Carlotta Giannelli

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CURRICULUM VITAE

Personal details

Place and date of birth	Florence, Italy – November 13, 1980
Citizenship	Italian

Current Position

October, 2018 – present	Associate Professor Dipartimento di Matematica e Informatica "U. Dini" Università degli Studi di Firenze, ITALY

National Scientific Habilitation

August, 2018	National Scientific Habilitation in Numerical Analysis to access the rank of Full Professor, Ministry of Education, Universities and Research (MIUR, ITALY).
December, 2013	National Scientific Habilitation in Numerical Analysis to access the rank of Associate Professor, Ministry of Education, Universities and Research (MIUR, ITALY).

Education

April 21, 2010	Ph.D., Computer Science and Applications University of Florence, ITALY
July 7, 2006	Laurea in Computer Science University of Florence, ITALY Final mark: 110/110 cum laude
July 20, 1999	Secondary school diploma in scientific studies Final mark: 100/100

Experience

Oct., 2015 – Sep. 2018	Assistant Professor Dipartimento di Matematica e Informatica "U. Dini" Università degli Studi di Firenze, ITALY
Jun., 2014 – Set., 2015	Senior researcher Istituto Nazionale di Alta Matematica "F. Severi" c/o Dipartimento di Matematica e Informatica "U. Dini" Università degli Studi di Firenze, ITALY
Mar. 2014 – Giu., 2014	Postdoctoral fellow Istituto Nazionale di Alta Matematica "F. Severi" c/o Dipartimento di Matematica e Informatica "U. Dini" Università degli Studi di Firenze, ITALY
Nov., 2013 – Feb., 2014	Visiting Istituto di Matematica Applicata e Tecnologie Informatiche "Enrico Magenes" (IMATI) Consiglio Nazionale delle Ricerche (CNR), Pavia, ITALY
Apr., 2013 – Sept., 2013	Postdoctoral Marie Curie fellow Industry-Academia Partnerships and Pathways (IAPP) Marie Curie Actions (People, FP7) Participants: MTU Aero Engines AG, Munich, GERMANY,[1] Johannes Kepler Universität Linz, AUSTRIA.
Apr., 2011 – Mar., 2013	Postdoctoral Marie Curie fellow (individual project) Intra-European Fellowships for career development (IEF) Marie Curie Actions (People, FP7) Institute of Applied Geometry Johannes Kepler University Linz, AUSTRIA
Jan., 2011 – Mar., 2011	Postdoctoral research assistant Institute of Applied Geometry Johannes Kepler University Linz, AUSTRIA
Oct., 2010 – Dec., 2010	Postdoctoral Marie Curie fellow Marie Curie Actions (People, FP7) Initial Training Networks (ITN) Institute of Applied Geometry Johannes Kepler University Linz, AUSTRIA
Jan., 2010 – Apr., 2010	Postdoctoral research assistant (invited position) Laboratoire Jean–Kuntzmann – CAGD team Université Joseph Fourier, Grenoble, FRANCE

[1] `http://www.ag.jku.at/example/`

Nov., 2007 – Jan., 2008	Visiting Scholar (invited position) Department of Mechanical and Aeronautical Engineering University of California, Davis, USA
Jan., 2007 – Dec., 2009	Ph.D. Student in Computer Science and Applications University of Florence, ITALY Supervisors: Prof. Rida T. Farouki and Dr. Alessandra Sestini
Feb., 2006 – Nov., 2006	Computer programmer Business Intelligence/Data warehouse Bridge Consulting S.r.l. – Information Technology Florence, ITALY

Research interests

- Geometric and mathematical modeling
- Computer Aided Geometric Design (CAGD)
- Isogeometric analysis
- Approximation theory

Affiliations

2014 – present	Società Italiana di Matematica Applicata e Industriale (SIMAI), Unione Matematica Italiana (UMI)
2013	European Women in Mathematics
2011 – present	Society for Industrial and Applied Mathematics (SIAM) e SIAM Activity Group on Geometric Design
2007 – present	Gruppo Nazionale per il Calcolo Scientifico (GNCS) dell'Istituto Nazionale di Alta Matematica F. Severi (INdAM)

