Krishnendu Chakrabarty

List of Publications by Citations

687 papers	10,850 citations	46 h-index	80 g-index
790 ext. papers	13,221 ext. citations	2.3 avg, IF	6.88 L-index

#	Paper	IF	Citations
687	Grid coverage for surveillance and target location in distributed sensor networks. *IEEE Transactions on Computers*, **2002**, 51, 1448-1453	2.5	599
686	Sensor deployment and target localization based on virtual forces **2003**,		497
685	Sensor deployment and target localization in distributed sensor networks. *Transactions on Embedded Computing Systems*, **2004**, 3, 61-91	1.8	325
684	On a new class of codes for identifying vertices in graphs. *IEEE Transactions on Information Theory*, **1998**, 44, 599-611	2.8	243
683	Test Challenges for 3D Integrated Circuits. *IEEE Design and Test of Computers*, **2009**, 26, 26-35		209
682	Test Wrapper and Test Access Mechanism Co-Optimization for System-on-Chip. *Journal of Electronic Testing: Theory and Applications (JETTA)*, **2002**, 18, 213-230	0.7	184
681	A distributed coverage- and connectivity-centric technique for selecting active nodes in wireless sensor networks. *IEEE Transactions on Computers*, **2005**, 54, 978-991	2.5	176
680	On computing mobile agent routes for data fusion in distributed sensor networks. *IEEE Transactions on Knowledge and Data Engineering*, **2004**, 16, 740-753	4.2	155
679	Test data compression and test resource partitioning for system-on-a-chip using frequency-directed run-length (FDR) codes. *IEEE Transactions on Computers*, **2003**, 52, 1076-1088	2.5	143
678	High-level synthesis of digital microfluidic biochips. *ACM Journal on Emerging Technologies in Computing Systems*, **2008**, 3, 1-32	1.7	141
677	Unified high-level synthesis and module placement for defect-tolerant microfluidic biochips **2005**,		123
676	Uncertainty-aware and coverage-oriented deployment for sensor networks. *Journal of Parallel and Distributed Computing*, **2004**, 64, 788-798	4.4	120
675	. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2013**, 32, 59-72	2.5	106
674	Distributed sensor networks: a review of recent research. *Journal of the Franklin Institute*, **2001**, 338, 655-668	4	103
673	Nine-coded compression technique for testing embedded cores in SoCs. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2005**, 13, 719-731	2.6	96
672	. *IEEE Journal on Selected Areas in Communications*, **2011**, 29, 582-594	14.2	91
671	Optimization of Dilution and Mixing of Biochemical Samples Using Digital Microfluidic Biochips. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2010**, 29, 1696-1708	2.5	91

670	Broadcast electrode-addressing for pin-constrained multi-functional digital microfluidic biochips **2008**,		87
669	. *IEEE Transactions on Reliability*, **2005**, 54, 145-155	4.6	87
668	Module placement for fault-tolerant microfluidics-based biochips. *ACM Transactions on Design Automation of Electronic Systems*, **2006**, 11, 682-710	1.5	81
667	Test access mechanism optimization, test scheduling, and tester data volume reduction for system-on-chip. *IEEE Transactions on Computers*, **2003**, 52, 1619-1631	2.5	77
666	Parallel scan-like test and multiple-defect diagnosis for digital microfluidic biochips. *IEEE Transactions on Biomedical Circuits and Systems*, **2007**, 1, 148-58	5.1	72
665	Pre-bond probing of TSVs in 3D stacked ICs **2011**,		71
664	TSV open defects in 3D integrated circuits **2012**,		70
663	Location-aided flooding: an energy-efficient data dissemination protocol for wireless-sensor networks. *IEEE Transactions on Computers*, **2005**, 54, 36-46	2.5	69
662	Optimal test access architectures for system-on-a-chip. *ACM Transactions on Design Automation of Electronic Systems*, **2001**, 6, 26-49	1.5	69
661	Distributed Mobility Management for Target Tracking in Mobile Sensor Networks. *IEEE Transactions on Mobile Computing*, **2007**, 6, 872-887	4.6	67
660	Board-Level Functional Fault Diagnosis Using Artificial Neural Networks, Support-Vector Machines, and Weighted-Majority Voting. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2013**, 32, 723-736	2.5	65
659	Cross-Contamination Avoidance for Droplet Routing in Digital Microfluidic Biochips. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2012**, 31, 817-830	2.5	65
658	Integrated control-path design and error recovery in the synthesis of digital microfluidic lab-on-chip. *ACM Journal on Emerging Technologies in Computing Systems*, **2010**, 6, 1-28	1.7	64
657	Digital Microfluidic Biochips **2006**,		63
656	. *IEEE Sensors Journal*, **2005**, 5, 763-773	4	60
655	. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2008**, 16, 432-443	2.6	59
654	Keynote Paper: From EDA to IoT eHealth: Promises, Challenges, and Solutions. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2018**, 37, 2965-2978	2.5	57
653	Design Tools for Digital Microfluidic Biochips: Toward Functional Diversification and More Than Moore. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2010**, 29, 1001-1017	2.5	56

