CV Date	27/09/2021

Part A. PERSONAL INFORMATION

First Name *	Alicia		
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Sex *		Date of Birth *	
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	Researcher ID	C-2972-2014	
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* Mandatory

A.1. Current position

Job Title	Titular de Universidad		
Starting date	2018		
Institution	Universidad Politécnica de Valencia		
Department / Centre	Sistemas Informáticos y Computación / Escuela Técnica Superior de Ingeniería Informática		
Country		Phone Number	
Keywords			

A.3. Education

Degree/Master/PhD	University / Country	Year
Dottorato di Ricerca	Università degli Studi di Udine / Italy	2003
Programación declarativa e ingeniería de la programación	Universidad Politécnica de Valencia / Spain	2003

Part B. CV SUMMARY

RESEARCH

My research has focused on the areas of programming languages, analysis, and verification of systems. I joined in 1999 the ELP group at the UPV, led by María Alpuente. For two years I held a Ph.D. scholarship in the University of Udine (Italy) and I completed the thesis under a co-supervision contract, being my thesis co-directors M. Alpuente and M. Falaschi.

Some past and current research lines are:

- Automatic verification in the declarative paradigm. The line of work of my doctoral thesis. It stands out the publication in 2006 in the TPLP journal (Q1 in JCR)
- Abstraction of concurrent languages. It began in 2003 as a result of a collaboration with M.M. Gallardo and E. Pimentel of the U. de Málaga. Noteworthy is the publication in 2005 in the TCS journal, (Q2 in JCR and Core A)
- Specification and verification of protocols, in collaboration with A. Lescaylle. The most relevant results were presented in WFLP 2010
- Static analysis of Java programs. It started in 2009. It made possible the incorporation of M.A. Feliú to the group as a researcher associated to the TACPAS project of which the author was IP. The main work of this line was presented at Datalog 2010

- Automatic inference of specifications in a declarative context. It began with M. Alpuente and M.A. Feliú, under which Marco's doctoral thesis was framed. We continue working on this line together with D. Pardo. We highlight the work presented in PEPM 2013, LOPSTR 2016 and FI2020
- Analysis of concurrent systems. It started in 2008 after a short stay at the U. di Udine with M. Comini. It gave rise to two Final Degree works and to the doctoral thesis of Laura Titolo. The TPLP articles of 2011 and 2014 stand out

These areas of research have been developed in line with different projects mainly of the national R&D. I have led two projects (one local and one regional) on the topics described above. I have participated in several program committees of international conferences (ICLP, ECAI, LOPSTR and others) and I have been the coPC Chair of WLPE 2012, and Women in LP session (ICLP19). In addition, I was PC Chair of the scientific committee of the national conference PROLE 2016.

TEACHING

My teaching has focused on subjects related to software engineering, programming languages and formal methods in the degree in Computer Engineering offered by the ETSINF (UPV), and in the U. Master in Engineering and Software Systems Technology offered by the DSIC department (UPV). Both the degree and the master have obtained and renewed the EuroINF accreditation seal. I have participated in three innovation projects.

MANAGEMENT

Since 2020 I am the academic director of the Master's Degree in Software Engineering, Formal Methods and Information Systems offered by the DSIC department at the UPV.

From June 2008 to November 2014 I held a Deputy Director position in the department. Until 2011 my tasks were related to the improvement of the department internal information system. One of the developed applications was deployed for all the university. The last years I served as coordinator of the three university master's degrees offered by the department. In this context, in 2014, the Euro-Inf seal was requested and obtained for the three master's degrees of the department.

I served in the Claustro of the UPV and, related to that period, I was a member of the Comisión de Reforma de Estatutos of the UPV.

In 2008 I was Conference Chair of the SAS 2008 Congress (Core A).

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Publications.

