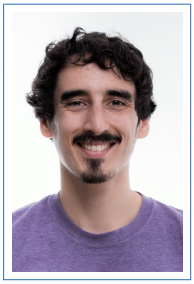
Adrián Amor Martín

Ph.D. in Multimedia and Communications

Avenida de la Universidad 30
28911 Leganés, Spain
aamor89@gmail.com
aamorm.github.io



Résumé

I am an **assistant professor** at University Carlos III of Madrid since February 2021. I received a Ph.D. degree in Multimedia and Communications from the University Carlos III of Madrid in 2018 with the highest grade (**cum laude**). Also, I received the M.Sc. degree in Multimedia and Communications from the same university in 2014 with an average grade of 9.2, and I became a telecommunications engineer in 2012 with an average grade of 8.8 (and the final project was awarded by the professional college in Spain). I have imparted more than **600 teaching hours** in different Telecommunication bachelor and master degrees at the University Carlos III of Madrid, and I have imparted **45 teaching hours** in different Systems Engineering subjects at the Saarland University. My research interests are **computational electromagnetics** and antenna measurements. My Ph.D. dissertation included the development and implementation of techniques (e.g. domain decomposition methods) to develop a finite element code with hp adaptivity and different element shapes. This work has been funded by **scholarships (FPU, PIF)** obtained on a **competitive basis**. I am part of **eighteen indexed papers** and **35 conference papers**: I am the first author in three Q1, one Q2, and three Q3 JCR papers and sixteen conference papers and I am a co-author of eight more papers (three Q1, seven Q2, and one Q4) and seventeen conference papers. I have been a **postdoctoral researcher** at Saarland University, in Germany, hosted by Prof. Dyczij-Edlinger, for two years (2019-2020). I have been a **visiting scholar** at The Ohio State University, hosted by Prof. Jin-Fa Lee, for seven months, and at the University of Macau for two months. I have also **advised one Ph.D. thesis**, two Master thesis, and one Bachelor thesis as director. I am currently tutoring two Bachelor theses and two Master theses. I have been part of the team at **11 projects** at the University Carlos III of Madrid. Also, I am the Principal Investigator of a public interdisciplinary contract since 2022 funded by the Regional Government and obtained in a competitive call.

Education

2014 – 2018 **Multimedia and Communication Interuniversity Ph.D. Program**, *Universidad Carlos III de Madrid*
Cum laude.

2012 – 2014 **Interuniversitary Master in Multimedia and Communications**, *Universidad Carlos III de Madrid*
Average grade: 9.18 out of 10.

2007 – 2012 **M.S. in Electrical Engineering (*Ingeniero de Telecomunicación*)**, *Universidad Carlos III de Madrid*
Average grade: 8.8 out of 10.

2005 – 2007 **International Baccalaureate Diploma Programme**, *I.E.S. Carlos III*, Toledo
Grade: 37 out of 45.

Work Experience

Feb 2021 **Assistant Professor**, *Universidad Carlos III de Madrid*, Signal Theory and Communications Department, Position obtained in a public call
Teaching activities and predoctoral research.

Jan 2019 – Dec 2020 **Postdoctoral Fellow**, *Universität des Saarlandes*, Lehrstuhl für Theoretische Elektrotechnik, postdoctoral position under the guidance of Prof. Romanus Dyczij-Edlinger
Teaching activities and postdoctoral research.

Sep 2015 – Jan 2019 **Research Fellow**, *Universidad Carlos III de Madrid*, Signal Theory and Communications Department, predoctoral scholarship holder under the program *Formación del Profesorado Universitario* of the Ministry of Education, Culture and Sport with reference FPU14/03743
Teaching activities and predoctoral research.

Oct 2014 – Sep 2015 **Research Fellow**, *Universidad Carlos III de Madrid*, Signal Theory and Communications Department, predoctoral scholarship holder of the Universidad Carlos III de Madrid with reference PIF UC3M 01-1415
Teaching activities and predoctoral research.

Sep 2012 – Sep 2014 **Research Fellow**, *Universidad Carlos III de Madrid*, Signal Theory and Communications Department, predoctoral scholarship holder for studying the Interuniversitary Master in Multimedia and Communications
Teaching activities, predoctoral research and M.S.

Mar 2011 – Apr 2011 **Participation in a research & development project**, *Universidad Carlos III de Madrid*, Department of Telematic Engineering, project: Netlab, use cases for interconnected testbeds and living labs.

