AQU CATALUNYA

ASSOCIATE PROFESSOR PROFILES (2017-2019)



ASSOCIATE PROFESSOR PROFILES (2017-2019)

Barcelona, 2022

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INTRODUCTION

Objective

In Spain, unlike most neighbouring countries, prior accreditation is required before you can be selected and hired for a permanent academic post in a university. Teaching staff accreditations are the regulatory mechanism established for this purpose. They enable an external agent (AQU Catalunya) to determine whether applicants meet minimum quality and/or scientific experience and/or production thresholds before they can apply for jobs at universities.

The accreditation procedure is simple: people send their CVs and a committee of specialists in the research area assess them, applying previously established assessment criteria. The assessment criteria establish that in no case does accreditation serve to assess the scientific activity itself, as a peer review, nor are they determining factors for obtaining an academic or research post in university selection processes, for establishing rankings or listings of academics, or for awarding scholarships or research grants. These are all the responsibility of the universities themselves or of other institutions.

It is very important to emphasise that the assessment is carried out indirectly, i.e. based on the quality of the journals and publishers that have published researchers' work. The assessors do not, therefore, read the original works, except in very rare cases. They assume that the peer reviews carried out prior to publication in a scientific journal were appropriate.

In the specific case of research accreditation (which allows academics to apply for associate professor posts), only the research aspect of the applicant's work is assessed (mainly publications, projects and theses). Other relevant aspects such as teaching or management experience are outside the scope of such accreditation. This is clearly specified in current regulations, as distinct from other types of accreditation.

Law 1/2003, of 19 February 2003, on universities in Catalonia (LUC) stipulates that an associate professor must have a permanent non-civil servant contract, and must hold a doctorate and proven teaching and research capacity. An associate professor's contract is permanent and allows access to the higher grade of professor at a later stage, if the candidate has advanced research accreditation.

The purpose of this document is to provide an **overview of the merits presented by candidates who have achieved research accreditation**, for each of the areas assessed by the Research Assessment Commission (CAR): Humanities, Social Sciences, Sciences, Life Sciences, Medical and Health Sciences, and Engineering and Architecture. The profiles presented here are necessarily generic for the areas described. It should be borne in mind, therefore, that the CVs assessed for the Social Sciences area range from Economics to Education while, for Engineering, the CVs range from Information and Communication Technologies to Architecture. These are examples of disciplines with their own very specific research practices.

The main purpose of this document is pedagogical, to provide guidance to persons who wish to apply for research accreditation. While it does contain quantitative indicators, it should be

noted that the CAR's assessment of teaching staff combines a "quantitative" perspective (e.g. the minimum number of publications required) with a "qualitative" one, based on the nature of publications and other merits. It should be emphasised that **quality is more important than purely quantitative indicators**.

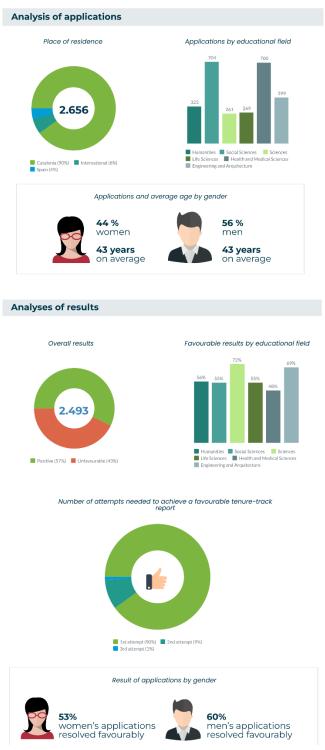
The data presented here are the result of the average of the indicators obtained by persons who received a favourable assessment. They are not the assessment criteria themselves. These results were obtained by applying an automated data scraping process to the CVs assessed, followed by a manual review and validation process. One of the strengths of this analysis is that data was scraped from 97.8% of all CVs for the period analysed (2017-2019).

The document is informative and in no case replaces the assessment criteria applied by the CAR, which can be consulted on the AQU Catalunya website.

