

**FORM OF THE RECRUITMENT CALL****GRANT:**

Reference: ABC-EU-XVA ITN-EID PROJECT

Title: "Valuation adjustments for improved risk management"

University Center: Faculty of Informatics, University of A Coruña

Motivation of the contract:

Ph.D. position associated to the H2020 EU Marie Curie Initial Training Network project named "ABC-EU-XVA"

Place and timetable: Faculty of Informatics, 37 hours per week

**GROUP IN THE GENERAL REGIME OF SOCIAL SECURITY**

PROFESSIONAL LEVEL\* (AGREEMENT 17 NOVEMBER 2014 ABOUT HIRED STAFF BELONGING TO CHAPTER VI DOF UDC BUDGET)

Associated researcher ☐Researcher in training ☒Technician to support research ☐Assistant to support research ☐Administrative staff ☐Administrative assistant ☐

Dedication regime

Full time: ☒Part time: ☐

Position duration

3 years

Envisaged starting date

1 May 2019

GROSS SALARY : 2.735,83 €/month (12 monthly payments, the proportional part of the extraordinary payment is already included in each monthly payment)

BUDGET ITEM: 6140.280098.541A.64902.00

**REQUIREMENTS**

1. Bachelor in Mathematics, Applied Mathematics or Financial Mathematics
2. According to the rules of the position at UDC, at the deadline of the call the candidate has to be registered in a Ph.D. Program at any of the Galician Universities
3. According to the regulations for mobility within the Marie Skłodowska Curie programme, at the time of recruitment by the host organisation, the applicant must not have resided or carried out their main activity (work, studies, etc) in the country of their host organisation for more than 12 months in the 3 years immediately prior to the reference date.

**EXPERIENCE:**

They have to be — at the date of recruitment — an 'early stage researcher' (ESR), i.e. starting his/her research career and not have a doctoral degree

**OTHER REQUIREMENTS:****PRESENTATION OF CALL AND DOCUMENTS**CALL PROCEDURE: Send documentation in a .zip file to Carlos Vázquez ([carlosv@udc.es](mailto:carlosv@udc.es))

DEADLINE: 10 days since the publication of the call in the UDC electronic website

**SELECTION COMMITTEE AND ANNOUNCEMENT OF SELECTION RESULTS:**

Recruitment Committee: Carlos Vázquez Cendón (main researcher of the project)

Publication of results: Announcements panel at Department of Mathematics, Faculty of Informatics

A Coruña, 28 of February of 2019

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Signed: Carlos Vázquez Cendón, Main Researcher

## SUMMARY OF THE RECRUITMENT CALL

### PROJECT DATA

**Title:** ABC-EU-XVA ("Valuation adjustments for improved risk management")

**Reference:** Grant Agreement no: 813261 in the MSCA-ITN-2018-EID:Marie Skłodowska-Curie Innovative Training Networks (ITN-EID)

**Main researcher:** Carlos Vázquez Cendón

### CALL DETAILS

#### **Job description:**

The research will be carried out in the context of the H2020 EU Marie Curie Initial Training Network project named "ABC-EU-XVA", which will provide a unique opportunity, for 6 researchers in early stages of their careers, to perform multi-disciplinary research and gain deep insight into a variety of aspects of financial counterparty risk and their consequences, under the prestigious scheme of the Marie Curie European Industrial Doctorates (EID).

The aim of the ABC-EU-XVA project is to gain deeper expertise in counterparty risk, modern valuation adjustments and how to include these in the modern financial mathematical models, in algorithms, software, (big) data. The PhD candidate will join the ABC-EU-XVA community, and take part in the ABC-EU-XVA events in Europe.

In an EID project a close cooperation with industry is mandatory, therefore a stay of 18 months with the industrial partner is expected and prescribed. For the current vacancy, the industrial partner is Ernst and Young (EY), headed in Amsterdam, The Netherlands. EY's risk management professionals help access options and improve processes, and assist with the management of risk as an enterprise-wide discipline. For managing XVA, credit risk, market risk, or operational risk and quantitative analysis, EY has a broad range of experience. It is expected that the PhD student will work closely together with the industrial partner, EY, at any stage of her/his PhD, and not only during the compulsory stay at the EY offices.

The research group "M2NICA" (<http://dm.udc.es/m2nica/en>) at University of A Coruña will host the PhD candidate. The group is expert on mathematical modeling and numerical solution of problems arising in engineering and different applied sciences, also developing computer toolboxes for the numerical simulation of process and devices. The treatment of real problems arising in insurance and finance is one of the main research and transfer lines.

The PhD student will work on the PDEs and hybrid modeling of XVA. Monte-Carlo methods, PDEs, and numerical integration, with particular pros and cons depending on the application, have been successfully applied to estimate exposure profiles for CVA computation. When high-dimensionality arises in XVA, a hybrid MC computational approach that emphasizes dimension and variance reduction may be appealing and of high novelty. This is especially important for XVA at portfolio level, involving many different derivatives. Although we initially focus on the PDE approach for low dimensions, a hybrid Monte Carlo (MC) computational approach will be built upon a combination of MC and the other approaches, thus joining the main individual method advantages. Efficient valuation methods will be included in software packages. Results are to be published in international journals and presented at major conferences and they must lead to a PhD thesis within 3 years.

#### **Motivation of the call:**

The 3 year ESR position belongs to the European ITN-EID ABC-EU-XVA.

#### **Candidates requirements:**

1. Bachelor in Mathematics, Applied Mathematics or Financial Mathematics
2. According to the rules of the position at UDC, at the deadline of the call the candidate has to be registered in a Ph.D. Program at any of the Galician Universities
3. According to the regulations for mobility within the Marie Skłodowska Curie programme, at the time of recruitment by the host organisation, the applicant must not have resided or carried out their main activity (work, studies, etc) in the country of their host organisation for more than 12 months in the 3 years immediately prior to the reference date.

#### **Valuation criteria:**

- Bachelor and Master transcripts: 50%, minimum rates 3 out of 4 at bachelor, minimum rates 3 out of 4 at master level
- Publications: 10%, articles in JCR list 1 point per article
- Experience and training related to the PhD subject: 10%, minimum 6 months experience or additional master degree in related topic to position, 1 point per year of experience and 2 points per additional master degree
- English level: 10%, maximum rates correspond to First Certificate (B2) or equivalent
- Structured interview in English: 20%
- Maximum total points equal to 100.

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#### **Documents to be presented by candidates:**

*\*Acordo sobre clasificación profesional, condicións de traballo e marco de referencia da representatividade laboral do persoal contratado con cargo a proxectos e convenios de I+D+I financiados a través do capítulo VI dos orzamentos da UDC. Asinado o 17/11/2014 entre a UDE e os sindicatos CCOO e CIG*



UNIVERSIDADE DA CORUÑA



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de Desarrollo Regional  
"Una manera de hacer Europa"

- A motivation letter asking for the position,
- A detailed CV,
- A copy of passport or ID card,
- A transcript of completed Bachelor and MSc courses
- A list of publications, if it is the case
- A certificate of being registered at a Ph.D. Program at any Galician University.

**Submission of applications:** Send documentation in a .zip file to Carlos Vázquez ([carlosv@udc.es](mailto:carlosv@udc.es))

**Deadline for applications:** 10 days since the publication of the call in the UDC electronic website

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