

## CURRICULUM VITAE

### Personal details

Name: Alessandra Palmigiano

Date and place of birth: 9 July 1973, Catania (Italy)

Nationality: Italian

### Education

· PhD in *Lògica i Fonaments de la Matemàtica*, With Honors. LHFC (*Departament de Lògica, Història i Filosofia de la Ciència*), UB (*Universitat de Barcelona*), Spain. Completion date: 14 June 2005. Promotor: R. Jansana.

· *Diploma d'Estudis Avançats*. LHFC, UB. Final grade: *Excel.lent*. Completion date: 26 September 2002. Advisors: R. Jansana (first dissertation), J.M. Font (second dissertation).

· Master of Science in Logic (MoL), With Honors. ILLC (Institute of Logic, Language and Computation), UvA (*Universiteit van Amsterdam*). Completion date: 15 April 1999. Thesis advisor: A. Troelstra.

· *Laurea in Matematica*, final grade 110/110 *e lode*. *Università di Catania*, Italy. Completion date: 26 March 1998. Thesis advisor: G. Emmanuele.

### Academic appointments

· From 1 December 2009, *Universitair Docent*, ILLC, UvA.

· 1 July 2008 - 31 October 2011, NWO-funded (VENI) postdoctoral appointment, ILLC, UvA.

· 1 November 2006 - 1 March 2009, postdoctoral appointment within Yde Venema's VICI project on *Algebra & Coalgebra*, ILLC, UvA.

· 1 February 2006 - 31 October 2006, postdoctoral appointment, Dipartimento di Matematica e Informatica, Università di Catania, Italy.

· 1 January 2001 - 14 June 2005, PhD studentship, LHFC, UB.

### Research stages

· Visitor at the Department of Computer Science, University of Milan, February–March 2011.

· Visitor at the Department of Mathematics, Instituto Superior Técnico, Universidade Técnica de Lisboa, 18 April–22 May 2010.

· Visitor at the Department of Mathematics, Instituto Superior Técnico, Universidade Técnica de Lisboa, 8 May–8 June 2009.

· Visitor at the Department of Mathematics, University of Stellenbosch, South Africa, 8–16 March 2009.

· Academic Visitor at the Mathematical Institute, University of Oxford, 13–27 May 2007.

· Visitor at the LHFC, UB, 9–18 March 2007.

· Academic Visitor at the Mathematical Institute, University of Oxford, 15–30 July and 23–30 November 2004.

· Visitor at the Department of Mathematical Sciences, New Mexico State University, Las Cruces, New Mexico, USA, January – February 2004.

· Visitor at the Department of Computer Science, University of Leicester, October – December 2003.

· Visitor at the CWI (*Centrum voor Wiskunde en Informatica*), Amsterdam, October – December 2002.

