

# Jean-Michel Muller

## List of Publications by Year in descending order

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Version: 2024-02-01

105  
papers

1,493  
citations

566801

15  
h-index

552369

26  
g-index

110  
all docs

110  
docs citations

110  
times ranked

654  
citing authors

#	ARTICLE	IF	CITATIONS
1	Handbook of Floating-Point Arithmetic. , 2010, , .		244
2	The CORDIC algorithm: new results for fast VLSI implementation. IEEE Transactions on Computers, 1993, 42, 168-178.	2.4	120
3	High-speed function approximation using a minimax quadratic interpolator. IEEE Transactions on Computers, 2005, 54, 304-318.	2.4	108
4	Handbook of Floating-Point Arithmetic. , 2018, , .		108
5	Improving Goldschmidt division, square root, and square root reciprocal. IEEE Transactions on Computers, 2000, 49, 759-763.	2.4	47
6	A Few Results on Table-Based Methods. Reliable Computing, 1999, 5, 279-288.	0.8	46
7	Elementary Functions. , 2016, , .		46
8	Toward correctly rounded transcendentals. IEEE Transactions on Computers, 1998, 47, 1235-1243.	2.4	39
9	Posits. , 2019, , .		33
10	Computing machine-efficient polynomial approximations. ACM Transactions on Mathematical Software, 2006, 32, 236-256.	1.6	31
11	Some characterizations of functions computable in on-line arithmetic. IEEE Transactions on Computers, 1994, 43, 752-755.	2.4	29
12	Some Operators for On-Line Radix-2 Computations. Journal of Parallel and Distributed Computing, 1994, 22, 336-345.	2.7	27
13	Fast and correctly rounded logarithms in double-precision. RAIRO - Theoretical Informatics and Applications, 2007, 41, 85-102.	0.5	26
14	Choosing starting values for certain Newton-Raphson iterations. Theoretical Computer Science, 2006, 351, 101-110.	0.5	25
15	A new range-reduction algorithm. IEEE Transactions on Computers, 2005, 54, 331-339.	2.4	24
16	CAMPARY: Cuda Multiple Precision Arithmetic Library and Applications. Lecture Notes in Computer Science, 2016, , 232-240.	1.0	23
17	Integer and floating-point constant multipliers for FPGAs. , 2008, , .		21
18	Automatic Generation of Modular Multipliers for FPGA Applications. IEEE Transactions on Computers, 2008, 57, 1600-1613.	2.4	20

#	ARTICLE	IF	CITATIONS
19	Arithmetic Algorithms for Extended Precision Using Floating-Point Expansions. IEEE Transactions on Computers, 2016, 65, 1197-1210.	2.4	18
20	Elementary Functions and Approximate Computing. Proceedings of the IEEE, 2020, 108, 2136-2149.	16.4	18
21	Tight and Rigorous Error Bounds for Basic Building Blocks of Double-Word Arithmetic. ACM Transactions on Mathematical Software, 2018, 44, 1-27.	1.6	15
22	Accelerating correctly rounded floating-point division when the divisor is known in advance. IEEE Transactions on Computers, 2004, 53, 1069-1072.	2.4	14
23	Exact and Approximated Error of the FMA. IEEE Transactions on Computers, 2011, 60, 157-164.	2.4	14
24	Further analysis of Kahan's algorithm for the accurate computation of $2 \times 2$ determinants. Mathematics of Computation, 2013, 82, 2245-2264.	1.1	14
25	On the Robustness of the 2Sum and Fast2Sum Algorithms. ACM Transactions on Mathematical Software, 2018, 44, 1-14.	1.6	14
26	CR-LIBM: a correctly rounded elementary function library. , 2003, , .		13
27	Proposal for a Standardization of Mathematical Function Implementation in Floating-Point Arithmetic. Numerical Algorithms, 2004, 37, 367-375.	1.1	13
28	On the Computation of Correctly Rounded Sums. IEEE Transactions on Computers, 2012, 61, 289-298.	2.4	13
29	Computing floating-point logarithms with fixed-point operations. , 2016, , .		13
30	Hardwired polynomial evaluation. Journal of Parallel and Distributed Computing, 1988, 5, 291-309.	2.7	12
31	Semi-logarithmic number systems. IEEE Transactions on Computers, 1998, 47, 145-151.	2.4	12
32	Design of a complex divider. , 2004, , .		11
33	Newton-Raphson algorithms for floating-point division using an FMA. , 2010, , .		11
34	Correctly Rounded Multiplication by Arbitrary Precision Constants. IEEE Transactions on Computers, 2008, 57, 165-174.	2.4	10
35	$\langle \text{inline-formula} \rangle \langle \text{tex-math notation="TeX"} \rangle \$(M,p,k)\$ \langle / \text{tex-math} \rangle \langle / \text{inline-formula} \rangle$ -Friendly Points: A Table-Based Method to Evaluate Trigonometric Function. IEEE Transactions on Circuits and Systems II: Express Briefs, 2014, 61, 711-715.	2.2	10
36	Modulo M multiplication-addition: algorithms and FPGA implementation. Electronics Letters, 2004, 40, 654.	0.5	9

