

# BENJAMIN LION

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## AFFILIATIONS

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11/22 - now:

Researcher at INRIA, Rennes, relais-thèse funding.

05/22 - 10/22:

Unemployment benefits and researcher at CWI, Amsterdam, under NLNET funding.

04/21 - 05/22:

Researcher at Centrum Wiskunde Informatica (CWI), Amsterdam, under European funding.

01/20 - Now:

PhD candidate (continuation) in the department of LIACS, Leiden University, Leiden.

01/17 - 01/20:

PhD candidate in the department of Formal Method, CWI, Amsterdam.

01/16 - 09/16:

Internship in IPhT, CEA, Saclay.

## TALKS

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- Jul 2022: From Symbolic Constraint Automata to Promela ([LCA](#))  
A Formal Framework for Distributed Cyber-Physical Systems ([LCA](#))  
Modeling and Specifying Interaction in Cyber-Physical Systems ([LASIGE](#))
- Jun 2022: Runtime Composition Of Systems of Interacting Cyber-Physical Components ([WADT](#))
- Jun 2021: A Semantic Model for Interacting Cyber-Physical Systems ([ICE](#), [ACG](#)).
- Feb 2021: Problem of coordination in cyber-physical systems ([ACG](#)).
- Dec 2019: (Short pitch) Diagnosis in distributed systems: illustration with the Tic-Tac-Toe game ([SEN](#)).
- Jun 2018: Nerve Nets. Omega-regular Languages, and Reo. ([ACG](#))
- Dec 2018: (Short pitch) What is my Mistake? ([SEN](#))
- Oct 2018: Compiling Protocols to Promela and Verifying their LTL Properties ([ModComp](#))

## PUBLICATIONS

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Journal papers:

- “*From Symbolic Constraint Automata to Promela*”, Hui Feng, Marcello M. Bonsangue, and Benjamin Lion, J. Log. Algebraic Methods Program., 2022
- “*A Semantic Model for Interacting Cyber-Physical Systems.*”, Benjamin Lion, Farhad Arbab, Carolyn L. Talcott, J. Log. Algebraic Methods Program., 2022;
- “*A Formal Framework for Distributed Cyber-Physical Systems.*”, Benjamin Lion, Farhad Arbab, Carolyn L. Talcott, J. Log. Algebraic Methods Program., 2022;
- “*Soft Constraint Automata with Memory.*”, Kasper Dokter, Fabio Gadducci, Benjamin Lion, Francesco Santini, J. Log. Algebraic Methods Program., 2021;
- “*Soft Component Automata: Composition, Compilation, Logic, and Verification.*”, Tobias Kappé, Benjamin Lion, Farhad Arbab, Carolyn L. Talcott, Sci. Comput. Program, 2019;
- “*Central Loops in Random Planar Graphs.*”, Benjamin Lion, Marc Barthelemy - Physical Review E, 2017

Conference papers:

- “*A Rewriting Framework for Cyber-Physical Systems.*”, Benjamin Lion, Farhad Arbab, Carolyn L. Talcott, To appear, Isola 2022;
- “*Runtime Composition Of Systems of Interacting Cyber-Physical Components.*”, Benjamin Lion, Farhad Arbab, Carolyn L. Talcott, To appear, WADT 2022;
- “*A Semantic Model for Interacting Cyber-Physical Systems.*”, Benjamin Lion, Farhad Arbab, Carolyn L. Talcott, To appear, ICE 2021;
- “*Compiling Protocols to Promela and Verifying their LTL Properties.*”, Benjamin Lion, Samir Chouali, Farhad Arbab, ModComp, MoDELS, 2018;

To be submitted:

- “Reewolf: Executable, Compositional, Synchronous Protocol Specifications”, Christopher A. Esterhuysen, Benjamin Lion, Hans-Dieter A. Hiep, Farhad Arbab;
- “Compositional Linearizations of Transactional Behaviors”, Kasper Dokter, Benjamin Lion, Hans-Dieter Hiep;

## TEACHING

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Apr 2018: Reo Compiler, [lecture](#) for Master at Leiden University

Apr 2019: Reo Compiler, [lecture](#) and [exercise](#) for Master at Leiden University

Sep-Oct 2020: Lecturer at (previously called) TecMakerhub for a four weeks [introduction](#) to Artificial Intelligence with practical application.

## SIDE ACTIVITIES

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SEFM 2020: Organising Committee;

CONCUR 2019: Website Taskforce;

ACG 2018-2022: Chair of the [ACG](#), the colloquium of the Formal Method group in CWI Amsterdam.  
Nepal Base Camp 2022 [summit](#).

## TOOLS

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2017-2020: [Reo compiler](#)

2020-2022: [Framework for analysis of cyber-physical agents in Maude](#)

## EDUCATION

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2015 - 2016:

Master Advanced Communication Network, Polytechnique and Telecom Paris, Paris.

2013 - 2016:

Engineering studies, IMT-Atlantiques, Brest.

2011 - 2013:

Classes préparatoires PCSI, Saliege, Toulouse.