

# Silvia Steila

## Curriculum Vitae

### Experience

2016 - today **Postdoctoral fellow**, *Logic and Theory group, University of Bern*, from March 2016.

### Education

2013 – 2016 **PhD student in Computer Science**, *Università degli Studi di Torino, Scuola di Dottorato in Scienze della Natura e Tecnologie Innovative*, 26th January 2016.

Thesis title: *Terminating via Ramsey's Theorem*

Supervisor: Stefano Berardi

Co-supervisor: Paulo Oliva

2010 – 2012 **Master Thesis in Mathematics**, *Università degli Studi di Torino, Facoltà di Scienze MFN*, 110L, 18 July 2012.

Thesis title: *Partition Relations for Countable Ordinals*

Supervisor: Alessandro Andretta

2007 – 2010 **Bachelor Degree in Mathematics**, *Università degli Studi di Torino, Facoltà di Scienze MFN*, 110L, 16 July 2010.

### Visits

2015 Visiting Student, Queen Mary University, London, June 7 - July 22.

2015 Visiting Student, Queen Mary University, London, April 9 - April 17.

2014 Visiting Student, Queen Mary University, London, September 21 - September 27.

2014 Visiting Student, Queen Mary University, London, February 23 - February 29.

### Publications

Paulo Oliva and Silvia Steila. A Direct Proof of Schwichtenberg's Bar Recursion Closure Theorem. Accepted Journal of Symbolic Logic, 2017.

Giorgio Audrito and Silvia Steila. Generic large cardinals and systems of filters. Accepted Journal of Symbolic Logic, 2017.

Emanuele Frittaion, Silvia Steila, and Keita Yokoyama. The strength of the SCT criterion. In *TAMC*, volume 10185 of *Lecture Notes in Computer Science*, pages 260–273, 2017.

Stefano Berardi and Silvia Steila. Ramsey's Theorem for pairs and  $k$  colors as a sub-classical principle of arithmetic. Accepted Journal of Symbolic Logic, 2016.

Silvia Steila and Keita Yokoyama. Reverse mathematical bounds for the Termination Theorem. *Annals of Pure and Applied Logic*, 167(12):1213 – 1241, 2016.

Stefano Berardi, Paulo Oliva, and Silvia Steila. An Analysis of the Podelski-Rybalchenko Termination Theorem via Bar Recursion. *Journal of Logic and Computation*, 2015. First published online: August 28, 2015.

Stefano Berardi and Silvia Steila. An intuitionistic version of Ramsey's Theorem and its use in Program Termination. *Annals of Pure and Applied Logic*, 166(12):1382–1406, 2015.

Silvia Steila. An Intuitionistic Analysis of Size-change Termination. In *TYPES 2014*, volume 39 of *LIPICs*, pages 288–307, 2015.

Stefano Berardi, Paulo Oliva, and Silvia Steila. Proving termination of programs having transition invariants of height  $\omega$ . In *ICTCS 2014*, pages 237–240, 2014.

Stefano Berardi and Silvia Steila. Ramsey theorem as an intuitionistic property of well founded relations. In *RTA&TLCA 2014*, pages 93–107. 2014.

Stefano Berardi and Silvia Steila. Ramsey Theorem for Pairs As a Classical Principle in Intuitionistic Arithmetic. In *TYPES 2013*, pages 64–83, 2014.

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## Contributed talks and Seminars