#	ARTICLE	IF	CITATIONS
37	A floating-point library for integer processors. , 2004, , .		9
38	Design and Implementation of a Radix-4 Complex Division Unit with Prescaling. , 2009, , .		9
39	Some issues related to double rounding. BIT Numerical Mathematics, 2013, 53, 897-924.	1.0	9
40	Comparison between Binary and Decimal Floating-Point Numbers. IEEE Transactions on Computers, 2016, 65, 2032-2044.	2.4	9
41	Algorithms for Manipulating Quaternions in Floating-Point Arithmetic. , 2020, , .		9
42	Rigorous Polynomial Approximation Using Taylor Models in Coq. Lecture Notes in Computer Science, 2012, , 85-99.	1.0	9
43	Error Analysis of Some Operations Involved in the Cooley-Tukey Fast Fourier Transform. ACM Transactions on Mathematical Software, 2020, 46, 1-27.	1.6	9
44	Performing Arithmetic Operations on Round-to-Nearest Representations. IEEE Transactions on Computers, 2011, 60, 282-291.	2.4	8
45	Midpoints and Exact Points of Some Algebraic Functions in Floating-Point Arithmetic. IEEE Transactions on Computers, 2011, 60, 228-241.	2.4	8
46	Error bounds on complex floating-point multiplication with an FMA. Mathematics of Computation, 2016, 86, 881-898.	1.1	8
47	Leading guard digits in finite precision redundant representations. IEEE Transactions on Computers, 2006, 55, 541-548.	2.4	7
48	An efficient method for evaluating polynomial and rational function approximations. , 2008, , .		7
49	On Various Ways to Split a Floating-Point Number. , 2018, , .		7
50	Complex Square Root with Operand Prescaling. Journal of Signal Processing Systems, 2007, 49, 19-30.	1.0	6
51	Computing correctly rounded integer powers in floating-point arithmetic. ACM Transactions on Mathematical Software, 2010, 37, 1-23.	1.6	6
52	Techniques and tools for implementing IEEE 754 floating-point arithmetic on VLIW integer processors. , 2010, , .		6
53	Avoiding double roundings in scaled Newton-Raphson division. , 2013, , .		6
54	On the computation of the reciprocal of floating point expansions using an adapted Newton-Raphson iteration. , 2014, , .		6

#	ARTICLE	IF	CITATIONS
55	<title>Correctly rounded exponential function in double-precision arithmetic</title>. , 2001, 4474, 156.		5
56	On Ziv's rounding test. ACM Transactions on Mathematical Software, 2013, 39, 1-19.	1.6	5
57	On the maximum relative error when computing integer powers by iterated multiplications in floating-point arithmetic. Numerical Algorithms, 2015, 70, 653-667.	1.1	5
58	Implementation and Performance Evaluation of an Extended Precision Floating-Point Arithmetic Library for High-Accuracy Semidefinite Programming. , 2017, , .		5
59	Algorithms for Triple-Word Arithmetic. IEEE Transactions on Computers, 2019, 68, 1573-1583.	2.4	5
60	Implementing on line arithmetic on PAM. Lecture Notes in Computer Science, 1994, , 196-207.	1.0	5
61	Formal Verification of a Floating-Point Expansion Renormalization Algorithm. Lecture Notes in Computer Science, 2017, , 98-113.	1.0	5
62	Arithmetic Processor for Solving Tridiagonal Systems of Linear Equations. , 2006, , .		4
63	A Hardware-Oriented Method for Evaluating Complex Polynomials. , 2007, , .		4
64	(M, p, k)-Friendly Points: A Table-Based Method for Trigonometric Function Evaluation. , 2012, , .		4
65	On the Error of Computing $ab + cd$ using Cornea, Harrison and Tang's Method. ACM Transactions on Mathematical Software, 2015, 41, 1-8.	1.6	4
66	Enhanced Floating-Point Sums, Dot Products, and Polynomial Values. , 2018, , 163-192.		4
67	Correct rounding of algebraic functions. RAIRO - Theoretical Informatics and Applications, 2007, 41, 71-83.	0.5	3
68	Low precision table based complex reciprocal approximation. , 2009, , .		3
69	An Efficient Method for Evaluating Complex Polynomials. Journal of Signal Processing Systems, 2010, 58, 17-27.	1.4	3
70	Comparison between Binary64 and Decimal64 Floating-Point Numbers. , 2013, , .		3
71	A New Multiplication Algorithm for Extended Precision Using Floating-Point Expansions. , 2016, , .		3
72	On-line algorithms for computing exponentials and logarithms. Lecture Notes in Computer Science, 1996, , 165-174.	1.0	2

