

# Carla Manni

## List of Publications by Year in descending order

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100  
papers

2,009  
citations

236925

25  
h-index

302126

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g-index

103  
all docs

103  
docs citations

103  
times ranked

569  
citing authors

#	ARTICLE	IF	CITATIONS
1	Application of optimal spline subspaces for the removal of spurious outliers in isogeometric discretizations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 389, 114260.	6.6	11
2	Construction of $C^2$ Cubic Splines on Arbitrary Triangulations. <i>Foundations of Computational Mathematics</i> , 2022, 22, 1309-1350.	2.5	3
3	Best Low-rank Approximations and Kolmogorov $n$ -widths. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2021, 42, 330-350.	1.4	0
4	Isogeometric discretizations with generalized B-splines: Symbol-based spectral analysis. <i>Applied Numerical Mathematics</i> , 2021, 166, 288-312.	2.1	2
5	Multi-degree B-splines: Algorithmic computation and properties. <i>Computer Aided Geometric Design</i> , 2020, 76, 101792.	1.2	24
6	NURBS in isogeometric discretization methods: A spectral analysis. <i>Numerical Linear Algebra With Applications</i> , 2020, 27, e2318.	1.6	3
7	Adaptive refinement with locally linearly independent LR B-splines: Theory and applications. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 369, 113230.	6.6	18
8	Explicit error estimates for spline approximation of arbitrary smoothness in isogeometric analysis. <i>Numerische Mathematik</i> , 2020, 144, 889-929.	1.9	23
9	A Tchebycheffian Extension of Multidegree B-Splines: Algorithmic Computation and Properties. <i>SIAM Journal on Numerical Analysis</i> , 2020, 58, 1138-1163.	2.3	15
10	Spectral Analysis of Isogeometric Discretizations of 2D Curl-Div Problems with General Geometry. <i>Lecture Notes in Computational Science and Engineering</i> , 2020, , 251-262.	0.3	0
11	Sharp error estimates for spline approximation: Explicit constants, $n$ -widths, and eigenfunction convergence. <i>Mathematical Models and Methods in Applied Sciences</i> , 2019, 29, 1175-1205.	3.3	23
12	Mathematical Foundations of Isogeometric Analysis. <i>Oberwolfach Reports</i> , 2019, 16, 1981-2032.	0.0	2
13	Tchebycheffian spline spaces over planar T-meshes: Dimension bounds and dimension instabilities. <i>Journal of Computational and Applied Mathematics</i> , 2019, 349, 265-278.	2.0	7
14	Isogeometric analysis for 2D and 3D curl-div problems: Spectral symbols and fast iterative solvers. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 344, 970-997.	6.6	9
15	Tchebycheffian B-Splines Revisited: An Introductory Exposition. <i>Springer INdAM Series</i> , 2019, , 179-216.	0.5	3
16	Foundations of Spline Theory: B-Splines, Spline Approximation, and Hierarchical Refinement. <i>Lecture Notes in Mathematics</i> , 2018, , 1-76.	0.2	21
17	Blended B-spline construction on unstructured quadrilateral and hexahedral meshes with optimal convergence rates in isogeometric analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 341, 609-639.	6.6	49
18	Are the eigenvalues of the B-spline isogeometric analysis approximation of known in almost closed form?. <i>Numerical Linear Algebra With Applications</i> , 2018, 25, e2198.	0.6	15