Scientific publications

2023 Enderson Falcón-Gómez, Vittorio De Falco, Kerlos Atia Abdalmalak, **Adrian Amor-Martin**, Valentín De La Rubia, Gabriel Santamaría-Botello, and Luis Enrique García Muñoz. Interaction between linear polarized plane gravitational waves and a plane electromagnetic wave in the electromagnetic-gravity analogue. *Physical Review D*, Accepted, doi: 10.1140/epjc/s10052-022-11124-z, JCR: **5.407 (2021)**, quartile Q1, 7/29 (Physics, Particles & Fields).

2022 Enderson Falcón-Gómez, **Adrian Amor-Martin**, Valentín De La Rubia, Gabriel Santamaría-Botello, Vittorio De Falco, and Luis Enrique García Muñoz. Propagation of light in the presence of gravity generated by static and spherically symmetric curved space-times using Maxwell equations. *The European Physical Journal C*, 82(12):1175, doi: 10.1140/epjc/s10052-022-11124-z, JCR: **4.994 (2021)**, quartile Q2, 8/29 (Physics, Particles & Fields).

2022 Octavio Castillo-Reyes, David Modesto, Pilar Queralt, Alex Marcuello, Juanjo Ledo, **Adrian Amor-Martin**, Josep de la Puente, and Luis Emilio García-Castillo. 3D magnetotelluric modeling using high-order tetrahedral Nédélec elements on massively parallel computing platforms. *Computers & Geosciences*, 160:105030, doi: 10.1016/j.cageo.2021.105030, JCR: **5.168 (2021)**, quartile Q2, 34/113 (Computer Science, Intersdisciplinary applications).

2022 Octavio Castillo-Reyes, **Adrian Amor-Martin**, Arnaud Botella, Pierre Anquez, and Luis Emilio García-Castillo. Tailored meshing for parallel 3D electromagnetic modeling using high-order edge elements. *Journal of Computational Science*, 63:101813, doi: 10.1016/j.jocs.2022.101813, JCR: **3.817 (2021)**, quartile Q1 25/109 (Computer Science, Theory and Methods), Q2 53/113 (Computer Science, Interdisciplinary Applications).

2022 Jose M. Badia, **Adrian Amor-Martin**, Jose A. Belloch, and Luis Emilio Garcia-Castillo. Strategies to parallelize a finite element mesh truncation technique on multi-core and many-core architectures. *The Journal of Supercomputing*, doi: 10.1007/s11227-022-04975-6, JCR: **2.557 (2021)**, quartile Q2, 43/110 (Computer Science, Theory & Methods).

2022 **Adrian Amor-Martin** and Luis E. Garcia-Castillo. Second-Order Nédélec Curl-Conforming Hexahedral Element for Computational Electromagnetics. *IEEE Transactions on Antennas and Propagation*, 71(1):859–868, doi: 10.1109/TAP.2022.3216554, JCR: **4.824 (2021)**, quartile Q1, 68/276 (Engineering, Electrical and Electronic).

2021 Ignacio Martínez-Fernández, **Adrian Amor-Martin**, and Luis E. Garcia-Castillo. Test-Driven Development of a Substructuring Technique for the Analysis of Electromagnetic Finite Periodic Structures. *Applied Sciences*, 11(24):11619, doi: 10.3390/app112411619, JCR: **2.838 (2021)**, quartile Q2, 39/92 (Engineering, multidisciplinary).

2021 **Adrian Amor-Martin**, Luis E. Garcia-Castillo, and Jin-Fa Lee. Study of Accuracy of a Non-Conformal Finite Element Domain Decomposition Method. *Journal of Computational Physics*, 429:109989, doi: 10.1016/j.jcp.2020.109989, JCR: **4.645 (2021)**, quartile Q1, 3/56 (Physics, mathematical).

2021 **Adrian Amor-Martin** and Luis E. Garcia-Castillo. Adaptive Semi-Structured Mesh Refinement Techniques for the Finite Element Method. *Applied Sciences*, 11(8):3683, doi: 10.3390/app11083683, JCR: **2.838 (2021)**, quartile Q2, 39/92 (Engineering, multidisciplinary).

2020 José M. Badía, **Adrian Amor-Martin**, Jose A. Belloch, and Luis E. García-Castillo. GPU Acceleration of a Non-Standard Finite Element Mesh Truncation Technique for Electromagnetics. *IEEE Access*, 8:94719–94730, doi: 10.1109/ACCESS.2020.2993103, JCR: **3.367 (2020)**, quartile Q2, 94/273 (Engineering, Electrical and Electronic).