Fellowships and research funding

[P16] F. Premiali FOE 2014 (MIUR)
Titolo: *Splines for accUrate NumeRics: adaptIve models for Simulation Environments* (SUNRISE). **Role: principal investigator.**

[P15] Future in Research Program 2013 (MIUR, Italy). Title: *Design of Reliable, Exact, and Application-oriented techniques for geometric Modeling and numerical Simulation* (DREAMS). Project code: RBFR13FBI3. **Role: principal investigator (2014 - 2018).**

[P14] GNCS research project 2017. Title: *Nuove tecniche numeriche per la risoluzione di problemi evolutivi mediante il metodo degli elementi di contorno*. Role: participant.

[P13] GNCS research project 2016. Title: *Approccio isogeometrico e tecniche di quadratura per il metodo agli elementi di contorno in 3D*. Role: participant.

[P12] GNCS research project 2015. Title: *Analisi Isogeometrica e metodi agli elementi al contorno*. Role: participant.

[P11] GNCS research project 2014. Title: *Dall'Approssimazione all'Algebra Lineare: metodi numerici per l'Analisi Isogeometrica*. Role: participant.

[P10] Industry-Academia Partnerships and Pathways (IAPP) — Marie Curie Actions (People, FP7). Call: FP7-PEOPLE-2012-IAPP, proposal number: 324340 (2013 - 2016). Title: *Exact and Adaptive Modeling and Simulation of the Air Passage of Aircraft Engines* (EXAMPLE). **Role: Marie Curie Experienced Researcher (2013).**

[P9] Intra-European Fellowships for career development (IEF) — Marie Curie Actions (People, FP7). Call: Marie Curie FP7-PEOPLE-2010-IEF, proposal number: 272089. Title: *PARAmeterization of computational Domains for ISogeomEtric Analysis* (PARADISE). **Role: individual Marie Curie fellow (2011 - 2013).**

[P8] GNCS research project 2013. Title: *Studio di spazi con struttura di raffinamento per l'analisi isogeometrica*. Role: participant.

[P7] GNCS (Gruppo Nazionale per il Calcolo Scientifico – INdAM) research project 2012. Title: *Metodi, algoritmi e strutture algebriche per la progettazione di moti*. Role: participant.

[P6] Executive program for scientific and technological co–operation Italy–Slovenia, Ministry of Foreign Affairs, 2011–2013. Title: *Advanced methods for interpolation by Pythagorean Hodograph curves and related problems*. Role: participant.

[P5] Austrian National Research Network. Title: *FWF S92 Industrial Geometry*. Role: participant (2011).

[P4] European Marie–Curie Initial Training Network. Call: FP7-PEOPLE-2007-1-1-ITN (2008–2012). Title: *Shapes, Geometry and Algebra*[2] (SAGA). **Role: Marie Curie Experienced Researcher Position (2010).**

[P3] GNCS (INdAM) Young Researchers Program 2010. **Role: individual project.**

[P2] CINECA fellowship to attend the Summer School on Scientific Visualization and 3D Interactive Computer Graphics, 9–th edition, CINECA, Casalecchio di Reno, Bologna, Italy (Jun. 15 - 26, 2009).

[P1] PhD fellowship (XXII cycle), Università degli Studi di Firenze (Jan. 2007 - Dec. 2009).

Visiting

- *Nov. 14 - 18, 2016*: Institute of Mathematics, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.