Associate professor profile

Research accreditation results¹





¹ This infographic shows the research accreditation results for 2017-2021. This period does not coincide with the period of analysis of this report.

Summary of criteria

The assessment covers three main areas: publications and transfer of research results, management and participation in research projects, and training activities. According to the document <u>Criteria for the issue of research accreditation (December 2021)</u>, the assessment commissions apply the following weightings to these areas:

	Humanities	Social Sciences	Sciences	Life Sciences	Medical and Health Sciences ³	Engineering	Architecture
Publications and transfer of research results	70%	70%	75%	70%	70%	70%	50%
Projects	15%	10%	10%	15%	15%	15%	10%
Training activity	7.5%	7.5%	10%	10%	10%	10%	20%
Other merits	7.5%	12.5%	5%	5%	5%	5%	20%

Table 1. Assessment commissions' weighting of each area ²

Data sheet

Population: Persons who obtained favourable research accreditation in 2017-2019.

Source: Analysis of the indicators extracted in the automatic data scraping process, using an algorithm for reading CVs in PDF format. The CVs that could not be automatically scraped were reviewed manually. Table 2 shows that the analysis covered 97.8% of the CVs assessed by the commissions.

All tables and figures, except the first table and the first figure in this section, have been obtained from the CV database analysed for the period 2017-2019. Graphs with data by area exclude outliers (data points greater than 3 standard deviations from the mean).

² Academic records in the field of Architecture are evaluated by the CAR's Specific Commission for Engineering and Architecture, but different weightings are applied to the main assessment areas.

³ In the session held on 20 November 2019, and for a period of three years, the CAR agreed to designate the areas of knowledge of Nursing and Physiotherapy as a particular field.

Year	Assessments performed	CVs analysed	% of CVs analysed	
2017	534	532	99.6%	
2018	468	452	96.6%	
2019	459	445	96.9%	
Total	1,461	1,429	97.8%	

Table 2. Number of CVs analysed by year

Between 2017 and 2019, the number of research accreditation assessments performed fell steadily. However, from 2021 the number rose to over 600 applications.

The graphs by assessment area are based on data drawn from the assessments of successful applications in 2017-2019, grouped by the six areas of knowledge (specific commissions).

Commission area	Favourable	Unfavourable	Total
Humanities	107	78	185
Social Sciences	227	150	377
Sciences	112	26	138
Life Sciences	96	64	160
Medical and Health Sciences	192	171	363
Engineering and Architecture	155	51	206
Total	889	540	1,429

 Table 3. Total favourable and unfavourable assessments for the period 2017-2019

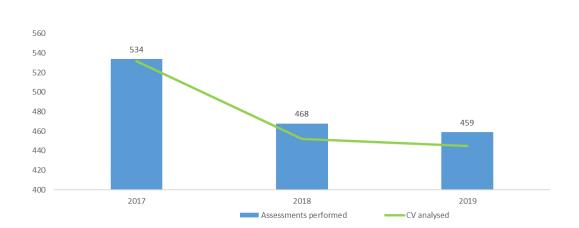


Figure 1. Number of assessments (assessments and CVs analysed)



Figure 2. Percentage of favourable research accreditations (CVs analysed)

- The ratio of favourable to unfavourable assessments remained fairly stable over the period analysed.
- Overall, the proportion of favourable assessments is 62.2%.



Figure 3. Average score for favourable and unfavourable research accreditations of the CVs analysed (2017-2019)

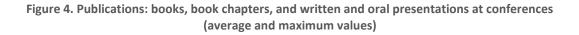
• The average score has remained stable over the years analysed.

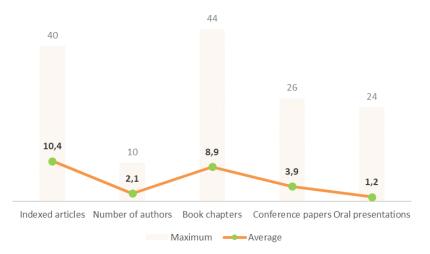
HUMANITIES

Data sheet

Source: Applications assessed favourably by the Specific Commission for Humanities for the post of associate professor in the period 2017-2019 (n = 107). The fields of knowledge assessed by this commission are: Philology, Philosophy and History, and Art. Graphs exclude outliers (data points greater than 3 standard deviations from the mean).