652	Design of system-on-a-chip test access architectures under place-and-route and power constraints **2000**,		56
651	Fault-Tolerant Training with On-Line Fault Detection for RRAM-Based Neural Computing Systems **2017**,		55
650	Test-access mechanism optimization for core-based three-dimensional SOCs **2008**,		55
649	Test data compression using dictionaries with selective entries and fixed-length indices. *ACM Transactions on Design Automation of Electronic Systems*, **2003**, 8, 470-490	1.5	54
648	Digital Microfluidic Biochips		52
647	Droplet-trace-based array partitioning and a pin assignment algorithm for the automated design of digital microfluidic biochips **2006**,		51
646	Combining low-power scan testing and test data compression for system-on-a-chip **2001**,		51
645	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	2.5	48
644	Testing and Diagnosis of Realistic Defects in Digital Microfluidic Biochips. *Journal of Electronic Testing: Theory and Applications (JETTA)*, **2007**, 23, 219-233	0.7	48
643	Layout-driven test-architecture design and optimization for 3D SoCs under pre-bond test-pin-count constraint **2009**,		46
642	Test-Pattern Grading and Pattern Selection for Small-Delay Defects. *VLSI Test Symposium (VTS), Proceedings, IEEE*, **2008**,		46
641	Stuck-at Fault Tolerance in RRAM Computing Systems. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **2018**, 8, 102-115	5.2	46
640	Test-Pattern Selection for Screening Small-Delay Defects in Very-Deep Submicrometer Integrated Circuits. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2010**, 29, 760-773	2.5	45
639	. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2010**, 29, 552-565	2.5	44
638	Privacy-Preserving Detection of Sybil Attacks in Vehicular Ad Hoc Networks **2007**,		44
637	Pruning-based, energy-optimal, deterministic I/O device scheduling for hard real-time systems. *Transactions on Embedded Computing Systems*, **2005**, 4, 141-167	1.8	44
636	Design-Space Exploration and Optimization of an Energy-Efficient and Reliable 3-D Small-World Network-on-Chip. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2017**, 36, 719-732	2.5	43
635	Digital microfluidic biochips: A vision for functional diversity and more than moore **2010**,		42