### Workshop and conference talks

- *Correspondence theory via Duality: Sahlqvist and beyond*, invited talk at the workshop on Modal Logic and Stone Duality, ILLC, December 13, 2010.
- *Groupoid quantales beyond the étale setting*, invited talk at the workshop on Categorical (co)algebraic methods in quantum informatics and linguistics, October 29-31, 2010 Oxford, United Kingdom.
- *Groupoid quantales beyond the étale setting*, keynote lecture at the Workshop on Logic and Algebra, University of Stellenbosch, South Africa, October 2, 2010.
- *Modal correspondence theory on quantales*, Workshop on Lattices, Relations and Kleene Algebras, September 21-23 2010, University College, London, United Kingdom.
- *Groupoid quantales beyond the étale setting*, invited talk at the International Workshop on Topological Methods in Logic II, Tbilisi, Georgia, June 8-10, 2010.
- *Modular canonicity for bi-implicative algebras*, 3rd World Congress and School on Universal Logic (Unilog), Lisbon, Portugal, April 18-25, 2010.
- *Proof systems for coalgebraic logic*, workshop Algebra and Coalgebra meet Proof theory (ALCOP), 25-27 January 2010.
- *Proof systems for coalgebraic logic*, invited talk at the Schloss Dagstuhl Seminar on Coalgebraic Logics, 6-9 December 2009.
- *Gentzen systems for coalgebraic cover modalities*, at TACL'09 (Topology, Algebra and Categories in Logic), Amsterdam 7-11 July 2009.
- *Expanding Sahlqvist correspondence for lattice-based logics: the inductive fragment*, at TACL'09, Amsterdam 7-11 July 2009.
- *Stably supported quantales as models for first-order intuitionistic modal logics*, at TACL, Amsterdam 7-11 July 2009.
- *Topological groupoid quantales: an algebraic study of noncommutative topologies*, at Trends in Logic VI: Logic and the foundations of Physics: space, time and quanta, Brussels, 11-12 December 2008.
- *Proof systems for the coalgebraic cover modality*, invited talk at the *Coalgebra Day*, 11 March 2008, Nijmegen.
- *Nabla Algebras and Chu Spaces*, at CALCO'07 (Algebraic and Coalgebraic Methods in Computer Science), Bergen, 2007.
- *Nabla Algebras and Chu Spaces*, at TANCL'07 (Topological and Algebraic Methods in Non-Classical Logics), Oxford, 2007.
- *Topological Relational Quantales*, plenary lecture at OAL'07 (Order, Algebra and Logics), Nashville, 2007.
- *Coalgebras and Modal Expansions of Logics*, at CMCS'04 (Coalgebraic Methods in Computer Science), ETAPS'04 satellite event, Barcelona, 2004.
- *Vietoris Endofunctors on Ordered Stone Spaces*, at the *International Conference on Algebraic and Topological Methods in Non-Classical Logics*, University of Tbilisi, Georgia, 2003.
- *Duality Theory for Selfextensional Logics*, at the conference *Lattices, Universal Algebra and Applications*, Lisbon, 2003.
- *Coalgebraic Semantics for Positive Modal Logic*, CMCS'03, Warsaw, 2003.
- *Duality between Atlases and Referential Algebras*, at the Student Session of NASSLLI'02 (North American Summer School on Logic, Language and Information), Stanford University, California.
- *Abstract Logics as Dialgebras*, at CMCS'02, ETAPS'02 satellite event, Grenoble, 2002.
- *Normal Gentzen Deductions in the Classical Case*, at ESSLLI'99 (European Summer School on Logic, Language and Information), University of Utrecht, 1999.

### Seminar lectures

- February 2011, forthcoming invited lecture to the seminar on *Logic and Interactive Rationality*, Groningen.
- 24 September 2010 *Groupoid quantales beyond the étale setting*, invited lecture, Mathematical Institute, University of Oxford, United Kingdom.
- 22 May 2010, *Topological groupoid quantales: a non étale setting*, colloquium lecture, Department of Mathematics, University of Amsterdam.
- 1 April 2010, *Topological groupoid quantales: a non étale setting*, colloquium lecture, *Laboratoire Preuves, Programmes et Systèmes*, Université Paris Diderot - Paris 7.
- 5 October 2009, *Duality and Correspondence*, invited lecture for the MoL course ‘Core Logic’, ILLC, UvA.
- 13 March 2009, *Topological groupoid quantales: an algebraic study of noncommutative topologies*, colloquium lecture, Department of Mathematics, University of Stellenbosch.
- 11 March 2009, *Modular Sahlqvist correspondence for partially ordered algebras*, invited lecture at the ‘Seminar on Lattice theory and Topology’, Department of Mathematics, University of Stellenbosch.
- 18 February 2009, *Canonical extensions for Hilbert and Tarski algebras*, ILLC, UvA, Algebra|Coalgebra (A|C) seminar.
- 2 December 2008, *Duality and Correspondence*, invited lecture for the MoL course ‘Core Logic’, ILLC, UvA.
- 21 October 2008, *Topological groupoid quantales: an algebraic study of noncommutative topologies*, invited lecture, Seminar of Algebra, RU Nijmegen.
- 3, 10 July 2008, *Topological groupoid quantales and their representation theorems*, ILLC, UvA, A|C seminar.
- 1 April 2008, *Dualities: from partial orders to Penrose tilings and beyond*, invited lecture, selection process for the Rosalind Franklin Fellowships 2007-2008, Groningen.
- 15 November 2007, *Victoris via relation lifting*, ILLC, UvA, A|C seminar.
- 8, 22 March 2007, *Canonical extensions for posets, duality and S frames I and II*, ILLC, UvA, A|C seminar.
- 16 November 2006, *Penrose Tilings, relational quantales and duality*, ILLC, UvA, A|C seminar.
- 27 October 2006, *Pavimentazioni di Penrose, quantali di relazioni e dualità*, Dipartimento di Matematica e Informatica, Università di Catania.
- 22 April 2004, *Selfextensional Logics, Duality and Coalgebras*, ILLC (UvA), Logic Tea.
- 11 February 2004, *Selfextensional Logics, Dualities and Coalgebras*, Department of Mathematical Sciences at New Mexico State University (NMSU), Seminar of Algebra.
- 21 November 2003, *Selfextensional Logics, Dualities and Coalgebras*, University of Oxford, Computing Laboratory Seminar.
- 19 November 2003, *Selfextensional Logics, Dualities and Coalgebras*, University of Leicester, Internal Seminar of the Department of Computer Science.
- 3 December 2002, *Coalgebraic Semantics for Positive Modal Logic*, CWI, Amsterdam, ACG talk.
- 25 October 2000, *Connections between Gentzen systems and natural deduction systems in the classical case*, LHFC, UB, *Seminari de Lògica de Barcelona*.

