

CV Date	12/09/2024
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## Part A. PERSONAL INFORMATION

First Name *	Pablo		
Family Name *	Gordillo Alguacil		
Sex *	Male	Date of Birth *	17/09/1992
ID number Social Security, Passport *	50388247-P	Phone Number *	(+34) 913947646
URL Web	https://costa.fdi.ucm.es/~pabgordi		
Email Address	pabgordi@ucm.es		
Researcher's identification number	Open Researcher and Contributor ID (ORCID) *	0000-0001-6189-4667	
	Researcher ID	X-4552-2018	
	Scopus Author ID	56940632200	

\* Mandatory

### A.1. Current position

Job Title	Profesor Ayudante Doctor		
Starting date	2021		
Institution	Universidad Complutense de Madrid		
Department / Centre	Sistemas Informáticos y Computación / Facultad de Informática		
Country	Spain	Phone Number	
Keywords			

### A.2. Previous positions

Period	Job Title / Name of Employer / Country
2021 - 2021	Investigador Postdoctoral / Universidad Complutense de Madrid / Spain
2020 - 2021	Investigador Postdoctoral / Universidad Complutense de Madrid / Spain
2017 - 2020	Investigador Predoctoral en Formación / Universidad Complutense de Madrid / Spain
2015 - 2017	Investigador Contratado / Universidad Politécnica de Madrid
2014 - 2015	Investigador Contratado / Universidad Complutense de Madrid / Spain

### A.3. Education

Degree/Master/PhD	University / Country	Year
Programa Oficial de Doctorado en Ingeniería Informática	Universidad Complutense de Madrid	2020
Máster en Ingeniería Informática	Universidad Complutense de Madrid	2017
Grado en Ingeniería Informática	Universidad Complutense de Madrid / Spain	2015
Grado en Matemáticas	Universidad Complutense de Madrid / Spain	2015

### A.4. General quality indicators of scientific production

In his research career he has published more than 10 research works (Scopus/Google Scholar) in conferences and journals with peer-review which can be classified as follows.

Journal Citation Reports:

Q1/Q2: 3pubs.

GII-GRIN-SCIE Conference Ranking:

Class 1: 6 pubs.

Class 2: 3 pubs.

Class 3: 2 pubs.

CORE Ranking:

Core A\*: 1 pub.

Core A: 10 pubs.

The potential of Pablo Gordillo's career is shown by the indicators and the number of citations obtained since the beginning of his PhD studies:

- Scopus: 14 works / 262 citations / 8 H-index

- Google Scholar: 22 works / 510 citations / 11 H-index / 12 i10 index

International relevance:

- Program Committees: He has been member of the Artifact Evaluation Program Committee of the Static Analysis Symposium (SAS'20), International Conference on Computer-Aided Verification (CAV'21, CAV'22, CAV'23).

- External Reviewer: He has reviewed more than 15 articles from relevant international conferences such as ESOP, SAS, FM, ICST, CAV, or TACAS .

- Journal Reviewer: He has reviewed 9 articles from journals such as IEEE Transactions on Software Engineering (TSE), Journal of Systems and Software (JSS), Journal of Computers & Security (COSE) or Blockchain Research and Applications (BRA)

Research stays:

- He spent 3 months in a research stay at the Department of Computer Science in the University of Aarhus, Denmark, working with the Professor D. Anders Moller.

- He spent 3 months in a research stay in the Security and Privacy Group, in the Technische University of Wien, Austria, working with the Professor D. Matteo Maffei.

## Part C. RELEVANT ACCOMPLISHMENTS

### C.1. Publications

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 Scientific paper.** Elvira Albert; Jesús Correas; Pablo Gordillo; Guillermo Román-Díez; Albert Rubio. 2024. Synthesis of Sound and Precise Storage Cost Bounds via Unsound Resource Analysis and Max-SMT. ISSTA 2024: Proceedings of the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis. ACM. pp.1186-1197. ISBN 9798400706127. <https://doi.org/10.1145/3650212.3680352>
- 2 Scientific paper.** E.Albert; J.Correas; P. Gordillo; G. Román-Díez; A. Rubio. 2023. Inferring Needless Write Memory Accesses on Ethereum Bytecode. 29th International Conference on Tools and Algorithms for the Construction and Analysis of Systems. Springer. 13993, pp.448-466. [https://doi.org/10.1007/978-3-031-30823-9\\_23](https://doi.org/10.1007/978-3-031-30823-9_23)
- 3 Scientific paper.** E. Albert; P. Gordillo; A. Hernández-Cerezo; A. Rubio. 2022. A Max-SMT Superoptimizer for EVM handling Memory and Storage. 28th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2022. Springer. 13243, pp.201-219. [https://doi.org/10.1007/978-3-030-99524-9\\_11](https://doi.org/10.1007/978-3-030-99524-9_11)

