

Name: Miguel Isabel Márquez
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ACADEMIC PROFILE

Graduated in Computer Science (2015) and Mathematics (2015) from the Complutense University of Madrid (UCM). After graduation, he pursued a Master's in Computer Science, completing it in 2017. His master's thesis was awarded a grade of 10 (Outstanding). For his PhD, Miguel was awarded a Formación del Profesorado Universitario (FPU) grant. During his PhD, he completed two 3-month research stays (in 2018 and 2020) at Monash University, Melbourne, Australia, for which he received a competitive grant for short stays, awarded among FPU fellows in 2018. He completed his PhD in October 2020, defending the thesis "Verification of Concurrent Systems: Optimality, Scalability, and Applicability," supervised by Elvira Albert and Miguel Gómez-Zamalloa Gil, receiving the highest distinction (Summa Cum Laude) with an international doctorate mention.

TEACHING PROFILE

In 2015, Miguel was awarded an FPU scholarship. In June 2020, he obtained a teaching assistant position at the Polytechnic University of Madrid. Since 2022, Miguel holds a position as Assistant Professor at the Complutense University of Madrid. Additionally, he has completed over 100 hours of teacher training courses.

RESEARCH PROFILE

In July 2014, Miguel Isabel joined the COSTA research group at UCM, initially through a contract funded by a European project and later through a regional project. He eventually completed his PhD with an FPU grant. He has published six papers in prestigious conferences (two in Class 1, one in Class 2, and two in Class 3) and four journal articles (three ranked JCR Q1, and one ranked JCR Q2). He has also presented at seven international conferences and one national conference. Moreover, he has been a reviewer for nine international conferences, ranked A or B in the CORE ranking, and has served on the artifact evaluation committee for three A* conferences. Finally, he has been part of the research team for one European project, one national project, two regional projects, and three LOU 83 projects. In 2022, he completed a one-month research stay at the 0xPARC Foundation related to one of these projects.

RESEARCH ACTIVITY

1. Scientific Article. Miguel Isabel; Clara Rodríguez-Nuñez; Albert Rubio. 2023. Scalable Verification of Zero-Knowledge Protocols. 45th IEEE Symposium on Security and Privacy. IEEE.
2. Scientific Article. Marta Bellés; Miguel Isabel; Jose Luis Muñoz-Tapia; Albert Rubio; Jordi Baylina. 2023. Circom: A Circuit Description

- Language for Building Zero-Knowledge Applications. IEEE Transactions on Dependable and Secure Computing. IEEE. 20, pp.4733-4751.
3. Scientific Article. Elvira Albert; Maria Garcia de la Banda; Miguel Gómez-Zamalloa; Miguel Isabel; Peter J. Stuckey. 2023. Optimal Dynamic Partial Order Reduction with Context-Sensitive Independence and Observers. Journal of Systems and Software. ACM. 202, pp.111730.
 4. Scientific Article. Elvira Albert; Miguel Gomez-Zamalloa; Miguel Isabel; Clara Rodriguez-Nuñez; Albert Rubio. 2022. Distilling Constraints in Zero-Knowledge Protocols. Computer Aided Verification - 34th International Conference, CAV 2022. Springer. 13371, pp.430-443.
 5. Scientific Article. Miguel Gómez-Zamalloa; Miguel Isabel. 2021. Deadlock-Guided Testing. IEEE Access. IEEE. 9, pp.46033-46048.
 6. Scientific Article. Elvira Albert; Miguel Gómez-Zamalloa; Miguel Isabel; Albert Rubio; Mateo Sammartino; Alexandra Silva. 2020. Actor-Based Model Checking for Software-Defined Networks. Journal of Logical and Algebraic Methods in Programming. Elsevier. 118, pp.100617.
 7. Scientific Article. Miguel Isabel. 2019. Conditional Dynamic Partial Order Reduction and Optimality Results. Proceedings of the 28th ACM SIGSOFT International Symposium on Software Testing and Analysis, ISSTA 2019, Beijing, China, July 15-19, 2019. ACM. pp.433-437.
 8. Scientific Article. Elvira Albert; Maria Garcia de la Banda; Miguel Gómez-Zamalloa; Miguel Isabel; Peter J. Stuckey. 2019. Optimal Context-Sensitive Dynamic Partial Order Reduction with Observers. Proceedings of the 28th ACM SIGSOFT International Symposium on Software Testing and Analysis, ISSTA 2019, Beijing, China, July 15-19, 2019. ACM. pp.352-362.
 9. Scientific Article. Elvira Albert; Miguel Gomez-Zamalloa; Miguel Isabel; Albert Rubio. 2018. Constrained Dynamic Partial Order Reduction. Computer Aided Verification - 30th International Conference, CAV 2018, Held as Part of the Federated Logic Conference, FloC 2018, Oxford, UK, July 14-17, 2018, Proceedings, Part II. Springer. 10982, pp.392-410.
 10. Scientific Article. Elvira Albert; Miguel Isabel; Miguel Gomez-Zamalloa. 2017. Generation of Initial Contexts for Effective Deadlock Detection. Logic-Based Program Synthesis and Transformation - 27th International Symposium, LOPSTR 2017, Namur, Belgium, October 10-12, 2017, Revised Selected Papers. Springer. 10855, pp.3-19.
 11. Scientific Article. Elvira Albert; Miguel Isabel; Miguel Gomez-Zamalloa. 2016. Combining Static Analysis and Testing for Deadlock Detection. Integrated Formal Methods - 12th International Conference, IFM 2016, Reykjavik, Iceland, June 1-5, 2016, Proceedings. Springer. 9681, pp.409-424.
 12. Scientific Article. Elvira Albert; Miguel Isabel; Miguel Gomez-Zamalloa. 2016. SYCO: A Systematic Testing Tool for Concurrent Objects. Proceedings of the 25th International Conference on Compiler Construction, CC 2016, Barcelona, Spain, March 12-18, 2016. ACM. pp.269-270.