[2] `http://www.saga-network.eu`

- *Feb. 1 - 2, 2016*: Institute of Applied Geometry, Johannes Kepler Universität Linz, Austria.
- *Nov. 11 - 12, 2015*: MTU Aero Engines AG, Munich, Germany.
- *Oct. 15 - 23, 2015*: Department of Mechanical and Aeronautical Engineering University of California, Davis, USA.
- *Feb. 24 - 28, 2014*: Institute of Applied Geometry, Johannes Kepler Universität Linz, Austria.
- *Nov. 17 - 19, 2013*: MTU Aero Engines AG, Munich, Germany.
- *Feb. 28 - Mar. 9, 2013*: Department of Mechanical and Aeronautical Engineering University of California, Davis, USA.
- *Nov. 21 - 23, 2012*: Istituto di Matematica Applicata e Tecnologie Informatiche Enrico Magenes, Consiglio Nazionale delle Ricerche (CNR), Pavia, Italy.
- *Sep. 24 - 28, 2012*: Mathematics Department, University of Florence, Italy.
- *Aug. 29 - Sep. 6, 2012*: Department of Computer Science and Engineering, Seoul National University, South Korea.
- *Mar. 26 - Apr. 7, 2012*: Mathematics Department, "Tor Vergata" University, Rome, Italy.
- *Jan. 30 - Feb. 1, 2012*: Felix-Klein-Zentrum für Mathematik, Technische Universität Kaiserslautern, Germany.
- *Jan. 23 - 27, 2012*: Mathematics Department, University of Florence, Italy.

Invited lectures and seminars

Invited lectures at conferences and worksops

1. **Oberwolfach Workshop**: *Computational Engineering*, Oberwolfach Research Institute for Mathematics, Germany (Oct. 21 - 27, 2018).
2. **Workshop: Applied and Computational Geometry**, Centre for Geometry and Applications, University of Loughborough, UK (Sep. 12 - 14, 2018).
3. **ESI Thematic Programme**: *Numerical Analysis of Complex PDE Models in the Sciences*, Workshop: Interplay of geometric processing, modelling, and adaptivity in Galerkin methods, Wien, Austria (Jul. 16 - 20, 2018).
4. **IGAA 2018 (keynote)**: *3rd Conference on Isogeometric Analysis and Applications*, Delft, The Netherlands (Apr. 23 - 27, 2018).
5. **Leysn Workshop**, ERC Advanced Grant "CHANGE" Project meeting, Leysin, Svizzera (Jan. 30 - Feb. 2, 2018).

6. **ICNAAM 2017 (plenary)**: *15th International Conference of Numerical Analysis and Applied Mathematics*, Thessaloniki, Greece (Sep. 25 - 30, 2017).

7. **CIME Summer School on Splines and PDEs**: *Recent Advances from Approximation Theory to Structured Numerical Linear Algebra*, Cetraro, Italy (Jul. 3 - 7, 2017).

8. **Dagstuhl Seminar 2017**: *Geometric Modelling, Interoperability and New Challenges*, Schloss Dagstuhl, Germany (May 28 - Jun. 2, 2017).

9. **DK Statusseminar**: *Doctoral Program Computational Mathematics*, Strobl, Austria (28 - 30 Set., 2016).

10. **FOCM 2014**: Foundations of Computational Mathematics Conference. Workshop *Multiresolution and Adaptivity in Numerical PDEs*, organized by A. Buffa, A. Kunoth and P. Morin, Montevideo, Uruguay (Dec. 11 - 13, 2014).

11. **FWF NFN S117 Geometry + Simulation: 4th NFN seminar**, Universitätszentrum Obergurgl, Austria (Apr. 23, 2014).

12. **MAIA 2013 (plenary)**: Multivariate Approximation and Interpolation with Applications, Erice, Italy (Sep. 25-30, 2013).

13. **CGTA 2013 (plenary)**: Conference on Geometry: Theory and Applications, Ljubljana, Slovenia (Jun. 24 - 28, 2013).

14. **UMI 2011**: XIX Congresso dell'Unione Matematica Italiana (30 minutes communication), Bologna (Sept. 12 - 17, 2011).

Invited contribution to minisimposia

1. **UMI 2019**: XXI Congresso dell'Unione Matematica Italiana, section *S11: Appriximation theory and applications*, Pavia, Italia (Sep. 2 - 7, 2019).

2. **CGTA 2017**: Conference on Geometry: Theory and Applications. Minisimposio *Applied Geometry*, Pilsen, Czech Republic (Jun. 26 - 30, 2017).