2020 Adrian Amor-Martin. A testbench of arbitrary accuracy for electromagnetic simulations. *International Journal of RF and Microwave Computer-Aided Engineering*, 30(10):e22342, doi: 10.1002/mmce.22342, JCR: **1.694 (2020)**, quartile Q3, 190/273 (Engineering, Electrical and Electronic).

2019 Jose A. Belloch, **Adrian Amor-Martin**, Daniel Garcia-Donoro, Francisco J. Martínez-Zaldívar, and Luis E. Garcia-Castillo. On the use of many-core machines for the acceleration of a mesh truncation technique for FEM. *The Journal of Supercomputing*, 75:1686–1696, doi: 10.1007/S11227-018-02739-9, JCR: **2.469 (2019)**, quartile Q2, 123/266 (Engineering, Electrical and Electronic).

2019 **Adrian Amor-Martin** and Luis E. Garcia-Castillo. Construction of higher-order curl-conforming finite elements and its assembly. *International Journal of RF and Microwave Computer-Aided Engineering*, 29(8):e21753, doi: 10.1002/MMCE.21753, JCR: **1.528 (2019)**, quartile Q3, 184/266 (Engineering, Electrical and Electronic).

2018 Francisco-Javier González-Serrano, **Adrian Amor-Martin**, and Jorge Casamayón-Antón. Supervised machine learning using encrypted training data. *International Journal of Information Security*, 17(4):365–377, doi: 10.1007/S10207-017-0381-1, JCR: **1.822 (2018)**, quartile Q2, 42/105 (Computer Science, Theory and Methods).

2017 Francisco-Javier González-Serrano, Ángel Navia-Vázquez, and **Adrian Amor-Martin**. Training support vector machines with privacy-protected data. *Pattern Recognition*, 72:93–107, doi: 10.1016/J.PATCOG.2017.06.016, JCR: **3.965 (2017)**, quartile Q1, 25/266 (Engineering, Electrical and Electronic).

2016 Daniel Garcia-Donoro, Sioweng Ting, **Adrian Amor-Martin**, and Luis E. Garcia-Castillo. Analysis of planar microwave devices using higher order curl-conforming triangular prismatic finite elements. *Microwave and Optical Technology Letters*, 58(8):1794–1801, doi: 10.1002/MOP.29910, JCR: **0.731 (2016)**, quartile Q4, 216/262 (Engineering, Electrical and Electronic).

2016 **Adrian Amor-Martin**, Luis E. Garcia-Castillo, and Daniel Garcia-Donoro. Second-Order Nédélec Curl-Conforming Prismatic Element for Computational Electromagnetics. *IEEE Transactions on Antennas and Propagation*, 64(10):4384–4395, doi: 10.1109/TAP.2016.2597640, JCR: **2.957 (2016)**, quartile Q1, 61/262 (Engineering, Electrical and Electronic).

2015 **Adrian Amor-Martin**, Ignacio Martinez-Fernandez, and Luis E. Garcia-Castillo. Posidonia: A tool for HPC and remote scientific simulations [EM Programmer's Notebook]. *IEEE Antennas and Propagation Magazine*, 57(6):166–177, doi: 10.1109/MAP.2015.2481824, JCR: **0.896 (2015)**, quartile Q3, 165/257 (Engineering, Electrical and Electronic).

Director of Ph.D. Thesis

2020 **Director of Ph.D. Thesis for Multimedia and Communications program**, Ignacio Martínez Fernández, "Análisis Electromagnético de Estructuras Finitas de Tipo Periódico mediante el Método de los Elementos Finitos", submitted on 12/09/2020
Universidad Carlos III de Madrid

Director of Bachelor and Master Thesis

Feb 2017 – Oct 2017 **Director of Master Thesis for Master in Telecommunications Engineering**, Daniel Gutiérrez Sanz, "Design of a continuous wave FM radar for teaching purposes"
Universidad Carlos III de Madrid

Feb 2015 – May 2015 **Director of Bachelor Thesis for Bachelor's Degree in Audiovisual System Engineering**, Carlos Romero Castro, "Comparative Study of Different Solvers in a Finite Element Software"
Universidad Carlos III de Madrid

Sep 2013 – Oct 2014 **Director of Master Thesis for Master in Telecommunications Engineering**, Cristina García Muñoz, "Web Platform for Electromagnetic Simulation in a Scientific Computing Cluster"
Universidad Carlos III de Madrid

Principal Investigator in Research & Development Projects

Jan 2022 Dec 2023 **Researcher**, *MIMACUHSPACE-CM: MIcrowave MAterial Characterization Using Heterogeneous Systems-on-Chip for the Space environment*, funded by Madrid Regional Government, 60.000€
Principal Investigator: Adrián Amor Martín.

