

ALESSANDRA DI PIERRO

Work Address

Dipartimento di Informatica
Università di Verona
Strada le Grazie 15
37134 - Verona
Italy

Permanent Address

Via Bezzecca 6
37126 - Verona
Italy

EDUCATION

- Ph.D.*, Computer Science
University of Pisa, Italy
THESIS - Negation and Infinite Computations in Logic Programming
Technical Report 3/94. July 1994
- Laurea*, Computer Science
University of Pisa, Italy
THESIS - Negazione come Istanziamento (in Italian) June 1990

ACADEMIC APPOINTMENTS

Department of Computer Science, University of Verona (Italy)

- Associate professor Since Jan 2011
- Researcher (permanent position) 2006 – 2010

Department of Computer Science, University of Pisa (Italy)

- Researcher (permanent position) 1998 – 2006

School of Informatics, City University, London, UK

- Senior Research Fellow 1996 – 1998

Department of Information Science, University of Linköping (Sweden)

- Research Fellow (Human Capital and Mobility European project) 1994 – 1995

RESEARCH INTERESTS

Quantum Computation, Topological Quantum Computation, Probabilistic λ -calculus, Probabilistic Abstract Interpretation, Probabilistic Semantics and Analysis of Programs.

PROFESSIONAL EXPERIENCE

Invited Talks, Tutorials and Schools

The following is a list of some of my most recent talks and tutorials, and schools that I have organised:

Dagstuhl Seminar “Approximate and Probabilistic Computing” Seminar on “The dual Value of Probabilistic Abstract Interpretation”, 1st December 2015, Schloss Dagstuhl, Germany.

Middlesex University Seminar on “A Calculus for Topological Quantum Computation”, 6th November 2015, Middlesex University, UK.

Sussex University Seminar on “A Calculus for Topological Quantum Computation”, 19th June 2015, Sussex University, UK.

Université Paris Diderot Seminar on “Topological Quantum Lambda-calculus”, 21 May 2015, Université Paris Diderot, Paris 7, France.

Dagstuhl Seminar “Challenges and Trends in Probabilistic Programming” Seminar on “A Topological Quantum Calculus”, 30 April 2015, Schloss Dagstuhl, Germany.

University of Urbino Seminar on “An Introduction to Quantum Computation”, 26 February 2015, University of Urbino ‘Carlo Bo’, Urbino, Italy.

Birkbeck Seminar on “A Calculus for Topological Quantum Computation”, 21 January 2015, Birkbeck University of London, London, UK.

Universidade Federal do Rio grande do Norte Seminar on “A Calculus for Topological Quantum Computation”, 10 September 2014, UFRN, Natal, Brazil.

QuaRK Seminar Seminar on “Quantum Computation” King’s College London, 20 August 2014.

SFM-13:DS Co-organiser of the “13th International School on Formal Methods for the Design of Computer, Communication and Software Systems: Dynamical Systems”, Bertinoro (Italy), 17-22 June 2013.

27th CREST Open Workshop Invited talk on “Probabilistic static analysis and security trade-offs”. University College London, 29 Maggio 2013.

QAPL Workshop at ETAPS 2013 Invited talk on “Probabilistic static analysis and security trade-offs”. Rome, Italy, 23 Marzo 2013.

Dagstuhl Seminar on Quantitative Security Analysis Seminar on “Approximation and Relative Entropy”. 29 November, 2012. In *Dagstuhl Reports*, 2(11):135–154, 2012.

Aalborg University Seminar on “Relational Analysis and Precision via Probabilistic Abstract Interpretation”. 22 August, 2011.