3. **FEF 2017** (**keynote**): *19th International Conference on Finite Elements in Flow Problems*. Minisimposium *Geometric Modeling and Mesh Generation*, organized by J. Zhang , H. Speleers, and S. Shontz, Rome, Italy (Apr. 5 - 7, 2017).

4. **SIMAI 2016**: *Società Italiana di Matematica Applicata e Industriale*. Minisimposium *Isogeometric Methods: theoretical and computational aspects*, organized by G. Sangalli and L. Tamellini, Milan, Italy (Sep. 13 - 16, 2016).

5. **SIAM–GD/SPM15**: *SIAM Conference on Geometric and Physical Modeling*. Minisimposium *Isogeometric Analysis on Complex Geometries*, organized by T. Takacs and G. Sangalli, Salt Lake City, Utah, USA (Oct. 12 - 14, 2015).

6. **ICIAM 2015**: International Congress on Industrial and Applied Mathematics. Minisimposio *Isogeometric methods and design-through-analysis tools in CAD/CAE*, Beijing, China (Aug. 10 - 14, 2015).

7. **CURVES and SURFACES 2014**: 8th International Conference Curves and Surfaces. Minisymposium *Isogeometric Analysis*, organized by A. Buffa, Paris, France (Jun. 12 - 18, 2014).

8. **AT 2013**: 14th International Conference on Approximation Theory. Minisymposium *IgA oriented spaces and bases*, organized by C. Manni and H. Speleers, San Antonio, Texas (Apr. 7 - 10, 2013).

9. **GAMM 2013**: 84th Annual Meeting of the International Association of Applied Mathematics and Mechanics. Young Researchers' Minisymposium *Isogeometric methods*, organized by Dominik Schillinger and Josef Kiendl, Novi Sad, Serbia (March 18 - 22, 2013).

10. **ACM 2013**: Advances in Computational Mechanics. Symposium *Isogeometric Methods*, organized by D. J. Benson, A. Reali, and Trond Kvamsdal, San Diego, California (Feb. 24 - 27, 2013).

11. **ECCOMAS 2012**: 6th European Congress on Computational Methods in Applied Sciences and Engineering. Minisymposium *Isogeometric Analysis*, organized by V. Calo, R. de Borst, T.J.R. Hughes, T. Kvamsdal, A. Reali, G. Sangalli, C.V. Verhoosel, Vienna, Austria (Sep. 10 - 14, 2012).

12. **ECMI 2012**: 17th European Conference on Mathematics for Industry 2012. Minisymposium *Isogeometric Analysis: Merging Computational Geometry and Numerical Simulation*, organized by B. Simeon and A.-V. Vuong, Lund, Sweden (Jul. 23 - 27, 2012).

13. **MMCS 2012**: Eighth International Conference on Mathematical Methods for Curves and Surfaces. Minisymposium *Isogeometric Analysis*, organized by J. Gravesen, Oslo, Norway (Jun. 28 - Jul. 3, 2012).

14. **SIAM–GD 2011**: SIAM Conference on Geometric and Physical Modeling. Minisymposium *Isogeometric Analysis 2: Analysis and Local Refinements* organized by F. Pelosi and M. L. Sampoli, Orlando, Florida, USA (Oct. 24 - 27, 2011).

15. **SIAM–AG 2011**: SIAM Conference on Applied Algebraic Geometry. Minisymposium *Locally Refined Splines, Spline Space and Isogeometric Analysis*, organized by T. Dokken, Raleigh, North Carolina, USA (Oct. 6 - 9, 2011).

16. **USNCCM 2011**: 11^{th} US National Congress on Computational Mechanics, Minisymposium *Isogeometric methods*, organized by A. Reali, L. Beirao da Veiga, D. J. Benson, T. J. R. Hughes, and T. Kvamsdal, Minneapolis, Minnesota, USA (Jul. 25 - 28, 2011).

Invited seminars

1. *Pyhtagorean-hodograph curves: theory and applications*, University of L'Aquila, Italy (Oct. 20, 2017).