Participation in Research & Development Projects

Jan 2019 Dec 2022 **Researcher**, *MARTINLARA-CM: Millimeter wave Array at Room Temperature for INstruments in LEO Altitude Radio Astronomy*, funded by Madrid Regional Government,331.940,74€
Principal Investigator: Luis Enrique García Muñoz.

Jan 2017 Dec 2019 **Researcher**, *Simulador electromagnético para Entorno HPC*, funded by Spanish Ministry of Economy and Competitiveness, 119.427€
Principal Investigator: Luis E. García Castillo.

Oct 2014 Dec 2018 **Researcher**, *Photonic and Radiofrequency Instrumental Developments and Application to Spatial Geodesy Experimental Techniques (DIFRAGEOS)*, funded by Madrid Regional Government, 317.671€
Principal Investigator: Magdalena Salazar Palma.

Jan 2011 Dec 2014 **Researcher**, *Análisis de estructuras periódicas finitas regulares e irregulares mediante técnicas de descomposición de dominios en paralelo con adaptatividad hp automática*, funded by Spanish Ministry of Science and Innovation, 168.432€
Principal Investigator: Luis E. García Castillo.

Oct 2014 **Researcher**, *Antenna measurements from different companies with Starlab Satimo provided by Telefónica*, funded by different companies, Laboratory Supervisor
Principal Investigator: Daniel Segovia Vargas.

Jan 2016 Jan 2017 **Researcher**, *RKAF Radar Cross Section Offset*, funded by Airbus, 31.052€
Principal Investigator: Luis E. García Castillo.

Jan 2018 Jul 2018 **Researcher**, *Diseño e implementación de antenas directivas en la banda GPS para la industrialización del producto NOJAMZONE de CENTUM SOLUTIONS S.L.*, funded by Centum Solutions S.L., 30.400€
Principal Investigator: Daniel Segovia Vargas.

Oct 2014 Oct 2015 **Researcher**, *Contrato marco para la prestación de servicios tecnológicos, el área de Simulación Numérica de Dinámica de Fluidos*, funded by Indra, 16.040€
Principal Investigator: Luis E. García Castillo.

Dec 2013 Dec 2014 **Researcher**, *Electromagnetic simulation of antennas*, funded by INDRA, 6665€
Principal Investigator: Luis E. García Castillo.

Mar 2015 Abr 2015 **Researcher**, *Analysis of hybrid RFID 3DCOIL (high and low frequency)*, funded by Fundació Privada Centre CIM, 3000€
Principal Investigator: Luis E. García Castillo.

Jun 2014 Jul 2014 **Researcher**, *CAD electromagnetic simultion of 3DCOIL coil*, funded by Fundació Privada Centre CIM, 3000€
Principal Investigator: Luis E. García Castillo.

Stays in foreign research centers

Jan 2019 Dec 2020 **Saarland University**, *Postdoctoral researcher*, Host: Romanus Dyczij-Edlinger

Aug 2017 Dec 2017 **The Ohio State University**, *Short stay (120 days) in ESL (ElectroScience Laboratory)*, Host: Jin-Fa Lee, Funding provided by the University Carlos III de Madrid.

Sep 2016 Dec 2016 **The Ohio State University**, *Short stay (90 days) in ESL (ElectroScience Laboratory)*, Host: Jin-Fa Lee, Funding provided by the Spanish Government.

Jun 2015 Jul 2015 **University of Macau**, *Short stay (45 days) in Computational Electromagnetism Laboratory of University of Macau*, hosted by Professor K.W. Tam, funded by Universidad Carlos III de Madrid with a scholarship with a competitive procedure (1610 euros).

Teaching experience

See `https://cvn.fecyt.es/editor/cvnOnline/0000-0002-6123-4324`.

