

MARCO GIUNTI

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BIBLIOMETRIC PROFILES

ORCID

0000-0002-7582-0308

- <https://orcid.org/0000-0002-7582-0308>

Scopus

13105720900

- <https://www.scopus.com/authid/detail.uri?authorId=13105720900>

Google Scholar

xdrpRlcAAAAJ

- <https://scholar.google.com/citations?user=xdrpRlcAAAAJ>

Web of Science ResearcherID

KIH-6588-2024

- <https://www.webofscience.com/wos/author/record/KIH-6588-2024>

Ciência ID

8B18-7832-4109

- <https://www.cienciavitae.pt/8B18-7832-4109>

EDUCATION

PhD in Informatics

Ca' Foscari University

June 2007
Venice, Italy

- “Secure implementations of typed channel abstractions”

MSc (Laurea) in Informatics

Ca' Foscari University

July 2002
Venice, Italy

- IIo/IIo

AFFILIATION

University of Algarve

Assistant Professor

September 2025 - Present
Faro, Portugal

- Faculty of Science and Technology

University of Oxford

Research Associate

January 2024 - August 2025
Oxford, UK

- Multiparty session types, Why3

Teesside University

Research Associate

February 2023 - September 2023
Middlesbrough, UK

- Language-based security, Coq

University of Beira Interior <i>Research Associate</i> <ul style="list-style-type: none"> Formalisation of consensus algorithms, Coq 	March 2022 - January 2023 Covilhã, Portugal
NOVA School of Science and Technology <i>Research Associate</i> <ul style="list-style-type: none"> Distributed concurrency control, Coq 	March 2019 - February 2022 Caparica, Portugal
University of Beira Interior <i>Research Associate</i> <ul style="list-style-type: none"> CPS monad transformers, Why3 	October 2018 - February 2019 Covilhã, Portugal
University of Lisbon <i>Lecturer</i> <ul style="list-style-type: none"> Department of Informatics, Faculty of Sciences 	September 2016 - August 2018 Lisbon, Portugal
University of Beira Interior <i>Lecturer</i> <ul style="list-style-type: none"> Department of Informatics, Faculty of Engineering 	September 2014 - August 2016 Covilhã, Portugal
Autónoma University of Lisbon <i>Lecturer</i> <ul style="list-style-type: none"> Department of Engineering and Computer Science 	September 2015 - August 2016 Lisbon, Portugal
University of Porto <i>Research Associate</i> <ul style="list-style-type: none"> Formalisation of sensor networks 	March 2014 - August 2014 Porto, Portugal
NOVA School of Science and Technology <i>Research Associate</i> <ul style="list-style-type: none"> Behavioural type systems 	August 2012 - February 2014 Caparica, Portugal
École Polytechnique <i>Research Associate</i> <ul style="list-style-type: none"> Language-based security 	February 2011 - January 2012 Palaiseau, France
IUAV University <i>Research Associate</i> <ul style="list-style-type: none"> Formalisation of geospatial web services 	April 2009 - September 2010 Venice, Italy
University of Lisbon <i>Research Associate</i> <ul style="list-style-type: none"> Session types 	April 2008 - March 2009 Lisbon, Portugal

RESEARCH OUTPUTS

Gul Agha Festschrift <i>Type Congruence, Duality and Iso-Recursive Binary Session Types</i> <ul style="list-style-type: none"> Co-authored by Nobuko Yoshida 	October 2025 Chicago, USA
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- ESOP 2025** May 2025
Iso-Recursive Multiparty Sessions and their Automated Verification Hamilton, Canada
- Co-authored by Nobuko Yoshida
- ECOOP 2024** September 2024
Behavioral up/down casting for statically typed languages Vienna, Austria
- Co-authored by Lorenzo Bacchiani, Mario Bravetti, João Mota and António Ravara
- OOPSLA 2023** October 2023
AtomiS: Data-centric synchronization made practical Lisbon, Portugal
- Co-authored by Jan Cederquist, Ana Matos, João Matos, Hervé Paulino, and António Ravara
- ECOOP 2023** July 2023
On using VeriFast, VerCors, Plural, and KeY to check object usage Seattle, WA
- Co-authored by João Mota and António Ravara
- SAC 2023** March 2023
Anticipation of Method Execution in Mixed Consistency Systems Tallinn, Estonia
- Co-authored by Hervé Paulino and António Ravara
- Science of Computer Programming** 2022 (221: 102844)
A Java typestate checker supporting inheritance
- Co-authored by Lorenzo Bacchiani, Mario Bravetti, João Mota and António Ravara
- Coordination 2021** June 2021
Java typestate checker Malta
- Co-authored by João Mota and António Ravara
- Coordination 2020** June 2020
GoPi: Compiling Linear and Static Channels in Go Malta
- <https://sites.fct.unl.pt/gopi/>
- Mathematical Structures in Computer Science** 2016 (26(2): 206-237)
Linearity, session types and the Pi calculus
- Co-authored by Vasco Vasconcelos
- Automated Specification and Verification of Web Systems 2015** June 2015
Unlocking Blocked Communicating Processes Oslo, Norway
- Co-authored by Adrian Francalanza and António Ravara
- Secure IT Systems - 19th Nordic Conference** October 2014
Static Semantics of Secret Channel Abstractions Tromsø, Norway
- https://doi.org/10.1007/978-3-319-11599-3_10
- The Journal of Logic and Algebraic Programming** 2013 (82(8): 263-281)
Algorithmic type checking for a pi-calculus with name matching and session types
- <https://doi.org/10.1016/j.jlap.2013.05.003>
- Trustworthy Global Computing - 8th International Symposium** August 2013
Towards Static Deadlock Resolution in the pi-calculus Buenos Aires, Argentina