2. *Hierarchical refinement with linear complexity*, Johannes Kepler Universität Linz, Austria (Feb. 1, 2016).

3. *On adaptive spline models based on hierarchical constructions*, Istituto di Matematica Applicata e Tecnologie Informatiche Enrico Magenes, Consiglio Nazionale delle Ricerce (CNR), Pavia, Italy (Nov. 21, 2012).

4. *Characterization and construction of the truncated hierarchical spline model*, Department of Computer Science and Engineering, Seoul National University, South Korea (Aug. 31, 2012).

5. *Adaptive approximation with truncated hierarchical B–splines*, Technische Universität Kaiserslautern, Germany (Jan. 30, 2012).

6. *Adaptive approximation with truncated hierarchical B–splines*, Università degli Studi di Firenze, Italy (Jan. 27, 2012).

Other seminars

1. *Adaptive techniques for isogeometric analysis*, Dipartimento di Matematica e Informatica "U. Dini", Università degli Studi di Firenze, Italy (May 9, 2014).

2. *Overview of hierarchical spline structures: from theory to the EXAMPLE project*, MTU Aero Engines AG, Munich, Germany (Apr. 30, 2013).

3. *Characterization and construction of the truncated hierarchical spline model*, FWF NFN S117 Geometry + Simulation kick-off meeting, Stift Vorau, Austria (Jul. 16, 2012).

4. *Truncated B–splines*, Johannes Kepler University Linz, Austria (Sep. 23, 2011).

5. *Spatial polynomial curves with different Pythagorean structures and associated frames*, Università degli Studi di Firenze, Italy (Jun. 23, 2008).

Conference presentations (speaker)

1. *Adaptivity with THB–splines*, Conference on Geometry: Theory and Applications, Kefermarkt, Austria (Jun. 8 - 12, 2015).

2. *Adaptive isogeometric methods: error estimation and convergence*, 3rd International Conference on Isogeometric Analysis, Trondheim, Norway (Jun. 1 - 3, 2015).

3. *Spline interpolation schemes for path planning with obstacle avoidance*, SMART 2014: First International Conference on Subdivision, Geometric and Algebraic Methods, Isogeometric Analysis and Refinability in Tuscany, Pontignano, Italy (Sep. 28 - 1 Oct. 1, 2014).

4. *On spline spaces of arbitrary degree and maximum smoothness over hierarchical tensor-product meshes*, SAGA final conference, Trento, Italy (Oct. 9 - 11, 2012).

5. *THB–splines: the truncated basis for hierarchical splines*, GMP 2012: Geometric Modeling and Processing, Huangshan, China (Jun. 20 - 22, 2012).

6. *Adaptive approximation with truncated hierarchical B–splines*, Isogeometric Analysis and Applications, Linz, Austria (Mar. 12 - 16, 2012).

7. *Adaptive approximation with truncated hierarchical B–splines*, New Trends in Applied Geometry 2012, Villa Cagnola, Italy (Feb. 12 - 17, 2012).

8. *Truncated B–splines*, SAGA Fall School 2011, Vilnius, Lithuania (Sep. 27 - 30, 2011).

9. *Adaptive refinement using normalized hierarchical B–splines*, Conference on Geometry: Theory and Applications, Stift Vorau, Austria (Jun. 20 - 24, 2011).

10. *Two constructions of normalized hierarchical splines*, New Trends in Applied Geometry, Hurdalsjoen, Norway (Feb. 20 - 25, 2011).

11. *On hierarchically refined tensor–product spline spaces*, Isogeometric Analysis 2011: Integrating Design and Analysis, Austin, Texas (Jan. 13 - 15, 2011).

12. *Algorithms for rational rotation–minimizing camera orientation control along curved paths*, Seventh International Conference on Curves and Surfaces, Avignon, France (Jun. 24 - 30, 2010).

13. *Design of rational rotation–minimizing rigid body motions by Hermite interpolation*, INDAM Meeting: New Frontiers in CAGD, Bertinoro, Italy (May 17 - 21, 2010).