#	ARTICLE	IF	CITATIONS
19	Spectral analysis of matrices in Galerkin methods based on generalized B-splines with high smoothness. <i>Numerische Mathematik</i> , 2017, 135, 169-216.	1.9	8
20	Symbol-Based Multigrid Methods for Galerkin B-Spline Isogeometric Analysis. <i>SIAM Journal on Numerical Analysis</i> , 2017, 55, 31-62.	2.3	62
21	Numerical approximation of GB-splines by a convolutional approach. <i>Applied Numerical Mathematics</i> , 2017, 116, 273-285.	2.1	2
22	Splines over regular triangulations in numerical simulation. <i>CAD Computer Aided Design</i> , 2017, 82, 100-111.	2.7	7
23	Lusin theorem, GLT sequences and matrix computations: An application to the spectral analysis of PDE discretization matrices. <i>Journal of Mathematical Analysis and Applications</i> , 2017, 446, 365-382.	1.0	15
24	Generalized B-Splines in Isogeometric Analysis. <i>Springer Proceedings in Mathematics and Statistics</i> , 2017, , 239-267.	0.2	2
25	Spectral analysis and spectral symbol of matrices in isogeometric Galerkin methods. <i>Mathematics of Computation</i> , 2016, 86, 1343-1373.	2.1	22
26	Effortless quasi-interpolation in hierarchical spaces. <i>Numerische Mathematik</i> , 2016, 132, 155-184.	1.9	57
27	On the dimension of Tchebycheffian spline spaces over planar T-meshes. <i>Computer Aided Geometric Design</i> , 2016, 45, 151-173.	1.2	12
28	Generalized spline spaces over T-meshes: Dimension formula and locally refined generalized B-splines. <i>Applied Mathematics and Computation</i> , 2016, 272, 187-198.	2.2	16
29	Standard and Non-standard CAGD Tools for Isogeometric Analysis: A Tutorial. <i>Lecture Notes in Mathematics</i> , 2016, , 1-69.	0.2	2
30	Spectral analysis and spectral symbol of matrices in isogeometric collocation methods. <i>Mathematics of Computation</i> , 2015, 85, 1639-1680.	2.1	27
31	Two-grid optimality for Galerkin linear systems based on B-splines. <i>Computing and Visualization in Science</i> , 2015, 17, 119-133.	1.2	6
32	Optimizing domain parameterization in isogeometric analysis based on Powell's Sabin splines. <i>Journal of Computational and Applied Mathematics</i> , 2015, 289, 68-86.	2.0	44
33	Computation of quadrature rules for integration with respect to refinable functions on assigned nodes. <i>Applied Numerical Mathematics</i> , 2015, 90, 168-189.	2.1	18
34	Shape-preserving interpolation of spatial data by Pythagorean-hodograph quintic spline curves. <i>IMA Journal of Numerical Analysis</i> , 2015, 35, 478-498.	2.9	8
35	Shape preserving $C^2$ interpolatory subdivision. <i>BIT Numerical Mathematics</i> , 2015, 55, 751-779.	2.0	3
36	Convergence of univariate non-stationary subdivision schemes via asymptotic similarity. <i>Computer Aided Geometric Design</i> , 2015, 37, 1-8.	1.2	34

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37	Robust and optimal multi-iterative techniques for IgA collocation linear systems. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 1120-1146.	6.6	40
38	Isogeometric collocation methods with generalized B-splines. Computers and Mathematics With Applications, 2015, 70, 1659-1675.	2.7	39
39	BS2 methods for semi-linear second order boundary value problems. Applied Mathematics and Computation, 2015, 255, 147-156.	2.2	5
40	Robust and optimal multi-iterative techniques for IgA Galerkin linear systems. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 230-264.	6.6	67
41	On the spectrum of stiffness matrices arising from isogeometric analysis. Numerische Mathematik, 2014, 127, 751-799.	1.9	48
42	A fully data-dependent criterion for free angles selection in spatial PH cubic biarc Hermite interpolation. Computer Aided Geometric Design, 2014, 31, 398-411.	1.2	5
43	Local Hierarchical h-Refinements in IgA Based on Generalized B-Splines. Lecture Notes in Computer Science, 2014, , 341-363.	1.3	9
44	From NURBS to NURPS geometries. Computer Methods in Applied Mechanics and Engineering, 2013, 255, 238-254.	6.6	29
45	On the approximation order of a space data-dependent PH quintic Hermite interpolation scheme. Computer Aided Geometric Design, 2013, 30, 148-158.	1.2	13
46	Isogeometric analysis with Powell-Sabin splines for advection-diffusion-reaction problems. Computer Methods in Applied Mechanics and Engineering, 2012, 221-222, 132-148.	6.6	83
47	Design of C <sup>2</sup> Spatial Pythagorean-Hodograph Quintic Spline Curves by Control Polygons. Lecture Notes in Computer Science, 2012, , 253-269.	1.3	5
48	Design of rational rotation-minimizing rigid body motions by Hermite interpolation. Mathematics of Computation, 2011, 81, 879-903.	2.1	37
49	Isogeometric analysis in advection-diffusion problems: Tension splines approximation. Journal of Computational and Applied Mathematics, 2011, 236, 511-528.	2.0	21
50	Generalized B-splines as a tool in isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 867-881.	6.6	72
51	Convergence analysis of Hermite interpolatory subdivision schemes by explicit joint spectral radius formulas. Linear Algebra and Its Applications, 2011, 434, 884-902.	1.2	15
52	A geometric approach for Hermite subdivision. Numerische Mathematik, 2010, 115, 333-369.	1.9	9
53	Polynomial cubic splines with tension properties. Computer Aided Geometric Design, 2010, 27, 592-610.	1.2	18
54	Quasi-interpolation in isogeometric analysis based on generalized B-splines. Computer Aided Geometric Design, 2010, 27, 656-668.	1.2	45

