



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date

January 24th 2025

First name	Antonio		
Family name	García Ríos		
Gender (*)	Male	Birth date (dd/mm/yyyy)	██████
Social Security, Passport, ID number	██████		
e-mail	██████	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0003-3533-4660		

(*) Mandatory

A.1. Current position

Position	Full Professor / Catedrático de Universidad		
Initial date	March 21st 2018		
Institution	Universidad de Granada		
Department/Center	Electrónica y Tecnología de Computadores		
Country	Spain	Teleph. number	██████
Key words	FPGA, Smart Instrumentation, Reconfigurable Technologies		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
01/01/1996 – 30/09/1999	Predoc Researcher (FPU Grantee) / Univ. Granada / Spain
01/10/1999 – 30/09/2000	Associate Professor / Universidad de Granada / Spain
01/10/2000 – 31/10/2001	Associate Professor / Univ. Autónoma de Madrid / Spain
01/11/2001 – 30/09/2002	Associate Professor / Universidad de Granada / Spain
01/10/2002 – 24/02/2004	Interim Professor / Universidad de Granada / Spain
24/02/2004 – 20/03/2018	Professor / Universidad Granada / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Electronics Eng. (Master)	Universidad de Granada / Spain	1995
Physics (Master)	Universidad de Granada / Spain	1997
Electronics Engineering (PhD)	Universidad de Granada / Spain	1999

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Antonio García Ríos holds a Master in Electronics Engineering (M.A.Sc., 1995) and a Master in Physics (major in Electronics, 1997), as well as a PhD in Electronics Engineering (1999). He started his career at the Dept. Electronics and Computer Technology of the University of Granada on 1996, where he currently serves as Full Professor (Catedrático de Universidad) from 2018 and acted as Secretary from 2006 to 2012. He also was an Associate Professor at the Dept. Computer Engineering of the Universidad Autónoma de Madrid from 2000 to 2001. His teaching has been mainly in the College of Computer and Telecommunications Engineering (ETSIIT) of the University of Granada, where he served as Vice-Dean for Student Mobility and Head of the International Office from 2012 to 2016. His research career has been carried out within the DiTEC (Digital Techniques, <http://ditec.ugr.es/>) research group, as well

as within the multidisciplinary group ECsens (<https://wpd.ugr.es/~ecsens/>). He is a member of the Research Center in Information and Communication Technologies (CITIC-UGR, <http://citic.ugr.es/>). His research was initially devoted to computer arithmetic, developing digital signal processing systems based on RNS (Residue Number System) and implemented on programmable logic under several projects from Plan Nacional I+D+i. His research evolved, thanks to the cooperation with other groups at UGR and UAM, toward the intellectual property protection of digital hardware and the application of digital and analog reconfigurable technologies to several fields, from artificial vision to, more recently, smart instruments and biosignal processing, and cryptography. All this work has led to the publication of more than 40 papers in indexed journals (most in the first and second quartiles), more than 100 contributions to international conferences, the supervision of 7 PhD dissertations and contributions to 13 projects in several national and regional programs, as well as several technology-transfer contracts and a CENIT-program project. He is also one of the applicants for 2 patents in Spain.

He has been awarded 4 (the maximum possible to date) research complements (sexenios) by CNEAI, and his h-index is 24 on Google Scholar (UserID siNd6FEAAAAAJ, more than 2.200 citations) and 18 on the Web of Science (ResearcherID C-6070-2012, more than 1.000 citations). He has cooperated with the Grupo de Investigación en Sistemas Electrónicos Digitales at the Universidad Politécnica de Valencia in several initiatives oriented to transfer know-how and technology to the ICT industry, as well as with the group of Prof. Meyer-Baese at the Florida State University (USA), where he was a Visiting Professor from August 2017 to January 2018 under the "Salvador de Madariaga" program. He is a Senior Member of IEEE.

Part C. RELEVANT MERITS (*sorted by typology*)

C.1. Publications (*see instructions*)

