

*DOCTORAL INPhINIT FELLOWSHIPS PROGRAMME – INCOMING FRAME
INFORMATION CALL 2022*

PhD POSITION OFFER FORM

Position

1. Project Title/ Job Position title: **Mathematics & Artificial Intelligence**
 2. Area of Knowledge: **Physical Sciences, Mathematics and Engineering**
 3. Group of disciplines: **Theoretical and Applied Mathematics, Computer Science**
 4. Research project/ Research Group description (max. 2.000 characters)
- **Objective:** The objective of this position is to carry out developments in the field of artificial intelligence. One is related with the analysis of health record and the other with the development of mathematical models in machine learning.
 - **Description:** In the area of artificial intelligence we work on machine learning, heuristic optimization, reinforcement learning and social choice.
 - **Applications:** Massive data and optimization problems from financial to social media, marketing, medical domains (diagnosis and prognosis), genetics, environmental modelling, demography and biostatistics, logistics, scheduling and planning.

Specific research PhD project thesis (choose one of them):

Predicting risk and cost of patients. Advisors: **JA. Lozano.** The goal of this thesis is twofold. We plan to develop specific algorithms to predict the cost of a patient in the health system in general, but also particularly in a disease. As a second objective we plan to evaluate the risk of a patient in different scenarios, for instance, the risk of re-entering the emergency room

5. Job position description (max. 2.000 characters)

BCAM is a world-class research center in the field of Applied Mathematics located in Bilbao (Spain). **It obtained the Severo Ochoa Center of Excellence award in 2013 and 2018** given by the Spanish Ministry of Science, Innovation and Universities. BCAM is part of the **ERCOM** European Research Centers on Mathematics <http://www.ercm.org> networks. BCAM has endorsed the **Charter & Code** in 2008 and has been awarded the **HR Excellence in research Logo** in 2016.

The candidate will be part of the **Data Science** research area at BCAM.

The candidate must have solid knowledge and experience.

The research environment is international and open to national and international collaborations, the candidate must have willingness to team working and traveling.

Requirements:

- Master degree (preferable in Mathematics, Physics, Engineering or Computer Science).
- Applicants must have an excellent academic record.

Skills:

- Good communication and interpersonal skills.
- Ability to effectively communicate and present research ideas to researchers with different background (e.g., mathematicians and engineers as well as employs of forest service).
- Ability to clearly present and publish research outcomes in spoken (talks) and written (papers) form.
- Good command of spoken and written English.

Additionally, in terms of **transferable & complementary skills**, BCAM is carrying out the **Action Plan** within Human Resources Strategy for Researchers (HRS4R) BCAM action plan available here <https://bit.ly/2MH1R9S>; so, the fellow will benefit of this training program composed by: **Leadership, Ethic and Research, Effective Communication/Teamwork, Gender Balance, Research Integrity, Citizenship Science, etc.** The fellow **will receive all the needed support from BCAM to be fully integrated** in the group and in the center.

Group Leader

1. Title: Prof.
2. Full name: José Antonio Lozano
3. Email: jlozano@bcamath.org
4. Research project/ Research Group website (Url):
<http://www.bcamath.org/en/research/lines/ML/general>
5. Website description: Website of the ML line

INPhINIT Offer, eligibility requirements, evaluation and selection process

Incoming:

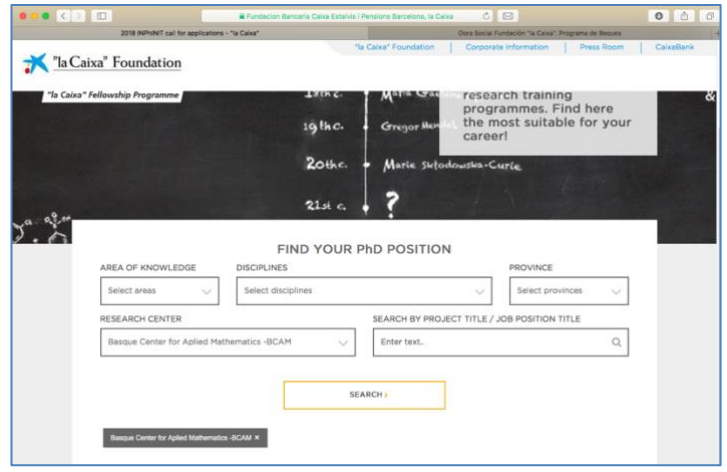
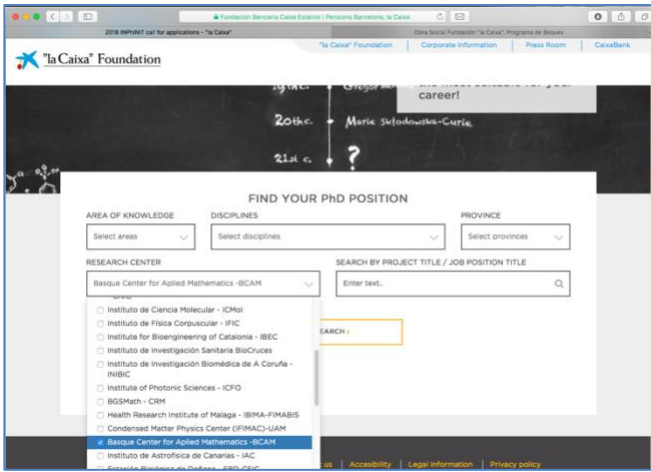
<https://fundacionlacaixa.org/es/becas-doctorado-inphinit-incoming>

