

# Sonia Marin

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## Employment

- 2019- *Research fellow*, University College London, United Kingdom.  
Project: A coalgebraic framework for reductive logic and proof-search (*ReLiC*).
- 2017-19 *Postdoctoral researcher*, IT-University of Copenhagen, Denmark.  
Project: Automated verification of properties of concurrent, distributed and parallel specifications (*MetaCLF2*).

## Education

- 2018 PHD in Computer Science, Université Paris Saclay - École Polytechnique.  
Thesis: *Modal proof theory through a focused telescope*
- 2014 MSC in Cognitive Science, Université Paris 5 Descartes - École Normale Supérieure.  
Thesis: *Unawareness effect on decision-making*
- 2013 MSC in Mathematical Logic, Université Paris 7 Diderot.  
Thesis: *Deductive systems for modal logics in nested sequents*
- 2011 BSC in Mathematics, Université Paris 6 Pierre et Marie Curie.

## Research outputs

### Preprints

- May 2021 *A pure view of ecumenical modalities*. With Luiz Carlos Pereira, Elaine Pimentel, and Emerson Sales. Accepted for publication at WoLLIC 2021.  
<http://www0.cs.ucl.ac.uk/staff/s.marin/pdf/nested-ecum.pdf>
- Oct. 2020 *Synchronous Forwarders*. With Marco Carbone and Carsten Schürmann. Manuscript.  
<http://www0.cs.ucl.ac.uk/staff/s.marin/pdf/forwarders.pdf>
- May 2020 *From axioms to synthetic inference rules via focusing*. With Dale Miller, Elaine Pimentel, and Marco Volpe. Under review at Annals of Pure and Applied Logic.  
<http://www0.cs.ucl.ac.uk/staff/s.marin/pdf/geometric.pdf>

### Journal articles

- 2021 (tbc) *A fully labelled proof system for intuitionistic modal logics*. With Marianela Morales and Lutz Straßburger. Accepted for publication in the Special Issue of the JLC on External and Internal Calculi for Non Classical Logics.  
<http://www0.cs.ucl.ac.uk/staff/s.marin/pdf/labIK.pdf>

- 2021 (tbc) *Justification logic for constructive modal logic*. With Roman Kuznets and Lutz Straßburger. Accepted for publication in the Special Issue of the Journal of Applied Logic for the 7th Workshop on Intuitionistic Modal Logic and Applications.  
<http://www0.cs.ucl.ac.uk/staff/s.marin/pdf/JustIML.pdf>

### Conference proceedings

- March 2021 *Focused Proof-search in the Logic of Bunched Implications*. With Alexander Gheorghiu. Proceedings of FoSSaCS 2021.
- Oct. 2020 *Ecumenical modal logic*. With Luiz Carlos Pereira, Elaine Pimentel, and Emerson Sales. Proceedings of DaLi 2020.
- Sep. 2017 *Proof theory of indexed nested sequents*. With Lutz Straßburger. Proceedings of Tableaux 2017.
- Aug. 2016 *A focused framework for emulating modal proof systems*. With Dale Miller and Marco Volpe. Proceedings of AIML 2016.
- June 2016 *Modular focused systems for intuitionistic modal logics*. With Kaustuv Chaudhuri and Lutz Straßburger. Proceedings of FSCD 2016.
- April 2016 *Focused and Synthetic Nested Sequents*. With Kaustuv Chaudhuri and Lutz Straßburger. Proceedings of FoSSaCS 2016.
- Aug. 2014 *Label-free Modular Systems for Classical and Intuitionistic Modal Logics*. With Lutz Straßburger. Proceedings of AIML 2014.