- A. Martín-Martín, R. Padial-Allué, E. Castillo, L. Parrilla, I. Parellada Serrano, A. Morán Costoya and A. García, "Hardware Implementations of a Deep Learning Approach to Optimal Configuration of Reconfigurable Intelligence Surfaces", *Sensors*, vol. 24, no. 3, art. 899 (2024, Q2, DOI [10.3390/s24030899](https://doi.org/10.3390/s24030899))
- V. Toral, F. J. Romero, E. Castillo, D. P. Morales, A. Rivadeneyra, A. Salinas-Castillo, L. Parrilla and A. García, "A versatile wearable based on reconfigurable hardware for biomedical measurements", *Measurement*, vol. 201, art. 111744 (2022, Q1, DOI [10.1016/j.measurement.2022.111744](https://doi.org/10.1016/j.measurement.2022.111744))
- L. Parrilla, A. Lloris, E. Castillo and A. García, "Table-free Seed Generation for Hardware Newton–Raphson Square Root and Inverse Square Root Implementations in IoT Devices", *IEEE Internet of Things Journal* vol. 9, no. 9, pp. 6985-6995 (2022, Q1, DOI [10.1109/JIOT.2021.3116536](https://doi.org/10.1109/JIOT.2021.3116536))
- V. Toral, E. Castillo, A. Albrecht, F. J. Romero, A. García, N. Rodríguez, P. Luigli, D. P. Morales and A. Rivadeneyra, "Cost-effective printed electrodes based on emerging materials applied to biosignal acquisition", *IEEE Access*, vol. 8, pp. 127789-127800 (2020, Q1, DOI [10.1109/ACCESS.2020.3008945](https://doi.org/10.1109/ACCESS.2020.3008945))
- V. Toral, A. García, F. J. Romero, D. P. Morales, E. Castillo, L. Parrilla, F. M. Gómez-Campos, A. Morillas and A. Sánchez, "Wearable system for biosignal acquisition and monitoring based on reconfigurable technologies", *Sensors*, vol. 19, no. 7, art. 1950 (2019, Q1, DOI [10.3390/s19071590](https://doi.org/10.3390/s19071590))
- L. Parrilla, J. A. Alvarez-Bermejo, E. Castillo, D. P. Morales, J. A. López-Ramos and A. García, "Elliptic Curve Cryptography hardware accelerator for high-performance secure servers", *The Journal of Supercomputing*, vol. 75, no. 3, pp. 1107–1122 (2019, Q2, DOI [10.1007/s11227-018-2317-6](https://doi.org/10.1007/s11227-018-2317-6))
- E. Castillo, D. P. Morales, A. García, L. Parrilla, V. U. Ruiz and J. A. Alvarez-Bermejo, "A clustering-based method for single-channel fetal heart rate monitoring", *PLoS ONE*, vol. 13, no. 6, e0199308 (2018, Q1, DOI [10.1371/journal.pone.0199308](https://doi.org/10.1371/journal.pone.0199308))
- L. Parrilla, E. Castillo, J. A. López-Ramos, J. A. Alvarez-Bermejo, A. García and D. P. Morales, "Unified compact ECC-AES co-processor with Group-Key support for IoT

devices in Wireless Sensor Networks", Sensors, vol. 18 , no. 1, art. 251 (2018, Q1, DOI [10.3390/s18010251](https://doi.org/10.3390/s18010251))

- E. Castillo, A. Lloris, D. P. Morales, L. Parrilla, A. García and G. Botella, "A new area-efficient BCD-digit multiplier", Digital Signal Processing, vol. 62, no. 1, pp. 1-10 (2017, Q2, DOI [10.1016/j.dsp.2016.10.011](https://doi.org/10.1016/j.dsp.2016.10.011))
- D. P. Morales, A. García, E. Castillo, M. A. Carvajal, L. Parrilla and A. J. Palma, "An Application of Reconfigurable Technologies for Non-invasive Fetal Heart Rate Extraction", Medical Engineering & Physics, vol. 35, no. 7, pp. 1005-1014 (2013. Q2, DOI [10.1016/j.medengphy.2012.09.011](https://doi.org/10.1016/j.medengphy.2012.09.011))

