

UNIVERSITY OF ALICANTE CALL FOR APPLICATIONS FOR A POSITION OF DISTINGUISHED RESEARCHER UNDER A TEMPORARY CONTRACT IN THE SENIOR CATEGORY WITHIN THE BEATRIZ GALINDO GRANT PROGRAM BASED ON THE ECD/365/2018 ORDINANCE OF 23 MARCH.

REF.: BEAGAL18/00205

Department: MATHEMATICS

Category: SENIOR

The University of Alicante, according to the provisions of order ECD/365/2018 of 23 March and based on the final resolution of the General Secretariat of Universities of 28 March 2019, is making a public call to award one contract, in the Senior category, following the conditions detailed below.

1. Characteristics of the position:

A maximum of one full-time Distinguished Researcher contract will be awarded to the area of Mathematical Analysis of the Department of Mathematics, jointly financed by the Ministry and the University of Alicante. The Ministry will make its contribution through the Beatriz Galindo Grants by providing the amount indicated in art. 2 of the General Conditions of the call.

- 65.000 euros provided by the Ministry of Education, Culture and Sports
- 25.000 euros provided by the University of Alicante (including the employer's share of Social Security)

The Distinguished Researcher work contract will have a maximum duration of 4 years.

2. Professor and/or researcher requirements and profile for the position:

Applicant professors and/or researchers must fulfil the following requirements to participate:

- a) Be in possession of a doctoral degree.
- b) Accredited a minimum of 7 years of professional experience as a professor, researcher and/or team coordinator in a foreign university or in a foreign entity recognised as an R&D centre in its own country.
- c) Outstanding experience in the management of competitive research projects as well as the supervision of Master's degree and PhD theses
- d) Having published articles in high impact journals will be taken into account, as well as the number of citations and number of authors of those citations.
- e) Projects/research contracts in which the applicant has participated will be taken into consideration, especially those where the applicant was the Principal Investigator. Postdoctoral contracts and research stays in different centres will also be considered.
- f) Having been a researcher in the following fields will be an advantage: Convexity and variational analysis; convex optimization and subdifferential calculus; stability and

sensitivity analysis of optimization problems: theory and numerical methods for semi-infinite optimization.

Work experience as well as other achievements must be accredited at the time of submitting your application to this position, by means of a copy of your work contracts, any work insurance history or certifications issued by establishments or universities of origin showing the professional category, the duration of the collaboration and the teaching and research activity carried out.

Professors and/or researchers currently receiving any financial assistance of a similar nature are not allowed to apply for this position.

3. Application submission and deadline:

Applications must be submitted between 8:00 a.m. on 24 April 2019 and 5:00 p.m. on 24 May 2019 (mainland time in Spain).

The application form will be downloadable from the electronic headquarters at the following link:

<http://www.educacionyfp.gob.es/mecd/servicios-al-ciudadano-mecd/catalogo/general/educacion/277089/ficha/277089-2018-fase2.html>

Prior to this, applicants must be registered in the electronic system through cl@ve (DNIe/Electronic certificate, Cl@ve pin, Permanent Cl@ve, EU Citizens) or in the natural persons register, available in the Ministry's link mentioned above.

The applicant must fill out all the sections of the form in English, sign it electronically, and attach the following documentation:

- a) **Professor and/or researcher teaching project.** The teaching project will address, for both degree and master levels, the areas of Functional Analysis, Optimal Control, Convex Analysis and Optimization. Candidates will submit three educational project summaries (maximum of 5 pages each) indicating the syllabus, sources, and methodology used. The projects will be based on three subjects selected from the list in the paragraph above. The projects will take that the subjects generate 6 credits into account and must indicate the necessary prerequisites to follow the subject. The proposal of three possible projects for the Final Degree Projects (FDPs) will be appreciated.

In addition, candidates must submit a detailed teaching project of a postdoctoral/doctoral course in the field of Functional Analysis and Optimization. The programme must include at the very least the following chapters:

- i. Differential calculus in Banach spaces (differentiability, theorems of implicit and inverse functions, differential equations, calculus of variations).
- ii. Hilbert space (projection theorems, Riesz, Stampacchia and Lax-Milgram, Hilbertian Basis)

- iii. Banach spaces (Hahn-Banach theorems, Banach-Steinhaus theorems, Open Mapping and Closed Graph, Ekeland Variational principle, Weak Topologies and Banach-Alaoglu theorem)
- iv. Operator theory (Compact Operators, Fredholm-Riesz theorem, Spectral theory, Hill-Yoshida theorem)
- v. Measurement theory (L^p spaces, Radon's theorem, Geometry of Convex sets)
- vi. Convex analysis and optimization in locally convex spaces (Fenchel-Legendre conjugation, subdifferentiability, theory of duality, Minimax theorems)
- vii. Applications of convex analysis and optimization (regularization of Ill-posed problems, applications to the geometry of regularized spaces and to the functional approach)
- viii. Some algorithmic principles (Newton's methods, quasi-Newton, augmented Lagrangian methods, interior point methods, minimization of non-differentiable functions)

