

*ENABLE-S3 project has received funding from the European Union's Horizon 2020  
Research and Innovation Programme under Grant Agreement No 692455*

**RESEARCH POSITION IN ENBLE-S3 PROJECT (EUROPEAN INITIATIVE TO ENABLE VALIDATION FOR HIGHLY AUTOMATED SAFE AND SECURE SYSTEMS) FUNDED BY THE HORIZON 2020 PROGRAM (ECSEL JOINT UNDERTAKING, H2020-ECSEL-2015-2-IA-TWO-STAGE, GRANT AGREEMENT 692455) FOR THE PERIOD 2016-2019**

The University of Las Palmas de Gran Canaria (ULPGC), Spain wishes to appoint 1 Research contract to work in the EU Project ENABLE-S3. The ENABLE-S3 Project (European Initiative to Enable Validation for Highly Automated Safe and Secure Systems, H2020-ECSEL-2015-2-IA-TWO-STAGE, Grant Agreement 692455) funded by the Horizon 2020 Program for the period 2016-2019, is dedicated to pave the way for accelerated application of highly automated and autonomous systems in the mobility domains automotive, aerospace, rail, maritime and health, through provision of highly effective test and validation methodology and platforms that will save significant fractions of field tests. Virtual testing and verification and coverage oriented test selection methods will enable certification of these systems with reasonable efforts and project results will be considered for standardization of such systems. In particular, this contract will deal with the development of digital integrated systems for space application in the area of hyperspectral image compression.

The University will recruit the best candidate following the recommendations of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. The job offer will be published through a wide range of portals. The evaluation of candidates and their selection criteria will be aligned with the equal opportunities policies of the ULPGC. Selection and hiring procedures will follow transparent mechanisms attending national and regional legislation.

The selection committee will be composed by Mr. Antonio Marcelino Santana González (Fundación Canaria Parque Científico y Tecnológico at the ULPGC), Ms. Almudena Rocío Suárez Rodríguez, (who will act as secretary of the commission), Prof. José Fco. López Feliciano (ENABLE-S3 researcher at ULPGC, who will act as President of the Commission) and Prof. Roberto Sarmiento Rodríguez (coordinator of the research to be done in this contract and researcher at ULPGC).

The selected researcher must present ample experience in the design of complex digital electronic systems, hardware architectures, HDL, FPGAs, software tools for the design of digital integrated systems and their verification.

The responsibilities of the researcher should contemplate the following research topics:

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- Design, development and verification of algorithms to be implemented in hardware platforms whose aim is the lossless and lossy compression and decompression of hyperspectral images
- Develop of VHDL code for describing complex systems
- Use of HLS tools for the description and verification of hardware architectures
- Performance evaluation of the systems developed in terms of complexity, power dissipation, compression ratios, radiation hardness, computation time, resolution.

Additionally, the researcher will participate in research meetings with the partners of the project, assist in the supervision of research work related with this project, publish results in specialized journals and conferences, and enroll in PhD courses.

## **PREREQUISITES**

The candidates must comply the following conditions:

- Nationality:
  - Spanish nationality or that of one of the other member states of the European Union.
  - Whatever his nationality, spouses of Spaniards and nationals of other Member States of the European Union.
  - People included into International Agreements concluded by the European Union and ratified by Spain, related to free movement of workers.
  - Foreign candidates not included in paragraphs above, legally resident in Spain.
- Age: Be over eighteen.
- A degree in Telecommunication Engineering or Electronic Engineering
- At least 30 ECTS in a Master in Telecommunication Engineering, Telecommunication Technology or Industrial Engineering
- Fulfill all the requisites to be enrolled in a PhD Program by September 1<sup>st</sup> 2017
- Demonstrate a good language level in English and Spanish.
- Experience in the following items:
  - Complex electronic systems design
  - FPGAs
  - Fault tolerance techniques
  - Software tools for digital systems design
  - Hardware Programming languages and High Level Synthesis tools

## **WORKING CONDITIONS**

This temporary contract is for specified work and services for the execution of ENABLE-S3 in the Foundation Canary Scientific and Technology Park of the University of Las Palmas de Gran Canaria. More specifically the tasks to be performed will be orientated towards the development of on-board digital systems to compress/decompress hyperspectral images.

The contract will conclude in case of funding shortfall. The position is suitable for a full-time employment compatible with his/her enrollment in a PhD Programmed at IUMA. Annual gross salary: 21.426,00 €.

The start of the contract is September 1<sup>st</sup>, 2017, and the duration is 20 months. The hired scientist will mainly work at the laboratories of the Institute for Applied Microelectronics (IUMA), in the University of Las Palmas de Gran Canaria, Canary Islands, Spain.