1. Publications





- In the Humanities, the CAR considers books and book chapters to be common means of scientific communication.
- The determining factor in the assessment of publications is the peer review process, which guarantees the quality of published work.
- Credit is given for books of an original nature (where the applicant is the author and/or co-author and/or editor of a multi-authored book) published by specialised publishers.

- With regard to articles, it should be borne in mind that impact is not as formalised as in other scientific disciplines and that, in this sense, humanities journals have no "journal impact factor". However, journals' presence in major databases and publication directories is an important consideration. In general, therefore, credit will be given for publications in journals that have been peer reviewed and that are highly ranked in selective citation indexes, or are recognised as being of the highest quality in their field.
- In this document we have considered articles in journals listed in WoS, CARHUS A and ERIH.
- Quality, demonstrated using objective parameters, is more important than the number of publications.

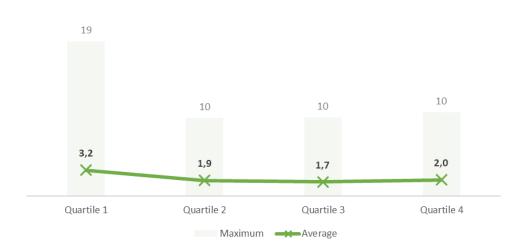


Figure 5. Publications⁴ by quartile (average and maximum values)

⁴ Indexed article: the journal in which the article was published is listed in WoS, CARHUS or ERIH.

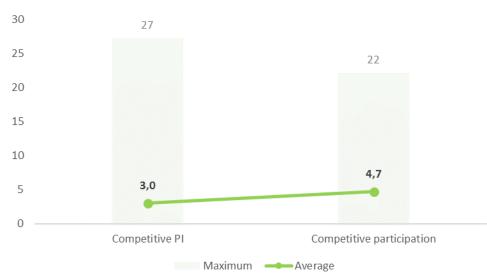
The Specific Commission for Humanities agreed on a classification of submissions by candidates based on three levels of quality (A, B, and C), which also correspond to specific quartiles used by journals in which articles have been published, defined according to international citation reference databases. When a journal has a Journal Impact Factor (JIF), or other analogous systems for indexing scientific impact, the value for the impact in the year of the article's publication takes precedence, whereas for articles published the same year it is:

Level A	 A journal of international or national scope, of the highest level of quality within its discipline, which simultaneously fulfils the following conditions: 1) the contributions undergo a rigorous peer review process and 2) appear in at least two directories or databases such as Web of Science (AHCl or JCR [Q1 or Q2]), Scopus (Q1), CARHUS A, CIRC A or the Classification of Journals with the the FECYT (Spanish Federation for Science and Technology) Seal of Quality [Q1]).
Level B	 International or national journal which simultaneously fulfils the following conditions: 1) the contributions undergo a rigorous peer review process and 2) appear in at least two directories or databases such as Web of Science (AHCI or JCR [Q3 or Q4]), Scopus (Q2 or Q3), CARHUS B, CIRC B or the Classification of Journals with the FECYT (Spanish Federation for Science and Technology) Seal of Quality ([Q2]).
Level C	Journal of a good level of quality within its field, with a rigorous assessment system.

In the case of books, the originality of the subject matter and/or methodology, the specific contribution of the applicant and publication by specialised or prestigious publishing houses will be taken into account. The assessment of books and book chapters is broken down into three levels:

Level A	International or national publisher of the highest quality, holding first-rate positions in the rankings of academic publishers in its discipline, such as Scholarly Publishers Indicators (SPI).
Level B	International or national publisher of considerable quality, holding outstanding positions in the rankings of academic publishers in their discipline, such as Scholarly Publishers Indicators (SPI).
Level C	International or national publisher of notable quality, based on objective evidence of quality within its field.

