

## ALLEGATO B

UNIVERSITÀ DEGLI STUDI DI MILANO

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## **[Matteo Bianchi]** **CURRICULUM VITAE**

INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	BIANCHI
NOME	MATTEO
DATA DI NASCITA	[ 15, 05, 1981 ]

**INSERIRE IL PROPRIO CURRICULUM**  
(non eccedente le 30 pagine)

Data

7/9/2020

Luogo

Milano

# Europass Curriculum Vitae

## Personal information

Name / Surname

Personal Email

Home page

Nationality

Date of birth

Gender

ORCID

**Bianchi, Matteo**

matteob@gmail.com

<https://sites.google.com/site/matteob/>

Italian

15/05/1981

male

0000-0002-3896-7853

## Education and training

Dates

Title of qualification awarded

Name and type of organization  
providing education and training

Dates

Title of qualification awarded

Name and type of organization  
providing education and training

Dates

Title of qualification awarded

Principal subjects/Occupational  
skills covered

Name and type of organization  
providing education and training

2000 - 2005

Bachelor degree in Computer Science

Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano

2005 - 2007

Master's degree in Computer Science. Thesis title: Semantiche alla Kripke per logiche polivalenti

Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano

November 2007 - December 2010

Phd in "Matematica e Statistica per le Scienze Computazionali". Thesis title: On some axiomatic extensions of the monoidal t-norm based logic MTL: an analysis in the propositional and in the first-order case

Research activity in mathematical logic, in particular many-valued logics: see the following of the curriculum for a description of my research area

Dipartimento di Matematica "Federigo Enriques", Università degli Studi di Milano

## Additional academic titles

Dates

Title of qualification awarded

Dates

Title of qualification awarded

28 March 2017 - 28 March 2026

Abilitazione Scientifica nazionale, seconda fascia, settore 01/A1

12 May 2020 - 12 May 2029

Abilitazione Scientifica nazionale, seconda fascia, settore 11/C2

## Prizes

I was one of the winners of "Concorso AILA 3+2 2007" (second place) for the best master's thesis in mathematical logic. This prize was called by "Associazione Italiana di Logica e sue Applicazioni".

## Work experience

Dates

Occupation or position held

Name and address of employer

Dates

November 2007 - December 2010

Phd in "Matematica e Statistica per le Scienze Computazionali"

Dipartimento di Matematica "Federigo Enriques", Università degli Studi di Milano

March 2012 - February 2013

Occupation or position held  
 Name and address of employer  
 Dates  
 Occupation or position held  
 Name and address of employer  
 Dates  
 Occupation or position held  
 Name and address of employer

## Personal skills and competences

Mother tongue  
 Other language(s)

*Self-assessment  
 European level<sup>(\*)</sup>*

**English**

**French**

Organisational skills and competences

Research Area

## Additional informations

research grant holder  
 Dipartimento di Informatica e Comunicazione, Università degli Studi di Milano  
 May 2013 - April 2017  
 research grant holder  
 Department of Computer Science, Università degli Studi di Milano  
 May 2017 - April 2018  
 research grant holder  
 Dipartimento di Scienze Teoriche e Applicate, Università degli Studi dell'Insubria

## Italian

English, French

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user	B2 Independent user
B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user

<sup>(\*)</sup> Common European Framework of Reference (CEF) level

During my academic career I have been part of the organizing committee of three scientific conferences (ManyVal 2008, ManyVal 2010 and Magica 16): see the last part of the curriculum for details.

My research area is about mathematical logic, in particular the hierarchy of many-valued logics introduced by Petr Hájek in (P. Hájek, *Metamathematics of Fuzzy Logic*, Kluwer, 1998). These logics are generalizations of classical (boolean) logic, in the sense that they possess (finitely or infinitely many) intermediate truth-values between the absolute true (1) and the absolute false (0), and are studied in the propositional and in the first order case. These logics are more expressive than the classical counterpart and can be used to cope with the vagueness of the information. Some examples of concepts that can be handled by these logics (in particular in the first-order case, where the predicates are interpreted as fuzzy sets) are sentences like "the temperature is high", "the pressure is low": more in general, the situations where there are properties that are vague (in the sense that there are some "borderline" elements for which it is not clear if they have this property or not), as the ones previously cited. In these cases the framework of classical logic, with only two truth-values, becomes quite rigid: the logics of Hájek's frameworks, instead, are much more flexible and allow to grasp this vagueness, using intermediate truth-values.

