

## CARLA MANNI: short Curriculum Vitae

### EDUCATION

PhD in Mathematics, University of Florence, 1990.

Undergraduate degree in Mathematics, University of Florence, 1984.

### PROFESSIONAL EXPERIENCE

2002- Full Professor, Faculty of Sciences, University of Rome "Tor Vergata"

1994-1998 Assistant Professor of Numerical Analysis, Faculty of Engineering, University of Florence

1998-2002 Associate Professor, Faculty of Pharmacy, University of Turin

1990-1994 Assistant Professor of Numerical Analysis, Faculty of Sciences, University of Pisa

### RESEARCH INTERESTS

Computer Aided Geometric Design (CAGD), Splines, Geometric Modelling, Isogeometric Analysis, Constrained Interpolation and Approximation, Subdivision Schemes, Numerical Linear Algebra

### PROJECTS (most recent)

2020–2023: Unit leader of the MSCA-ITN-2019 project *learninG, pRocessing And oPtimising shapES (GRAPES)* (260Keuros to the Unit)

2019–2021: coordinator *Advanced Spline Technologies for featuRe preserving Isogeometric Discretizations (ASTRID)*, Università Roma "Tor Vergata" (11Keuro)

2018–2022: Co-supervisor of the project MATH@TOV (MIUR- Excellence Departments) (8675 Keuros)

### SELECTED SCIENTIFIC ACTIVITIES

2022 Co-organizer INdAM meeting *Approximation Theory and Numerical Analysis meet Algebra, Geometry, Topology* Cortona, Italy

2020 Co-organizer INdAM Workshop *Geometric Challenges in Isogeometric Analysis* Rome, Italy

2019 Co-organizer Oberwolfach workshop 1929b *Mathematical Foundations of Isogeometric Analysis*

2019 Co-organizer Workshop *Mathematical Models and Methods in Earth and Space Sciences* Rome, Italy

2017 Director of CIME-EMS Summer School in Applied Mathematics: *Splines and PDEs: Recent Advances from Approximation Theory to Structured Numerical Linear Algebra*, Cetraro, Italy

2005- Member of the PhD Committee in Mathematics, University of Rome "Tor Vergata"

2008-2013 Member of the PhD Committee "Matematica del Calcolo: Modelli, Strutture, algoritmi ed Applicazioni" University of INSUBRIA Varese-Como

### Scientific Offices

2020–2022 coordinator subGEV Applied Mathematics for VQR 2015-2019 (Research quality assessment for Universities and research Institutes in Italy )

2018–2021 Member of the Committee for National Scientific Qualification for Numerical Analysis (ASN: 01/A5)

2017 member of the Panel DP-COFUND-2015 INdAM Doctoral Programme in Mathematics and/or Applications cofunded by Marie Curie Actions

2016 Member of the Panel Call 3 - COFUND-2012 INdAM Fellowships in Mathematics and/or Applications cofunded by Marie Curie Actions

2015 Chair of the Panel Call 2 - COFUND-2012 INdAM Fellowships in Mathematics and/or Applications cofunded by Marie Curie Actions

2012–2013 Member of the Committee for National Scientific Qualification for Numerical Analysis (ASN: 01/A5)

2009– Member of the Scientific Committee of GNCS (National Group for Scientific Computation)

2009–2010 Vice Chair of SIAM Activity Group on Geometric Design

**Research Visits (most recent):**

02/2019: Max-Planck-Institut für Plasmaphysik, Garching bei München, Germany.  
02/2018: Department of Mathematics at the University of Oslo, Oslo, Norway.  
07/2017: Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, USA  
05/2017: Max-Planck-Institut für Plasmaphysik, Garching bei München, Germany.  
05/2016: Department of Mechanical Engineering, University of Wisconsin-Madison, Madison, USA  
05/2016: Department of Mathematics, Towson University, Towson, USA  
04/2016: Department of Computer Science, University of Oslo, (Norway)  
02-03/2015: ICES, University of Texas, Austin TX (USA);  
12/2015: Max-Planck-Institut für Plasmaphysik, Garching bei München, Germany.  
05/2014: Department of Computer Science, University of Oslo, (Norway)  
01/2014: ICES, University of Texas, Austin TX (USA);