- Applicants must have at least ten articles in the categories described above, at least four of which must be at level A or B, and of these four contributions, three must be published in international journals or by prestigious publishers. At least three contributions must have been published within the last ten years.
- These are not required absolute minimums but rather a general reference in the field of Humanities which will be compared in each case with the average quality of the applicants' publications and the average productivity in the respective area.



2. Research projects

Figure 6. Competitive projects in which the applicant was principal investigator and competitive projects in which they have participated (average and maximum values)

- The applicant must have participated in and contributed to at least one research project funded through competitive calls.
- Credit is given for results and impact in the field concerned.

3. Training activity

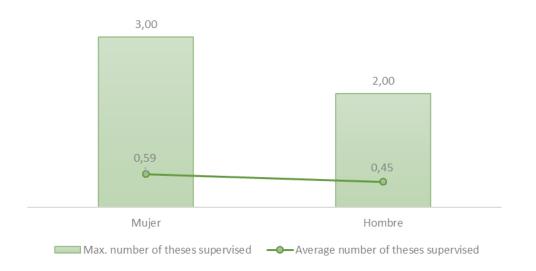


Figure 7. Doctoral thesis supervision

• Credit is given for the applicant's ability to form a research group or nucleus and for having supervised/currently supervising doctoral theses. Credit is also given for involvement in the teaching and/or coordination of postgraduate and master's degree courses.

4. Final considerations

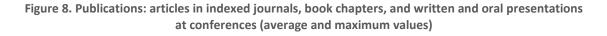
- Assessments cover three main aspects: publications and transfer of research results (70%), projects (15%) and training activity (7.5%). The Commission also gives credit for other merits submitted (7.5%).
- Each area will be rated out of 10 points.

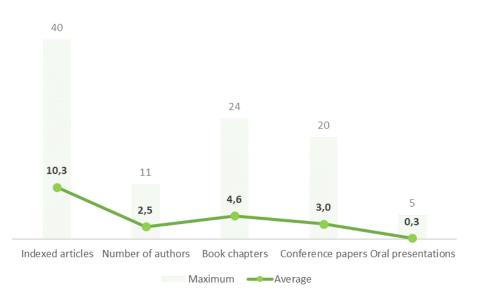
SOCIAL SCIENCES

Data sheet

Source: Applications assessed favourably by the Specific Commission for Social Sciences for the post of associate professor for the period 2017-2019 (*n* = 227). The fields of knowledge assessed by this commission are: Political Science, Communication and Documentation, Law, Economics and Business, Education, Geography, and Psychology. Graphs exclude outliers (data points greater than 3 standard deviations from the mean).

Publications





In order to meet the high demand for teaching staff assessments in this field, in 2020 the CAR agreed to split the Specific Commission for Social Sciences. The Commission works via two coordinated sections:

 Social Sciences Specific Subcommission 1: includes the sub-fields of Law, Economics, Politics and Sociology, Communication and Information Science, and Geography.

- Social Sciences Specific Subcommission 2: includes the sub-fields of Education and Psychology.
- The Commission considers publications that have undergone peer review processes and that are highly ranked in selective citation indexes, or in other specialised bibliographic databases with a high international standing.
- Quality, demonstrated using objective parameters, is more important than the number of publications.

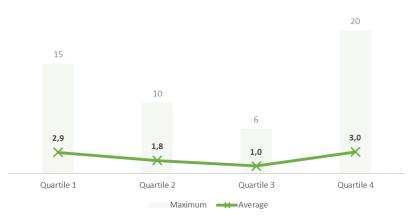


Figure 9. Publications⁵ by quartile (average and maximum values)

The Specific Commission for Social Sciences has defined three quality levels for assessing submissions in article format (A, B and C):

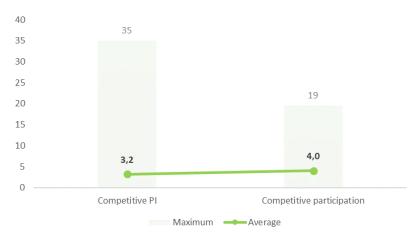
Level A	For all fields of knowledge: JCR Q1, JCR Q2; Scopus Q1 (SJR). For the field of Law: CARHUS Plus+ A.
Level B	For all fields of knowledge: JCR Q3, Scopus Q2 (SJR). For the field of Law: CARHUS Plus+ B.
Level C	For all fields of knowledge: JCR Q4, Scopus Q3 (SJR). For the field of Law: CARHUS Plus+ C.

