

Daniela Petrişan

Postdoctoral researcher

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Year of birth: 1983
Nationality: Romanian
Married name: Petrişan-Porumbel

Education

- 2007–2011 **PhD in Computer Science**, *University of Leicester*, UK,
defended on 24th November 2011
Financed by the University of Leicester
Thesis title: *Investigations into Algebra and Topology over Nominal Sets*
Advisor: Prof. Alexander Kurz
Examiners: Prof. Andrew Pitts (University of Cambridge) and Dr Andrzej Murawski (University of Warwick)
- 2002–2006 **BSc in Mathematics**, *University of Bucharest*, Romania,
Valedictorian (grade 98,5%), Research section
- 2004–2006 **BSc in Mathematics**, *Superior Normal School of Bucharest*, Romania

Employment

- 11/2016–11/2016 **Visiting Scientist**, *Simons Institute for the Theory of Computing*, University of California Berkeley
- 09/2015–Present **Postdoctoral researcher**, *Université Denis Diderot - Paris 7*, IRIF, Automates et Applications (on the ERC grant Duall)
- 11/2014–08/2015 **Postdoctoral researcher**, *Radboud University Nijmegen*
- 11/2013–10/2014 **Postdoctoral researcher**, *ENS de Lyon*, LIP, Plume team
- 09/2013–10/2013 **Lecturer (fixed-term)**, *University of Leicester*, Department of Computer Science
- 01/2012–08/2013 **Research Associate**, *University of Leicester*, Department of Computer Science
- 07/2011–12/2011 **Research Assistant**, *University of Leicester*, Department of Computer Science
- 07/2007–06/2011 **Graduate Teaching Assistant**, *University of Leicester*, Department of Computer Science

Research interests

Automata and duality theory, Applications of category theory in formal language theory, Coinductive and up-to techniques, Coalgebra theory, Stone type dualities, Nominal techniques, Semantics of programming languages

Invited speaker

- 2018 Logic, Algebra and Truth Degrees 2018
- 2018 Coalgebraic Methods in Computer Science, CMCS 2018
- 2017 Algebra and Coalgebra meet Proof Theory, ALCOP 2017
- 2015 6th Conference on Algebra and Coalgebra in Computer Science, CALCO 2015
- 2015 Mathematical Foundations of Programming Semantics, MFPS XXXI, (Invited tutorial speaker)
- 2015 Days of Computer Science 2015, DACS2015

Recent Talks

- December 2017 Logical Structures in Computation Reunion Workshop at the Simons Institute for the Theory of Computing, Berkeley, USA
- November 2017 Enhanced coinduction Shonan Meeting, Shonan, Japan
- November 2017 OASIS: The Oxford Advanced Seminar on Informatic Structures, Oxford
- October 2017 Laboratoire d'Algorithmique, Complexité et Logique (LACL) seminar, Paris
- September 2017 Highlights of Logics, Games and Automata, London, UK
- October 2017 Journées PPS, IRIF
- August 2017 MFCS 2017, Aalborg, Denmark
- June 2017 CALCO 2107, Ljubljana, Slovenia
- June 2017 LICS 2017, Reykjavik, Iceland
- November 2016 {Symmetry, Logic, Computation} workshop at the Simons Institute for the Theory of Computing, Berkeley, USA

Program Chair

- CALCO EI 2017 CALCO 2017 Early Ideas affiliated Workshop

Jury de thèse

- October 2016 I was part of the PhD defense jury of Paul Brunet at ENS de Lyon
- December 2017 I am an examiner of the PhD thesis of Julian Salamanca at Radboud University Nijmegen, the Netherlands

Program Committee

- CSL 2018 Computer Science Logic 2018
- MFPS 33 33rd Conference on the Mathematical Foundations of Programming Semantics
- FSCD 2017 Second International Conference on Formal Structures for Computation and Deduction
- CALCO 2017 7th Conference on Algebra and Coalgebra in Computer Science
- CONCUR 2016 27th International Conference on Concurrency Theory
- CMCS 2016 13th International Workshop on Coalgebraic Methods in Computer Science

- CALCO 2015 6th Conference on Algebra and Coalgebra in Computer Science, Nijmegen, June 2015
- MFPS 30 Mathematical Foundations of Programming Semantics, Thirtieth Conference, Cornell University, USA June 2014
- CMCS 2014 12th International Workshop on Coalgebraic Methods in Computer Science, Grenoble, France, ETAPS 2014
- CALCO 2013 5th Conference on Algebra and Coalgebra in Computer Science Warsaw, Poland, 3-6 September 2013
- ICE 2013 6th Interaction and Concurrency Experience
- CMCS 2012 11th International Workshop on Coalgebraic Methods in Computer Science, Tallinn, Estonia, ETAPS 2012

Journal and conference referee

Journal referee

TCS, MSCS, Logical Methods in Computer Science

Conference referee

SATCS 2018, LICS 2017, ICALP 2017, STACS 2017, DLT 2016, FoSSaCS 2017, ICALP 2016, LICS 2016, CONCUR 2016, IJCAR 2016, FoSSaCS 2016, LICS 2015, CiE 2015, CALCO 2015, CSL-LICS 2014, FoSSaCS 2014, RTA-TLCA 2014, MFPS 2014, CMCS 2014, LICS 2013, CALCO 2013, RTA 2013, ICE 2013, CMCS 2012.