The projects will explicitly refer to their grant, and the following the aims of the International Excellence campus HABITAT 5U: 1) Consolidate CAMPUS HABITAT as a pole of international teaching and research excellence 2) Foster an internationally competitive educational offer and attract foreign students. 3) Provide interdisciplinary higher education that allows to increase students' competences and their capacity to respond to demands of society. 4) Encourage highly qualified research talent and 5) Enhance interuniversity and international knowledge transfer.

- b) **Research project and knowledge transfer.** Candidates will specify their chosen line of research among those described in the Optimization Laboratory activity programme.

The research project will have to contemplate, in a balanced way, both the qualitative approach and the quantitative, or algorithmic, aspects of convex and non-convex optimization, encompassing models of mathematical programming, equilibrium, semi-infinite and stochastic optimization, systems of differential inclusions and sweeping process, feasibility theory, Lyapunov theory and optimal control.

Essential problems to address are the existence and behaviour of optimization problem solutions with respect to data perturbations, first order and higher order optimality conditions, subdifferential calculation and duality theory, relaxation and approximation schemes, analysis of the convergence and complexity of algorithms, and the Lyapunov stability of dynamic systems via sub-gradients. In all these problems, non-smoothness is an intrinsic property as the data could be non-differentiable, because there are an infinite number of restrictions, or because the system data is affected by some randomness or uncertainty.

The candidate's experience with modern tools of variational and non-smooth analysis (generalized sub-differentiability, variational structures, and convexity techniques), involving non-smooth components and allowing data randomness will be assessed.

The applicability of research results will be evaluated, within the scientific context itself, as well as in the field of technology transfer. These aspects must be adequately explained in the knowledge transfer research project.

- c) Curriculum Vitae of the professor and/or researcher, showing the list of predoctoral and postdoctoral stays as well as current or recent collaborations with universities or foreign research centres.

The curriculum model should be standardized following the FECYT format found at the following address: <https://cvn.fecyt.es/editor/#HOME>. The file must be uploaded in pdf format.

- d) Explanatory memorandum of the benefits that the teaching project and the research and knowledge transfer project (see Ministry model) (see ministry memorandum) will bring to the University.
- e) Copy of the doctorate degree certificate
- f) Copy of valid ID or passport for foreign citizens.

If the documentation provided during the application submission period is incomplete or contains correctable errors, the applicant will be required to complete or rectify the application through the website within 10 calendar days. If the applicant fails to do so, his/her submission will be understood to have been withdrawn. During the rectification process, submitted applications are not allowed to be reformulated nor is it allowed to modify the files attached to the submitted project reports.

Once this procedure has been completed, the University of Alicante will validate and sign the applications submitted by the professors and/or researchers by means of the legal representative's electronic signature on the Ministry's website.

4. Evaluation of the applications of professors and/or researchers

To assess the applications, the Ministry will designate an International Expert Panel that will act as a collegiate body tasked with evaluating professor and/or researcher submissions following the procedure indicated in art. 18 and 25 of the ECD/365/2018 Ordinance of 23 March, which approves the General Conditions for the call and awarding of Beatriz Galindo grants.

Applications will be assessed in a single phase. Applications will be rated with a score between 0 and 10 points by the international Expert Panel. The Expert Panel will evaluate the documentation presented by the professor and/or researcher following the evaluation criteria below and always according to the applicant's curriculum vitae applying the scores indicated in the different sections of art. 18.3 of the ECD/ 365/2018 Ordinance of 23 March 23.

- a) Teaching project of the professor and/or researcher, up to 2.5 points
1. Quality of the teaching project, 1.25 points
 2. Programming of the teaching project, up to 1.25 points
- b) Research project, up to 2.5 points
1. Quality of the research project, 1.25 points
 2. Programming of the research project, up to 1.25 points
- c) Knowledge transfer project, up to 2.5 points
1. Quality of the knowledge transfer project, 1.25 points

2. Programme of the transfer project, up to 1.25 points
- d) Benefits for the University of the teaching project, the research project and the knowledge transfer project, up to 2.5 points
 1. Benefits of the teaching project, up to 1.25 points
 2. Benefits of the research project, up to 0.75 points
 3. Benefits of the knowledge transfer project, up to 0.5 points

To pass the evaluation it will be necessary to sum up at least 6 points across all sections. In addition, the individual score of each of the factors must reach at least 50% of the maximum possible score for each of them.