- Co-authored by António Ravara

EXPRESS/SOS 2012

Hide and New in the Pi-Calculus

September 2012
Newcastle upon Tyne, UK

- Co-authored by Catuscia Palamidessi and Frank D. Valencia

Automated Specification and Verification of Web Systems 2011

A type checking algorithm for qualified session types

June 2011
Reykjavik, Iceland

- <https://arxiv.org/abs/1108.2360v1>

CONCUR 2010

A Linear Account of Session Types in the Pi Calculus

August 2010
Paris, France

- Co-authored by Vasco Vasconcelos

POPL 2007

Secure implementations of typed channel abstractions

January 2007
Nice, France

- Co-authored by Michele Bugliesi

Trustworthy Global Computing - International Symposium

Typed Processes in Untyped Contexts

April 2005
Edinburgh, UK

- Co-authored by Michele Bugliesi

Peer Reviewed Communications

Communications in Conferences and Workshops

- *Type Congruence, Duality and Iso-Recursive Binary Session Types*. PLACES 2025. Co-authored by Nobuko Yoshida
- *Lupin CYPES with blockchain consensus*. INForum 2024. Co-authored by António Ravara, Francisco Santos, Leonardo Santos, Simão Melo de Sousa
- *Type qualifier inference and code synthesis for a better data-centric synchronisation experience*: 16th Interaction and Concurrency Experience (ICE 2023), <http://www.discotec.org/2023/ice.html>. Co-authored by Jan Cederquist, Ana Matos, João Matos, Hervé Paulino, and António Ravara
- *Compiling linear and static channels in Go*. INForum 2019.
- *Pointing to Private Names*: 12th Int. Workshop on Developments in Computational Models (DCM 2018), <https://easychair.org/publications/preprint/v3VM>. Co-authored by Adrian Francalanza and António Ravara
- *Session-based type discipline for pi calculus with matching*: Programming Language Approaches to Concurrency and Communication-centric Software (PLACES 2009), <http://ctp.di.fct.unl.pt/~mgiunti/places09.pdf>. Co-authored by Kohei Honda, Vasco Vasconcelos and Nobuko Yoshida
- *Preventing intrusions through non-interference*: IEEE Mexican Conference on Informatics Security (MCIS 2006), http://ctp.di.fct.unl.pt/~mgiunti/giunti-preventing_intrusions.pdf.
- *Security properties for intrusion detection*: Secure IT Systems - 9th Nordic Conference (NORDSEC 2004).

Online Resources

Technical reports, software artefacts, and software repositories

- *Iso-recursive Session Types* (June 2025) <https://github.com/marcogiunti/Iso-Recursive-Session-Types>
- *Iso-Recursive Multiparty Sessions and their Automated Verification - Technical Report* (Jan. 2025) <https://doi.org/10.48550/arXiv.2501.17778> Co-authored by Nobuko Yoshida.