Retaining:

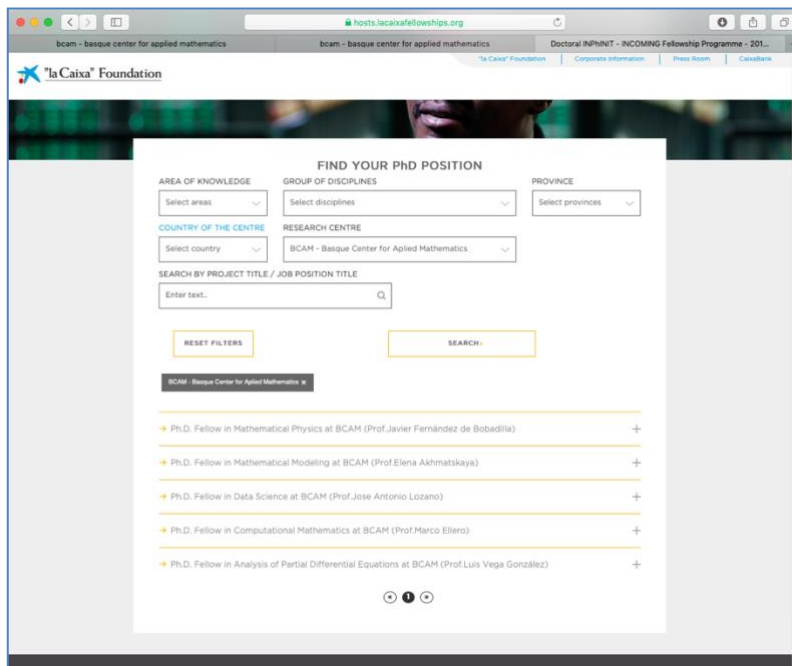
<https://fundacionlacaixa.org/es/becas-doctorado-inphinit-retaining>

How to Apply:

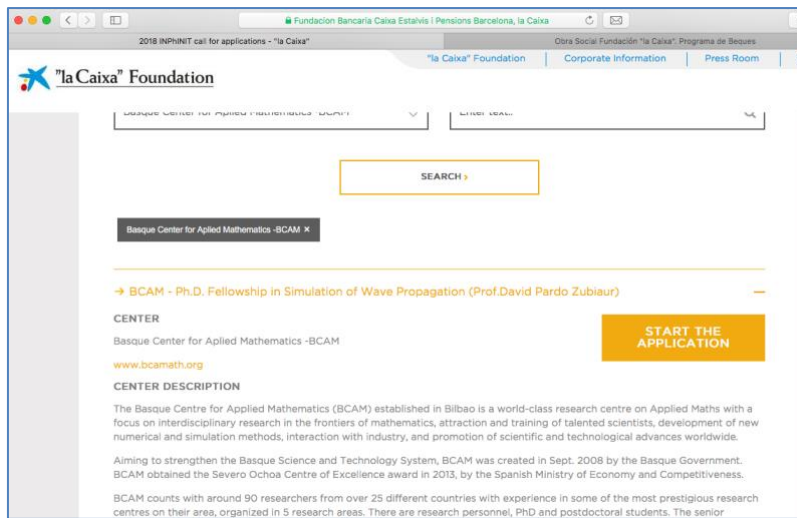
1. Click in <https://hosts.lacaixafellowships.org/finder>, click in RESEARCH CENTRE and choose "Basque Center for Applied Mathematics - BCAM"



