

CURRICULUM VITAE
FABIO TONOLI
JUNE 2019

Studies

- 1995 *Master Degree* in Mathematics, Università degli Studi di Milano
2000 *PhD* in Mathematics, Università degli Studi di Padova (PhD thesis in collaboration with Bayreuth University, Germany, Prof. F.-O. Schreyer)

Professional Activities

- 2006-today Teaching Fellow, Bocconi University (Milano, Italy), Dept. of Decision Sciences
2009-2011 Teaching Fellow, Università degli Studi di Milano (Italy), Dept. of Economics and Political Sciences
2006-2008 Postdoc (Assegno di ricerca) at Università degli Studi di Trento (Italy)
2003-2006 Research Assistant, Bayreuth University (Germany), Dept. of Mathematics (LS VIII, Prof. Catanese)
2001-2003 Research fellow, Bayreuth University (Germany), Dept. of Mathematics (Prof. Catanese)
2000-2001 Research fellow, University of Goettingen (Germany), Dept. of Mathematics (Prof. Catanese)
- 2002 Visiting Scholar, Institute Stoilow, Bucharest (Romania) (4 March-5 April 2002)
1998 Visiting Scholar, University of Duisburg-Essen, Dept. of Mathematics (Germany)

Publications

1. *Decision-network polynomials and the sensitivity of decision-support models*, with E. Borgonovo, European Journal of Operational Research, Vol. 239, 490–503 (2014).
2. *On Wahl's proof of $\mu(6) = 65$* , with R. Pignatelli, Asian Journal of Mathematics, Vol. 13, No. 3, 307-310 (2009).
3. *An explicit construction of ruled surfaces*, with A. Alzati, Journal of Pure and Applied Algebra, Vol. 213, No. 3, 329–348 (2009).
4. *Even sets of nodes on sextic surfaces*, with F. Catanese, Journal of European Mathematical Society, Vol. 9, No. 4, 705-737 (2007).
5. *A remarkable moduli space of rank 6 vector bundles related to cubic surfaces*, with F. Catanese, 49p., (2006), in the proceedings of Trento School/Workshop (11–16 Sep. 2006), Casnati, Catanese, Notari Eds., *Vector bundles and low codimensional subvarieties: state of art and recent developements*, in Quaderni di Matematica della II Università di Napoli.
6. *Construction of Calabi-Yau 3-folds in P^6* , Journal of Algebraic Geometry, Vol. 13, 209-232 (2004).
7. *Construction of Calabi-Yau 3-folds in P^6* , in Liaison and related topics (Turin, 2001), Rendiconti del seminario matematico Università e Politecnico di Torino, Vol. 59, No. 2, 145–148 (2003).
8. *Needles in a haystack: special varieties via small fields*, with F.-O. Schreyer, 251-280, in *Computations in Algebraic Geometry with Macaulay 2*, editors: D. Eisenbud, D. Grayson, M. Stillman, and B. Sturmfelds. Serie: Algorithms and Computation in Mathematics, Vol. 8, Springer Verlag, 2002. (ISBN: 3-540-42230-7)
9. *Ruled surfaces with small class*, with A. Lanteri, Communications in Algebra, Vol. 24, 3501–3512 (1996).

Work in Progress

- *Writing importance measures in a coherent system in different forms using decision network polynomials*, with E. Borgonovo, work in progress.
- *Some results on variations of functions over a poset*, with S. Cerreia-Vioglio, F. Maccheroni, M. Marinacci, work in progress.

Referee Activities:

Journals: *European Journal of Operational Research*, *Advances in Geometry*, *Journal of Algebraic Geometry*, *Portugalliae Mathematica*, *Rendiconti del Seminario Matematico della Università di Padova*, *Quaderni di Matematica della Seconda Università degli Studi di Napoli*,
Others (and Books): *Springer Verlag*, *Zentralblatt*.

Academic Projects

- 2014: Member in a research project on analysis of risk related to cyberattacks, coordinated by the node CIEMAT-CNRS Madrid, proposal EU waiting for approval, project ends in 2020.
- 2010: scientific director of the research project “Progetto Ambrosetti Nucleare per l'Italia” (analysis of the nuclear energy production costs in Italy, for Ambrosetti studio, a research for the Italian government), Bocconi University, as support for the workshop *The European House - Ambrosetti* “Lo scenario di oggi e di domani per le strategie competitive”, September 2010, Cernobbio (Como).
- 2001-04: member of *EAGER*, European Algebraic Geometry Research Network, node of Bayreuth. In collaboration with Prof. F. Catanese, The goal was the construction of some algebraic varieties by means of homological methods, with the support of derived categories and computer algebra (software Macaulay2). The first step was their construction on some finite fields. The second step was to prove their extension over the complex field. The final step was their classification. Many varieties of low codimensions were constructed: Gorenstein schemes of codimension 3 and, among them, those having even sets of nodes.

