Denis Kuperberg

13 rue Passemay
95100 Argenteuil
☎ *06 81 13 27 85*
✉ *denis.kuperberg@gmail.com*

Positions

2016 –	**CNRS Researcher**, *Plume Team*, LIP, ENS Lyon.
2015 – 2016	**Post-doctorate**, with *Anca Muscholl, Javier Esparza, Igor Walukiewicz*, TU Munich.
2014 – 2015	**Post-doctorate**, with *Julien Brunel, David Chemouil*, Onera Toulouse.
2013 – 2014	**Post-doctorate**, with *Mikołaj Bojańczyk*, Warsaw University.
2012 – 2013	**Post-doctorate**, with *Orna Kupferman*, Hebrew University of Jerusalem.

Training

2009 – 2012	**PhD Thesis**, with *Thomas Colcombet*, LIAFA, University Paris Diderot. Title : Study of classes of regular cost functions.
2008 – 2009	**Master 2**, Theoretical Computer Science, ENS Lyon/Udem Montréal (ranked $2^{nd}/14$).
2007 – 2008	**Agrégation of Mathematics**, option computer science, ENS Lyon (ranked 22nd).
2005 – 2007	**Licence 3 and Master 1**, Theoretical Computer Science, ENS Lyon.
2003 – 2005	**MPSI and MP***, Lycée Condorcet, Paris, after Scientifique Baccalauréat.

Internships

2009	**Master 2 Internship**, with *Thomas Colcombet, Sylvain Lombardy*, LIAFA. On an extension of Schützenberger's theorem.
2007	**Master 1 Internship**, with *Peter Dybjer*, Chalmers, Göteborg. Normalization by evaluation.
2006	**Licence 3 Internship**, with *Benoit Masson, Enrico Formenti*, Sophia Antipolis. Sandpiles in parallel mode.

Publications

Journal papers

[1] Denis Kuperberg. Linear temporal logic for regular cost functions. *Logical Methods in Computer Science (LMCS)*, 10(1), 2014.

[2] Peter Dybjer and Denis Kuperberg. Formal neighbourhoods, combinatory böhm trees, and untyped normalization by evaluation. *Ann. Pure Appl. Logic*, 163(2) :122–131, 2012.

Conference papers

[3] Javier Esparza, Denis Kuperberg, Anca Muscholl, and Igor Walukiewicz. Soundness in Negotiations. In *CONCUR 2016, Quebec, Canada*, 2016.

[4] Laure Daviaud, Denis Kuperberg, and Jean-Eric Pin. Varieties of cost functions. In *STACS 2016, Orléans, France*, 2016.

[5] Thomas Colcombet, Denis Kuperberg, and Amaldev Manuel Szymon Toruńczyk. Cost functions definable by min/max automata. In *STACS 2016, Orléans, France*, 2016.

[6] Julien Brunel, David Chemouil, and Denis Kuperberg. On finite domains in first-order linear temporal logic. In *ATVA 2016, Chiba, Japan*, 2016.

[7] Denis Kuperberg and Michal Skrzypczak. On determinisation of good-for-games automata. In *ICALP 2015, Kyoto, Japan, July 6-10, 2015, Proceedings, Part II*, pages 299–310, 2015.

[8] Nathanaël Fijalkow, Florian Horn, Denis Kuperberg, and Michal Skrzypczak. Trading

bounds for memory in games with counters. In *ICALP 2015, Kyoto, Japan, July 6-10, 2015, Proceedings, Part II*, pages 197–208, 2015.

[9] Shaull Almagor, Denis Kuperberg, and Orna Kupferman. The sensing cost of monitoring and synthesis. In *FSTTCS, December 16-18, 2015, Bangalore, India*, 2015.

[10] Achim Blumensath, Thomas Colcombet, Denis Kuperberg, Pawel Parys, and Michael Vanden Boom. Two-way cost automata and cost logics over infinite trees. In *CSL-LICS '14, Vienna, Austria, July 14 - 18, 2014*, page 16, 2014.

[11] Shaull Almagor, Denis Kuperberg, and Orna Kupferman. Regular sensing. In *FSTTCS 2014, December 15-17, 2014, New Delhi, India*, pages 161–173, 2014.

[12] Thomas Colcombet, Denis Kuperberg, Christof Löding, and Michael Vanden Boom. Deciding the weak definability of büchi definable tree languages. In *CSL 2013, September 2-5, 2013, Torino, Italy*, pages 215–230. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2013.

[13] Udi Boker, Denis Kuperberg, Orna Kupferman, and Michal Skrzypczak. Nondeterminism in the presence of a diverse or unknown future. In *ICALP 2013, Riga, Latvia, July 8-12, 2013, Proceedings, Part II*, pages 89–100, 2013.

[14] Denis Kuperberg and Michael Vanden Boom. On the expressive power of cost logics over infinite words. In *ICALP*, pages 287–298, 2012.

[15] Denis Kuperberg and Michael Vanden Boom. Quasi-weak cost automata : a new variant of weakness. In *FSTTCS 2011*, volume 13 of *LIPIcs. Leibniz Int. Proc. Inform.*, pages 66–77. Schloss Dagstuhl. Leibniz-Zent. Inform., Wadern, 2011.

[16] Denis Kuperberg. Linear temporal logic for regular cost functions. In *STACS 2011*, volume 9 of *LIPIcs. Leibniz Int. Proc. Inform.*, pages 627–636, 2011.

[17] Thomas Colcombet, Denis Kuperberg, and Sylvain Lombardy. Regular temporal cost functions. In *ICALP 2010*, volume 6199 of *Lecture Notes in Comput. Sci.*, pages 563–574. Springer, Berlin, 2010.

Software

[18] Nuno Macedo, Julien Brunel, David Chemouil, Alcino Cunha, and Denis Kuperberg. Lightweight specification and analysis of dynamic systems with rich configurations. In *FSE 2016, Seattle, USA*, 2016.

[19] Nathanaël Fijalkow and Denis Kuperberg. ACME : automata with counters, monoids and equivalence. In *ATVA 2014, Sydney, NSW, Australia, November 3-7, Proceedings*, pages 163–167, 2014.

Administrative Activities

2016 **Organisation**, *Workshop "Topology and Languages"*, Institut of Mathematics of Toulouse, planned for June 2016.

Teaching

2007 – 2008 **"Colles" in Mathematics**, *BCPST, lycée du Parc, Lyon.*

2009 – 2012 **Teaching Assistant in Computer Science**, *University Paris Diderot.*
— Programming for Engineering School Denis Diderot
— Introduction to Computer Science and Programming (L1 MAAS and L1 Info)
— The C Language (L2)
— Discrete Mathematics (L3)

2012 **Management**, *Highschool Math Club in Cameroun.*

dec. 2012 **Leading**, *Winter School in Mathematics in Douala,Cameroun.*

2013 **Supervision**, *2-weeks internship for polish highschoolers, sponsored by the Polish Children's Fund.*

- **Tutoring**, *Many experiences with several non-profit organizations.*

- **Scientific workhops**, *Science Fairs, Palais de la Découverte, MathC2+ weeks, Animath workshops,....*

- **Full BAFA**, *5 scientific camps, Summer Math Universities,....*
- **Popularisation**, *Papers for popularisation of mathematics, in France and Poland..*

Miscellaneous

Languages : **French (native), English (fluent)**.

Hobbies : **Game of Go, Juggling, Guitar**.