⁵ Only articles published in journals indexed in Journal Citation Reports are included.

- The Commission reserves the right to adjust the quality levels of the scientific articles to which the applicant has contributed, taking into consideration aspects that go beyond the journal's quartile placement.
- The Commission has prescribed that the assessment of an article will take precedence over that of the journal in which it is published when determining the corresponding level of quality (A, B or C) of an article submitted by a contributor.
- The threshold for granting research accreditations is set at ten contributions with quality levels A, B or C, of which at least five must be level A and no more than three level C.

Research projects

Figure 10. Competitive projects in which the applicant was principal investigator and competitive projects in which they have participated (average and maximum values)



- The applicant must have participated in at least one research project funded through competitive calls.
- Credit is given for results and impact in the field concerned.

Training activity

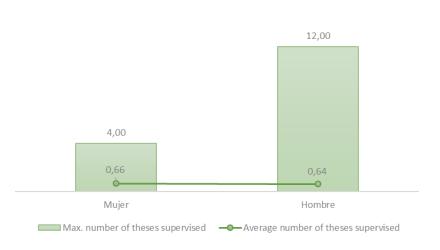


Figure 11. Doctoral thesis supervision

• Credit is given for the applicant's ability to form a research group or nucleus and for having supervised/currently supervising doctoral theses. Credit is also given for involvement in the teaching and/or coordination of postgraduate and master's degree courses.

Final considerations

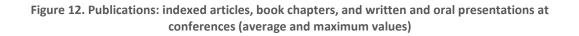
- Assessments cover three main aspects: publications and transfer of research results (70%), projects (10%) and training activity (7.5%). The Commission also gives credit for other merits submitted (12.5%).
- Each area will be rated out of 10 points.

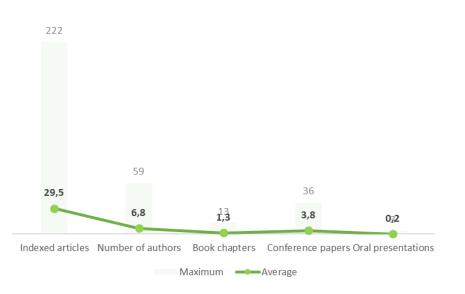
SCIENCES

Data sheet

Source: Applications assessed favourably by the Specific Commission for Sciences for the position of associate professor for the period 2017-2019 (n = 112). The fields of knowledge assessed by this commission are: Physics, Geology, Mathematics and Chemistry. Graphs exclude outliers (data points greater than 3 standard deviations from the mean).

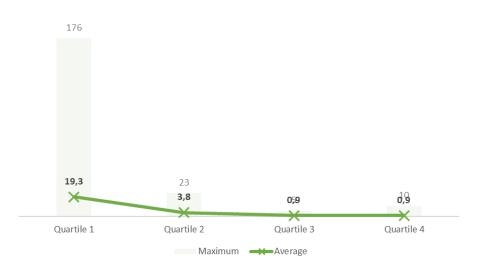
Publications





- Credit is mainly given for articles published in journals subject to peer review processes which appear in citation indexes such as the Science Citation Index Expanded (SCIE).
- The number of articles of sufficient quality considered necessary is at least 15.

Figure 13. Publications⁶ by quartile (average and maximum values)



The main points of the current criteria for publications in article format are:

- That the journals are in the upper quartiles.
- The length of the article and the number of authors, and the applicant's ranking among authors.
- Some of the articles must have been published recently.
- Quality, demonstrated using objective parameters, is more important than the number of publications.

⁶ Only articles published in journals indexed in Journal Citation Reports are included.