- *Iso-Recursive Multiparty Sessions and their Automated Verification (Artefact)*. (Jan. 2025) <https://doi.org/10.5281/zenodo.14621028>. Co-authored by Nobuko Yoshida.
- *Java Typestate Checker* (Feb.2025) <https://github.com/jdmota/java-typestate-checker> Co-authored by JaTyC Team: Lorenzo Bacchiani, Mario Bravetti, João Mota, António Ravara
- *A Mechanisation for a Typed Semantics of the Linear Pi-Calculus*: <https://doi.org/10.5281/zenodo.13734438> (Sept. 2024). Co-authored by Adrian Francalanza and António Ravara
- *Sound Atomicity Inference for Data-Centric Synchronization*: <https://arxiv.org/abs/2309.05483> (Sept. 2023). Co-authored by Jan Cederquist, Ana Matos, João Matos, Hervé Paulino, and António Ravara
- *Anticipation of Method Execution in Mixed Consistency Systems – Technical Report*: <https://arxiv.org/abs/2212.14651> (Dec. 2022). Co-authored by Hervé Paulino and António Ravara
- *On using VeriFast, VerCors, Plural, and KeY to check object usage*: <https://arxiv.org/abs/2209.05136> (Sept. 2022). Co-authored by João Mota and António Ravara
- *AtomiS: data-centric concurrency control made simple*: <https://doi.org/10.5281/zenodo.6346649> (March 2022) Co-authored by Jan Cederquist, Ana Matos, João Matos, Hervé Paulino, and António Ravara
- *The GoPi compiler*: <https://github.com/marcogiunti/gopi> (2019)
- *A mechanized proof of correctness of the Horn algorithm*: https://release.di.ubi.pt/factor/pdfs/A_mechanized_proof_of_correctness_of_the_Horn_algorithm.pdf (2019)
- *Rewinding functions through CPS*: https://release.di.ubi.pt/factor/pdfs/rewind_exp_report.pdf (2019)
- *Type safety without subject reduction for session types*: http://di.ciencias.ulisboa.pt/~vv/papers/vasconcelos.giunti.et.al_type-safety-session-types.pdf (2010). Co-authored by Kohei Honda, Vasco Vasconcelos and Nobuko Yoshida

SUPERVISION

João Mota, PhD Candidate

Co-Supervisor

Present

NOVA School of Science and Technology, Portugal

- Coping with shared mutable state in a type-state oriented concurrent language

Leonardo Mendes dos Santos, MSc

Co-Supervisor

2024

University of Beira Interior, Portugal

- A DSL for rapid prototyping of consensus algorithms – Theory

Francisco Conceição Santos, MSc

Co-Supervisor

2024

University of Beira Interior, Portugal

- A DSL for rapid prototyping of consensus algorithms – Implementation

Miguel Alves, MSc

Co-Supervisor

2022

NOVA School of Science and Technology, Portugal

- A Framework for Specification and Simulation of Consensus Protocols. <https://run.unl.pt/handle/10362/169642>

João Mota, MSc

Co-Supervisor

2021

NOVA School of Science and Technology, Portugal

- Coping with the reality: adding crucial features to a typestate-oriented language. <https://run.unl.pt/handle/10362/125329>

TEACHING

Programming 1 <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: C	Academic Year 2025/26 <i>University of Algarve</i>
Systems Analysis and Modelling <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: UML	Academic Year 2025/26 <i>University of Algarve</i>
Distributed Processes, Types and Programming <i>Tutor</i> <ul style="list-style-type: none">· Reference Language: Go	Michaelmas 2024 <i>University of Oxford</i>
Theory of Computation <i>Coordinator</i> <ul style="list-style-type: none">· Master in Cognitive Science	Academic Year 2017/18 <i>University of Lisbon</i>
Programming 1 <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Python	Academic Year 2017/18 <i>University of Lisbon</i>
Programming 2 <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Python	Academic Year 2017/18 <i>University of Lisbon</i>
Object-Oriented Programming <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Java	Academic Year 2017/18 <i>University of Lisbon</i>
Laboratory of Programming <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Java	Academic Year 2017/18 <i>University of Lisbon</i>
Programming 1 <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Python	Academic Year 2016/17 <i>University of Lisbon</i>
Programming 2 <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Python	Academic Year 2016/17 <i>University of Lisbon</i>
Object-Oriented Programming <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Java	Academic Year 2016/17 <i>University of Lisbon</i>
Laboratory of Programming <i>Collaborator</i> <ul style="list-style-type: none">· Reference language: Java	Academic Year 2016/17 <i>University of Lisbon</i>

Computational Logic*Coordinator*Academic Year 2015/16
University of Beira Interior

- <http://ctp.di.fct.unl.pt/~mgiunti/teaching/lc/lc.html>

Theory of Computation*Collaborator*Academic Year 2015/16
University of Beira Interior

- Reference language: OCaml

Object-Oriented Programming*Coordinator*Academic Year 2015/16
Autónoma University of Lisbon

- Reference language: Java

Paradigms of Programming*Coordinator*Academic Year 2015/16
Autónoma University of Lisbon