### Peer-reviewed short papers and abstracts

- Aug. 2020 *Fully structured proof theory for intuitionistic modal logics*. With Marianela Morales. Accepted for presentation at AIML 2020.
- Aug. 2020 *Ecumenical modal logic*. With Luiz Carlos Pereira, Elaine Pimentel, and Emerson Sales. Accepted for presentation at AIML 2020.
- Nov. 2019 *On cut-elimination for non-wellfounded proofs: the case of PDL*. With Anupam Das. Accepted for presentation at the workshop Circularity in Syntax and Semantics.
- July 2017 *Justification logic for constructive modal logic*. With Roman Kuznets and Lutz Straßburger. Accepted for presentation at IMLA 2017.
- Nov. 2016 *Comparing BOX and ! via polarities*. Accepted for presentation at the workshop Linear Logic: interaction, proofs and computation.
- June 2015 *A cut-free proof system for pseudo-transitive modal logics*. Accepted for presentation at TACL 2015.

### Recent talks (selection)

- Feb. 2021 *From axioms to synthetic rules via focusing*. Online Worldwide Seminar on Logic and Semantics – Young Researchers.
- June 2020 *A characterisation of forwarders as linear logic proofs*. Mathematical Foundations Seminar, University of Bath.
- March 2020 *Intuitionistic modal proof theory: something old, something new*. Special session speaker, ASL Annual Meeting, UC Irvine. Cancelled due to Covid-19.
- Oct. 2019 *Nested proof systems for modal logic (and beyond)*. Theory Seminar, University of

Birmingham.

- Sep. 2019 *Formalising concurrent computation: CLF, Celf, and applications*. Tutorial speaker, Tableaux 2019, Middlesex University.
- May 2019 *Justification logic for modal logics on an intuitionistic base*. Special session speaker, ASL Annual Meeting, CUNY.

## Teaching

- Dec. 2021 Summer school lecturer. Proof theory for substructural and modal logics. CIMPA School in Mathematical Logic and Applications. UFRN, Brazil.
- Spring 2021 Teaching assistant. Directed reading. MEng Mathematical Computation, 2nd year.
- Spring 2021 Teaching assistant. Theory of computation. BSc Computer Science, 1st year.
- Fall 2020 Teaching assistant. Logic and databases. BSc Computer Science, 2nd year.
- Spring 2019 Co-lecturer. Linear algebra and probability. MSc Computer Science, 4th year.
- Nov. 2018 Guest lecturer. Reasoning and meta-reasoning. Cognitive psychology, Carnegie Mellon University Qatar.
- Fall 2018 Teaching assistant. Machine learning. BSc Data Science, 2nd year.
- Fall 2016 Teaching assistant. Multiple variables and vectorial analysis. BSc Maths, 2nd year.
- Fall 2016 Teaching assistant. Analysis and algebra for sciences. BSc Maths, 1st year.
- Spring 2016 Teaching assistant. Integration and linear algebra. BSc Maths, 1st year.

## Academic service

- 2021 Programme committee member. [CALCO 2021](#), 9th International Conference on Algebra and Coalgebra in Computer Science.
- 2021 Programme committee member. [TLLA 2021](#), 5th International Workshop on Trends in Linear Logic and Applications.
- 2019 Co-chair. [SD 2019](#), 5th International Workshop on Structures and Deduction.
- 2018 Programme committee member. [LSFA 2018](#), 13th Workshop on Logical and Semantic Frameworks, with Applications.

Reviewer for Logical Methods in Computer Science, ACM Transactions on Computational Logic, the Journal of Logic and Computation, Studia Logica, and the Logic Journal of the IGPL.

Subreviewer for FSCD 2021, FoSSaCS 2021, CSL 2021, Concur 2020, CSL 2020, Tableaux 2019, AiML 2018, and WoLLIC 2018.

## References

*Current PI:* David Pym (University College London) [d.pym@ucl.ac.uk](mailto:d.pym@ucl.ac.uk)

*Previous PI:* Carsten Schürmann (IT-University of Copenhagen) [carsten@itu.dk](mailto:carsten@itu.dk)

*PhD supervisor:* Lutz Straßburger (LIX - Inria Saclay) [lutz@lix.polytechnique.fr](mailto:lutz@lix.polytechnique.fr)