- 4 **Scientific paper.** E. Albert; P. Gordillo; A. Hernández-Cerezo; A. Rubio; M. A. Schett. 2022. Super-optimization of Smart Contracts. ACM Transactions on Software Engineering and Methodology. ACM. 31-4, pp.1-29. <https://doi.org/10.1145/3506800>
- 5 **Scientific paper.** E. Albert; J. Correas; P. Gordillo; G. Román-Díez; A. Rubio. 2021. Don't run on fumes—Parametric gas bounds for smart contracts. Journal of Systems and Software. 176, pp.110923-110942. <https://doi.org/10.1016/j.jss.2021.110923>
- 6 **Scientific paper.** J. Correas; P. Gordillo; G. Román-Díez. 2021. Static Profiling and Optimization of Ethereum Smart Contracts Using Resource Analysis. IEEE Access. IEEE. 9, pp.25495-25507. <https://doi.org/10.1109/ACCESS.2021.3057565>
- 7 **Scientific paper.** E. Albert; J. Correas; P. Gordillo; G. Román-Díez; A. Rubio. 2020. GASOL: Gas Analysis and Optimization for Ethereum Smart Contracts. 27th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2020. Springer. 12079, pp.118-125. [https://doi.org/10.1007/978-3-030-45237-7\\_7](https://doi.org/10.1007/978-3-030-45237-7_7)
- 8 **Scientific paper.** E. Albert; J. Correas; P. Gordillo; G. Román-Díez; A. Rubio. 2020. Smart, and also Reliable and Gas-Efficient, Contracts. 2020 IEEE 13th International Conference on Software Testing, Validation and Verification (ICST). IEEE. <https://doi.org/10.1109/ICST46399.2020.00010>
- 9 **Scientific paper.** E. Albert; P. Gordillo; A. Rubio; M. A. Schett. 2020. Synthesis of Super-Optimized Smart Contracts Using Max-SMT. International Conference on Computer Aided Verification (CAV) 2020. Springer. 12224, pp.177-200. [https://doi.org/10.1007/978-3-030-53288-8\\_10](https://doi.org/10.1007/978-3-030-53288-8_10)
- 10 **Scientific paper.** E. Albert; J. Correas; P. Gordillo; G. Román-Díez; A. Rubio. 2019. SAFEVM: a safety verifier for Ethereum smart contracts. Proceedings of the 28th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA) 2019. ACM. pp.386-389. <https://doi.org/10.1145/3293882.3338999>
- 11 **Scientific paper.** E. Albert; P. Gordillo; B. Livshits; A. Rubio; I. Sergey. 2018. EthIR: A Framework for High-Level Analysis of Ethereum Bytecode. International Symposium on Automated Technology for Verification and Analysis (ATVA). Springer. 11138, pp.513-520. [https://doi.org/10.1007/978-3-030-01090-4\\_30](https://doi.org/10.1007/978-3-030-01090-4_30)
- 12 **Scientific paper.** E. Albert; S. Genaim; P. Gordillo. 2017. May-Happen-in-Parallel Analysis with Returned Futures. International Symposium on Automated Technology for Verification and Analysis (ATVA). Springer. 10482, pp.42-58. [https://doi.org/10.1007/978-3-319-68167-2\\_3](https://doi.org/10.1007/978-3-319-68167-2_3)
- 13 **Scientific paper.** E. Albert; S. Genaim; P. Gordillo. 2015. May-Happen-in-Parallel Analysis for Asynchronous Programs with Inter-Procedural Synchronization. Static Analysis Symposium (SAS). Springer. 9291, pp.72-89. [https://doi.org/10.1007/978-3-662-48288-9\\_5](https://doi.org/10.1007/978-3-662-48288-9_5)
- 14 **Scientific paper.** E. Albert; P. Gordillo; A. Hernández-Cerezo; C. Rodríguez-Nuñez; A. Rubio. 2022. Using Automated Reasoning Techniques for Enhancing the Efficiency and Security of (Ethereum) Smart Contracts. International Joint Conference on Automated Reasoning, IJCAR, 2022. Springer. 13385, pp.3-7. [https://doi.org/10.1007/978-3-031-10769-6\\_1](https://doi.org/10.1007/978-3-031-10769-6_1)
- 15 **Scientific paper.** E. Albert; P. Gordillo; A. Rubio; I. Sergey. 2019. Running on Fumes - Preventing Out-of-Gas Vulnerabilities in Ethereum Smart Contracts Using Static Resource Analysis. 13th International Conference on Verification and Evaluation of Computer and Communication Systems (VECoS) 2019. Springer. 11847, pp.63-78. [https://doi.org/10.1007/978-3-030-35092-5\\_5](https://doi.org/10.1007/978-3-030-35092-5_5)

