

## Davide Fazio (Curriculum Vitae)

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### Positions

- **Università degli Studi di Cagliari** Cagliari, Italy  
*Post-Doctoral Research Fellow* September 2020 - Present
- **Università degli Studi di Cagliari** Cagliari, Italy  
*Post-Doctoral Research Fellow* December 2019 - August 2020

### Projects

My research has been funded by the following projects:

Project “Per un’estensione semantica della Logica Computazionale Quantistica - Impatto teorico e ricadute implementative”, RAS: SR40341, Regione Autonoma della Sardegna.

Project “Logic and cognition. Theory, experiments, and applications”, CUP: 2013YP4N3, MIUR.

Horizon 2020 program of the European Commission: SYSMICS project, Proposal Number: 689176, MSCA-RISE-2015.

### Education

- **Università degli Studi di Cagliari** Cagliari, Italy  
*Ph.D in Philosophy, Epistemology and the History of Culture* 2016 - 21st February 2020  
**Final grade:** obtained *cum laude*;  
**Thesis title:** “Remarks on the order theoretical and algebraic properties of quantum structures”, available at <https://iris.unica.it/handle/11584/285241#.XtIKgS97Ewo>, (Supervisor: Prof. F. Paoli, Advisor: Prof. A. Ledda).  
**Research interests:** Universal Algebra, quantum structures, algebras of logic.
- **Università degli Studi di Firenze** Florence, Italy  
*Master of Arts in “Logic, Philosophy and the History of Science”* 2009-2012  
**Final grade:** 110/110 *cum laude*;  
**Thesis title:** “Rewriting and Confluence: from Aczel’s Expression Systems to Combinatory Reduction Systems” (Logic, supervisor: Prof. P. Minari).
- **Università degli Studi di Bari** Bari, Italy  
*Bachelor’s degree in Philosophy* 2006-2009  
**Final grade:** 110/110 *cum laude*;  
**Thesis title:** “Time, Modalities and Metaphysics in Diodorus Cronus” (History of Science, supervisor: Prof. M. Di Giandomenico).

## Presentations (selected)

- D. Fazio, “On the Structure theory of Łukasiewicz (near) semirings”, BuCAL 2017, Fuzzy Logic meets Quantum Logic, September 25th-27th 2017, Bucharest (Romania).
- D. Fazio, “The generalized orthomodularity property: Configurations, Pastings and Completions”, AsubL - Algebra and substructural Logics (take 6), June 11th-13th 2018, Cagliari (Italy).
- D. Fazio, “A semiring-like representation of lattice pseudoeffect algebras”, ”Quantum Cagliari 2018: Quantum structures quantum information theory”, October 8th-10th 2018.
- D. Fazio, “The generalized orthomodularity property: configurations and pastings”, Vanderbilt University’s Department of Mathematics weekly seminar, February 19th 2019.
- D.Fazio, “The generalized orthomodularity property: configurations and pastings”, AvH Workshop, Trends in Quantum computing and Quantum Logic, Berlin, May 8th-9th 2019.
- D.Fazio, “The generalized orthomodularity property: configurations and pastings”, SILFS 4th post-graduate conference, Urbino (PU), June 3rd - 7th 2019.
- D. Fazio, “On residuation in paraorthomodular lattices”, Residuated structures and quantum structures: Logic, algebra and applications, Cagliari (CA), September 9th, 2019.
- D. Fazio (with A. Ledda), “The generalized orthomodularity property: configurations and pastings”, Quantum and Beyond, held online, 28-29 April 2020.
- D. Fazio (with M. Carrara and M. Pra Baldi), “On a logico-algebraic approach to Paraconsistent AGM belief revision theory”, Colloquium in Logic and Epistemology, RUB, held online, April 22nd, 2021.
- D. Fazio (with M. Carrara and M. Pra Baldi), “Un’indagine logico-algebraica sulla teoria della revisione di credenze paraconsistente”, SYNERGIA, University of Urbino, held online, June 15th, 2021.

## Summer Schools (attended)

TACL (Topology, Algebra and Categories in Logic) Summer School, 19 June 2017 - 24 June 2017, Palacky University, Olomouc (Czech Republic).

## Conferences (organized)

- AsubL - Algebra and substructural Logics (take 6), June 11th-13th 2018, Cagliari (Italy), <https://sites.unica.it/asubl6/>.
- Quantum and Beyond, 28-29 April 2020, held online, <https://sites.google.com/site/quantum8beyond/home>.