### **Mentoring and supervision**

2011. Supervisor of the joint study project *Abstract Algebraic Logic and Universal Algebra* of the MoL students Alberto Gatto and Fabio Zanasi, ILLC.

2011-15 prospective PhD supervisor of Sumit Sourabh on the project *Generalized Sahlqvist correspondence and its applications*, submitted to the *EMEA Scholarship Programme* and currently under evaluation.

- 2010-14 PhD co-supervisor of Sam van Gool (together with M. Gehrke) within the project *Mathematically and computationally relevant dualities*, at the IMAPP, RU Nijmegen.
- 2010. MSc thesis cosupervisor of Maurice Pico de los Cobos (with M. Aloni) (expected defense: March 2011), ILLC.
- 2010. BSc thesis supervisor of Sarah Gaaf (31 August 2010), ILLC.
- 2010. MSc thesis cosupervisor of Matthew P. Wampler-Doty (with J. van Benthem) (1 September 2010), ILLC.
- 2010. Supervisor of the research project *Modal correspondence theory on quantales* of the MoL student Johannes Martì, ILLC.
- 2009. MSc thesis supervisor of Sam van Gool (30 Nov 2009), ILLC.
- 2009. MSc thesis supervisor of Lisa Fulford (29 Oct 2009), ILLC.
- 2009. Supervisor of the three-months research internship at the ILLC of the BSc student Sumit Sourabh from Indian Institute of Technology (IIT) Kanpur, during May-July 2009.
- 2009. Supervisor of the research project *Extracting dualities from canonical extensions in the setting of posets* of the MoL student Sam van Gool, ILLC.
- 2008. Supervisor of the joint study project *Universal Algebra* of the MoL students Lisa Fulford and Pablo Kubides, ILLC.
- 2008. Supervisor of the individual study project *Introduction to Universal Algebra* of the MoL student Frank Nebel, ILLC.
- 2008. Supervisor of the individual study project *Birkhoff Theorem and Priestley Duality* of the MoL student Ivano Ciardelli, ILLC.
- 2006-. Student mentor in the Graduate Program in Logic, ILLC. 12 mentees since 2006.

### Teaching

- 2010. Mathematical Structures in Logic, MoL course, ILLC (with Vincenzo Ciancia), September-December.
- 2010 Algebraic Modal Correspondence, First International Istanbul Graduate Summer School in Logic: Modal Logic and its Applications, Istanbul, 9-14 August.
- 2009. Mathematical Structures in Logic, MoL course, ILLC. New course of my design, co-lectured with the PhD student Raul Leal.
- 2009. Introduction to Modal Logic, MoL & BSc in Mathematics, ILLC.
- 2008. Introduction to Modal Logic, MoL & BSc in Mathematics, ILLC.
- 2008. Co-lecturer of the course on Algebraic Logic at the Second Indian Winter School of Logic, 14–26 January 2008, Kanpur, India (with Mai Gehrke and Ramon Jansana).
- 2007. Introduction to Modal Logic, MoL & bachelor in Mathematics, ILLC (co-lecturer with Yde Venema).
- 2007. Lattices and Duality, graduate course, lectures and tutorials, University of Nijmegen (with Mai Gehrke).
- 2004. *Aproximació Històrica als Algorismes*, laboratory and tutorials, UB.
- 2001. *Curso Cero en Fundamentos de la Matematica*, laboratory and tutorials, UB.

### Conference and workshop organization

- Member of the program committee of workshop *Quantum Physics meets TARK*, Groningen, July 16-17 2011.
- Member of the program committee of workshop *Algebra and Coalgebra meet Proof Theory*, Bern, 27-29 April 2011.
- Co-organizer of workshop *Algebra and Coalgebra meet Proof Theory*, London, 25-26 January 2010.