#	ARTICLE	IF	CITATIONS
73	Synthesis for Mixed Arithmetic. Design Automation for Embedded Systems, 2000, 5, 29-60.	0.7	2
74	On-the-Fly Range Reduction. Journal of Signal Processing Systems, 2003, 33, 31-35.	1.0	2
75	Computing Integer Powers in Floating-Point Arithmetic. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , .	0.0	2
76	Horner's rule-based multiplication over $GF(p)$ and $GF(p^n)$ : a survey. International Journal of Electronics, 2008, 95, 669-684.	0.9	2
77	Implementing decimal floating-point arithmetic through binary: Some suggestions. , 2010, , .		2
78	Radix conversion for IEEE754-2008 mixed radix floating-point arithmetic. , 2013, , .		2
79	Sharp error bounds for complex floating-point inversion. Numerical Algorithms, 2016, 73, 735-760.	1.1	2
80	Hardware Implementation of Floating-Point Arithmetic. , 2018, , 267-320.		2
81	A High Throughput Polynomial and Rational Function Approximations Evaluator. , 2018, , .		2
82	Emulating Round-to-Nearest Ties-to-Zero "Augmented" Floating-Point Operations Using Round-to-Nearest Ties-to-Even Arithmetic. IEEE Transactions on Computers, 2021, 70, 1046-1058.	2.4	2
83	<title>On-the-fly range reduction</title>. , 2000, 4116, 209.		1
84	Generating function approximations at compile time. , 2006, , .		1
85	Complex multiply-add and other related operators. , 2007, , .		1
86	Augmented Precision Square Roots and 2-D Norms, and Discussion on Correctly Rounding $\sqrt{x^2+y^2}$ . , 2011, , .		1
87	On the Componentwise Accuracy of Complex Floating-Point Division with an FMA. , 2013, , .		1
88	Parallel floating-point expansions for extended-precision GPU computations. , 2016, , .		1
89	Modern Computer Arithmetic. Computer, 2016, 49, 12-12.	1.2	1
90	Formal Correctness of Comparison Algorithms Between Binary64 and Decimal64 Floating-Point Numbers. Lecture Notes in Computer Science, 2017, , 25-37.	1.0	1

#	ARTICLE	IF	CITATIONS
91	The Classical Relative Error Bounds for Computing $\sqrt{a^2 + b^2}$ and $c / \sqrt{a^2 + b^2}$ in Binary Floating-Point Arithmetic are Asymptotically Optimal. , 2017, , .		1
92	Semi-Automatic Implementation of the Complementary Error Function. , 2019, , .		1
93	Accurate Complex Multiplication in Floating-Point Arithmetic. , 2019, , .		1
94	Reciprocation, square root, inverse square root, and some elementary functions using small multipliers. , 1998, , .		0
95	Fast evaluation of functions at regularly-spaced points. , 1998, 3461, 555.		0
96	Guest Editors' Introduction: Special Section on Computer Arithmetic. IEEE Transactions on Computers, 2009, 58, 145-147.	2.4	0
97	Preface to the special issue on Numerical Software: Design, Analysis and Verification. Science of Computer Programming, 2014, 90, 1.	1.5	0
98	Introduction to the Special Issue on Computer Arithmetic. IEEE Transactions on Computers, 2017, 66, 1991-1993.	2.4	0
99	Extending the Precision. , 2018, , 513-552.		0
100	Basic Properties and Algorithms. , 2018, , 97-162.		0
101	Verifying Floating-Point Algorithms. , 2018, , 479-511.		0
102	Alternative Split Functions and Dekker's Product. , 2020, , .		0
103	Evaluating Floating-Point Elementary Functions. , 2018, , 375-433.		0
104	$\$a \cdot (x \cdot x)\$$ or $\$(a \cdot x) \cdot x?\$$ . , 2021, , .		0
105	An Architecture for Improving Variable Radix Real and Complex Division Using Recurrence Division. , 2020, , .		0