Awards

2013 **Prize *VI Concurso de Ideas UC3M* for the creation of innovative and technology-based companies**, *part of the entrepreneurial team of ScientApps*

2013 **Best Master Thesis Dissertation**, *XXXIII edition of COIT (Colegio Oficial de Ingenieros de Telecomunicación, Spanish Association of Electrical Engineers) awards*
ALTRAN prize in disruptive business models based on connected solutions with the dissertation "Remote Simulation Tool in a Scientific Computing Cluster".

2010 **Excellence Award**, *Social Council of Universidad Carlos III de Madrid*
Award-winning in student section.

2007 **Extraordinary Baccalaureate Prize**, *Castilla-La Mancha Regional Government*

Mar 2007 **Winner of the VII edition of the World Hispanic-American Spelling Contest**, *Cartagena de Indias, Colombia*
IV International Conference of Spanish Language.

Scholarships

2017 **Scholarship for short stays**, *University Carlos III de Madrid*, ElectroScience Laboratory, The Ohio State University, hosted by Prof. J.-F. Lee
4200 euros, 1st in the ranking (project graded as 100 out of 100).

2016 **Scholarship for FPU scholarship holders: short stays**, *Ministry of Education, Culture and Sport*, ElectroScience Laboratory, The Ohio State University, hosted by Prof. J.-F. Lee

2015 2018 **Research and educational scholar (FPU, *Formación del Profesorado Universitario*) Program**, *funded by the Spanish Ministry of Education, Culture and Sport*, Universidad Carlos III de Madrid
Rank 4 at the national level (out of 21 scholarships).

2015 **Scholarship for mobility of researchers from Universidad Carlos III de Madrid at national or international research centers**, *funded by Universidad Carlos III de Madrid*, at University of Macau, hosted by Prof. K.W. Tam.

2014 2015 **Program for Predoctoral Research Staff in Training**, *Universidad Carlos III de Madrid*

2012 2014 **Scholarship for M.S. Studies**, *Signal Theory and Communications Department*, Universidad Carlos III de Madrid

2011 **Research scholarship from Spanish Ministry of Education**, *Signal Theory and Communications Department*, Universidad Carlos III de Madrid
Antenna Array Analysis based on prismatic finite elements.
Conducted by Luis Emilio García Castillo.

2009 **Excellence Scholarship from Madrid Regional Government**, *Electronics Technology Department*, Universidad Carlos III de Madrid
Implementation of AES encryption algorithm in a microprocessor PIC18F2525.
Conducted by Luis Mengíbar Pozo.

2008 **Excellence Scholarship from Madrid Regional Government**, *Electronics Technology Department*, Universidad Carlos III de Madrid
Creation and detection of digital signature with GMM patterns.
Conducted by Luis Mengíbar Pozo.

2007 **Excellence Scholarship from Madrid Regional Government**, *Signal Theory and Communications Department*, Universidad Carlos III de Madrid
Target detection in an airport with GPS.
Conducted by Francisco J. González Serrano.

Contributions to Conferences

2023 Enderson Falcón, Kerlos Atia Abdalmalak, **Adrian Amor-Martin**, Alfonso González-Jiménez, Valentín de la Rubia, Gabriel Santamaría-Botello, Vittorio De Falco, and Luis E García-Muñoz. Indirect Detection of Gravitational Waves Using an Analogue Electromagnetic Spacetime Modulated Medium. In *17th European Conference on Antennas and Propagation (EuCAP)*, Florence, 2023.

2023 Enderson Falcón, Kerlos Atia Abdalmalak, **Adrian Amor-Martin**, Alfonso González-Jiménez, Valentín de la Rubia, Gabriel Santamaría-Botello, Vittorio De Falco, and Luis E García-Muñoz. Analogous Electromagnetic Wave Propagation in a Schwarzschild Black Hole Space-time Using Parallel Conducting Surfaces Waveguides. In *17th European Conference on Antennas and Propagation (EuCAP)*, Florence, 2023.

2022 László Levente Tóth, Adrián Amor-Martín, and Romanus Dyczij-Edlinger. Convergence Study of H(curl) Serendipity Basis Functions for Hexahedral Finite-Elements. In *MIKON 2022*, pages 1–3, Gdansk, Poland, September 2022.

2022 Sandra Santiago-Mesas, Daniel Segovia-Vargas, **Adrian Amor-Martin**, and Vicente González-Posadas. Precise Active Sensor Design for Monitoring in Biological and Industrial Applications. In *52nd European Microwave Conference*, Málaga, 2022.