14. *Design of rational rotation–minimizing rigid body motions by Hermite interpolation*, Les Journées du Groupe de Travail en Modélisation Géométrique, Dijon, France (Mar. 31 - Apr. 1, 2010).

15. *Rational rotation–minimizing motion design*, Conference on Geometry: Theory and Applications, Plzen, Czech Republic, (Jun. 29 - Jul. 2, 2009).

16. *Spatial polynomial curves with different Pythagorean structures and associated frames*, Seventh International Conference on Mathematical Methods for curves and surfaces, Tonsberg, Norway (Jun. 26 - Jul. 1, 2008).

17. *Characterization of spatial helical Pythagorean–hodograph quintic interpolants*, GNCS Biennial meeting, Montecatini Terme, Italy (Feb. 4 - 6, 2008).

Posters

1. M. Donatelli, C. Giannelli, D. Mugnaini, and A. Sestini, *A curvature continuous path finding scheme with scene reconstruction by PH splines*, Mathematical Methods for Digital Image Analysis and Processing, Varese, Italy (Mar. 6 - 7, 2017).

2. C. Giannelli and B. Jüttler, *Spline spaces providing local adaptivity*, Marie Curie Researchers Symposium "SCIENCE – Passion, Mission, Responsibilities", Warsaw, Poland (Sept. 25 - 27, 2011).

Other conferences, workshops, and courses attended

1. NUMA 2018: *International Workshop on Numerical Mathematics and its Applications*, Torino, Italia (Sep. 19 - 21, 2018).

2. SMART 2017, Gaeta, Italia (Sep. 17 - 21, 2017).
3. SIMAI 2014: *Società Italiana di Matematica Applicata e Indusriale*, Taormina, Italia (Jul. 7 - 10, 2014).
4. GNCS meeting, Montecatini Terme, Italia (Feb. 19 - 20, 2014).
5. FWF NFN S117 Geometry + Simulation: 2nd NFN seminar, Universitätszentrum Obergurgl, Austria (Apr. 22 - 24, 2013).
6. GNCS meeting, Montecatini Terme, Italy (Nov. 15 - 16, 2012).
7. FWF NFN S117 Geometry + Simulation kick-off meeting, Stift Vorau, Austria (Jul. 16 - 18, 2012).
8. Fall School Shapes, Geometry, and Algebra, Kolympari, Greece (Oct. 4 – 8, 2010).
9. Computer Graphics Workshop, Firenze, Italy (Nov. 27, 2009).
10. Summer School on Scientific Visualization and 3D Interactive Computer Graphics, 9–th edition, CINECA, Casalecchio di Reno, Bologna, Italy (Jun. 15 - 26, 2009).
11. GNCS meeting, Montecatini Terme, Italy (Feb. 3 - 5, 2009).
12. Bertinoro International Spring School for Graduate Students in Computer Science, Bertinoro, Italy (Mar. 3 - 14, 2008).

Referee activities

International journals

- *Applied Mathematics and Computation* (AMC), *Applied Numerical Mathematics* (APNUM), *Computer–Aided Design* (CAD), *Computer Aided Geometric Design* (CAGD), *Calcolo* (CALC), *Computer Methods in Applied Mechanics and Engineering* (CMAME), *Computers & Mathematics with Applications* (CMWA), *Computer Physics Communications* (CPC), *Graphical Models* (GMOD), *Journal of Computational and Applied Mathematics* (JCAM), *Journal of Symbolic Computation* (JSC), *Mathematical Models and Methods in Applied Sciences* (M3AS).

Grant

- Natural Sciences and Engineering Research Council of Canada (NSERC), Hungarian Scientific Research Fund (OTKA), National Fund for Scientific and Technological Development (FONDECYT) of the Chilean National Commission for Scientific and Technological Research (CONICYT).

Professional activities

Editorial activity

- Springer INdAM volume *Design of Reliable, Exact, and Application-oriented technologies for geometric Modeling and numerical Simulation*.
- **Special Issue of Computer Aided Geometric Design**: *Recent Trends in Theoretical and Applied Geometry*. Volume 31, issues 7–8, pages 329–612 (October 2014). Edited by Carlotta Giannelli, Kai Hormann, Emil Žagar.