**Invited plenary speaker at numerous International conferences (most recent):**

21–26/11/2021, Geometric Modeling: Interoperability and New Challenges, Schloss Dagstuhl - Leibniz Center for Informatics, Germany  
2020–2021 Several invited plenary talks at international conferences canceled due to COVID 19 pandemic  
31/05–1/06/2019, Structure preserving Discretizations: FEMS, Splines, and IGA, Pittsburgh, USA.  
24/02–1/03, 2019, Isogeometric Splines: Theory and Applications, BIRS Banff, Canada  
10–12/07/2017, SIAM Conference on Industrial and Applied Geometry, GD-17, Pittsburgh, USA  
31/10–4/11/2016, SIGMA'2016: Signal Image Geometry Modelling Approximation, Luminy, France  
18–23/09/2016, Multivariate Approximation and Interpolation with Applications, Luminy, France  
22–25/05/2016, 15th International Conference Approximation Theory, San Antonio, Texas, USA  
7–13/02/2016, Mini-Workshop: Mathematical Foundations of Isogeometric Analysis, Oberwolfach, Germany  
28/06–3/07/2015, VI Jaen Conference on Approximation Theory, Ubeda, Spain  
19–25/04/2015, Multivariate Splines and Algebraic Geometry, Oberwolfach, Germany

**Associate Editor**

2020 - Computer Aided Geometric Design (CAGD)  
2022 - Computer Methods in Applied Mechanics and Engineering (CMAME)  
2018 - SIAM Journal on Numerical Analysis (SINUM)  
2012 - Le Matematiche

LIST of PUBLICATIONS of **CARLA MANNI****2022**

- [125–2022] **C. Manni**, E. Sande, H. Speleers: *Application of optimal spline subspaces for the removal of spurious outliers in isogeometric discretizations*, Computer Methods in Applied Mechanics and Engineering, 389 (2022) 114260.  
<https://doi.org/10.1016/j.cma.2021.114260>
- [124–2022] T. Lyche, **C. Manni**, H. Speleers: *Construction of  $C^2$  cubic splines on arbitrary triangulations*, Foundations of Computational Mathematics, to appear

**2021**

- [123–2021] M. L. Cardinali, C. Garoni, **C. Manni**, H. Speleers: *Isogeometric discretizations with generalized B-splines: symbol-based spectral analysis*, Applied Numerical Mathematics, 166 (2021) 288–312  
<https://doi.org/10.1016/j.apnum.2021.04.009>
- [122–2021] M. S. Floater, **C. Manni**, E. Sande, H. Speleers: *Best low-rank approximations and Kolmogorov  $n$ -widths*, SIAM Journal on Matrix Analysis and Applications, 42 (2021), 330–350  
<https://doi.org/10.1137/20M1355720>

**2020**

- [121–2020] F. Patrizi, **C. Manni**, F. Pelosi, H. Speleers *Adaptive refinement with locally linearly independent LR B-splines: Theory and applications*, Computer Methods in Applied Mechanics and Engineering, 369 (2020) 113230  
<https://doi.org/10.1016/j.cma.2020.113230>
- [120–2020] C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers: *NURBS in isogeometric discretization methods: A spectral analysis*, Numerical Linear Algebra with Applications, 2020;27:e2318.  
<https://doi.org/10.1002/nla.2318>
- [119–2020] R. R. Hiemstra, T. J. R. Hughes, **C. Manni**, H. Speleers, D. Toshniwal, *A Tchebycheffian extension of multi-degree B-splines: Algorithmic computation and properties*, SIAM Journal on Numerical Analysis, 58 (2020) 1138–1163.  
 DOI 10.1137/19M1263583
- [118–2020] E. Sande, **C. Manni**, H. Speleers: *Explicit error estimates for spline approximation of arbitrary smoothness in isogeometric analysis*, Numerische Mathematik, 144 (2020) 889–929.  
 DOI 10.1007/s00211-019-01097-9
- [117–2020] D. Toshniwal, H. Speleers, R. R. Hiemstra, **C. Manni**, T. J. R. Hughes: *Multi-degree B-splines: Algorithmic computation and properties*, CAGD, 76 (2020), 101792  
 DOI 10.1016/j.cagd.2019.101792
- [116–2020] M. Mazza, **C. Manni**, H. Speleers: *Spectral analysis of isogeometric discretizations of 2D curl-div problems with general geometry*, in S. J. Sherwin, D. Moxey, J. Peiró, P. E. Vincent, C. Schwab, eds.: Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2018, Lecture Notes in Computational Science and Engineering (2020), 134, 251–262.  
[https://doi.org/10.1007/978-3-030-39647-3\\_19](https://doi.org/10.1007/978-3-030-39647-3_19)