2022 Sandra Santiago-Mesas, Daniel Segovia-Vargas, **Adrian Amor-Martin**, and Ignacio Aranda-Conde. Diseño de un Sensor Activo para Monitorización no Invasiva. In *Congreso Nacional de La URSI*, Málaga, 2022.

2022 Enderson Falcón, Gabriel Santamaría-Botello, **Adrian Amor-Martin**, Valentín de la Rubia, and Luis E García-Muñoz. Analogous Maxwellian Algorithm for photon geodesic calculation in General Static Isotropic Metrics. In *51st European Microwave Conference (EuMC)*, London, 2022.

2022 Jose Manuel Badia, **Adrian Amor-Martin**, Jose A Belloch, and Luis E. Garcia-Castillo. Strategies to parallelize a finite element mesh truncation technique on multi- and manycore architectures. In *22th International Conference on Computational and Mathematical Methods in Science and Engineering, CMMSE*, Cádiz, 2022.

2022 **Adrian Amor-Martin** and Luis E. Garcia-Castillo. Experimental insight into the Domain Decomposition Method for a Finite Element Method Code. In *XIV Encuentro Ibérico de Electromagnetismo Computacional*, Vall de Nùria, Girona, Spain, 2022.

2021 Octavio Castillo-Reyes, Pilar Queralt, Alex Marcuello, Juanjo Ledo, **Adrian Amor-Martin**, and Luis E Garcia-Castillo. 3D Electromagnetic Modeling and Inversion using an Open-Source Paradigm: Experiences and Perspectives. In *SIAM Conference on Mathematical & Computational Issues in the Geosciences*, Online, 2021.

2019 Laszlo L. Toth, **Adrian Amor-Martin**, and Romanus Dyczij-Edlinger. Hierarchical H(div) basis functions and universal matrices for curvilinear finite elements. In *Kinetics and BEM on the Saar*, Saarbrücken, 2019.

2019 **Adrian Amor-Martin**, Laszlo L. Toth, and Romanus Dyczij-Edlinger. H(curl)-Conforming Hierarchical Basis Functions on Prisms and Hexahedra. In *Kleinheubacher Tagung 2019*, Miltenberg, 2019.

2018 Daniel Garcia-Donoro, Wujie Mei, **Adrian Amor-Martin**, and Luis E. Garcia-Castillo. Electromagnetic finite element solver for HPC environments using direct substructuring method. In *48th European Microwave Conference (EuMC)*, pages 1186–1189, Madrid, 2018. IEEE.

2018 Daniel Garcia-Donoro, **Adrian Amor-Martin**, and Luis E. Garcia-Castillo. Recent Developments Regarding a Higher Order Finite Element Method Electromagnetic Simulator (HOFEM). In *XII Encuentro Ibérico de Electromagnetismo Computacional*, Portugal, 2018.

2018 Jose A Belloch, **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Acceleration of a Mesh Truncation Technique for a Finite Element Electromagnetics Code. In *18th International Conference on Computational and Mathematical Methods in Science and Engineering, CMMSE*, Rota, 2018.

2018 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Three-level parallelization of a Finite Element Code with Hybrid Meshes. In *Congreso Nacional de La URSI*, Granada, 2018.

2018 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Non-Conformal Domain Decomposition Method Supporting hp-Discretizations. In *XII Encuentro Ibérico de Electromagnetismo Computacional*, Portugal, 2018.

2018 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Non-conformal Domain Decomposition Method supporting hp Discretizations. In *International Workshop on Finite Elements for Microwave Engineering*, Cartagena de Indias, 2018.

2018 **Adrian Amor-Martin**, Luis E. Garcia-Castillo, and Daniel Garcia-Donoro. Higher Order Finite Element Method based on a Non-conformal Domain Decomposition Method. In *Emerging Trends in Applied Mathematics and Mechanics 2018*, pages 436–439, Krakow, 2018.

2018 **Adrian Amor-Martin**, LE Garcia-Castillo, and D Garcia-Donoro. Towards a scalable hp adaptive finite element code based on a nonconformal domain decomposition method. In *48th European Microwave Conference (EuMC)*, pages 436–439, Madrid, 2018.

2017 Daniel Garcia-Donoro, **Adrian Amor-Martin**, and Luis E. Garcia-Castillo. Higher-order finite element electromagnetics code for HPC environments. In *International Conference on Computational Science, ICCS*, pages 818–827, Zurich, 2017. Elsevier.