Program and Organisation Committees

- QAPL Workshop series:** Member of the steering and the program committees of the Workshops on Quantitative Aspects of Programming Languages since 2001.
- RTA 2015:** 26th International Conference on Rewriting Techniques and Applications, June 29-July 1, 2015, Warsaw, Poland. Member of the program committee.
- QAPL'15:** 13th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2015, London, UK, April 11-12, 2015. Member of the program committee.
- QAPL'14:** 12th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2014, April 2014, Grenoble, France. Member of the program committee.
- QAPL'13:** 11th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2013, March 2013, Rome, Italy. Member of the program committee.
- QAPL'12:** 10th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2012, April 2012, Tallinn, Estonia. Member of the program committee.
- QAPL'11:** 9th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2011, April 2011, Saarbrücken, Germany. Member of the program committee.
- QAPL'10:** 8th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2010, March 2010, Paphos, Cyprus. Member of the program committee and PC chair.
- CILC'09:** 24th Italian Conference on Computational Logic, 24-26 June 2009, Ferrara, Italy. Member of the program committee.
- QAPL'09:** 7th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2009, March 2009, York, UK. Member of the program committee and PC chair.
- QEST'09:** 6th International Conference on Quantitative Evaluation of SysTEms, September 2009, Budapest, Hungary. Member of the program committee.
- CILC'08:** 23rd Italian Conference on Computational Logic, 10-12 Luglio 2008, Perugia, Italy. Member of the program committee.
- QAPL'08:** 6th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2008, 29-30 March 2008, Budapest, Hungary. Member of the program committee.
- QAPL'07:** 5th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2007, 24-25 March 2007, Braga, Portugal. Member of the program committee.
- MFCSIT'06:** The Irish Conference on the Mathematical Foundation of Computer Science and Information Technology, 1-5 August 2006, Cork, Ireland. Member of the program committee.
- QAPL'06:** 4th Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2006, 1-2 April 2006, Vienna, Austria. Member of the program committee and PC chair.
- PLID'05:** 2nd Workshop on Programming Interference and Dependence, 6 September 2005, London, UK Member of the program committee.
- CPSec'05:** 1st Workshop on Applications of Constraint Satisfaction and Programming to Computer Security, 1 October 2005, Barcelona, Spain. Member of the program committee.
- SAS'05:** 12th Static Analysis Symposium, 7-9 September 2005, London, UK. Member of the program committee.

- QAPL'05:** 3rd Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2005, 2-3 April 2005, Edinburgh, Scotland. Member of the program committee.
- QAPL'04:** 2nd Workshop on Quantitative Aspects of Programming Languages, Satellite Event of ETAPS 2004, 27-28 March 2004, Barcelona - Spain. Member of the program committee and PC chair.
- PPDP'03:** ACM SIGPLAN Conference on Principles and Practice of Declarative Programming, 27-29 August 2003, Uppsala, Sweden. Member of the program committee.
- QAPL'01:** ACM Workshop on Quantitative Aspects of Programming Languages, Satellite Event of PLI 2001, 3-7 September 2001, Firenze, Italy. Member of the program committee and PC chair.
- AGP'00:** APPIA-GULP-PRODE'00 — Joint Conference on Declarative Programming, Cuba, December 2000. Member of the Program Committee. APPIA-GULP-PRODE'00 — Joint Conference on Declarative Programming, Cuba, December 2000. Member of the program committee. APPIA-GULP-PRODE'00 — Joint Conference on Declarative Programming, Cuba, December 2000. Member of the Program Committee.

Research Projects and Grants

- Security Horizons** Progetto PRIN - Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale. MIUR Co-financed project (**02/2013–10/2016**). Participant to the research program.
- SPACIOS** European project (Strep project no. 257876 in the 7th Framework Programme Theme ICT-2009.1.4) *Secure Provision and Consumption in the Internet of Services*, **10/2010–9/2014**. Participant to the research program.
- AVANTSSAR** European project (Strep project no. 216471 in the 7th Framework Programme Theme ICT-1-1.4) *Automated VALidatioN of Trust and Security of Service-Oriented ARchitectures*, **1/2008–12/2010**. Participant to the research program.
- AIDA2007** *Abstract Interpretation Design and Applications*. MIUR Co-financed project (**7/2007–7/2009**). Participant to the research program.
- QNet** EPSRC Network on *Semantics of Quantum Computation*, **9/2006–2/2010**. Member.
- PAFAS** *Program Analysis and the typed π -calculus: Foundations and Applications to Security*, EPSRC project GR/T04724, (**11/2004–12/2007**). Project co-investigator.
- QACR** *Quantitative Analysis of Computational Resources*, EPSRC project GR/S77066, (**4/2004–9/2007**). Project co-proposer.
- AIDA** *Abstract Interpretation: Development of Analysis tools and relations with type systems*. MIUR Co-financed project (**11/2004–10/2006**). Participant to the research program.
- MEFISTO** *Formal Methods for Security*. MIUR Co-financed project (**1/2001–1/2003**). Participant to the research program.
- PAI** *Probabilistic Abstract Interpretation*, EPSRC project GR/M58740, (**5/1999–12/2002**). Project co-proposer.

