Guillaume Melquiond

List of Publications by Year
in descending order

39	1,144	623734	580821
papers	citations	14 h-index	25 g-index

41	41	41	469
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Handbook of Floating-Point Arithmetic. , 2010, , .		244
2	Handbook of Floating-Point Arithmetic. , 2018, , .		108
3	Certification of bounds on expressions involving rounded operators. ACM Transactions on Mathematical Software, 2010, 37, 1-20.	2.9	80
4	Flocq: A Unified Library for Proving Floating-Point Algorithms in Coq. , 2011, , .		80
5	Certifying the Floating-Point Implementation of an Elementary Function Using Gappa. IEEE Transactions on Computers, 2011, 60, 242-253.	3.4	64
6	Coquelicot: A User-Friendly Library of Real Analysis for Coq. Mathematics in Computer Science, 2015, 9, 41-62.	0.4	58
7	Wave Equation Numerical Resolution: A Comprehensive Mechanized Proof of a C Program. Journal of Automated Reasoning, 2013, 50, 423-456.	1.4	55
8	Assisted verification of elementary functions using Gappa. , 2006, , .		46
9	The design of the Boost interval arithmetic library. Theoretical Computer Science, 2006, 351, 111-118.	0.9	45
10	Combining Coq and Gappa for Certifying Floating-Point Programs. Lecture Notes in Computer Science, 2009, , 59-74.	1.3	43
11	Emulation of a FMA and Correctly Rounded Sums: Proved Algorithms Using Rounding to Odd. IEEE Transactions on Computers, 2008, 57, 462-471.	3.4	31
12	Floating-point arithmetic in the Coq system. Information and Computation, 2012, 216, 14-23.	0.7	30
13	Verified Compilation of Floating-Point Computations. Journal of Automated Reasoning, 2015, 54, 135-163.	1.4	29
14	Formalization of real analysis: a survey of proof assistants and libraries. Mathematical Structures in Computer Science, 2016, 26, 1196-1233.	0.6	28
15	A Formally-Verified C Compiler Supporting Floating-Point Arithmetic. , 2013, , .		24
16	Trusting computations: A mechanized proof from partial differential equations to actual program. Computers and Mathematics With Applications, 2014, 68, 325-352.	2.7	23
17	Proving Bounds on Real-Valued Functions with Computations. Lecture Notes in Computer Science, 2008, , 2-17.	1.3	22
18	Formal Proof of a Wave Equation Resolution Scheme: The Method Error. Lecture Notes in Computer Science, 2010, , 147-162.	1.3	17

#	Article	IF	Citations
19	Proving Tight Bounds on Univariate Expressions with Elementary Functions in Coq. Journal of Automated Reasoning, 2016, 57, 187-217.	1.4	16
20	Improving Real Analysis in Coq: A User-Friendly Approach to Integrals and Derivatives. Lecture Notes in Computer Science, 2012, , 289-304.	1.3	15
21	Formally certified floating-point filters for homogeneous geometric predicates. RAIRO - Theoretical Informatics and Applications, 2007, 41, 57-69.	0.5	14
22	A Simplex-Based Extension of Fourier-Motzkin for Solving Linear Integer Arithmetic. Lecture Notes in Computer Science, 2012, , 67-81.	1.3	13
23	Computing predecessor and successor in rounding toÂnearest. BIT Numerical Mathematics, 2009, 49, 419-431.	2.0	9
24	Some issues related to double rounding. BIT Numerical Mathematics, 2013, 53, 897-924.	2.0	9
25	How to Get an Efficient yet Verified Arbitrary-Precision Integer Library. Lecture Notes in Computer Science, 2017, , 84-101.	1.3	7
26	A Three-Tier Strategy for Reasoning About Floating-Point Numbers in SMT. Lecture Notes in Computer Science, 2017, , 419-435.	1.3	6
27	Formally Verified Approximations of Definite Integrals. Lecture Notes in Computer Science, 2016, , 274-289.	1.3	6
28	IEEE Interval Standard Working Group - P1788: Current Status. , 2009, , .		5
29	Enhanced Floating-Point Sums, Dot Products, and Polynomial Values. , 2018, , 163-192.		4
30	Formally Verified Approximations of Definite Integrals. Journal of Automated Reasoning, 2019, 62, 281-300.	1.4	4
31	A Why3 Framework for Reflection Proofs and Its Application to GMPâ€™s Algorithms. Lecture Notes in Computer Science, 2018, , 178-193.	1.3	4
32	Some Formal Tools for Computer Arithmetic: Flocq and Gappa. , 2021, , .		3
33	Numerical approximation of The Masser-Gramain constant to four decimal digits: $delta = 1.819...$. Mathematics of Computation, 2012, 82, 1235-1246.	2.1	1
34	Basic Properties and Algorithms. , 2018, , 97-162.		0
35	Verifying Floating-Point Algorithms. , 2018, , 479-511.		0
36	Plotting in a Formally Verified Way. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 338, 39-45.	0.8	0

#	Article	IF	Citations
37	Algorithms for the Basic Operations. , 2018, , 233-266.		0
38	Evaluating Floating-Point Elementary Functions. , 2018, , 375-433.		0
39	WhyMP, a formally verified arbitrary-precision integer library. , 2020, , .		0