## 2019

- [115–2019] T. Lyche, **C. Manni**, H. Speleers: *Tchebycheffian B-Splines Revisited: An Introductory Exposition*, in C. Giannelli H. Speleers, eds.: Advanced Methods for Geometric Modeling and Numerical Simulation, Springer INdAM Series 35 (2019) 179–216.
- [114–2019] E. Sande, **C. Manni**, H. Speleers: *Sharp error estimates for spline approximation: explicit constants, n-widths, and eigenfunction convergence*, Mathematical Models and Methods in Applied Sciences, 29 (2019) 1175–1205  
 DOI 10.1142/S0218202519500192
- [113–2019] C. Bracco, T. Lyche, **C. Manni**, H. Speleers: *Tchebycheffian spline spaces over planar T-meshes: Dimension bounds and dimension instabilities*, J. of Computational and Applied Mathematics, 349 (2019) 265–278  
 DOI: 10.1016/j.cam.2018.10.026
- [112–2019] M. Mazza, **C. Manni**, A. Ratnani, S. Serra-Capizzano, H. Speleers *Isogeometric analysis for 2D and 3D curl-div problems: Spectral symbols and fast iterative solvers*, Computer Methods in Applied Mechanics and Engineering, 344 (2019) 970–997  
 DOI:10.1016/j.cma.2018.10.008

## 2018

- [111–2018] **C. Manni**, H. Speleers: *Dimension of Tchebycheffian spline spaces over planar T-meshes: The conformality method*, Rendiconti del Seminario Matematico dell’Università e del Politecnico di Torino, 76 (2018) 135–145.
- [110–2018] T. Lyche, **C. Manni**, H. Speleers: *Foundations of Spline Theory: B-Splines, Spline Approximation, and Hierarchical Refinement*, in T. Lyche, C. Manni, H. Speleers (eds.): Splines and PDEs: from Approximation Theory to Numerical Linear Algebra, Springer, Lecture Notes in Mathematics 2219, (2018)  
 DOI 10.1007/978-3-319-94911-6\_1
- [109–2018] X. Wei, Y. Zhang, D. Toshniwal, H. Speleers, X. Li, **C. Manni**, J. A. Evans, T. Hughes *Blended B-Spline Construction on Unstructured Quadrilateral and Hexahedral Meshes with Optimal Convergence Rates in Isogeometric Analysis*, Computer Methods in Applied Mechanics and Engineering, 341 (2018) 609–639

DOI 10.1016/j.cma.2018.07.013

- [108–2018] S.-E. Ekström, I. Furci, C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers *Are the eigenvalues of the B-spline isogeometric analysis approximation of  $-\Delta u = \lambda u$  known in almost closed form?* Numerical Linear Algebra with Applications, 25 (2018)  
DOI 10.1002/nla.2198