## Projects

- I have been a member of the national Italian project PRIN 2008 "Logica e algebra dell'informazione incerta".
- I have been a member of the national Italian project FIRB 2010 "Probability theory of non-classical events". In particular, my first post-doc position - from March 2012 to February 2013 - have been funded with this project.
- I have been a member of the national Italian project PRIN 2010 "Metodi logici per il trattamento dell'informazione".

## Publications

### Papers published in journals

1. S. Aguzzoli, M. Bianchi, and V. Marra. A temporal semantics for Basic Logic. *Studia Logica*, 92(2):147–162, 2009. doi:10.1007/s11225-009-9192-3
2. M. Bianchi and F. Montagna. Supersound many-valued logics and Dedekind-MacNeille completions. *Arch. Math. Log.*, 48(8):719–736, 2009. doi:10.1007/s00153-009-0145-3
3. M. Bianchi and F. Montagna.  $n$ -contractive BL-logics. *Arch. Math. Log.*, 50(3-4):257–285, 2011. doi:10.1007/s00153-010-0213-8
4. M. Bianchi. The Variety Generated by all the Ordinal Sums of Perfect MV-Chains. *Studia Logica*, 101(1):11–29, 2012. doi:10.1007/s11225-012-9371-5
5. M. Bianchi. First-order nilpotent minimum logics: first steps. *Arch. Math. Log.*, 52(3-4):295–316, 2013. doi:10.1007/s00153-012-0317-4
6. M. Bianchi. A temporal semantics for Nilpotent Minimum logic. *Int. J. Approx. Reason.*, 55(1):391 – 401, 2014. doi:10.1016/j.ijar.2013.10.007
7. T. Flaminio and M. Bianchi. A Note on Saturated Models for Many-Valued Logics. *Math. Slovaca*, 65(4):747–760, 2015. doi:10.1515/ms-2015-0053
8. M. Bianchi and F. Montagna. Trakhtenbrot Theorem and First-Order Axiomatic Extensions of MTL. *Studia Logica*, 103(6):1163–1181, 2015. doi:10.1007/s11225-015-9614-3
9. M. Bianchi. The logic of the strongest and the weakest t-norms. *Fuzzy Sets Syst.*, 276:31–42, 2015. doi:10.1016/j.fss.2015.01.013
10. M. Bianchi. Corrigendum to “The logic of the strongest and the weakest t-norms [Fuzzy Sets Syst. 276 (2015) 31-42]”. *Fuzzy Sets Syst.*, 284:152 – 153, 2016. doi:10.1016/j.fss.2015.08.002
11. S. Aguzzoli and M. Bianchi. On some questions concerning the axiomatisation of WNM-algebras and their subvarieties. *Fuzzy Sets Syst.*, 292:5–31, 2016. doi:10.1016/j.fss.2014.07.007
12. S. Aguzzoli and M. Bianchi. Single chain completeness and some related properties. *Fuzzy Sets Syst.*, 301:51–63, 2016. doi:10.1016/j.fss.2016.03.008
13. S. Aguzzoli and M. Bianchi. On varieties singly generated by a well-connected  $FL_{ew}$ -algebra. *Fuzzy Sets Syst.*, 320:60 – 63, 2017. doi:10.1016/j.fss.2016.11.004
14. S. Aguzzoli and M. Bianchi. On linear varieties of MTL-algebras. *Soft Comput.*, 23(7):2129–2146, 2019. doi:10.1007/s00500-018-3423-3
15. S. Aguzzoli, M. Bianchi, B. Gerla, and D. Valota. Free algebras, states and duality for the propositional Gödel $_{\Delta}$  and Drastic Product logics. *Int. J. Approx. Reason.*, 104:57–74, 2019. doi:10.1016/j.ijar.2018.10.016