Organising committees

- 2015-Present Member of the publicity committee of the ACM Special Interest Group on Logic and Computation. (responsible for conference announcements in the SIGLOG newsletter)
- 2015 Special MFPS XXXI session on nominal techniques.
- 2009 Co-organiser of Midlands Graduate School 2009.
- 2007-2010 Co-organiser of the PhD student seminar of the Department of Computer Science (2007-2010)

Awards and Scholarships

- 2007 Erasmus scholarship at University Roma 2
- 2002-2006 University of Bucharest scholarship
- 2003 3rd prize, International Mathematical Competition for University Students
- 2002 1st prize, National Competition for Students 'Traian Lalescu'
- 2002 1st prize, Romanian Mathematical Society at the National Mathematical Olympiad
- 1997-2001 2nd or 3rd prize, National Mathematical Olympiads

International Journal Publications

- [1] Thomas Colcombet and Daniela Petrişan. Automata and minimization. *SIGLOG News*, 4(2):3–27, 2017.
- [2] Filippo Bonchi, Daniela Petrişan, Damien Pous, and Jurriaan Rot. A general account of coinduction up-to. *Acta Informatica*, pages 1–64, 2016. (invited paper for CONCUR'15 special issue).
- [3] Alexander Kurz, Daniela Petrişan, Paula Severi, and Fer-Jan de Vries. Nominal coalgebraic data types with applications to lambda calculus. *Logical Methods in Computer Science*, 9(4:20):1–51, 2013.
- [4] Marta Bílková, Alexander Kurz, Daniela Petrişan, and Jiri Velebil. Relation lifting, with an application to the many-valued cover modality. *Logical Methods in Computer Science*, 9(4:8):1–48, 2013.
- [5] Alexander Kurz and Daniela Petrişan. Presenting functors on many-sorted varieties and applications. *Information and Computation*, 208(12):1421–1446, 2010.
- [6] Alexander Kurz and Daniela Petrişan. On universal algebra over nominal sets. *Mathematical Structures in Computer Science*, 20(2):285–318, 2010.

International Conference Publications

- [1] Mai Gehrke, Daniela Petrisan, and Luca Reggio. Quantifiers on languages and codensity monads. In *LICS*, pages 1–12. IEEE Computer Society, 2017.
- [2] Thomas Colcombet and Daniela Petrişan. Automata minimization: a functorial approach. In *CALCO*, volume 72 of *LIPICs*, pages 8:1–8:16. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2017.
- [3] Thomas Colcombet and Daniela Petrişan. Automata in the category of glued vector spaces. In *MFCS*, volume 83 of *LIPICs*, pages 52:1–52:14. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2017.
- [4] Mai Gehrke, Daniela Petrisan, and Luca Reggio. The Schützenberger product for syntactic spaces. In *ICALP*, volume 55 of *LIPICs*, pages 112:1–112:14. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2016.
- [5] Alexander Kurz, Alberto Pardo, Daniela Petrişan, Paula Severi, and Fer-Jan de Vries. Approximation of nested fixpoints - A coalgebraic view of parametric datatypes. In *6th Conference on Algebra and Coalgebra in Computer Science, CALCO 2015, Nijmegen, The Netherlands*, volume 35 of *LIPICs*, pages 205–220. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2015.
- [6] Dexter Kozen, Konstantinos Mamouras, Daniela Petrişan, and Alexandra Silva. Nominal Kleene Coalgebra. In *Automata, Languages, and Programming - 42nd International Colloquium, ICALP 2015, Kyoto, Japan, 2015, Proceedings, Part II*, volume 9135 of *LNCS*, pages 286–298. Springer, 2015.