## 2017

- [107–2017] **C. Manni**, F. Roman, H. Speleers: *Generalized B-splines in Isogeometric Analysis*, in: G.E. Fasshauer and L.L. Schumaker (eds.), Approximation Theory XV: San Antonio 2016, Springer Proceedings in Mathematics & Statistics 201, (2017) 239–267.  
ISBN-13: 978-3319599113  
DOI 10.1007/978-3-319-59912-0\_12
- [106–2017] F. Roman, **C. Manni**, H. Speleers: *Numerical approximation of GB-splines with a convolutional approach*, Applied Numerical Mathematics, 116 (2017) 273–285  
DOI: 10.1016/j.apnum.2016.10.017
- [105–2017] M. Donatelli, C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers: *Symbol-based multigrid methods for Galerkin B-spline isogeometric analysis*, SIAM Journal on Numerical Analysis, 55 (2017) 31–62  
DOI:10.1137/140988590
- [104–2017] C. Garoni, **C. Manni**, S. Serra-Capizzano, D. Sesana, H. Speleers: *Spectral analysis and spectral symbol of matrices in isogeometric Galerkin methods*, Mathematics of Computation, 86 (2017) 1343–1373  
DOI: 10.1090/mcom/3143
- [103–2017] F. Pelosi, C. Giannelli, **C. Manni**, M. L. Sampoli, H. Speleers *Splines over regular triangulations in numerical simulations*, CAD, 82 (2017) 100–111  
DOI: 10.1016/j.cad.2016.08.002
- [102–2017] C. Garoni, **C. Manni**, S. Serra-Capizzano, D. Sesana, H. Speleers: *Lusin theorem, GLT sequences and matrix computations: an application to the spectral analysis of PDE discretization matrices*, Journal of Mathematical Analysis and Applications, 446 (2017) 365–382  
DOI:10.1016/j.jmaa.2016.08.040
- [101–2017] F. Roman, **C. Manni**, H. Speleers: *Spectral analysis of matrices in Galerkin methods based on generalized B-splines with high smoothness*, Numerische Mathematik, 135 (2017) 169–216  
DOI: 10.1007/s00211-016-0796-z

## 2016

- [100–2016] **C. Manni**, H. Speleers: *Standard and Non-standard CAGD Tools for Isogeometric Analysis: A Tutorial*, Lecture Notes in Mathematics, 2161 (2016) 1–69.  
DOI:10.1007/978-3-319-42309-8\_1  
ISBN: 978-3-319-42308-1
- [99–2016] C. Bracco, T. Lyche, **C. Manni**, F. Roman, H. Speleers: *On the dimension of Tchebycheffian spline spaces over planar T-meshes* CAGD, 45 (2016) 151–173  
DOI: 10.1016/j.cagd.2016.01.002
- [98–2016] M. Donatelli, C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers: *Spectral analysis and spectral symbol of matrices in isogeometric collocation methods*, Mathematics of Computation, 85 (2016) 1639–1680.  
DOI: <http://dx.doi.org/10.1090/mcom/3027>
- [97–2016] H. Speleers, **C. Manni**: *Effortless quasi-interpolation in hierarchical spaces*, Numerische Mathematik, 132 (2016) 155–184  
DOI 10.1007/s00211-015-0711-z
- [96–2016] C. Bracco, T. Lyche, **C. Manni**, F. Roman, H. Speleers: *Generalized spline spaces over T-meshes: Dimension formula and locally refined generalized B-splines*, Applied Mathematics and Computation, 272 (2016) 187–198  
DOI:10.1016/j.amc.2015.08.019