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

1. **Scientific paper**. M. Comini; M.M. Gallardo; L. Titolo; A. Villanueva. 2017. A program analysis framework for tccp based on abstract interpretation Formal Aspects of Computing. Springer London. 29, pp.531-557. ISSN 0934-5043.
2. **Scientific paper**. M. Comini; L. Titolo; A. Villanueva. 2014. Abstract diagnosis for tccp using a Linear Temporal Logic Theory and Practice of Logic Programming (TPLP). Cambridge University Press. 14-4-5, pp.787-801. ISSN 1471-0684.
3. **Scientific paper**. M. Comini; L. Titolo; A. Villanueva. 2011. Abstract diagnosis for timed concurrent constraint programs Theory and Practice of Logic Programming (TPLP). Cambridge University Press. 11, pp.487-502. ISSN 1471-0684.
4. **Scientific paper**. Marco Comini; MMar Gallardo; Alicia Villanueva. 2021. A denotational semantics for PROMELA addressing arbitrary jumps Proceedings of the 31st International Symposium on Logic-based Program Synthesis and Transformation (LOPSTR 2021). CoRR.

5 **Scientific paper**. María Alpuente; Daniel Pardo; Alicia Villanueva. 2020. Abstract Contract Synthesis and Verification in the Symbolic K Framework Fundamenta Informaticae. IO Press. 177-3-4, pp.235-273.

6 **Scientific paper**. M. Alpuente; D. Pardo; A. Villanueva. 2017. Symbolic abstract contract synthesis in a rewriting framework Lecture Notes in Computer Science. Springer Verlag. 10184, pp.187-202. ISSN 03029743, ISBN 978-331963138-7.

7 **Scientific paper**. Marco Comini; María del Mar Gallardo; Laura Titolo; Alicia Villanueva. 2015. Abstract Analysis of Universal Properties for tccp Revised Selected Papers of 25th International Symposium on Logic-Based Program Synthesis and Transformation. Springer Verlag. 9527, pp.163-178. ISSN 0302-9743, ISBN 978-3-642-24205-2.

8 **Scientific paper**. Alexei Lescaylle; Alicia Villanueva. 2011. Bridging the Gap between Two Concurrent Constraint Languages Revised selected papers of 19th International Workshop on Functional and Constraint Logic Programming (WFLP). Springer Verlag. 6559, pp.155-173. ISBN 978-3-642-20774-7.

9 **Scientific paper**. M. Alpuente; M. A. Feliú; C. Joubert; A. Villanueva. 2011. Datalog-Based Program Analysis with BES and RWL Datalog Reloaded. Springer Verlag. 6702, pp.1-20. ISSN 0302-9743, ISBN 978-3-642-24205-2.

10 **Scientific paper**. María Alpuente; Marco A. Feliu; Christophe Joubert; Alicia Villanueva. 2010. Defining Datalog in Rewriting Logic Selected papers 19th International Symposium on Logic Based Program Synthesis and Transformation (LOPSTR 2009). Springer Verlag. 6037, pp.188-204. ISSN 0302-9743, ISBN 978-3-642-12591-1.

11 **Scientific paper**. María Alpuente; Marco A. Feliú; Christophe Joubert; Alicia Villanueva. 2009. Using Datalog and Boolean Equation Systems for Program Analysis Selected papers 13th International Workshop on Formal Methods for Industrial Critical Systems (FMICS 2008). Springer Verlag. 5596, pp.215-231. ISSN 0302-9743, ISBN 978-3-642-03239-4.

12 **Scientific paper**. Moreno Falaschi; Alicia Villanueva. 2006. Automatic Verification of Timed Concurrent Constraint Programs Theory and Practice of Logic Programming (TPLP). Cambridge University Press. 6, pp.265-300. ISSN 1471-0684.

13 **Scientific paper**. M. Alpuente; M.M. Gallardo; E. Pimentel; A. Villanueva. 2006. Verifying Real-Time Properties of tccp Programs Journal of Universal Computer Science (JUCS). Springer. 12, pp.1551-1573. ISSN 0948-6968.

14 **Scientific paper**. M. Alpuente; M.M. Gallardo; E. Pimentel; A. Villanueva. 2005. A Semantic Framework for the Abstract Model Checking of tccp programs Theoretical Computer Science (TCS). Elsevier Science. 346, pp.58-95. ISSN 0304-3975.