### C.3. Research projects and contracts

- 1 **Project.** PID2021-122830OB-C41, SFERA: Métodos Formales Escalables para Aplicaciones en Entornos Reales. Ministerio de Ciencia e Innovación. Elvira Albert. (Universidad Complutense de Madrid). 01/09/2022-31/08/2025. 178.233 €. Team member.
- 2 **Project.** 286-2024, GreY: A Greedy algorithm for Yul to EVM. Ethereum Foundation. Elvira Albert. (Universidad Complutense de Madrid). 05/06/2024-05/06/2025. 60.000 €.
- 3 **Project.** 242-2024, SOPA: SOund and yet Precise gas Analysis of EVM bytecode. Ethereum Foundation. Elvira Albert. (Universidad Complutense de Madrid). 09/05/2024-09/11/2024. 40.000 €.

- 4 **Project.** GREEN: GREEdy optimizatiON of EVM bytecode. Ethereum Foundation. Elvira Albert. (Universidad Complutense de Madrid). 25/07/2023-25/07/2024. 45.000 €.
- 5 **Project.** 352-2022, FORVES: FORmally VERified block optimizationS. Ethereum Foundation. Elvira Albert. (Universidad Complutense de Madrid). 01/09/2022-01/03/2023. 45.000 €. Team member.
- 6 **Project.** S2018/TCS-4314, FORTE: Formal Models and Technologies for Emerging Applications. Comunidad de Madrid. Manuel Nuñez. (Universidad Complutense de Madrid). 01/01/2019-31/12/2022. 731.400 €. Team member.
- 7 **Project.** 116-2021, GASOL: Gas Optimization toolKit. Ethereum Foundation. Elvira Albert. (Universidad Complutense de Madrid). 25/03/2021-25/03/2022. 59.500 €. Team member.
- 8 **Project.** RTI2018-094403-B-C31, FreeTech: Razonamiento Formal para Tecnologías Facilitadoras y Emergentes. Elvira Albert. (Universidad Complutense de Madrid). 01/01/2019-31/12/2021. Team member.
- 9 **Project.** TIN2015-69175-C4-2-R, LoBaSS: Soluciones Efectivas basadas en la Lógica. Elvira Albert. (Universidad Complutense de Madrid). 01/01/2016-30/06/2020. 80.707 €. Team member.
- 10 **Project.** S2013/ICE-3006, SICOMORo-CM: Sistemas CONfiables mediante Modelos y herRamientas avanzadas. Manuel Nuñez. (Universidad Complutense de Madrid). 01/10/2014-30/09/2018. 635.088,65 €. Team member.
- 11 **Project.** FP7 610582, EVISAGE: Engineering Virtualized Serviecs. FP7. Elvira Albert. (Universidad Complutense de Madrid). 01/10/2013-30/09/2016. 320.640 €. Team member.

#### C.5. Stays in public or private R&D centres

- 1 TU Wlen. Grupo de Seguridad y Privacidad. Austria. Viena. 22/08/2022-20/12/2022. Post-doctoral.
- 2 Universidad de Aarhus. Departamento de Informática. Denmark. Aarhus. 11/09/2017-20/12/2017. Doctorate.