## 2015

- [95–2015] M. Donatelli, C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers: *Two-grid optimality for Galerkin linear systems based on B-splines*, Computing and Visualization in Science, 17 (2015) 119–133  
DOI: 10.1007/s00791-015-0253-z
- [94–2015] C. Conti, N. Dyn, **C. Manni**, M.-L. Mazure: *Convergence of univariate non-stationary subdivision schemes via asymptotical similarity*, CAGD, 37 (2015), 1–8  
<http://dx.doi.org/10.1016/j.cagd.2015.06.004>
- [93–2015] H. Speleers, **C. Manni**: *Optimizing domain parameterization in isogeometric analysis based on Powell-Sabin splines*, J. of Computational and Applied Mathematics 289 (2015), 68–86  
<http://dx.doi.org/10.1016/j.cam.2015.03.024>
- [92–2015] **C. Manni**, A. Reali, H. Speleers: *Isogeometric collocation methods with generalized B-splines*, Computers & Mathematics with Applications, 70 (2015), 1659–1675  
<http://dx.doi.org/10.1016/j.camwa.2015.03.027>
- [91–2015] M. Donatelli, C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers: *Robust and optimal multi-iterative techniques for IgA collocation linear systems*, Computer Methods in Applied Mechanics and Engineering, 284 (2015) 1120–1146  
<http://dx.doi.org/10.1016/j.cma.2014.11.036>  
Available online 28 November 2014
- [90–2015] M. Donatelli, C. Garoni, **C. Manni**, S. Serra-Capizzano, H. Speleers: *Robust and optimal multi-iterative techniques for IgA Galerkin linear systems*, Computer Methods in Applied Mechanics and Engineering, 284 (2015) 230–264  
<http://dx.doi.org/10.1016/j.cma.2014.06.001>  
Available online 7 June 2014
- [89–2015] **C. Manni**, F. Mazzia, A. Sestini, H. Speleers: *BS2 methods for semi-linear second order boundary value problems*, Applied Mathematics and Computation 255 (2015) 147–156  
doi:10.1016/j.amc.2014.08.046
- [88–2015] D. Lettieri, **C. Manni**, F. Pelosi, H. Speleers: *Shape preserving  $HC^2$  interpolatory subdivision*, BIT Numerical Mathematics, 55 (2015) 751–779.  
doi: 10.1007/s10543-014-0530-0
- [87–2015] F. Calabrò, **C. Manni**, F. Pitolli: *Computation of quadrature rules for integration with respect to refinable functions on assigned nodes*, Applied Numerical Mathematics, 90 (2015), 168–189  
DOI:10.1016/j.apnum.2014.11.010  
Available online 18 December 2014
- [86–2015] R. T. Farouki, **C. Manni**, M. L. Sampoli, A. Sestini: *Shape-preserving interpolation of spatial data by Pythagorean-hodograph quintic spline curves*, IMA J. Numer. Anal. 35 (2015), 478–498  
DOI: 10.1093/imanum/drt072  
first published online February 23, 2014

## 2014

- [85–2014] D. Lettieri, **C. Manni**, H. Speleers: *Piecewise rational quintic shape-preserving interpolation with high smoothness*, Jaen Journal on Approximation, 6 (2014), 233–260.
- [84–2014] A. Sestini, K. Ferjancic, **C. Manni**, M.L. Sampoli: *A fully data-dependent criterion for free angles selection in spatial PH cubic biarc Hermite interpolation*, CAGD, 31 (2014), 398–411  
<http://dx.doi.org/10.1016/j.cagd.2014.06.003>
- [83–2014] **C. Manni**, F. Pelosi, H. Speleers: *Local Hierarchical h-refinements in IgA Based on Generalized B-splines*, Lecture Notes in Computer Science, 8177 (2014) 341–363.
- [82–2014] C. Garoni, **C. Manni**, F. Pelosi, S. Serra-Capizzano, H. Speleers: *On the spectrum of stiffness matrices arising from isogeometric analysis*, Numerische Mathematik, 127 (2014) 751–799.  
DOI 10.1007/s00211-013-0600-2

## 2013

- [81–2013] H. Speleers, **C. Manni**, F. Pelosi: *From NURBS to NURPS geometries*, Computer Methods in Applied Mechanics and Engineering, 255 (2013) 238–254  
DOI:10.1016/j.cma.2012.11.012
- [80–2013] A. Sestini, L. Landolfi, **C. Manni**, *On the approximation order of a space data-dependent PH quintic Hermite interpolation scheme*, CAGD, 30 (2013), 148–158  
DOI:10.1016/j.cagd.2012.07.004.