15 **Scientific paper**. Maria Alpuente; Moreno Falaschi; Alicia Villanueva. 2005. A Symbolic Model Checker for tccp programs Selected papers First International Workshop on Rapid Integration of Software Engineering Techniques (RISE 2004). Springer Verlag. 3475, pp.188-204. ISSN 0302-9743, ISBN 3-540-25812-4.

16 **Scientific paper**. M. Alpuente; M.M. Gallardo; E. Pimentel; A. Villanueva. 2005. Abstract Model Checking of tccp programs Electronic Notes in Theoretical Computer Science. Elsevier Science. 112, pp.19-36. ISSN 1571-0661.

17 **Scientific paper**. M. Falaschi; A. Policriti; A. Villanueva. 2001. Modeling Concurrent Systems Specified in a Temporal Concurrent Constraint language - I Electronic Notes in Theoretical Computer Science. Elsevier Science. 48, pp.1-14. ISSN 1571-0661.

C.2. Conferences and meetings

1 Giovanni Bacci; Marco Comini; Marco Antonio Feliú Gabaldón; Alicia Villanueva García. The additional difficulties for the automatic synthesis of specifications posed by logic features in functional-logic languages. 28th International Conference on Logic Programming (ICLP 2012) - CORE A; MAS Q1 (5/168). Budapest University of Technology. 2012. Hungary. Participatory - oral communication. Conference.

2 Giovanni Bacci; Marco Comini; Marco Antonio Feliú Gabaldón; Alicia Villanueva García. Automatic Synthesis of Specifications for Curry Programs. 21th International Workshop on Logic Based Program Synthesis and Transformation (LOPSTR 2011) - CORE B; MAS T1 (32/168). University of Southern Denmark. 2011. Denmark. Participatory - oral communication. Conference.
3 Alexei Lescaylle Daudinot; Alicia Villanueva García. Authentication Protocol Analysis in a Timed Concurrent Constraint Language. XVII Jornadas de Concurrencia y Sistemas Distribuidos. Universitat Politècnica de València. 2009. Spain. Participatory - oral communication. Conference.
4 María Alpuente Frasnedo; Marco Antonio Feliú Gabaldón; Christophe Joubert; Alicia Villanueva García. Static Analysis of Java Programs in a Rule-based Framework. VIII Jornadas sobre Programación y Lenguajes (PROLE 2008). Universidad de Oviedo. 2008. Spain. Participatory - oral communication. Conference.

C.3. R&D and innovation projects and contracts

1 **Project**. EuroProofNet. The European Cooperation in Science and Technology (COST). Frédéric Blanqui. (INRIA). 11/10/2021-10/10/2025. 250.000 €.
2 **Project**. FOUNDATIONS OF TRUSTWORTHY AI - INTEGRATING REASONING, LEARNING AND OPTIMIZATION. COMISION DE LAS COMUNIDADES EUROPEA. Vicente Botti Navarro. (VRAIN, Universitat Politècnica de València). 01/09/2020-31/08/2023. 124.535 €.
3 **Project**. PROMETEO/2019/098, DEEPTRUST. Generalitat Valenciana. María Alpuente Frasnedo. (Universitat Politècnica de València). 01/01/2019-01/01/2023. 260.924 €.
4 **Project**. RTI2018-094403-B-C32-AR, FREETech: Razonamiento Formal para Tecnologías Facilitadoras y Emergentes. CENTRO DE ACUSTICA APLICADA Y EVALUACION NO DESTRUCTIVA; Agencia estatal de investigación. Santiago Escobar Román. (Universitat Politècnica de València). 01/01/2019-01/01/2022. 242.000 €.
5 **Project**. TIN2015-69175-C4-1-R, LoBaSS: Soluciones efectivas basadas en la lógica. Ministerio de Ciencia e Innovación. Santiago Escobar Román. (Universitat Politècnica de València). 01/01/2016-31/12/2018. 109.747 €.
6 **Contract**.

C.4. Activities of technology knowledge transfer and results exploitation