Scientific and Technical Program Committees

- **GMP 2019**: *International Conference on Geometric Modeling and Processing*. Vancouver, Canada (Jun. 19 - 21, 2019).
- **IGA 2019**: *VII International Conference on Isogeometric Analysis*. Munich, Germany (Sep. 18 - 20, 2019).
- **IGA 2018**: *Integrating Design and Analysis*. Austin, Texas, USA (Oct. 10 - 12 , 2018).
- **GMP 2018**: *International Conference on Geometric Modeling and Processing*. Aachen, Germany (Apr. 9 - 11, 2018).
- **IGA 2017**: *V International Conference on Isogeometric Analysis*. Pavia, Italy (Sep. 11 - 13, 2017).
- **GMP 2017**: *International Conference on Geometric Modeling and Processing*. Xiamen, China (Apr. 17 - 19, 2017).

Organization

- **IGA 2018**: *Integrating Design and Analysis*. Minisymposium "Local refinement and adaptivity", organized with Annalisa Buffa, Bert Jüttler and Trond Kvamsdal, Austin, Texas, USA (Oct. 10 - 12, 2018).
- **INdAM Workshop: DREAMS** — *INdAM workshop: Design of Reliable, Exact, and Application-oriented technologies for geometric Modeling and numerical Simulation*, organized with Hendrik Speleers, Rome (Jan. 22 - 26, 2018).
- **IGA 2017**: *V International Conference on Isogeometric Analysis*. Minisymposium "Local refinement and adaptivity for IGA", organized with Hendrik Speleers and Tor Dokken, Pavia, Italy (Sep. 11 - 13, 2017).
- **MMCS 2016**: *9th International Conference on Mathematical Methods for Curves and Surfaces*. Minisymposium "Multivariate splines and adaptivity", Tønsberg, Norvegia (Jun. 23 - 28, 2016).
- **DREAMS 2016**: *Futuro in Ricerca 2013 Workshop*, organized with Hendrik Speleers, University of Rome "Tor Vergata", Italy (Jan. 26 - 27, 2016).
- **ICIAM 2015**: *International Congress on Industrial and Applied Mathematics*. Minisymposium "Isogeometric methods and design-through-analysis tools in CAD / CAE", organized with Annalisa Buffa, Beijing, China (Aug. 10 - 14, 2015).

- **CGTA 2015**: *Conference on Geometry: Theory and Applications*. Minisymposium "Isogeometric analysis", Kefermarkt, Austria (Jun. 8 - 12, 2015).
- **DREAMS 2015**: *Futuro in Ricerca 2013 Workshop*, organized with Hendrik Speleers, University of Florence, Italy (Feb. 19 - 20, 2015).
- **SIMAI 2014**: *Società Italiana di Matematica Applicata e Industriale*. Minisymposium "From computer aided geometric design to industrial CAD modeling and simulations", organized with Carla Manni, Taormina, Italia (Jul. 7 - 10, 2014).
- **2013 Women in Mathematics Summer School** *Minicourse: Isogeometric Analysis*, International Centre for Theoretical Physics (ICTP), Trieste, Italy (May 27 - Jun. 1, 2013).

Initiatives

- **SYRI 2014**: SIMAI 2014 Young Researchers for Industry Initiative, Taormina, Italia (Jul. 9, 2014). The contribution to the initiative entitled *Accurate Computer Aided Design Methods for High-quality Motion Planning* was included in thel SIMAI booklet presented at the "Borsa della ricerca" event, Bologna, Italy (Mag. 13 -14, 2014).

PhD committees

- U. Zore, *Constructions and Properties of Adaptively Refined Multilevel Spline Spaces*, Johannes Kepler Universität Linz, Austria.