## 2012

- [79–2012] H. Speleers, **C. Manni**, F. Pelosi, M.L. Sampoli: *Isogeometric analysis with Powell-Sabin splines for advection-diffusion-reaction problems*, Computer Methods in Applied Mechanics and Engineering, 221–222 (2012) 132–148  
DOI:10.1016/j.cma.2012.02.009
- [78–2012] R. T. Farouki, C. Giannelli, **C. Manni**, A. Sestini: *Design of rational rotation-minimizing rigid body motions by Hermite interpolation*, Mathematics of Computation, 81 (2012) 879–903.  
DOI:10.1090/S0025-5718-2011-02519-6.
- [77–2012] R.T. Farouki, **C. Manni**, F. Pelosi, M.L. Sampoli: *Design of  $C^2$  Spatial Pythagorean-Hodograph Quintic Spline Curves by Control Polygons*, Lecture Notes in Computer Science, 6920 (2012) 253–269  
DOI: 10.1007/978-3-642-27413-8

## 2011

- [76–2011] **C. Manni**, F. Pelosi, M.L. Sampoli: *Isogeometric Analysis in advection–diffusion problems: tension splines approximation*, J. of Computational and Applied Mathematics, 236 (2011) 511–528  
DOI: 10.1016/j.cam.2011.05.029
- [75–2011] N. Guglielmi, **C. Manni**, D. Vitale: *Convergence analysis of  $C^2$  Hermite interpolatory subdivision schemes by explicit joint spectral radius formulas*, Linear Algebra and its Applications, 434 (2011) 884–902  
DOI:10.1016/j.laa.2010.10.002
- [74–2011] **C. Manni**, F. Pelosi, M.L. Sampoli: *Generalized B-splines as a tool in Isogeometric Analysis*, Computer Methods in Applied Mechanics and Engineering, 200 (2011) 867–881  
DOI:10.1016/j.cma.2010.10.010

## 2010

- [73–2010] P. Costantini, **C. Manni**, F. Pelosi, M.L. Sampoli: *Quasi-interpolation in Isogeometric Analysis Based on Generalized B-splines*, CAGD, 27 (2010) 656–668.  
DOI: 10.1016/j.cagd.2010.07.004
- [72–2010] P. Costantini, P. Kaklis, **C. Manni**: *Polynomial Cubic Splines with Tension Properties*, CAGD, 27 (2010) 592–610.  
DOI: 10.1016/j.cagd.2010.06.007
- [71–2010] **C. Manni**, M.-L. Mazure: *Shape Constraints and optimal bases for  $C^1$  Hermite interpolatory subdivision schemes*, (2010), SIAM J. Numerical Analysis, 48 (2010) 1254–1280.  
DOI: 10.1137/09075874X
- [70–2010] P. Costantini, **C. Manni**: *A Geometric Approach for Hermite Subdivision*, Numerische Mathematik, 115 (2010) 333–369.  
DOI: 10.1007/s00211-009-0280-0
- [69–2010] P. Costantini, **C. Manni**: *Curve and Surface Construction Using Hermite Subdivision Schemes*, J. of Computational and Applied Mathematics, 233 (2010) 1660–1673  
DOI:10.1016/j.cam.2009.02.096
- [68–2010] O. Davydov, **C. Manni**: *A Tension Approach to Controlling the Shape of Cubic Spline Surfaces on FVS Triangulations*, J. of Computational and Applied Mathematics, 233 (2010) 1674–1684.  
DOI : 10.1016/j.cam.2009.02.099

## 2009

- [67-2009] R. T. Farouki, C. Giannelli, **C. Manni**, A. Sestini: *Quintic space curves with rational rotation-minimizing frames*, CAGD, 26 (2009) 580-592  
DOI: 10.1016/j.cagd.2009.01.005.