- Reference language: OCaml

Programming 1*Coordinator*Academic Year 2014/15
University of Beira Interior

- Reference language: C

Programming 2*Coordinator*Academic Year 2014/15
University of Beira Interior

- Reference language: C

Theory of Computation*Collaborator*Academic Year 2014/15
University of Beira Interior

- Reference language: OCaml

PROJECTS

European Research Network on Formal Proofs*Participant*October 2021 – Present
EU COST

- <https://europroofnet.github.io/>

Smart Types and Smart Virtual Machines for Validated Smart Contracts*Co-Principal Investigator*March 2023 - February 2025
FCT, Portugal

- FCT 2022.09138.PTDC

POST: Protocols, Observabilities and Session Types*Participant*January 2025 - August 2025
EPSRC, UK

- EP/T006544/2

TaRDIS: Trustworthy and Resilient Decentralised Intelligence for Edge Systems*Participant*January - December 2024
EU HORIZON

- EP/T006544/2

Consensus Protocols Evaluation and Simulation*Participant*July 2020 - June 2024
CoEnzyme, France

- Project supported by private company

Quantified Information Flow Control in Cloud Computing Systems <i>Participant</i>	February - September 2023 <i>DASA, UK</i>
· ACC2028868	
Behavioural Application Program Interfaces <i>Participant</i>	March 2018 – December 2023 <i>EU RISE</i>
· https://www.um.edu.mt/projects/behapi/	
PROSE (Provers for Sessions) <i>Participant</i>	April 2019 – March 2020 <i>INRIA, France</i>
· https://raweb.inria.fr/rapportsactivite/RA2019/stamp/uid65.html	
Distributed Data-Centric Concurrency Control <i>Participant</i>	March 2019 - February 2022 <i>FCT, Portugal</i>
· PTDC/CCI-COM/32166/2017	
Functional Approach Teaching Portuguese Courses <i>Participant</i>	October 2018 - February 2019 <i>Tezos Foundation, France</i>
· https://release.di.ubi.pt/factor/index.html	
European research network on types for programming and verification <i>Participant</i>	March 2016 – February 2020 <i>EU COST</i>
· https://eutypes.cs.ru.nl/	
Languages And Tools for Critical rEal-time Systems <i>Participant</i>	March - September 2014 <i>FCT, Portugal</i>
· NORTE-07-0124-FEDER-000062	
Behavioural Types for Reliable Large-Scale Software Systems <i>Participant</i>	October 2012 – January 2016 <i>EU COST</i>
· http://www.dcs.gla.ac.uk/research/betty/www.behavioural-types.eu/	
Liveness, statically: Behavioural Types for Statically Checking Liveness Properties <i>Participant</i>	August 2012- February 2014 <i>FCT, Portugal</i>
· PTDC/EIA-CCO/117513/2010	
Software Engineering for Service-Oriented Overlay Computers <i>Participant</i>	March 2008 – February 2009 <i>EU IST</i>
· http://www.sensoria-ist.eu/	
Models and Types for Security in Mobile Distributed Systems <i>Participant</i>	January 2005 - July 2007 <i>EU IST</i>
· https://www.dsi.unive.it/myths/	

EVENT ORGANISATION

41th ACM/SIGAPP Symposium On Applied Computing <i>Co-Chair (Programming Languages Track)</i>	March 2026 <i>Thessaloniki, Greece</i>
· https://www.sigapp.org/sac/sac2026/	

40th ACM/SIGAPP Symposium On Applied Computing*Co-Chair (Programming Languages Track)*April 2025
Catania, Italy

- <https://www.sigapp.org/sac/sac2025/file2025/T0C-Feb20.pdf>

39th ACM/SIGAPP Symposium On Applied Computing*Co-Chair (Programming Languages Track)*April 2024
Avila, Spain

- <https://www.sigapp.org/sac/sac2024/file2024/T0C-Feb19.pdf>

ASSOCIATION MEMBER

ACM

November 2024 - Present

- <https://www.acm.org>

Wolfson College (Common Room), Oxford, UK,

March 2024 - August 2025

- <https://www.wolfson.ox.ac.uk/>

DISTINCTIONS AND COMPETITIVE GRANTS

3rd Place – INNCYBER INNOVATION HUB Call for Projects*Java typestate checker*October 2023
Lisbon, Portugal

- Co-awarded to Lorenzo Bacchiani, Mario Bravetti, João Mota and António Ravara

Marie Curie ESR Fellowship Grant*Secrecy and the pi calculus*January 2011
École Polytechnique & INRIA, France

- Awarded by ERCIM

PhD Grant*Secure implementations of typed channel abstractions*November 2004
Ca' Foscari University, Italy

- Awarded by Ministry of University and Research