### Conference proceedings papers

1. S. Aguzzoli, M. Bianchi, and D. Valota. A Note on Drastic Product Logic. In A. Laurent, O. Strauss, B. Bouchon-Meunier, and R. R. Yager, editors, *Information Processing and Management of Uncertainty in Knowledge-Based Systems: 15th International Conference, IPMU 2014, Montpellier, France, July 15-19, 2014, Proceedings, Part II*, pages 365–374. Springer International Publishing, 2014. doi:10.1007/978-3-319-08855-6\_37
2. S. Aguzzoli, M. Bianchi, and T. Flaminio. MTL-algebras that define the dual monoidal operation. In *2015 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*, pages 1–8, Aug 2015. doi:10.1109/FUZZ-IEEE.2015.7338014
3. S. Aguzzoli and M. Bianchi. Minimally Many-Valued Extensions of the Monoidal t-Norm Based Logic MTL. In A. Petrosino, V. Loia, and W. Pedrycz, editors, *Fuzzy Logic and Soft Computing Applications: 11th International Workshop, WILF 2016, Naples, Italy, December 19-21, 2016, Revised Selected Papers*, pages 106–115. Springer International Publishing, 2017. doi:10.1007/978-3-319-52962-2\_9
4. Stefano Aguzzoli, Matteo Bianchi, Brunella Gerla, and Diego Valota. Probability Measures in Gödel<sub>Δ</sub> Logic. In Alessandro Antonucci, Laurence Cholvy, and Odile Papini, editors, *Symbolic and Quantitative Approaches to Reasoning with Uncertainty: 14th European Conference, ECSQARU 2017, Lugano, Switzerland, July 10–14, 2017, Proceedings*, pages 353–363. Springer International Publishing, 2017. doi:10.1007/978-3-319-61581-3\_32
5. S. Aguzzoli, M. Bianchi, and D. Valota. The Classification of All the Subvarieties of DNMG. In J. Kacprzyk, E. Szmidt, S. Zadrożny, K. T. Atanassov, and M. Krawczak, editors, *Advances in Fuzzy Logic and Technology 2017: Proceedings of: EUSFLAT-2017 – The 10th Conference of the European Society for Fuzzy Logic and Technology, September 11-15, 2017, Warsaw, Poland IWIF-SGN'2017 – The Sixteenth International Workshop on Intuitionistic Fuzzy Sets and Generalized Nets, September 13-15, 2017, Warsaw, Poland, Volume 1*, pages 12–24. Springer, 2018. doi:10.1007/978-3-319-66830-7\_2
6. M. Bianchi. Strictly join irreducible elements in the lattice of varieties of BL-algebras. In *2017 IEEE Symposium Series on Computational Intelligence (SSCI) Proceedings*. IEEE, 2018. doi:10.1109/SSCI.2017.8285361

### Phd Thesis

1. M. Bianchi. *On some axiomatic extensions of the monoidal t-norm based logic MTL: an analysis in the propositional and in the first-order case*. PhD thesis, Dottorato in “Matematica e Statistica per le Scienze Computazionali”, Dipartimento di Matematica “Federigo Enriques”, Università degli Studi di Milano, 2010

### Monographs

1. M. Bianchi. *On Some Axiomatic Extensions of the Monoidal T-norm Based Logic MTL: an Analysis in the Propositional and in the First-order Case*. Mathematical Sciences. Ledizioni, 2011. ISBN:9788895994567

