



Alessandro Andretta

Education

PhD thesis

title *Iteration trees*
advisor John R. Steel
institution University of California at Los Angeles
year 1989

Undergraduate Thesis in Mathematics

title *Il problema dei cardinali singolari*
supervisor Gabriele Lolli
institution Università di Torino
year 1983

Professional experience

starting October 2015 **Chair of the Mathematics Department**, *Università di Torino*.
2010–now **Full professor**, *Università di Torino*.
2007–2008 **Visiting professor**, *Paris 7 Equipe de Logique*.
2003–2010 **Associate professor**, *Università di Torino*.
1998–1999 **Visiting professor**, *Department of Mathematics of UCLA, (CA) USA*.
1995–2003 **Researcher**, *Università di Torino*.
1992–1995 **Researcher**, *Università di Camerino*.
1991–1992 **CNR Fellow**, *Department of Mathematics of UCLA (CA) USA*.
1989–1991 **John Wesley Young Research Instructor**, *Department of Mathematics, Dartmouth College (NH) USA*.

Students

PhD students

- 2015 Gemma Carotenuto, *On the topological complexity of the density sets of the real line*, University of Salerno
- 2010 Edoardo Rivello, *Set theory with a truth predicate*
- 2010 Vincenzo Dimonte, *Non-proper elementary embeddings beyond $L(V_{\lambda+1})$* , co-advisor: prof. W. Hugh Woodin, Berkeley
- 2008 Elisabetta Tocco, *Discretisations and D-spaces*
- 2007 Luca Motto Ros, *General reducibilities for sets of reals*, co-advisor: prof. Riccardo Camerlo
- 2006 Matteo Viale, *Applications of the Proper Forcing Axiom to cardinal arithmetic*, co-advisor: prof. Boban Veličković, Paris VII

Master students

- 2008 Giorgio Laguzzi
- 2006 Luca Vercelli
- 2006 Edoardo Rivello
- 2005 Davide Cortese
- 2003 Luca Motto Ros
- 2003 Ilaria Piccirilli
- 2000 Erich Monteleone, supervisor: prof. Alessandro Berarducci, Università di Pisa, co-supervisors: prof. Marco Forti, Università di Pisa, and myself.
- 1996 Andrea Lamari

Undergraduate students

- 2010 Fabrizio Morbelli, co-supervisor: prof. Camillo Costantini
- 2006 Ubertino Battisti

Scientific interests

Set theory

Large cardinals and determinacy
Wadge hierarchy
Descriptive set theory and its applications

Mathematical logic

Metamathematics
Foundations of mathematics

Selected publications and preprints

Inner models

- A.A. **Building iteration trees**, *The Journal of Symbolic Logic*, (56) 4, 1991, p 1369–1384.
- A.A. **Large cardinals and iteration trees of height ω** , *Annals of Pure and Applied Logic*, (54) 1, 1991, p 1–15.
- A.A. and J. Steel **How to win some simple iteration games**, *Annals of Pure and Applied Logic*, (83) 2, 1997, p. 103–164.

A.A., J. Steel, and I. Neeman, **The domestic levels of K^c are iterable**, *Israel Journal of Mathematics*, (125) 2001, p. 157–201.

Descriptive set theory

A.A. and A. Marcone, **Ordinary differential equations and descriptive set theory: uniqueness and globality of solutions of Cauchy problems in one dimension**, *Fundamenta Mathematicæ*, (153) 2, 1997, p. 157–190.

A.A. and A. Marcone, **Projective sets and ordinary differential equations**, *Transactions of the American Mathematical Society*, (353) 1, p. 41–76.

A.A. and A. Marcone, **Pointwise convergence and the Wadge hierarchy**, *Commentationes Mathematicæ Universitatis Carolinæ*, (42) 1, 2001, p. 159–172.

A.A. and A. Marcone, **Definability in function spaces**, *Real Analysis Exchange*, (26) 1, 2000/2001, p. 285–308.

A.A., R. Camerlo, and G. Hjorth, **Conjugacy equivalence relation on subgroups**, *Fundamenta Mathematicæ*, (167) 3, 2001, p. 189–212.

A.A. and R. Camerlo, **The descriptive set theory of the Lebesgue density theorem**, *Advances in Mathematics*, (234) 2013, p. 1–42.

Wadge hierarchy

A.A., **Equivalence between Wadge and Lipschitz determinacy**, *Annals of Pure and Applied Logic*, (123) 1-3, 2003, p. 163–192.

A.A. and D.A. Martin, **Borel-Wadge degrees**, *Fundamenta Mathematicæ*, (177) 2, 2003, p. 175–192.

A.A., **More on Wadge determinacy**, *Annals of Pure and Applied Logic*, (144) 1-3, 2006, p. 2–32.

A.A., G. Hjorth, and I. Neeman, **Effective Cardinals of Boldface Pointclasses**, *Journal of Mathematical Logic*, (7) 1, 2007, p. 35–92.

A.A., **The SLO principle and the Wadge hierarchy**, p. 1–38 in *Foundation of the Formal Sciences V — Infinite games* a cura di S. Bold, B. Löwe, T. Räscher, J. van Benthem, College Publications UK, 2007.

A.A. and A. Louveau, **Wadge degrees and pointclasses**, p. 3–23 in *The Cabal Seminar. Volume II — Wadge degrees and projective ordinals* a cura di B. Löwe, A. Kechris, J. Steel, Assoc. Symbol. Logic 2011.

Survey papers

A.A., **Risultati di absolutezza in teoria degli insiemi**, *Bollettino della Unione Matematica Italiana. Sezione A. La Matematica nella Società e nella Cultura. Serie VIII, Parte I* (6) 1, 2003 p. 57–84; parte II (6) 3, 2003, p. 489–507.

A.A. and R. Camerlo, **The use of complexity hierarchies in descriptive set theory and automata theory**, *Task Quarterly*, (9) 3, 2005, p. 337–356.

Organizational activity

July 2006 **Set Theory and Analysis**, *international meeting held at the Dipartimento di Matematica dell'Università di Torino.*

July 2004 **Logic Colloquium 2004**, *European Summer meeting of the ASL.*