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55	Curve and surface construction using Hermite subdivision schemes. Journal of Computational and Applied Mathematics, 2010, 233, 1660-1673.	2.0	9
56	A tension approach to controlling the shape of cubic spline surfaces on FVS triangulations. Journal of Computational and Applied Mathematics, 2010, 233, 1674-1684.	2.0	1
57	Shape Constraints and Optimal Bases for $C^1$ Hermite Interpolatory Subdivision Schemes. SIAM Journal on Numerical Analysis, 2010, 48, 1254-1280.	2.3	6
58	Quintic space curves with rational rotation-minimizing frames. Computer Aided Geometric Design, 2009, 26, 580-592.	1.2	29
59	On Constrained Nonlinear Hermite Subdivision. Constructive Approximation, 2008, 28, 291-331.	3.0	9
60	Identification of spatial PH quintic Hermite interpolants with near-optimal shape measures. Computer Aided Geometric Design, 2008, 25, 274-297.	1.2	66
61	Quasi-interpolation projectors for box splines. Journal of Computational and Applied Mathematics, 2008, 221, 416-429.	2.0	16
62	Geometric construction of quintic parametric B-splines. Journal of Computational and Applied Mathematics, 2008, 221, 355-366.	2.0	3
63	A control polygon scheme for design of planar PH quintic spline curves. Computer Aided Geometric Design, 2007, 24, 28-52.	1.2	42
64	Quadratic spline quasi-interpolants on Powell-Sabin partitions. Advances in Computational Mathematics, 2007, 26, 283-304.	1.6	54
65	Refining cubic parametric B-splines. Computing (Vienna/New York), 2007, 79, 291-299.	4.8	1
66	On a class of weak Tchebycheff systems. Numerische Mathematik, 2005, 101, 333-354.	1.9	90
67	Geometric Hermite interpolation by spatial Pythagorean-hodograph cubics. Advances in Computational Mathematics, 2005, 22, 325-352.	1.6	46
68	Tensioned Quasi-Interpolation Via Geometric Continuity. Advances in Computational Mathematics, 2004, 20, 105-127.	1.6	13
69	Quasi-Interpolants with Tension Properties from and in CAGD. Computing (Vienna/New York), 2004, 72, 143-160.	4.8	5
70	Characterization and construction of helical polynomial space curves. Journal of Computational and Applied Mathematics, 2004, 162, 365-392.	2.0	47
71	Quasi-Interpolants with Tension Properties from and in CAGD. , 2004, , 143-160.		0
72	Shape-Preserving $C^3$ Interpolation: The Curve Case. Advances in Computational Mathematics, 2003, 18, 41-63.	1.6	22