In the event two or more candidates reach an identical overall score, the general criteria score of individual evaluations will be used as the tie breaker, the candidate with the highest score in criterion b) coming first, and so on, until exhausting the four criteria. If the candidates reach the same individual score for all the general criteria, their seniority in the establishment in which they are working will be the tie breaker.

In the event a professor and/or researcher has requested more than one position in the Beatriz Galindo call for grants 2018, he or she will be awarded the first position corresponding to him or her for which a preference was expressed, or, failing that, was the first to be requested.

Once the International Expert Panel has assessed the submitted applications, the Ministry will inform the choice of candidate to the University of Alicante.

The International Expert Panel will propose an incumbent to the University of Alicante and as many substitutes as submitted applications for each position among those having achieved a score above the minimum score, ranked in the order of the scores they obtained.

5. Decision

Based on the grant proposal received, the University of Alicante will publish the concession resolution and notify the selected candidate of the award of the contract.

6. Formalization of the contracts of the professor and/or researcher

Once the concession decision has been published, the University of Alicante will formalize a distinguished researcher contract with the selected professor and/or researcher within two months of its publication.

The object of the contract will be the realization of research activities, teaching or management of human teams within the framework of functions and objectives of the Department of Mathematics of the University of Alicante.

The duration of the working day, schedules, holidays, permits and vacations will be those set forth in the contract and in current applicable regulations for University of Alicante staff.

The contract may be terminated in accordance with the provisions of article 23 of Law 14/2011 of 1 June, and applicable labour regulations, as well as the conditions set forth in Ordinance

ECD/365/2018 of 23 March, by which the conditions for the call and awarding of Beatriz Galindo grants are approved.

7. Contract monitoring and report deadlines

The University of Alicante will be responsible for monitoring the work conducted by the hired professor/researcher in compliance with the conditions of Beatriz Galindo Grants. To do so, the appropriate procedures will be established with the director of the Department of Mathematics and the hired professor and/or researcher.

The yearly renovation of the contracts will be conditioned by annual follow-up reports. These reports must be presented by the hired professor and/or researcher 1 month before the expiration of each contract year. The reports will be electronically submitted using a digital signature and will follow the standardised models available on the Ministry's website. The main purpose of these reports will be to certify the objectives achieved in each contract year up to the date of the report. Subsequently, they will be sent by the University of Alicante to the Ministry within the periods indicated in art. 28 of the General Conditions of the Beatriz Galindo Grants and through the Ministry's website.

The annual reports will be evaluated by the International Monitoring Panel appointed by the Ministry, and will be qualified as suitable or not, based on a substantiated evaluation report that will be transmitted to the University and the hired professor and/or researcher.

8. Non-compliance

The partial or total failure to comply with the obligations established herein and in Ordinance ECD/365/2018 of 23 March, ruling Beatriz Galindo grants, will result in the initiation of the corresponding non-compliance action in accordance with the applicable legislation.

The specific aspects below will be considered:

- a) The total and manifest non-compliance with the objectives and activities set out by the Department of Mathematics for which the contract was granted.
- b) The realization of unauthorised modifications to the initial conditions of the contract.
- c) Non-communication of other incompatible activities
- d) Non-compliance, in accordance with the provisions of the General Conditions of this call, regarding the monitoring reports that must be presented annually by the hired professor and/or researcher.

9. Incompatibilities

Hired professors and/or researchers may not enter into employment contracts with other entities during the Distinguished Researcher contract period, unless expressly authorised by the University of Alicante, provided that the current incompatibility regime is respected.

In addition, this contract will be incompatible with wages or salaries of a similar nature and, generally, with the collection of any sum of a remunerative nature, while the activity carried

out could affect the fulfilment of the Beatriz Galindo grant objective or its research purpose, within the same working hours.

10. Resources

An appeal can be lodged against the decision to award the grant of the present call and a reconsideration can be requested before the body that issued it within one month in accordance with the provisions of Law 39/2015 of 30 October, of the Common Administration Procedure of Public Administrations.

11. Applicable regulations

The following regulations shall apply in addition to the provisions of this decision:

- a) Ordinance ECD/E65/2018 of 23 March, whereby the General Conditions for the Beatriz Galindo grants' call and award are approved.
- b) Law 38/2003, of 17 November, General Law on Subsidies and their Regulations, approved by Royal Decree 887/2006, of 21 July.
- c) Law 14/2011 of 1 June, on Science, Technology and Innovation.
- d) Law 39/2015 of 1 October, on the Common Administrative Procedure of Public Administrations (the Common Administrative Procedure Law of Public Administrations).
- e) Law 40/2015, of 1 October, on the Public Sector's Legal Regime.

Alicante, a 16 de abril de 2019.

LA VICERRECTORA DE INVESTIGACIÓN Y TRANSFERENCIA DE CONOCIMIENTO
Amparo Navarro Faure