Supervision of students and postdoctoral fellows

- 2017 - Supervision of 1 Master Student in Mathematical Engineering, University of L'Aquila.
- 2016 – Co–supervision of 1 Master student in Computer Science, Univeristy of Florence.
- 2015 – Co–supervision of 1 Master student in Mathematics, Univeristy of Florence.
- 2015 – Supervision of 1 Postdoc within [P1], INdAM c/o University of Florence.
- 2014 – Co–supervision of 1 Postdoc within [P1], Univeristy of Florence.
- 2014 – Co–supervision of 1 PhD student, Univeristy of Insubria.
- 2014 – Supervision of 1 graduate student within [P1], INdAM c/o University of Florence.
- 2011 – 2013 Co–supervision of 2 PhD students, JKU Linz.

Teaching

- *Introduction to adaptive spline approximation*, PhD School in Mathematics, Computer Science, Statistics, University of Florence, University of Perugia, INdAM, a.a. 2017/2018.
- *Numerical Methods for Graphics*, Master Degree Course in Computer Science, University of Florence, since academic year 2017/2018.
- *Complements of Numerical Analysis*, Master Degree Course in Mathematics, University of Florence, since academic year 2016/2017.
- Lecturer of *Numerical calculus and programming*, Degree Course in Chemistry, University of Florence, since academic year 2014/2015.
- Series of lectures on *Numerical Methods for Graphics*, Degree Courses in Computer Science, University of Florence, academic year 2009/2010.
- Series of lectures on *Numerical Calculus with MATLAB*, Degree Courses in Computer Science, University of Florence, academic year 2007/2008.

Bibliography

[1] R. T. FAROUKI, **C. GIANNELLI**, C. MANNI, AND A. SESTINI (2008), Identification of spatial PH quintic Hermite interpolants with near–optimal shape measures, *Computer Aided Geometric Design* **25**, 274–297.

[doi:10.1016/j.cagd.2007.09.007]

[2] R. T. FAROUKI, **C. GIANNELLI**, AND A. SESTINI (2009), Helical polynomial curves and double Pythagorean hodographs I. Quaternion and Hopf map representations, *Journal of Symbolic Computation* **44**, 161-179.

[doi:10.1016/j.jsc.2008.07.004]

[3] R. T. FAROUKI, **C. GIANNELLI**, AND A. SESTINI (2009), Helical polynomial curves and double Pythagorean hodographs II. Enumeration of low–degree curves, *Journal of Symbolic Computation* **44**, 307–332.

[doi:10.1016/j.jsc.2008.07.003]

[4] R. T. FAROUKI AND **C. GIANNELLI** (2009), Spatial camera orientation control by rotation-minimizing directed frames, *Computer Animation and Virtual Worlds* **20**, 457–472.

[doi:10.1002/cav.274]

[5] R. T. FAROUKI, **C. GIANNELLI**, C. MANNI, AND A. SESTINI (2009), Quintic space curves with rational rotation–minimizing frames, *Computer Aided Geometric Design* **26**, 580–592.

[doi:10.1016/j.cagd.2009.01.005]

[6] R. T. FAROUKI, **C. GIANNELLI**, AND A. SESTINI (2010), Geometric design using space curves with rational rotation–minimizing frames, (M. Daehlen et al., eds.) *Lecture Notes in Computer Science*, Vol. 5862, pp. 194–208, Springer.
[doi:10.1007/978-3-642-11620-9_13]

[7] **C. GIANNELLI**, L. BIARD (2011), On the interpolation of concentric curvature elements, *Computer–Aided Design* **43**, 586–597.
[doi:10.1016/j.cad.2011.02.003]

[8] A.-V. VUONG, **C. GIANNELLI**, B. JÜTTLER, AND B. SIMEON (2011), A hierarchical approach to adaptive local refinement in isogeometric analysis, *Computer Methods in Applied Mechanics and Engineering* **200**, 3554–3567 .
[doi:10.1016/j.cma.2011.09.004]

[9] R. T. FAROUKI, **C. GIANNELLI**, C. MANNI, AND A. SESTINI (2012), Design of rational rotation–minimizing rigid body motions by Hermite interpolation, *Mathematics of Computation* **81**, 879–903.
[doi:10.1090/S0025-5718-2011-02519-6]

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