- [7] Murdoch James Gabbay, Dan R. Ghica, and Daniela Petrişan. Leaving the nest: Nominal techniques for variables with interleaving scopes. In *24th EACSL Annual Conference on Computer Science Logic, CSL 2015, Berlin, Germany*, volume 41 of *LIPICs*, pages 374–389. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2015.
- [8] Filippo Bonchi, Daniela Petrişan, Damien Pous, and Jurriaan Rot. Lax bialgebras and up-to techniques for weak bisimulations. In *26th International Conference on Concurrency Theory, CONCUR 2015, Madrid, Spain, 2015*, volume 42 of *LIPICs*, pages 240–253. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2015.
- [9] Filippo Bonchi, Daniela Petrişan, Damien Pous, and Jurriaan Rot. Coinduction up-to in a fibrational setting. In *Joint Meeting of the Twenty-Third EACSL Annual Conference on Computer Science Logic (CSL) and the Twenty-Ninth Annual ACM/IEEE Symposium on Logic in Computer Science (LICS), CSL-LICS '14, Vienna, Austria, 2014*, pages 20:1–20:9. ACM, 2014.
- [10] Alexander Kurz, Daniela Petrişan, Paula Severi, and Fer-Jan de Vries. An alpha-corecursion principle for the infinitary lambda calculus. In *Coalgebraic Methods in Computer Science - 11th International Workshop, CMCS 2012, Colocated with ETAPS 2012, Tallinn, Estonia, 2012, Revised Selected Papers*, volume 7399 of *LNCS*, pages 130–149. Springer, 2012.
- [11] Murdoch James Gabbay, Tadeusz Litak, and Daniela Petrişan. Stone duality for nominal boolean algebras with ‘new’. In *Algebra and Coalgebra in Computer Science - 4th International Conference, CALCO 2011, Winchester, UK, 2011. Proceedings*, volume 6859 of *LNCS*, pages 192–207. Springer, 2011.
- [12] Marta Bílková, Alexander Kurz, Daniela Petrişan, and Jiri Velebil. Relation liftings on preorders and posets. In *Algebra and Coalgebra in Computer Science - 4th International Conference, CALCO 2011, Winchester, UK, 2011. Proceedings*, volume 6859 of *LNCS*, pages 115–129. Springer, 2011.
- [13] M. Andrew Moshier and Daniela Petrişan. A duality theorem for real C^* -Algebras. In *Algebra and Coalgebra in Computer Science, Third International Conference, CALCO 2009, Udine, Italy, 2009. Proceedings*, volume 5728 of *LNCS*, pages 284–299. Springer, 2009.
- [14] Alexander Kurz and Daniela Petrişan. Functorial coalgebraic logic: The case of many-sorted varieties. In *Proceedings of the Ninth Workshop on Coalgebraic Methods in Computer Science (CMCS 2008)*, volume 203 of *Electr. Notes Theor. Comput. Sci.*, pages 175–194, 2008.

Other

- [1] Mai Gehrke, Daniela Petrişan, and Luca Reggιο. Quantifiers on languages and codensity monads. *CoRR*, abs/1702.08841, 2017. long version of the paper accepted at LICS 2017.
- [2] Thomas Colcombet and Daniela Petrişan. Automata minimization: a functorial approach. Invited paper in an LMCS special issue for CALCO 2017, submitted, 2017.

- [3] Dexter Kozen, Konstantinos Mamouras, Daniela Petrişan, and Alexandra Silva. Nominal Kleene coalgebra. Technical Report <http://hdl.handle.net/1813/39108>, Cornell University, February 2015. 32 pages.
- [4] Alexander Kurz, Daniela Petrişan, and Jiri Velebil. Algebraic theories over nominal sets. *CoRR*, abs/1006.3027, 2010. 16 pages.

Supervision and Teaching Experience

Lecturing

fall term 2012-2013 I was the convenor (responsable du cours) and lecturer of two modules at the University of Leicester. Responsibilities included giving lectures, preparing course materials and slides, setting exam questions and marking.

- Data Structures and Development Environments (approx. 100 students, L1 level)
- Operating Systems, Networks and Distributed Systems (approx. 70 students, L2 level)

MSc projects supervision

2010-2011 I supervised seven MSc projects at the University of Leicester

2011-2012 I supervised eight MSc projects at the University of Leicester

Teaching assistant

2017 TD pour cours d'algorithmique en L3, Université Paris Diderot – Paris 7

2007–2011 I have been teaching assistant for several modules at the University of Leicester

2011 Java for Bioinformatics (MSc module)

2010 Program Design

2010 Databases and Web Applications

2010 Software Reliability (MSc module)

2008-2009 Functional Programming

2008-2009 Logic Programming

2007-2011 Logic and Problem Solving

2007-2011 Discrete Structures

2007-2008 Information Management

2006 I was teaching assistant for Algebra I module at the University of Bucharest.

Programming skills

Languages C, C++, Java, Haskell, Prolog, Scala

Markup languages HTML, CSS

Databases MySQL

Operating Systems: Linux, UNIX