- Co-chair of local organizing committee of conference *Topology, Algebra and Categories in Logic* (TACL2009) (with Y. Venema).
- Co-organizer of Workshop on Modal Fixpoint Logics, ILLC, UvA, 25-27 March 2008.
- Member of organization of conference Topological and Algebraic Methods in Non Classical Logics, 5–9 August 2007, at the St Anne’s College and Mathematical Institute, University of Oxford.
- Co-organizer of Workshop on Logics for Coalgebras, 10-11 May 2007, at ILLC.

### Edited volumes

- Special Issue of the Journal of Logic and Computation on *Algebra & Coalgebra meet Proof Theory* (with N. Bezhanishvili, C. Kupke and R. Iemhoff), 2011.
- Special Issue of the Journal of Logic and Computation on *Logics for Coalgebras* (with A. Kurz and Y. Venema), 2008.

### Reviewing for journals, conference proceedings

- journals: *Journal of Logic and Computation*, *Review of Symbolic Logic*, *Studia Logica*, *Logic Journal of the IGPL*, *Logica Universalis*.
- conference proceedings: Advances in Modal Logic (AiML) 2010, FoSSaCS 2010, AiML 2008, International Conference on Order, Algebra and Logics (AOL) 2007, AiML 2006, Coalgebraic Methods in Computer Science (CMCS) 2005, ESSLLI Summer School, 2002.

### Other academic activities

- Member of the Board of Examiners of Jacob Vosmaer’s doctoral dissertation, *Logic, Algebra and Topology. Investigations into canonical extensions, duality theory and point-free topology*, University of Amsterdam, the Netherlands, 14 December 2010.
  - Member of the Board of Examiners of Lindsey Jeftha’s doctoral dissertation *A Topological Framework for Modelling Belief Revision*, Department of Mathematical Sciences, University of Stellenbosch, South Africa, 4 October 2010.
  - Member of the organizing committee of the 2010 and 2011 editions of the KdV-ILLC outreach program *Leve de Wiskunde!*.
  - Member of the executive board of the Network of Women in the FNWI (WiF) (2009-2010).
  - Academic mentor of the WiF mentorship program (2009).
- <http://www.science.uva.nl/wif/mentor/>

### Professional enhancement

- Two-weeks intensive Dutch training at the *Talen instituut Regina Coeli*, Vught, January 2011.
- NWO Talentendag, den Haag (2009)
- veni-vidi professionalisering traject (Nodi-Novu) (2009)
- *Teaching effectively in English*, Centrum voor Nascholing, Amsterdam (2009)
- *Basiskwalificatietraject Onderwijs* (BKO) certification, UvA (2009)
- NWO Talentendag, den Haag (2008)

### Grants and scholarships

- VENI fellowship within the *Exacte Wetenschappen* Research Council, 2007. Title of research proposal: Dualities for quantales: a spatial understanding of noncommutative topologies.
- *Assegno di Ricerca* (Post-doctoral fellowship), University of Catania, 2005.
- four-years *Beca Predoctoral* (PhD grant), issued by the Generalitat de Catalunya, 2001.

· one-year *Borsa di Perfezionamento all'Estero* used for prolonging my stay at ILLC after the completion of my Master, 1999.

## List of publications

### International journals and conference proceedings

- [PR10b] A. Palmigiano, R. Re, Spatial Groupoid quantales: a non-étale setting, *Journal of Pure and Applied Algebra*, to appear.
- [GJP10] M. Gehrke, R. Jansana, A. Palmigiano, Canonical extensions for congruential logics with the deduction theorem, *Annals of Pure and Applied Logic* 161: 12 (2010), 1502-1519.
- [PR10a] A. Palmigiano, R. Re, Topological Groupoid Quantales, Special Issue: *The Contributions of Logic to the Foundations of Physics*, D. Aerts, S. Smets and J. P. van Bendegem eds, *Studia Logica* 95 (2010), 125-137.
- [BPV08] M. Bilkova, A. Palmigiano and Y. Venema, Proof systems for the coalgebraic cover modality, C. Areces and R. Goldblatt eds, *AiML Proc.* 7, College Publications (2008) 1-21.
- [PV07] A. Palmigiano and Y. Venema, Nabla algebras and Chu spaces, *Springer Lecture Notes in Computer Science (LNCS 4624)*, 2007, (Proceedings of CALCO 2007), 394-408.
- [JP06] R. Jansana and A. Palmigiano, Referential semantics: duality and applications, *Reports on Math. Logic*, 41 (2006) 63-93.
- [DGP05] M. Dunn, M. Gehrke and A. Palmigiano, Canonical extensions of ordered algebraic structures and relational completeness of some substructural logics, *Journal of Symbolic Logic*, 70 3 (2005) 713-740.
- [KP04] A. Kurz and A. Palmigiano, Coalgebras and Modal Expansions of Logics, *Electronic Notes in Theoretical Computer Science*, 106 (2004), 243-259.
- [Pa04] A. Palmigiano, A coalgebraic view on Positive Modal Logic, *Theoretical Computer Science*, 327 (2004) 175-195.
- [Pa03] A. Palmigiano, Coalgebraic Semantics for Positive Modal Logic, *Electronic Notes in Theoretical Computer Science* 82 1 (2003) 1-16.
- [Pa02] A. Palmigiano, Abstract Logics as Dialgebras, *Electronic Notes in Theoretical Computer Science* 65 1 (2002) 1-16.
- [Pa00] A. Palmigiano, Normal Gentzen Deductions in the Classical Case, *Logic Journal of the IGPL*, 8 2 (2000) 211-219.