### Conference talks

- “The variety generated by all the ordinal sums of perfect MV-chains” - “Algebraic Semantics for Uncertainty and Vagueness”, Salerno, 18-20 May 2011.  
<http://logica.dmi.unisa.it/AlgebraicSemantics2011/pag-home>
- “On some logical and algebraic properties of axiomatic extensions of the monoidal t-norm based logic MTL related with single chain completeness” - “ManyVal ’12”, Salerno, July 2012.  
<http://logica.dmi.unisa.it/manyval12/>
- “A temporal semantics for nilpotent minimum logic” - “ManyVal 2013”, Prague, 4-9 September 2013.  
[www.cs.cas.cz/manyval13/](http://www.cs.cas.cz/manyval13/)
- “Trakhtenbrot theorem and first-order axiomatic extensions of MTL” - “LATD 2014”, Vienna, 16-19 July 2014.  
<https://www.logic.at/latd2014/>
- “Trakhtenbrot theorem and first-order axiomatic extensions of MTL” - “TACL 2015”, Ischia, 21-26 June 2015.  
<http://logica.dmi.unisa.it/tac1/>
- “Single chain completeness and some related properties” - “ManyVal 2015”, Les Diablerets, 11-13 December 2015.  
<https://mathsites.unibe.ch/manyval2015/>
- “On linear varieties of MTL-algebras” - “Sysmics 2016”, Barcelona, 5-9 September 2016.  
<http://sysmics-16.iiia.csic.es/>
- “Minimally Many-Valued Extensions of the Monoidal T-norm based Logic MTL” - “WILF 2016”, Napoli, 19-21 December 2016.  
<http://cvprlab.uniparthenope.it/wilf2016/>
- “The classification of all the subvarieties of DNMG” - “Eusflat 2017”, Warsaw, 11-15 September 2017.  
<http://www.eusflat2017.ibspan.waw.pl/>
- “Almost minimal and strictly join irreducible varieties of MTL-algebras” - “ManyVal 2017”, Tolosa (France), 15-17 November 2017.  
<http://www.cimi.univ-toulouse.fr/en/events/MANYVAL2017>
- “Strictly join irreducible elements in the lattice of varieties of BL-algebras” - “IEEE SSCI 2017”, Honolulu, 27 November - 1 December 2017.  
<http://www.ele.uri.edu/ieee-ssci2017/index.html>
- “The classification of all the subvarieties of DNMG” - “Substructural logics: semantics, proof theory, and applications - Second Sysmics Workshop”, Vienna, 26-28 February 2018.  
<https://sysmics.logic.at/>
- “On some properties of the lattice of varieties of MTL-algebras” - “AsubL (Algebra and Substructural Logics- Take 6)”, Cagliari, 11-13 June 2018.  
<http://sites.unica.it/asubl6/>
- “Strictly join irreducible varieties of BL-algebras” - “ManyVal 2019”, Bucharest, 1-3 November 2019  
<https://cs.unibuc.ro/events/manyval2019/>

## Conferences managed as organizer

- “ManyVal ’08 - Applications of Topological Dualities to Measure Theory in Algebraic Many-Valued Logic”, Milano, 19-21 May 2008.  
<http://manyval.di.unimi.it/manyval08>
- “ManyVal ’10 - Beyond algebraic semantics: bridging intended and formal interpretations of many-valued logics”, Varese, 3-5 May 2010.  
<http://manyval.di.unimi.it/>
- “Magica 16”, Milano, 5-9 September 2016.  
<http://www.dista.uninsubria.it/magica16/index.html>

## Further conferences

- “Logic, Algebra and Truth Degrees First conference of the working group on Mathematical Fuzzy Logic”, 8-11 September 2008.  
<http://www.mathfuzzlog.org/latd2008/>
- “The digital footprint of Gian-Carlo Rota: marbles, boxes and philosophy”, Milano, 16-18 February 2009.  
<http://sesar.dti.unimi.it/Rota2009/>
- La ricerca logica in Italia: Convegno in onore di Corrado Mangione - Milano, 10-11 September 2009.  
<http://www.filosofia.unimi.it/convmangione/>
- Probability, Uncertainty and Rationality - Certosa di Pontignano (Siena), November 1-3 2009.  
<http://homepage.sns.it/hosni/lori/events/pura09/>
- “Third International Workshop on Rough Set Theory (RST2011)”, Milano, 14-16 September 2011.  
<http://www.rstworkshop.tk/>
- “Coherence and Truth - In memoriam Franco Montagna”, Certosa di Pontignano, 16-18 December 2015.
- “First algebra week”, Siena, 19-22 June 2018.
- “Second algebra week”, Siena, 25-28 June 2019. <https://algebraweeksiena.wordpress.com/>