## 2008

- [66-2008] R. T. Farouki, C. Giannelli, **C. Manni**, A. Sestini: *Identification of spatial PH quintic Hermite interpolants with near-optimal shape measures*, CAGD, 25 (2008) 274-297.  
DOI 10.1016/j.cagd.2007.09.007
- [65-2008] T. Lyche, **C. Manni**, P. Sablonnière: *Quasi-interpolation Projectors for Box Splines*, (2008) J. of Computational and Applied Mathematics, 221 (2008), 416-429.  
DOI:10.1016/j.cam.2007.10.029
- [64-2008] I. Cravero, **C. Manni**, M.L. Sampoli: *Geometric Construction of Quintic Parametric B-splines*, J. of Computational and Applied Mathematics, 221 (2008), 355-366.  
DOI:10.1016/j.cam.2007.10.047
- [63-2008] P. Costantini, **C. Manni**: *On Constrained Nonlinear Hermite Subdivision*, Constructive Approximation, 28 (2008) 291-331 .  
DOI:10.1007/s00365-007-9001-z

## 2007

- [62-2007] I. Cravero, **C. Manni**, M.L. Sampoli: *High Smoothness Parametric B-splines*, in *Curve and Surface Fitting: Avignon 2006*, A. Cohen, J.-L. Merrien and L.L. Schumaker (eds): , Nashboro Press, Brentwood, 2007, 91–100
- [61-2007] F. Pelosi, M.L. Sampoli, R. T. Farouki, **C. Manni**: *A control polygon scheme for design of planar  $C^2$  PH quintic spline curves*, CAGD, 24 (2007) 28–52.  
DOI: 10.1016/j.cagd.2006.09.005
- [60-2007] P. Costantini, **C. Manni**: *Refining Cubic parametric B-Splines*, Computing 79 (2007) 291–299.  
DOI: 10.1007/s00607-006-0205-z
- [59-2007] **C. Manni**, P. Sablonnière, *Quadratic Spline Quasi-interpolants on Powell-Sabin Partitions*, Advances in Computational Mathematics, 26 (2007), 283-304  
DOI: 10.1007/s10444-006-9025-0

## 2006

- [58-2006] **C. Manni**: *Shape Control in Powell-Sabin Quasi-Interpolation*, in *Algorithms for Approximation*, A. Iske and J. Levesley (eds.), Springer-Verlag, Heidelberg, 2006, pp. 219–240.
- [57-2006] P. Costantini, **C. Manni**: *Geometric Construction of Generalized Cubic Splines*, Rendiconti di Matematica e delle sue Applicazioni, 26 (2006), 327-338.

## 2005

- [56-2005] P. Costantini, T. Lyche, **C. Manni**: *On a class of weak Tchebycheff systems*, Numerische Mathematik, 101 (2005), 333-354.  
DOI: 10.1007/s00211-005-0613-6
- [55-2005] I. Cravero, **C. Manni**: *Detecting Shape of Spatial Data via Zero Moments*, in **Mathematical Methods for Curves and Surfaces:Tromsø2004**, M. Dæhlen, K. Mørken and L. L. Schumaker (eds), Nashboro Press, Brentwood 2005, 93–102.
- [54-2005] F. Pelosi, R. T. Farouki, **C. Manni**, A. Sestini: *Geometric Hermite interpolation by spatial Pythagorean-hodograph cubics*, Advances in Computational Mathematics 22(2005), 325-352.  
DOI: 10.1007/s10444-003-2599-x

## 2004

- [53-2004] **C. Manni**, F. Pelosi: *Quasi-interpolants with tension properties from and in CAGD*, Computing 72 (2004), 143-160.  
DOI: 10.1007/s00607-003-0053-z
- [52-2004] P. Costantini, **C. Manni**: *Some applications of new spline spaces in computer aided geometric design* Rendiconti di Matematica Serie VII, 24 (2004), 261-279.
- [51-2004] P. Lamberti, **C. Manni**: *Tensioned Quasi-interpolation via Geometric Continuity*, Advances in Computational Mathematics 20 (2004) 105-127.  
DOI: 10.1023/A:1025823221346
- [50-2004] R. T. Farouki, C. Y. Han, **C. Manni**, A. Sestini: *Characterization and construction of helical polynomial space curves*, J. of Computational and Applied Mathematics 162 (2004), 365-392.  
DOI: 10.1016/j.cam.2003.08.030

## 2003

- [49-2003] **C. Manni**, F. Pelosi, *Constrained Quasi-Interpolating Curves*, Rapporto Interno 03 (2003), Dip. Matematica Pura ed Applicata, Università di Padova.
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Rome, January 2022