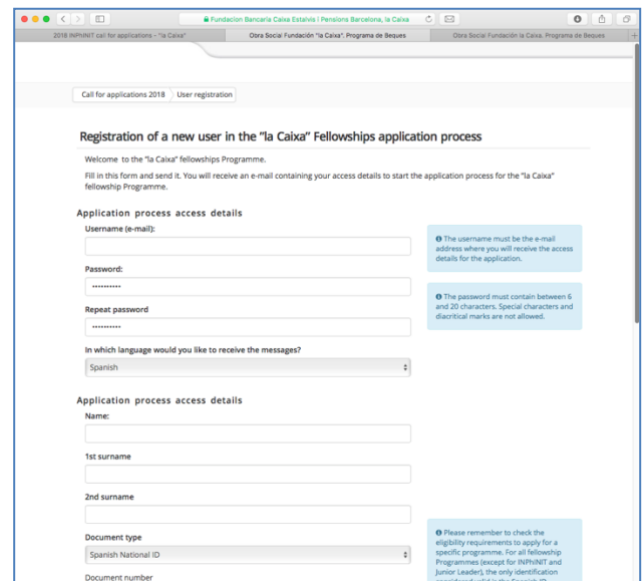
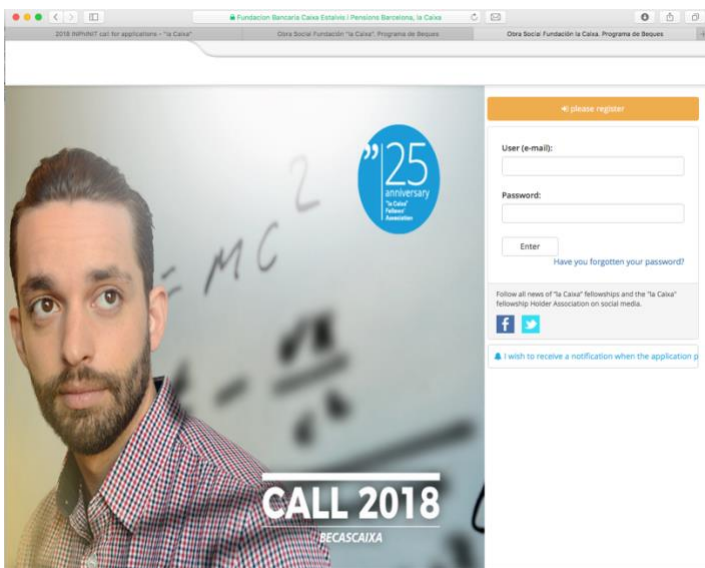
2. Click in "SEARCH" and the displayable will list the positions offered



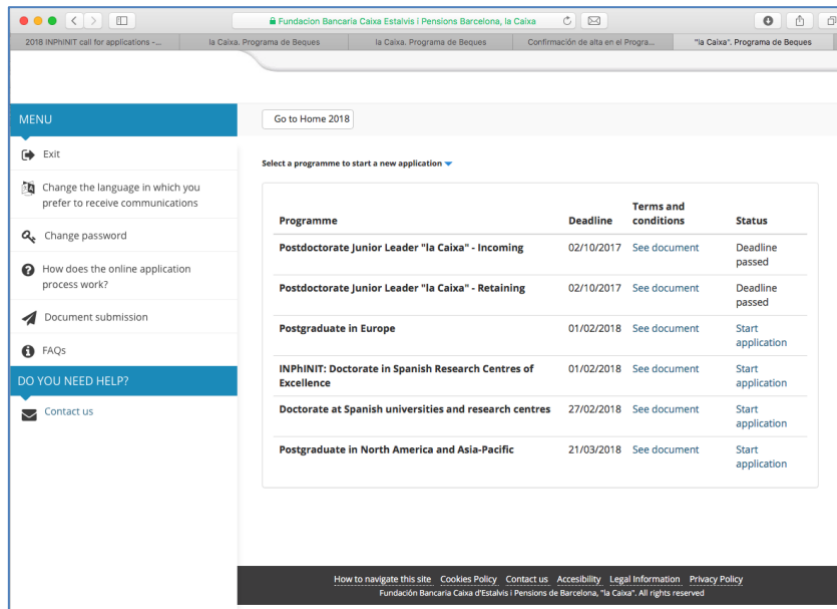
3. Click in the selected PhD Offer and click in "START THE APPLICATION"



4. The system will open a new window with the application website <https://www.lacaixafellowships.org/index.aspx>. Click in "Please register" for new applicants.



- After the registration, the system will send to you the confirmation email and the link to access into the system. Now you are in the position to access into the application system. Please choose INPhINIT: Doctorate in Spanish Research Centre of Excellence.



- Now you are in the position to fill the application form, upload the required documents and choose the project thesis. To choose the project thesis, click in "Studies to be Pursued", choose the centre and the position.