- 2017 “The strength of the SCT criterion”, Seminar at JAIST, February 28th, Nomi
- 2017 “On  $\Sigma_1$ -fixed point statements in Kripke Platek”, Workshop on Constructivism, Logic and Topology, January 18th, Bern
- 2016 “On  $\Sigma_1$ -fixed point statements in Kripke Platek”, ABM Winter Meeting, December 8th, Munich
- 2016 “Reverse Mathematical Bounds for the Termination Theorem”,(invited) Logic, Complexity and Automation - CLA2016, September 5th, Obergurgl
- 2016 “A Direct Proof of Schwichtenberg’s Bar Recursion Closure Theorem”, ABM Spring Meeting, May 27th, Bern
- 2016 “Operational Set Theory”, Seminar of Set Theory, May 13th, Torino
- 2016 “From equivalent forms of CH to CH-systems”, Operation Sets and Types, April 20th, Münchenwiler
- 2016 “From equivalent forms of CH to CH-systems”, Mini-Workshop on Non-Classical Logics, March 24th, Bern
- 2016 “From equivalent forms of CH to CH-systems”, Groupe de travail en théorie descriptive des ensembles, Université Paris 6 - UPMC, March 22nd, Paris
- 2016 “Systems of Filters”, Winter School in Abstract Analysis section: Set Theory and Topology, February 5, Hejnice
- 2015 “Terminating via Ramsey’s Theorem”, Logic Seminar, November 6, Darmstadt
- 2015 “Terminating via Ramsey’s Theorem’, Seminar Logic and Theory Group, October 22, Bern
- 2015 “Definable versions of algebraic equivalents of CH”, XX Congresso UMI, September 8, Siena
- 2015 “Reverse Mathematical Bounds for the Termination Theorem”, PhD AILA, August 25, Gargnano
- 2015 “Reverse Mathematical Bounds for the Termination Theorem”, Logic Colloquium, August 5, Helsinki
- 2015 “Some algebraic equivalent forms of *all reals are constructible*”, Birkbeck University (Philosophy of Mathematics), July 9, London
- 2015 “Some algebraic equivalent forms of *all reals are constructible*”, Logic & Set Theory Seminar, June 16, Bristol
- 2015 “Reverse Mathematical Bounds for the Termination Theorem”, Logic and Information ST 2015 (Münchenwiler Meeting), March 26, Münchenwiler
- 2015 “Avoidable polynomials and *all reals are constructible*”, Winter School in Abstract Analysis section: Set Theory and Topology, February 4, Hejnice
- 2015 “Definable versions of CH-equivalences”, Student seminar of Set Theory, January 12-14-16, Torino
- 2014 “Effective Bounds on the Podelski-Rybalchenko Termination Theorem”, PSC, July 17, Wien
- 2014 “Ramsey Theorem as an intuitionistic property of well-founded relations”, RTA&TLCA, July 15, Wien
- 2014 “Proving termination with transition invariants of height  $\omega$ ”, CL&C, July 13, Wien

- 2014 “Determinare la terminazione di programmi con il Teorema di Ramsey”, Seminario di Logica Permanente, June 6, Salerno
- 2014 “Finite and Infinite Ramsey Theorem”, Browsing through Mathematics, April 28, Torino
- 2013 “Ramsey Theorem for pairs as a classical principle in Intuitionistic Arithmetic”, British Logic Colloquium, September 6, Leeds

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## Organizational Activities

- 2017 Editor and organizer for TAMC 2017 in Bern
- 2015 Student volunteer for ETAPS 2015 in London

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## Teaching

- 2015 – 2016 October 2015 - February 2016. Tutor (Art. 76 dello Statuto dell’Università di Torino). Course: Matematica Discreta e Logica.
- 2014 – 2015 October 2014 - February 2015. Tutor (Art. 76 dello Statuto dell’Università di Torino). Course: Matematica Discreta e Logica.
- 2013 – 2014 March 2014 - July 2014. Tutor (Art. 76 dello Statuto dell’Università di Torino). Course: Basi di Informatica.
- 2011 – 2012 March 2012 - June 2012. Tutor (Art. 13 L. 390/91 dello Statuto dell’Università di Torino). Course: Algebra con Elementi di Logica.
- 2011 – 2012 September 2011 - February 2012. Tutor (Art. 13 L. 390/91 dello Statuto dell’Università di Torino). Course: Algebra 1.
- 2010 – 2011 March 2011 - June 2011. Tutor (Art. 13 L. 390/91 dello Statuto dell’Università di Torino). Course: Algebra con Elementi di Logica.

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## Awards and Fellowships

- 2015 Erasmus Traineeship for the project “Ramsey’s Theorem in Computer Science”
- 2013 Optime Award 2013 by the Unione Industriale di Torino.
- 2013 “Angiola Agostinelli Gili” fellowship by the Accademia delle Scienze di Torino for the research project “Il Teorema di Ramsey dal punto di vista dei principi non costruttivi”.
- 2012 Award “Premio per il sostegno alla mobilità internazionale per gli studenti del corso di Laurea Magistrale in Matematica” by the Facoltà di Scienze MFN of the Università degli studi di Torino.