2017 Luis E. Garcia-Castillo, Ignacio Gomez-Revuelto, **Adrian Amor-Martin**, Marcin Los, and Maciej Paszynski. Algorithm for simultaneous adaptation and time step iterations for the electromagnetic waves propagation and heating of the human head induced by cell phone. In *International Conference on Computational Science, ICCS*, pages 2448–2452, Zurich, 2017. Elsevier.

2017 Luis E. Garcia-Castillo, Daniel Garcia-Donoro, and **Adrian Amor-Martin**. Higher-order finite element code for electromagnetic simularion on HPC environments. In *MUMPS User Days*, Grenoble, 2017.

2017 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. On the design of higher-order curl-conforming finite elements and its assembly features. In *IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications (NEMO)*, pages 200–202, Sevilla, 2017. IEEE.

2017 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Analysis of dispersion error of higher-order curl-conforming prismatic finite element. In *IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications (NEMO)*, pages 203–205, Sevilla, 2017. IEEE.

2017 **Adrian Amor-Martin**, Daniel Garcia-Doñoro, and Luis E. Garcia-Castillo. A finite element mesh truncation technique for scattering and radiation problems in HPC environments. In *Computing and Electromagnetics International Workshop (CEM)*, pages 33–34, Barcelona, 2017. IEEE.

2016 Daniel Garcia-Donoro, Sioweng Ting, **Adrian Amor-Martin**, Luis E. Garcia-Castillo, and Magdalena Salazar-Palma. Higher order finite element method solver for the analysis of microwave devices in planar technology. In *Microwave Conference (EuMC), 2016 46th European*, pages 473–476, London, 2016. IEEE.

2016 Daniel Garcia-Donoro, **Adrian Amor-Martin**, Luis E. Garcia-Castillo, Magdalena Salazar-Palma, and Tapan K. Sarkar. HOFEM: Higher order finite element method simulator for antenna analysis. In *IEEE Conference on Antenna Measurements \& Applications (CAMA)*, pages 1–4, Syracuse, 2016. IEEE.

2016 **Adrian Amor-Martin**, Ignacio Martinez-Fernandez, and Luis E. Garcia-Castillo. Posidonia: A Tool for HPC and Remote Scientific Simulations. In *FEM Workshop*, Firenze, 2016.

2016 **Adrian Amor-Martin**, Ignacio Martinez-Fernandez, and Luis E. Garcia-Castillo. Posidonia: A Software Tool for HPC Scientific Simulations. In *XI Encuentro Ibérico de Electromagnetismo Computacional*, Asturias, 2016.

2016 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Second-Order Nédélec Curl-Conforming Prism for Finite Element Computations. In *FEM Workshop*, Firenze, 2016.

2016 **Adrian Amor-Martin** and Luis E. Garcia-Castillo. Comparison between Different Assembly Strategies for Higher-Order Curl-Conforming Prismatic Finite Elements. In *XI Encuentro Ibérico de Electromagnetismo Computacional*, Asturias, 2016.

2015 **Adrian Amor-Martin**, Daniel Garcia-Donoro, and Luis E. Garcia-Castillo. Implementation of the Second-Order Nédélec Curl-Conforming Prismatic Element for Computational Electromagnetics. In *Congreso Nacional de La URSI*, Pamplona, 2015.

2014 Francisco-Javier González-Serrano, **Adrian Amor-Martin**, and Jorge Casamayón-Antón. State estimation using an Extended Kalman Filter with privacy-protected observed inputs. In *IEEE International Workshop on Information Forensics and Security (WIFS)*, Atlanta, 2014.

2013 Cristina Garcia-Muñoz, **Adrian Amor-Martin**, Ignacio Martinez-Fernandez, and Luis E. Garcia-Castillo. Plataforma Web de simulación remota en un cluster de computación científica. In *Congreso Nacional de La URSI*, Santiago de Compostela, 2013.

2012 **Adrian Amor-Martin**, Ignacio Martinez-Fernandez, and Luis E. Garcia-Castillo. Herramienta de simulación remota en un cluster de computación científica. In *Congreso Nacional de La URSI*, Elche, 2012.

