

### Education and Qualifications

2010-2013	PhD dissertation on “Spline spaces in IsoGeometric Analysis”	University of Pavia
2006-2009	Laurea specialistica in matematica, 110/110 dissertation on “Elementi isogeometrici per il problema di Stokes”	University of Pavia
2002-2005	Laurea triennale in matematica, 109/110 dissertation on “Attrattori strani e sistemi caotici”	University of Pavia

### Research interest:

Numerical methods for PDEs, IsoGeometric Analysis, spline spaces

### Professional activities:

2021-current	researcher at IMATI, CNR
2019-2021	RTdA fellow Department of Mathematics, university of Pavia
2016-2019	postdoctoral fellow Department of Mathematics, university of Oslo in the framework of the ERC project “FEEC-A”
2016-2016	collaborator of IMATI institute of CNR in Pavia
2014-2016	research assistant at the Institute of Angewandte Geometrie, University of Linz in the frameworks of the FWF-NFN project “Geometry + simulation” and of the FP7 projects “TERRIFIC” and “EXAMPLE”

### Teaching experience

2021-spring	teacher	Elementi finiti	M. of math.	University of Pavia
2021-spring	teacher	Programmazione 2	B. of math.	University of Pavia
2021-spring	teacher	Splines: approximation and IGA	Phd. math	University of Pavia
2020-spring	teacher	Programmazione 2	B. of math.	University of Pavia
2019-winter	teacher	Matematica con elementi di statistica	B. of chem.	University of Pavia
2019-spring	teacher	Programmazione 2	B. of math.	University of Pavia
2019-spring	teacher	Metodi numerici con laboratorio di informatica	B. of chem.	University of Pavia
2015-winter	teacher	Adaptive spline refinement <a href="http://www.ag.jku.at/lehrefrueh_dt.htm#spec2">http://www.ag.jku.at/lehrefrueh_dt.htm#spec2</a>	PhD. math.	University of Linz
2010-spring	assistant	Analisi Matematica C	M. of eng.	University of Pavia
2009-winter	assistant	Analisi Matematica 1	B. of eng.	University of Pavia
2007-spring	assistant	Geometria 2	B. of math.	University of Pavia
2006-winter	assistant	Matematica e Statistica applicate alle Scienze Naturali	B. of nat.sci.	University of Pavia

### Research visits

2012/09-2012/12	CMA & SINTEF, Oslo with Tom Lyche and Tor Dokken on LR-spline approximation
2011/01-2011/07	CMA, Oslo with Tom Lyche and Tor Dokken on LR-spline properties

## Conferences, workshops and schools

2019		
Sept. 18-20	IGA 2019	München, Germany
invited talk:	Spline spaces provide more accuracy per degree of freedom	
Jul. 14-20	Mathematical Foundations of Isogeometric Analysis	Oberwolfach, Germany
invited talk:	T-mesh B-spline Approximation	
Jul. 9-13	SIAM AG 2019	Bern, Switzerland
invited talk:	Computing the dimension of spline spaces	
2018		
Oct. 10-12	IGA 2018	Austin, USA
invited talk:	Sum Factorization Techniques in IGA	
Aug. 20-22	BIT Circus	Espoo, Finland
invited talk:	Best space of a fixed dimension	
Jul. 16-20	ESI Workshop	Vienna, Austria
invited talk:	Best approximation space on uniform partitions	
Jun. 28-Jul. 4.	Curves and Surfaces: 9th International Conference	Arcachon, France
contributed talk:	High order non tensor product spline approximation	
Jun. 4-6	FEEC Workshop	Oslo, Norge
invited talk:	Best space of a fixed dimension	
Apr. 23-27	IGAA	Delft, Nederland
contributed talk:	Approximation with locally adaptive spline spaces	
Jan. 22-26	DREAMS workshop	Roma, Italia
invited talk:	A symmetry preserving fast assembling strategy for IGA	
2017		
Sept. 25-29	ENUMATH	Voss, Norge
Sept. 11-13	IGA 2017	Pavia, Italia
invited talk:	Local approximation for locally-tensor-products splines	
Sept. 6-8	IperPv	Pavia, Italia
2016		
Sept. 13-16	SIMAI	Milano, Italia
invited talk:	Quasi-interpolants for non-tensor-products splines	
Jun. 23-28	Curves and Surfaces: 9th International Conference	Tønsberg, Norge
invited talk:	Experimenting with adaptive spline spaces: an implementation strategy	
Jun. 5-10	ECCOMAS	Heraklion, Greece
invited talk:	Adaptive methods for Stokes	
2015		
Nov. 24-27	G+SMO workshop	Linz, Österreich
invited talk:	Combined bases and block-structured problems	
Aug. 14-17	ICIAM 2015	Beijing, China
invited talk:	Hierarchical LR-meshes	
Jun. 1-3	IGA 2015	Trondheim, Norge
invited talk:	Stability of IGA elements for Stokes based on non-tensor B-spline spaces	
Mar. 31-Apr. 2	6th NFN seminar	Obergurgl, Österreich
invited talk:	InfSup stability for IGA Stokes method with hierarchical splines	