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73	Geometric construction of spline curves with tension properties. <i>Computer Aided Geometric Design</i> , 2003, 20, 579-599.	1.2	19
74	Shape-preserving interpolants with high smoothness. <i>Journal of Computational and Applied Mathematics</i> , 2003, 157, 383-405.	2.0	19
75	Shape-preserving interpolation by G1 and G2 PH quintic splines. <i>IMA Journal of Numerical Analysis</i> , 2003, 23, 175-195.	2.9	22
76	Real-time CNC interpolators for BÄzier conics. <i>Computer Aided Geometric Design</i> , 2001, 18, 639-655.	1.2	17
77	Computation of optimal composite re-parameterizations. <i>Computer Aided Geometric Design</i> , 2001, 18, 875-897.	1.2	27
78	On Shape Preserving C2 Hermite Interpolation. <i>BIT Numerical Mathematics</i> , 2001, 41, 127-148.	2.0	28
79	Shape-Preserving C2 Functional Interpolation via Parametric Cubics. <i>Numerical Algorithms</i> , 2001, 28, 229-254.	1.9	33
80	Efficient Solution of the Complex Quadratic Tridiagonal System for C2 PH Quintic Splines. <i>Numerical Algorithms</i> , 2001, 27, 35-60.	1.9	48
81	Constructing C3 shape preserving interpolating space curves. <i>Advances in Computational Mathematics</i> , 2001, 14, 103-127.	1.6	11
82	Local shape-preserving interpolation by space curves. <i>IMA Journal of Numerical Analysis</i> , 2001, 21, 301-325.	2.9	19
83	A general parametric framework for functional tension schemes. <i>Journal of Computational and Applied Mathematics</i> , 2000, 119, 275-300.	2.0	5
84	A Parametric Cubic Element with Tension Properties. <i>SIAM Journal on Numerical Analysis</i> , 1999, 36, 607-628.	2.3	5
85	A local shape-preserving interpolation scheme for scattered data. <i>Computer Aided Geometric Design</i> , 1999, 16, 385-405.	1.2	13
86	On discrete hyperbolic tension splines. <i>Advances in Computational Mathematics</i> , 1999, 11, 331-354.	1.6	16
87	Monotone interpolation of order 3 by C2 cubic splines. <i>IMA Journal of Numerical Analysis</i> , 1997, 17, 305-320.	2.9	23
88	A bicubic shape-preserving blending scheme. <i>Computer Aided Geometric Design</i> , 1996, 13, 307-331.	1.2	14
89	Monotonicity-preserving interpolation of nongridded data. <i>Computer Aided Geometric Design</i> , 1996, 13, 467-495.	1.2	11
90	C1 comonotone Hermite interpolation via parametric cubics. <i>Journal of Computational and Applied Mathematics</i> , 1996, 69, 143-157.	2.0	21

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91	On a class of polynomial triangular macro-elements. Journal of Computational and Applied Mathematics, 1996, 73, 45-64.	2.0	9
92	Comonotone parametric C1 interpolation of nongridded data. Journal of Computational and Applied Mathematics, 1996, 75, 147-169.	2.0	7
93	Lebesgue constants for Hermite and Fejér interpolation on equidistant nodes. Calcolo, 1993, 30, 203-218.	1.1	2
94	A Local Scheme for Comonotone Bivariate Interpolation over Contours. , 1993, , .		0
95	On the dimension of bivariate spline spaces on generalized quasi-cross-cut partitions. Journal of Approximation Theory, 1992, 69, 141-155.	0.8	17
96	A local scheme for bivariate co-monotone interpolation. Computer Aided Geometric Design, 1991, 8, 371-391.	1.2	12
97	An approximation of the thermal field in a continuous casting process of a thin metal layer. Mathematical Methods in the Applied Sciences, 1991, 14, 217-226.	2.3	2
98	On a model for the temperature distribution in moving bimetallic strips. Meccanica, 1990, 25, 115-123.	2.0	3
99	Sulla ricostruzione tomografica di un corpo convesso. Calcolo, 1986, 23, 139-160.	1.1	2
100	Ritz-type projectors with boundary interpolation properties and explicit spline error estimates. Numerische Mathematik, 0, , 1.	1.9	1