Neural Networks. , 2021, , .		1
231	Interference-Free Design Methodology for Paper-Based Digital Microfluidic Biochips. , 2021, , .		1
232	Double DQN for Chip-Level Synthesis of Paper-Based Digital Microfluidic Biochips. , 2021, , .		1
233	Demand-Driven Multi-Target Sample Preparation on Resource-Constrained Digital Microfluidic Biochips. ACM Transactions on Design Automation of Electronic Systems, 2022, 27, 1-21.	1.9	1
234	Pin-Limited Cyberphysical Microfluidic Biochip. , 2015, , 185-193.		1

#	ARTICLE	IF	CITATIONS
235	Control-Layer Optimization. , 2017, , 25-52.		1
236	Wash Optimization for Cross-Contamination Removal. , 2017, , 53-79.		1
237	Contamination-Aware Synthesis for Programmable Microfluidic Devices. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 5016-5029.	1.9	1
238	Trojan Insertions of Fully Programmable Valve Arrays. , 2022, , .		1
239	Multilevel routing with jumper insertion for antenna avoidance. , 0, , .		0
240	Automated Physical Design of Microchip-Based Capillary Electrophoresis Systems. , 2011, , .		0
241	A nonlinear optimization methodology for resistor matching in analog integrated circuits. , 2012, , .		0
242	Tutorial: Digital microfluidic biochips: Towards hardware/software co-design and cyber-physical system integration. , 2013, , .		0
243	Timing-aware clock gating of pulsed-latch circuits for low power design. , 2013, , .		0
244	A rapid analog amendment framework using the incremental floorplanning technique. , 2013, , .		0
245	Efficient building identification using structural and spatial information on mobile devices. , 2014, , .		0
246	Tutorial T5: Microfluidic Biochips: Connecting VLSI and Embedded Systems to the Life Sciences. , 2014, , .		0
247	Special session: Continuous-flow biochips: Current platforms and emerging research challenges. , 2015, , .		0
248	Guest Editors' Introduction: Microfluidics: Design and Test Solutions for Enabling Biochemistry on a Chip. IEEE Design and Test, 2015, 32, 6-7.	1.1	0
249	Biochemistry Synthesis Under Completion-Time Uncertainties in Fluidic Operations. , 2015, , 95-116.		0
250	Optimization of On-Chip Polymerase Chain Reaction. , 2015, , 117-146.		0
251	Pin-Count Minimization for Application-Independent Chips. , 2015, , 147-183.		0
252	A Full-Flexibility-Guaranteed Pin-Count Reduction Design for General-Purpose Digital Microfluidic Biochips. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2016, E99.A, 570-578.	0.2	0

#	Article	IF	Citations
253	Obstacle-Avoiding Wind Turbine Placement for Power Loss and Wake Effect Optimization. ACM Transactions on Design Automation of Electronic Systems, 2016, 22, 1-24.	1.9	0
254	Design of Microfluidic Biochips: Connecting Algorithms and Foundations of Chip Design to Biochemistry and the Life Sciences. , 2016, , .		0
255	Test generation for microfluidic fully programmable valve arrays (FPVAs) with heuristic acceleration. , 2018, , .		0
256	Vehicle Sequence Reordering with Cooperative Adaptive Cruise Control. , 2019, , .		0
257	Droplet Size-Aware High-Level Synthesis. , 2019, , 21-51.		0
258	Watermarking for Paper-Based Digital Microfluidic Biochips. , 2020, , .		0
259	A Multi-Commodity Network Flow Based Routing Algorithm for Paper-Based Digital Microfluidic Biochips. , 2021, , .		0
260	Holistic and In-Context Design Flow for 2.5D Chiplet-Package Interaction Co-Optimization. , 2021, , .		0
261	Ensemble Learning Based Electric Components Footprint Analysis. , 2021, , .		0
262	Clique-Based Architectural Synthesis of Flow-Based Microfluidic Biochips. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2013, E96.A, 2668-2679.	0.2	0
263	Smart Microfluidic Biochips: Cyberphysical Sensor Integration for Dynamic Error Recovery. , 2017, , 23-71.		0
264	Fault Modeling, Structural Testing, and Functional Testing. , 2019, , 83-112.		0
265	Efficient and Adaptive Error Recovery. , 2019, , 53-81.		0
266	Relative-Scheduling-Based High-Level Synthesis for Flow-Based Microfluidic Biochips. , 2021, , .		0
267	Design-for-Reliability and Probability-Based Fault Tolerance for Paper-Based Digital Microfluidic Biochips with Multiple Faults. , 2022, , .		0
268	"One-Shot" Reduction of Additive Artifacts in Medical Images. , 2021, , .		0