Further information about the Fundación Canaria Parque Científico y Tecnológico of the University of Las Palmas de Gran Canaria, IUMA and the University of Las Palmas de Gran Canaria can be found on the website:

<http://fpct.ulpgc.es>  
<http://www.iuma.ulpgc.es>  
<http://www.ulpgc.es>

## **REQUIRED DOCUMENTATION**

Your application must include:

- A complete CV with the same sections appointed in the EVALUATION item below.
- Photocopy of the ID Card or passport
- Photocopy of your academic records
- The model included in the annex of this call

## EVALUATION

The following items and scores will be taken into account in order to evaluate the CV submitted:

1. ACADEMIC (máx. 20 points)
  - 1.2. Undergraduate degree (máx. 10 points)
  - 1.3. Academic records (máx. 10 points)
2. RESEARCH EXPERIENCE (máx. 15 points)
  - 2.1. Research activities (máx. 5 points)
    - 2.1.A As associate researcher in national projects (up to 3 points)
    - 2.1.B As associated researcher in international projects (up to 3 points)
    - 2.1.C As associated researcher in European Space Agency projects (up to 3 points)
  - 2.2. Journal publications (title, date, volumen, pages, ISSN) (máx. 5 points)
    - 2.2.A With impact factor (up to 1 points/publication)
    - 2.2.B Without impact factor (up to 0,5 puntos)
  - 2.3. Conference publications (máx. 5 points)
    - 2.3.A With ISBN (international: 0.5 point, national: 0,25 points)
    - 2.3.B Without ISBN (international: 0,25 points, national: 0,1 points)
3. MERITS RELATED TO THE CONTRACT PROFILE (máx. 40 puntos)
  - 3.1. Advanced experience in Hardware Programming languages for the design of digital integrated circuits (VHDL, Verilog, System Verilog, C, C++ and SystemC) (10 points)
  - 3.2. Advanced experience in software tools for the design of digital integrated circuits (Vivado, Vivado HLS, SDSOC, ModelSim, Synplify) (10 points)
  - 3.3. Advanced experience in the design of MPSoCs (10 points)
  - 3.4. Basic knowledge in GPUs (5 points)
  - 3.5. Basic knowledge in fault tolerant systems (5 points)
4. OTHER MERITS (máx. 10 points)
  - 3.1. Spanish and english language expertise (3 points)
  - 3.2. Fellowship fundings received for starting research initiatives (máx. 5 points)
  - 3.3. Prizes (after the main degree) (máx. 2 poins)
6. INTERVIEW (according to the evaluation commission) (máx. 15 points)

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**Notes:**

- a) The CV to be presented should follow the sections described above, with the same numbering.
- b) When it says “maximum” the score will be truncated once reached that maximum
- c) When it says “up to” the evaluation commission will decide the score according to the quality of the merits
- d) The evaluation commission has the right to propose no candidate to this contract if it is found that no one fulfills the necessary experience to participate in this project.
- e) Candidates who exceed 65 points will be invited to the interview stage.

**PRESENTATION OF THE DOCUMENTATION**

The CV according to the sections mentioned above, as well as the model included in the Annex of this call for contract, should be sent by e-mail before june 9<sup>th</sup> at 14.00 p.m. to the following e-mail address: [almudena.suarez@ulpgc.es](mailto:almudena.suarez@ulpgc.es)

The subject of the e-mail should mention “Research contract for ENABLE project”

Las Palmas de Gran Canaria, June 1st, 2017

**General Manager at Fundación Canaria Parque Científico y Tecnológico  
ULPGC  
Mr. Antonio Marcelino Santana González**

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## Annex I

### Submission model

Mr/Mrs \_\_\_\_\_ with Passport no. \_\_\_\_\_ with address in  
\_\_\_\_\_, and with the following contact data:

Phone number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

With respect to the call for a research contract presented by the Fundación Parque Científico y Tecnológico (FPCT) at the University of Las Palmas de Gran Canaria, corresponding to a research position for the European project “*European Initiative to Enable Validation for Highly Automated Safe and Secure Systems, ENABLE-S3*” funded by the Horizon 2020 program for the period 2016-2019.

### REQUESTS

To be admitted as a candidate for this position according to the evaluation criteria described in the call for contract.

According to the laws related to data protection, I authorize the FPCT to include my data in their archives in order to participate in the selection of personnel.

*[Place and date]*

Signature  
The candidate

*Por la presente usted afirma conocer la normativa de protección de datos. Puede ejercer sus derechos de acceso, rectificación, cancelación y oposición enviando un escrito con referencia/asunto: LOPD, a FUNDACIÓN CANARIA PARQUE CIENTÍFICO TECNOLÓGICO DE LA ULPGC, c/ Practicante Ignacio Rodríguez, s/n. Edificio Polivalente Campus Universitario de Tafira CP 35017 Las Palmas de Gran Canaria. O enviando un mail a [info@fpct.ulpgc.es](mailto:info@fpct.ulpgc.es)*