## Publications

- I. Chajda, D. Fazio, and A. Ledda, “On the structure theory of Łukasiewicz near semirings”, *Logic Journal of the IGPL*, Volume 26, Issue 1, 2018, pp. 1428.
- I. Chajda, D. Fazio, and A. Ledda, “A semiring-like representation of pseudoeffect algebras”, *Soft Computing*, volume 23, 2019, pp. 14651475.
- I. Chajda, and D. Fazio, “On residuation in paraorthomodular lattices”, *Soft Computing*, <https://doi.org/10.1007/s00500-020-04699-w>.
- I. Chajda, D. Fazio, and A. Ledda, “The generalized orthomodularity property: configurations and pastings”, *Journal of Logic and Computation*, volume 30, Issue 5, 2020, pp. 991-1022.
- D. Fazio, A. Ledda, and F. Paoli, “On Finch’s conditions for the completion of orthomodular posets”, *Foundations of Science*, 2020.
- D. Fazio, A. Ledda, and F. Paoli, “Residuated structures and orthomodular lattices”, *Studia Logica*, 2021.
- D. Fazio, and M. Pra Baldi, “On a Logico-Algebraic approach to AGM Belief Contraction theory”, *Journal of Philosophical logic*, 2021.
- I. Chajda, D. Fazio, H.Länger, A.Ledda, and J.Paseka “Algebraic Properties of Paraorthomodular Posets”, *Logic Journal of the IGPL*, 2021

### Publications under review

- M. Carrara, D. Fazio, and M. Pra Baldi, “Paraconsistent Belief Revision: an algebraic investigation”
- I. Chajda, K. Emir, D. Fazio, H.Länger, A.Ledda, and J.Paseka, “An algebraic analysis of implication in non-distributive logics”
- D. Fazio, A. Ledda, F. Paoli, and G. St. John, “A Substructural Gentzen calculus for orthomodular quantum logic”

### Monographs

D. Fazio, A. Ledda\*, and M. Pra Baldi, *Percorsi di Logica* (english translation: *Paths in Logic*), Mimesis, Italy, (to appear).

### Edited Volumes

D. Fazio, A. Ledda, and F. Paoli (Guest Eds.), *Algebraic Perspectives on Substructural Logics*, Trends in Logic Series (Special Volume), Springer, 2020.

### Visiting research periods

**04/03/2017-04/13/2017** Palacky University (Department of Algebra and Geometry), Olomouc, (Czech Rep.) under the supervision of Prof. I. Chajda.

**11/20/2017-12/20/2017:** Universit Ca' Foscari (DAIS, Venice, Italy) under the supervision of Prof. Antonino Salibra.

**01/11/2018-03/11/2018:** Vanderbilt University (Department of Mathematics, Nashville, TN, US) under the supervision of Prof. Constantine Tsinakis.

**05/04/2018 - 05/11/2018** Palacky University (Department of Algebra and Geometry), Olomouc, (Czech Rep.) under the supervision of Prof. I. Chajda.

**21/01/2019 - 22/02/2019** Vanderbilt University (Department of Mathematics, Nashville, TN, US) under the supervision of Prof. Constantine Tsinakis.

### Teaching experiences

**2016-2017** Tutor in “Logic and Information Theories” (Master of Arts in “Philosophy and Communication Theories”, Prof. Antonio Ledda), University of Cagliari.

**2016-2017** Tutor in “Logic” (undergraduate studies in Philosophy, Prof. Francesco Paoli), University of Cagliari.

**July 2017** Teacher in “Introduction to Logic”, prep course for the admission to the Medical Sciences Graduate Studies, University of Cagliari;

**2017-2018** Tutor in “Logic and Information Theories” (Master of Arts in “Philosophy and Communication Theories”, Prof. Antonio Ledda), University of Cagliari.

**2017-2018** Tutor in “Logic” (undergraduate studies in Philosophy, Prof. Francesco Paoli), University of Cagliari.

**2017-2018** Tutor in “Logic and the Theory of Argumentation” (undergraduate studies in Communication Science, Prof. Roberto Giuntini), University of Cagliari.

**2018-2019** Tutor in “Logic and the Theory of Argumentation” (undergraduate studies in Communication Science, Prof. Antonio Ledda), University of Cagliari.

**2018-2019** Tutor in “Logic and Information Theories” (Master of Arts in “Philosophy and Communication Theories”, Prof. Antonio Ledda)

**2019-2020** Tutor in “Logic and Information Theories” (Master of Arts in “Philosophy and Communication Theories”, Prof. Antonio Ledda)

**2019-2020** Tutor in “Logic and the Theory of Argumentation” (undergraduate studies in Communication Science, Prof. Giuseppe Sergioli), University of Cagliari.

**2020-2021** Tutor in “Logic and the Theory of Argumentation” (undergraduate studies in Communication Science, Prof. Giuseppe Sergioli), University of Cagliari.

### Other titles

Università degli Studi di Cagliari

- Subject expert (cert. by the University of Cagliari) in Logic and the Philosophy of Science  
**2018 - present**

### **Language skills**

**Italian:** Native speaker

**English:** B2 (Common European Framework of Reference for Languages)