SUPERVISION

PhD students

- Riccardo Mengoni, Università di Verona. Topic: Quantum Machine Learning. Since October 2016.
- Federica Panarotto, Università di Verona. Topic: Topological Quantum Computing. Since January 2011.

External Examiner for PhD thesis

- Andreas Maniotis. Title of the Thesis: A Representation-Theoretic Approach to Reversible Computation with Applications. DIKU, University of Copenhagen. February 2015.
- Arnaud Jobin. Title of the Thesis: Dioïdes et idéaux de polynômes en analyse statique. ENS Cachan, Antenne de Bretagne. January 2012.

TEACHING EXPERIENCE

Bachelor / MSc Programs

Compilers: Academic year 2015-2016, Bachelor in Computer Science. University of Verona

Advanced Compilers: Academic year 2013-2014, Master in Computer Science and Engineering. University of Verona

Compilers: Academic year 2013-2014, Bachelor in Computer Science. University of Verona

Quantum Computing: Academic year 2013-2014, Master in Computer Science and Engineering. University of Verona

Quantum Computing: Academic year 2012-2013, Master in Computer Science and Engineering. University of Verona

Advanced Compilers: Academic year 2012-2013, Master in Computer Science and Engineering. University of Verona

Compilers: Academic year 2012-2013, Bachelor in Computer Science. University of Verona

Quantum Computing: Academic year 2011-2012, Master in Computer Science and Engineering. University of Verona

Languages and Compilers: Academic year 2011-2012, Bachelor in Computer Science. University of Verona

Programming II: Academic year 2010-2011, Bachelor in Computer Science. University of Verona

Networks: Academic year 2010-2011, Bachelor in Computer Science. University of Verona

Quantum Computing: Academic year 2009-2010, Master in Computer Science. University of Verona

Quantum Computing: Academic year 2008-2009, Master in Computer Science. University of Verona

Algorithms and Data Structures: Academic year 2008-2009, Bachelor in Bioinformatics. University of Verona

Quantum Computing: Academic year 2007-2008, Master in Computer Science. University of Verona

Algorithms and Data Structures: Academic year 2007-2008, Bachelor in Bioinformatics. University of Verona

Database and Multimedia: Academic year 2006-2007, Bachelor in Computer Science and Bachelor in Information Technology: Multimedia. University of Verona

Telematics: Academic year 2005-2006, Bachelor in Informatica Umanistica. University of Pisa.

Informatics: Academic year 2003-2004, Bachelor in 'Scienze dei Beni Culturali'. University of Pisa.

Quantum Computing: Academic years 2001-2002, 2002-2003, 2003-2004, Master in Computer Science. University of Pisa.

Introduction to Programming (Lab): Academic years 2001-2002 and 2002-2003. Bachelor in Computer Science. University of Pisa.

Laboratory of Informatics I: Academic years 1999-2000 and 2000-2001, Bachelor in Computer Science. University of Pisa.

PhD Courses

Quantum Computing: PhD Course at the University of Verona, Italy, June 2017.

Topological Quantum Computing: PhD Course at the University of Verona, Italy, March 2016.

Probabilistic Program Analysis: Lectures at MT-Lab, VKR Centre of Excellence, Technical University of Denmark, August 2011.

Quantum Computing: PhD Course at the University of Verona, Italy, June 16-27, 2003.