634	High-level synthesis for micro-electrode-dot-array digital microfluidic biochips **2016**,		41
633	Security Assessment of Cyberphysical Digital Microfluidic Biochips. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2016**, 13, 445-58	3	41
632	Test-Architecture Optimization and Test Scheduling for TSV-Based 3-D Stacked ICs. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2011**, 30, 1705-1718	2.5	41
631	Fault modeling and functional test methods for digital microfluidic biochips. *IEEE Transactions on Biomedical Circuits and Systems*, **2009**, 3, 241-53	5.1	41
630	Test-architecture optimization for TSV-based 3D stacked ICs **2010**,		40
629	Optimization methods for post-bond die-internal/external testing in 3D stacked ICs **2010**,		39
628	Dynamic adaptation for fault tolerance and power management in embedded real-time systems. *Transactions on Embedded Computing Systems*, **2004**, 3, 336-360	1.8	38
627	Fault detection, real-time error recovery, and experimental demonstration for digital microfluidic biochips **2013**,		37
626	Digital microfluidic biochips **2011**,		37
625	Automated design of pin-constrained digital microfluidic biochips under droplet-interference constraints. *ACM Journal on Emerging Technologies in Computing Systems*, **2007**, 3, 14	1.7	37
624	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	2.5	36
623	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	5.1	36
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611	Test-wrapper optimization for embedded cores in TSV-based three-dimensional SOCs **2009**,		32
610	Testing of SoCs with Hierarchical Cores: Common Fallacies, Test Access Optimization, and Test Scheduling. *IEEE Transactions on Computers*, **2009**, 58, 409-423	2.5	32
609	Introduction to DAC 2007 special section. *ACM Journal on Emerging Technologies in Computing Systems*, **2008**, 4, 1-2	1.7	32
608	Concurrent testing of digital microfluidics-based biochips. *ACM Transactions on Design Automation of Electronic Systems*, **2006**, 11, 442-464	1.5	32
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606	Test Planning and Test Resource Optimization for Droplet-Based Microfluidic Systems. *Journal of Electronic Testing: Theory and Applications (JETTA)*, **2006**, 22, 199-210	0.7	32
605	Broadcast Electrode-Addressing and Scheduling Methods for Pin-Constrained Digital Microfluidic Biochips. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2011**, 30, 986-999	2.5	31
604	Layout-Aware Solution Preparation for Biochemical Analysis on a Digital Microfluidic Biochip **2011**,		31
603	Microfluidic encryption of on-chip biochemical assays **2016**,		31
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598	Synchronization of washing operations with droplet routing for cross-contamination avoidance in digital microfluidic biochips **2010**,		29
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591	On-Chip Sample Preparation with Multiple Dilutions Using Digital Microfluidics **2012**,		27
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589	. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2015**, 34, 29-42	2.5	26
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587	Error recovery in a micro-electrode-dot-array digital microfluidic biochip? **2016**,		26
586	Towards fault-tolerant digital microfluidic lab-on-chip: Defects, fault modeling, testing, and reconfiguration **2008**,		25
585	Optimizing 3D NoC design for energy efficiency: A machine learning approach **2015**,		24
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583	Board-level fault diagnosis using Bayesian inference **2010**,		24
582	Dictionary-based error recovery in cyberphysical digital-microfluidic biochips **2012**,		24
581	Integrated droplet routing and defect tolerance in the synthesis of digital microfluidic biochips. *ACM Journal on Emerging Technologies in Computing Systems*, **2008**, 4, 1-24	1.7	24

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579	Locking of biochemical assays for digital microfluidic biochips **2018**,		23
578	. *IEEE Transactions on Multi-Scale Computing Systems*, **2015**, 1, 46-58		23
577	Control-layer optimization for flow-based mVLSI microfluidic biochips **2014**,		23
576	Adaptive Board-Level Functional Fault Diagnosis Using Decision Trees **2012**,		23
575	On effective and efficient in-field TSV repair for stacked 3D ICs **2013**,		23
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566	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	2.5	22
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561	Yield enhancement of reconfigurable microfluidics-based biochips using interstitial redundancy. *ACM Journal on Emerging Technologies in Computing Systems*, **2006**, 2, 104-128	1.7	21
560	Fault-Tolerant Training Enabled by On-Line Fault Detection for RRAM-Based Neural Computing Systems. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2019**, 38, 1611-1624	2.5	20
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518	Integrated droplet routing in the synthesis of microfluidic biochips. *Proceedings - Design Automation Conference*, **2007**,		15
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507	Co-optimization of droplet routing and pin assignment in disposable digital microfluidic biochips **2011**,		14
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