## Summer Schools and scholarships

- 3-9 September 2006 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA), with a curriculum-based scholarship, offered by the same school.
- 26 August - 1 September 2007 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA), with a scholarship, offered by the same school. I obtained the scholarship since I was one of the winners of “Concorso AILA 3+2 2007” (second place) for the best master’s thesis in mathematical logic.
- 31 August - 6 September 2008 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA), with a curriculum-based scholarship, offered by the same school.
- 23-29 August 2009 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA).
- 29 August - 4 September 2010 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA).
- 21-27 August 2011 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA), with a curriculum-based scholarship, offered by the same school.
- 19-25 August 2012 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA).
- 25-31 August 2013 - I have attended the summer school “Scuola Estiva di Logica” organized by “Associazione Italiana di Logica e sue Applicazioni” (AILA).

## Seminars

- “Logiche polivalenti al primo ordine” (First order many-valued logics) - Dipartimento di Scienze dell’Informazione, Milano, 15 January 2008.
- “Introduzione alle logiche polivalenti” (Introduction to many-valued logics) - Dipartimento di Matematica “Federigo Enriques”, Milano, 28 January 2009.
- On some axiomatic extensions of the monoidal t-norm based logic MTL: an analysis in the propositional and in the first-order case - preliminary discussion of the PhD thesis - Dipartimento di Matematica “Federigo Enriques”, 9 November 2010.
- Supersound many-valued logics and Dedekind-MacNeille completions - Dipartimento di Scienze dell’Informazione, Milano, 9 December 2010.
- On some axiomatic extensions of the monoidal t-norm based logic MTL: an analysis in the propositional and in the first-order case - final discussion of the PhD thesis - Dipartimento di Matematica “Federigo Enriques”, 17 December 2010.
- “On some logical and algebraic properties of axiomatic extensions of the monoidal t-norm based logic MTL related with single chain completeness” - Dipartimento di Scienze dell’Informazione, Milano, 1 June 2011.

## Memberships and other informations



- From 2008 I am a member of “Association for Symbolic Logic”, <http://www.aslonline.org>.
- From 2009 I am a member of “Mathematical Fuzzy Logic working group”, [http://www.mathfuzzlog.org/index.php/Main\\_Page](http://www.mathfuzzlog.org/index.php/Main_Page).
- From 2012 I am a member of “Associazione Italiana di Logica e sue Applicazioni (AILA)”, <http://www.ailalogica.it/>.
- From 2016 I am a member of “European Society for Fuzzy Logic and Technology (EUSFLAT)” <http://www.eusflat.org/>.
- From 2015 I am a member of the research unit GNSAGA (Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni), Logica matematica e applicazioni, by INDAM (Istituto Nazionale di Alta Matematica).
- I have been a reviewer for several scientific journals, and also for some international conferences.

Moreover, I have also been a reviewer for Mathscinet (Mathematical Reviews) and ZbMath (Zentralblatt Math).

Il sottoscritto, a conoscenza di quanto prescritto dall'art. 76 del D.P.R. 28 dicembre 2000 n. 445, sulla responsabilità penale cui può andare incontro in caso di falsità in atti e di dichiarazioni mendaci, nonché di quanto prescritto dall'art. 75 del D.P.R. 28 dicembre 2000 n. 445, sulla decadenza dai benefici eventualmente conseguenti al provvedimento emanato sulla base di dichiarazioni non veritiere, ai sensi e per gli effetti del citato D.P.R. n. 445/2000 e sotto la propria personale responsabilità dichiara che tutte le informazioni contenute nel proprio curriculum vitae sono veritiere.

Data: 7/9/2020

Firma: 