2014		
Jun. 12-18	Curves and Surfaces: 8th International Conference	Paris, France
invited talk:	A hierarchical approach to box-mesh construction	
Apr. 22-25	4th NFN seminar	Obergurgl, Österreich
invited talk:	A hierarchical approach to box-mesh construction	
2013		
May 27-Jun. 1	5th Women in Mathematics Summer School on Mathematical Theories towards Environmental Models	Trieste, Italia
Mar. 20-22	Numerical Approximation of PDEs	Gargnano del Garda, Italia
2012		
Jun. 18-22	IsoGeometric Analysis: a New Paradigm in the Numerical Approximation of PDEs	Cetraro, Italia
Jun. 25-28	SIMAI XI congress	Torino, Italia
invited talk:	An approach to local refinement in IgA: LR-splines	
May 15	Colloquium Magenes	Pavia, Italia
2011		
Feb. 20–25	New Trends in Applied Geometry	Hurdal, Norge
invited talk:	Stable isogeometric discretizations for the Stokes Problem	

### Refereed research papers

1. Bressan, A., Floater, M., and Sande, E. IMA J. Numer. Anal. (2020).
2. Bressan, A. and Lyche, T. Found. Comput. Math. (2020).
3. Bressan, A. and Sande, E. Numer. Math. 143(4) (2019), pp.923–942.
4. Bressan, A. and Takacs, S. Comput. Methods Appl. Mech. Engrg. 352 (2019), pp.437–460.
5. Bressan, A. and Jüttler, B. IMA J. Numer. Anal. 38(2) (2018), pp.955–975.
6. Antolin, P., Bressan, A., Buffa, A., and Sangalli, G. Comput. Methods Appl. Mech. Engrg. 316 (2017), pp.694–719.
7. Bressan, A. and Mokriš, D. “A versatile strategy for the implementation of adaptive splines”. In: Mathematical methods for curves and surfaces. Vol. 10521. Lecture Notes in Comput. Sci. Springer, Cham, 2017, pp.42–73. DOI: 10.1007/978-3-319-67885-6\_3. [https://doi.org/10.1007/978-3-319-67885-6\\_3](https://doi.org/10.1007/978-3-319-67885-6_3).
8. Bressan, A., Buffa, A., and Sangalli, G. Comput. Aided Geom. Design 39 (2015), pp.17–49.
9. Bressan, A. and Jüttler, B. Comput. Aided Geom. Design 37 (2015), pp.9–24.
10. Bressan, A. Comput. Aided Geom. Design 30(8) (2013), pp.778–794.
11. Bressan, A. and Sangalli, G. IMA J. Numer. Anal. 33(2) (2013), pp.629–651.
12. Bressan, A. IMA J. Numer. Anal. 31(4) (2011), pp.1334–1356.

### Computer skills

operative systems	UNIX like
markup languages	LaTeX, TeX, HTML
programming languages	matlab, C, C++

### Software libraries

geopdes	former collaborator	matlab toolbox for IGA
G+SMO	former collaborator	C++ IGA library
IgASF	main coauthor	C++ IGA assembling library

## Language skills

Italian	native language
English	studied at school and used often
French	studied at school
Spanish	studied during the Erasmus period in Salamanca
German	few words
Norwegian	few words