Invited Conferences

- *Seminario di Natale*, Dicembre 2008, Dip. di Matematica dell'Università degli Studi di Milano. Talk: *A sextic surface does not have more than 65 nodes*.
- *The 11th Rhine Workshop on Computer Algebra*, Giugno 2008, Levico Terme (TN). Talk: *An explicit construction of ruled surfaces*.
- *Algebraic Geometry and Commutative Algebra*, Giugno 2004, Utrecht (Olanda). Talk: *Codimension 3 gorenstein projective schemes and even sets of nodes: structure theorems*.
- *Algebraic Geometry, Commutative Algebra, and Topology*, Settembre 2002, Mamaia (Constanza, Romania). Talk: *Even sets of nodes on sextics*.
- *Giornate di Geometria Algebrica e argomenti correlati V*, Maggio 2000, Gargnano del Garda (BS). Talk: *Superfici canoniche in P^5 e 3-folds di Calabi-Yau in P^6* .
- *G.A.E.L. VI*, Marzo 1998, Marseille (CIRM), Francia. Talk: *Construction of Surfaces in P^5* .

Seminars

- Politecnico di Milano, Italy
- University of Milano, Italy
- University of Padova, Italy
- University of Pavia, Italy
- University of Roma “Tor Vergata”, Italy
- Politecnico di Torino, Italy
- University of Trento, Italy
- Institute Stoilow, Bucharest, Romania
- University of Duisburg-Essen, Germany

Teaching Experience

Mathematics: Algebra, Commutative Algebra, Linear Algebra, Real Analysis, Complex Analysis, Probability, Geometry, Measure Theory, Topology.

Applied Mathematics: Financial Mathematics, Static Optimization, Dynamic Optimization, Influence Diagrams and Decision Networks.

As Teaching Fellow:

- 2019—today *Big Data for Business Analytics*, master degree in Business Administration, Marketing, Bocconi University.
- 2009—today *Mathematics preparatory course* for PhD in Economics, Finance, Statistics, Business Administration and Management, Public Policy and Administration of Bocconi University
- 2006—today *Mathematics 1*, master degree in Economics, Business Administration, Marketing, Bocconi University.
- 2006—today *Mathematics 2*, master degree in Economics, Business Administration, Marketing, Bocconi University.
- 2009-13 *Mathematics* for PhD in Economics and Management of Bocconi University
- 2009-13 *Mathematics* for Economics and Political Sciences, Università degli Studi di Milano
- 2001: *Algorithmen in der Algebraische Geometrie* (Algorithms in Algebraic Geometry), University of Goettingen

As Teaching Assistant:

- 2018—today *Big Data for Business Analytics*, master degree in Business Administration, Marketing, Bocconi University.
- 2015—today *Fundamentals of Business Analytics*, master degree in Business Administration, Marketing, Bocconi University.
- 2006—today *Mathematics 1*, master degree in Economics, Business Administration, Marketing, Bocconi University.
- 2006—today *Mathematics 2*, master degree in Economics, Business Administration, Marketing, Bocconi University.
- 2008—today *Real Analysis*, Phd in Statistics, Bocconi University.
- 2012-13 *Advanced Mathematics*, master degree in Economics and Social Sciences, Bocconi University
- 2005/06: *Algebra I*, master degree in mathematics, Bayreuth University
- 2005: *Linear Algebra 2*, master degree in mathematics, Bayreuth University
- 2004: *Linear Algebra 1*, master degree in mathematics, Bayreuth University
- 2004: *Analysis 4* (One-Variable Complex Analysis), master degree in mathematics, Bayreuth University
- 2003: Coordinator of the Geometry Seminar, Bayreuth University
- 2003: *Analysis 3*, master degree in mathematics, Bayreuth University
- 2003: *Algebra 2*, master degree in mathematics, Bayreuth University
- 2002: *Riemann Surfaces*, master degree in mathematics, Bayreuth University
- 2002: *Analysis 2*, master degree in mathematics, Bayreuth University
- 2000: *Mathematics I*, master degree in Biology, University of Goettingen
- 1999: *Mathematica 1*, master degree in Physics, Bayreuth University
- 1998: *Analysis 1*, master degree in mathematics, Bayreuth University
- 1995: *Geometry 2*, master degree in mathematics, Università degli Studi di Como

Support Activity

- 2007-2011 Exams and e-learning organization for the course Mathematics (first year, 16 classes of 120 students) for Bocconi University
- 2001-2006: System Administrator of the “Mathematik VIII” Chair of Bayreuth University.
- 2002-2003: Writing the proposal of a project for buying 32 new computers, 6 printers, one server, and several software (for a total amount of circa €220.000). The project was presented by the Mathematics Department of Bayreuth University and was successfully financed and executed.