C.3. Research projects

- Project: "Electronic Components and Systems for Flexible, Coordinated, and Resilient Distributed Renewable Energy Systems, ECS4DRES" (101139790)
Funding Agency/Program: European Commission, HE-HORIZON-KDT-JU-2023-1-IA
IP: Víctor Toral López
Dates: 1/7/2024 to 30/6/2027
Funding: 203.481,20€
- Project "Electrónica Reconfigurable para Superficies Inteligentes, RECONF6G" (PDC2023-145862-I00)
Funding Agency/Program: PERTE Chip, Convocatoria Proyectos Prueba de Concepto
IP: José Luis Padilla de la Torre / Juan F. Valenzuela Valdés
Dates: 01/01/2024 to 31/12/2025
Funding: 290.400€
- Project: "Implementación Hardware de Tangle y Blockchain para dispositivos IoT e IIoT con criptografía ligera y post-cuántica" (PID2022-140934OB-I00)
Funding Agency/Program: Ministerio de Ciencia e Innovación
IP: Luis Parrilla Roure / Encarnación Castillo Morales
Dates: 01/09/2023 to 31/08/2026
Funding: 60.375€
- Project: "Development of 3D Reconfigurable Intelligent Surfaces for smart and Energy-Sustainable wireless communications, 3D-RISES" (TED2021-129938B-I00)
Funding Agency/Program: Ministerio de Ciencia e Innovación, Proyectos Orientados a la Transición Ecológica y a la Transición Digital
IP: Juan Francisco Valenzuela Valdés / Encarnación Castillo Morales
Dates: 01/12/2022 to 30/11/2024
Funding: 416.800€
- Project: "Seguridad Hardware para el intercambio de información en dispositivos IoT (HardSec4IoT)"
Funding Agency/Program: Consejería de Economía y Conocimiento de la Junta de Andalucía (Spain) and the European Regional Development Funds (ERDF)
IP: Luis Parrilla Roure
Dates: 01/07/2021 to 30/06/2023
Funding: 25.000€
- Project: "MAstering 5G: deep learning and smart Infrastructure Communications for a secure connected society, MAGIC-5G" (EQC2019-005605-P)
Funding Agency/Program: Ayudas para Infraestructuras y Equipamiento Científico-técnico, Plan Estatal de I+D 2018
IP: Isaac Álvarez Ruiz
Dates: 01/01/2019 to 31/12/2021
Funding: 667.845,32€
- Project: "Laboratorio de comunicaciones 5G y sus aplicaciones" (UNGR15-CE-3311)

Funding Agency/Program: Ayudas para Infraestructuras y Equipamiento Científico-técnico, Plan Estatal de I+D 2015

IP: Pablo Padilla de la Torre

Dates: 01/01/2016 to 31/12/2018

Funding: 307.453,50€

- Project: "Sistema Integral de Monitorización de señales biométricas: aplicación para seguimiento del estado del Militar SIMMA"

Funding Agency/Program: Centro Mixto UGR-MADOC

IP: Antonio García Ríos

Dates: 22/04/2016 to 22/10/2017

Funding: 6.000 €

C.4. Contracts, technological or transfer merits

- Contract: " Migración de un diseño digital propiedad de la empresa desde el dispositivo CPLD actual en el que se implementa a un nuevo dispositivo de sustitución " (Contract no. C-5795)

Contracting company: Idneo Technologies SAU (Barcelona, Spain)

Contractor: OTRI Universidad de Granada

Funding: 10.481,63 €

Dates: 16/2/2023 to 31/8/2023

IP: Antonio García Ríos

- Contract: "R&D development for IoT tools: platform for ultra-low power wearable sensors" (Contract no. C-4356-00)

Contracting company: eesy-innovation GmbH (Riemerling, Germany)

Contractor: Fundación General Universidad de Granada – Empresa

Funding: 17.037,57 €

Dates: 01/11/2016 to 31/10/2019

IPs: Diego P. Morales Santos and Antonio García Ríos

- Contract: "Desarrollo y ejecución del Proyecto SensoBed" (Contract no. C-3852)

Contracting company: Lo Monaco Hogar, S.L. (Granada, Spain)

Contractor: OTRI Universidad de Granada

Funding: 24.684€

Dates: 12/07/2017 to 31/07/2018

IP: Alberto J. Palma López

- Contract: "Hardware Secured IoT Server" (Contract no. C-3770-01)

Contracting company: Infineon Technologies AG (Munich, Germany)

Contractor: Fundación General Universidad de Granada – Empresa

Funding: 13.547€

Dates: 01/11/2016 to 30/06/2017

IPs: Diego P. Morales Santos and Encarnación Castillo Morales

- Patent "Information Storage Devices based on Codes with Error Correction Capabilities" (Spain, no. P201830564).

Authors: L.F. Capitán Vallvey, A. Salinas Castillo, E. Castillo Morales, A. García Ríos, I. Ortiz Gómez, J.A. Álvarez Bermejo, J.A. López Ramos, F.R. Manzano Agugliaro, J.A. Garrido Cárdenas

Owners: Universidad de Granada (50%), Universidad de Almería (50%)

- Patent "Procedure and system for detection of balistocardiographic signals" (Spain, no. P201831292).

Authors: A.J. Palma López, E. Castillo Morales, A. García Ríos, L.F. Capitán Vallvey, A. Martínez Olmos, M.A. Carvajal Rodríguez, P. Escobedo Araque, C.J. Martínez Blanque

Owners: Universidad de Granada (50%), Lo Monaco Hogar S.L. (50%)