### Dissertations and technical reports

- [PR07a] A. Palmigiano and R. Re, Topological relational quantales, Plenary lecture at the International Conference on Order, Algebra and Logics (OAL) 2007.
- [Pa05] A. Palmigiano, *A Selfextensional Journey*, PhD dissertation, Departament de Lògica, Història i Filosofia de la Ciència, Universitat de Barcelona.
- [Pa04a] A. Palmigiano, Dualities for some Intuitionistic Modal Logics, Dick de Jongh's *Liber Amicorum*, ILLC Publications, 2004.
- [Pa02] A. Palmigiano, A New Coalgebraic Semantics for Positive Modal Logic, *CWI Technical Report SEN-R0226*, Amsterdam, 2002.
- [Pa02a] A. Palmigiano, A Walk around Selfextensionality, 2002. First DEA dissertation, Universitat de Barcelona. Advisor: R. Jansana.
- [Pa02b] A. Palmigiano, Towards the Strong Version of a Sentential Logic, Universitat de Barcelona, 2002. Second DEA dissertation. Universitat de Barcelona. Advisor: J.M. Font.
- [Pa99] A. Palmigiano, Normal Gentzen Deductions in the Classical Case, MoL thesis, ILLC, 1999. Thesis advisor: A. Troelstra.

[Pa98] A. Palmigiano, Spazi di Hilbert e Serie di Fourier, MSc thesis, University of Catania, 1998.  
Thesis advisor: G. Emmanuele.

## Current research projects

- *Canonical extensions, general theory:*

[GJP10] M. Gehrke, R. Jansana, A. Palmigiano,  $\delta_1$ -completions of partial orders, submitted.

- *Canonical extensions, applications to canonicity and correspondence:*

[CP10] W. Conradie, A. Palmigiano, Algorithmic Correspondence and Canonicity for Distributive Modal Logic, submitted.

[CPS10] W. Conradie, A. Palmigiano, S. Sourabh, Algebraic modal correspondence, Sahlqvist and beyond, submitted.

[CP11] W. Conradie, A. Palmigiano, Algorithmic Correspondence and Canonicity for Lattice-Based Logics, in preparation.

[FP11] L. Fulford, A. Palmigiano, Canonicity for Bi-Implicative algebras, in preparation.

[GPP11] M. Gehrke, A. Palmigiano, H. Priestley, Modular Sahlqvist Correspondence for Partially Ordered Algebras, in preparation.

[vGP11] S. van Gool, A. Palmigiano, Algebraic Canonicity for Inductive Inequalities, in preparation.

[PP11] A. Palmigiano, M. Pico de los Cobos, A completeness theorem for lattice-based first order modal and substructural logics, in preparation.

- *Epistemic update on algebras:*

[MPS11] M. Ma, A. Palmigiano, M. Sadrzadeh, Algebraic semantics and model completeness for Intuitionistic Public Announcement Logic, in preparation.

- *Topological groupoid quantales, general:*

[PR11] A. Palmigiano, R. Re, Groupoid Quantales: a non étale setting, in preparation.

- *Topological groupoid quantales, applications to completeness results:*

[MPR10] J. Martí, A. Palmigiano, P. Resende, Modal correspondence theory on quantales, in preparation.

[PRes10] A. Palmigiano, P. Resende, Diamond as actions: sheaves on quantales as models for first order modal logic, in preparation.

- *Coalgebraic logic:*

[BPV09] M. Bilková, A. Palmigiano, Y. Venema, Proof Systems for Coalgebraic Logic, in preparation.