Participation in Organizations

2022 **Organización de la Mesa Redonda "La batalla por el Hz, con el COIT" en el congreso URSI Málaga 2022**, *Colegio Oficial de Ingenieros de Telecomunicación*

2021 **Organización de la Mesa Redonda "Investigación más allá de la universidad" en el congreso URSI Vigo 2021**, *Colegio Oficial de Ingenieros de Telecomunicación*

2020 **Organización de la Mesa Redonda "El doctorado y sus expectativas laborales" en el congreso URSI Málaga 2020**, *Colegio Oficial de Ingenieros de Telecomunicación*

2020 **Coordinador del grupo de trabajo Jóvenes Telecos del COIT**, *Colegio Oficial de Ingenieros de Telecomunicación*

2018 **Member of the Working Group P2816 of APS/SC/CEM**, *IEEE, APS*, Writing of the standard PAR P2816 Recommended Practice for Computational Electromagnetics Applied to Modeling and Simulation of Antennas

May 2022 **Member of the academic commission of the Signal Processing and Communications Engineering Ph.D. program**, *Universidad Carlos III de Madrid*

May 2023 **Member of the Government Council**, *Universidad Carlos III de Madrid*, assistant lecturers and research scholarship holders representative

Apr 2016 – Dec 2018 **Member of the School Board at Advanced Polytechnic School**, *Universidad Carlos III de Madrid*, assistant lecturers and research scholarship holders representative

Oct 2015 – Dec 2018 **Member of the Permanent Comission on the Signal Theory and Communications Department**

Sep 2014 – Sep 2018 **Institutional representative at the High School Collaboration Program**, *Universidad Carlos III de Madrid*, explanation of the anechoic chamber for antenna measurements provided by GREMA (Radiofrequency, Electromagnetics, Microwaves and Antennas Group)

Jun 2014 – Dec 2018 **Member of the Signal Theory and Communications Department Board**, *Master Students Representative*

Reviewer

- IEEE Antennas and Propagation Magazine (Q1)
- IEEE Access (Q1)
- MDPI Mathematics (Q1)
- MDPI Sensors (Q1)

- IEEE Transactions on Fuzzy Systems (Q1)
- WIREs Data Mining and Knowledge Discovery (Q1)
- IEEE Transaction on Artificial Intelligence
- SAGE Journal of Supercomputing (Q2)
- Elsevier Physics of the Earth and Planetary Interiors (Q2)
- Wiley Transactions on Emerging Telecommunications Technologies (Q2)
- IET Microwaves Antennas and Propagation (Q3)
- IEEE Transactions on Microwave Theory and Techniques (Q3)
- MDPI Energies (Q3)
- International Journal of RF and Microwave Computer-Aided Engineering (Q3)
- ACES Journal (Q4)
- SoftwareX (Elsevier)
- Premios del Colegio Oficial de Ingenieros de Telecomunicación
- Technovation Girls 2020

Language certificates and courses

Jul 2021 **LanguageCert Level 2 Certificate in ESOL International (Expert C1)**, *LanguageCert*
140/150 in Listening Reading, Writing; 34/50 in Speaking.

C1 level.

Feb 2017 **English course C1 *Advanced Skills***, *L*T*S*
May 2017 24 hours.

C1 level.

Oct 2015 **German course A1.2**, *Goethe-Institut*
Feb 2016 Course with 48 teaching units (45 minutes each one).

Level achieved: A1.2.

Mar 2013 **TOEFL**, *TOEFL iBT test*
Grade: 99 out of 120.

Jun 2011 **English language immersion program**, *Universidad Internacional Menéndez Pelayo, Valencia*
B2 level.

1 week.

Sep 2010 **English language immersion program**, *Universidad Internacional Menéndez Pelayo, A Coruña*
B2 level.

1 week.

Aug 2009 **Stay in *Global Village* school at Vancouver, Canada**, *scholarship from the Spanish Ministry of Education*
Obtained level: GV7 (Pre-Advanced) out of 8.

3 weeks.

Jul 2007 **Stay in Toronto, Canada**, *scholarship from the Castilla-La Mancha Regional Government*
Grade: 8 out of 10.

4 weeks.

Languages

Spanish Native level.

English	High level.	*Spoken and written, C1 certified.*
German	Low level.	*Written.*

Research lines

- Finite Elements
- Higher-Order Curl-Conforming Elements
- Domain Decomposition Methods
- Adaptivity
- Model Order Reduction
- HPCaaS: High Performance Computing as a Service
- Remote Simulation
- Privacy-preserving signal processing

Other considerations

- Driver's License.
- Cofounder and CTO of ScientApps, startup based on my Master Thesis Dissertation (now closed).