Research projects

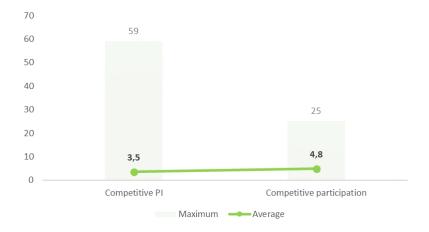


Figure 14. Competitive projects in which the applicant was principal investigator and competitive projects in which they have participated (average and maximum values)

- Credit is only given for research projects funded through competitive calls.
- Additional credit is given if the applicant is the project's principal investigator.

Training activity

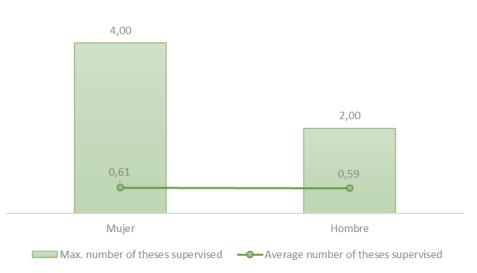


Figure 15. Doctoral thesis supervision

• Credit is given for the applicant's ability to form a research group or nucleus and for having supervised/currently supervising doctoral theses. Credit is also given for involvement in the teaching and/or coordination of postgraduate and master's degree courses.

Final considerations

- Assessments cover three main aspects: publications and transfer of research results (75%), projects (10%) and training activity (10%). The Commission also gives credit for other merits submitted (5%).
- Each area will be rated out of 10 points.

LIFE SCIENCES

Data sheet

Source: Applications assessed favourably by the Specific Commission for Life Sciences for the position of associate professor for the period 2017-2019 (n = 96). The fields of knowledge assessed by this commission are: Cell and Molecular Biology, and Organisms and Systems. This Commission may also assess academic records in the field of Biomedicine. Graphs exclude outliers (data points greater than 3 standard deviations from the mean).

Publications

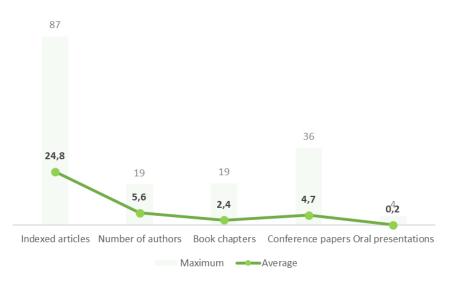
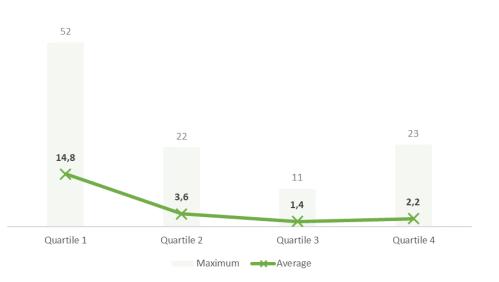


Figure 16. Publications: indexed articles, book chapters and written and oral presentations at conferences (average and maximum values)

• Credit is only given for publications in peer reviewed journals, which appear in citation indexes such as the Science Citation Index Expanded (SCIE).

• Quality, demonstrated using objective parameters, is more important than the number of publications.

 No consideration will be given to reviews, purely descriptive works and reiterations of previous work, except in cases where a significant contribution has been made to the consolidation and the breakthrough of knowledge in the respective field.





- Precedence is given to publications in upper quartile journals.
- The required number of publications is at least twenty. Ten of them must appear in the upper quartile of the corresponding Journal Citation Reports category, and the applicant must be the lead author of at least five of these.

⁷ Only articles published in journals indexed in Journal Citation Reports are included.

Research projects

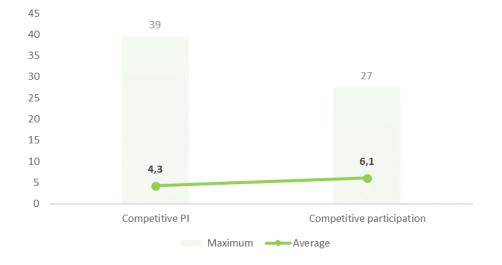
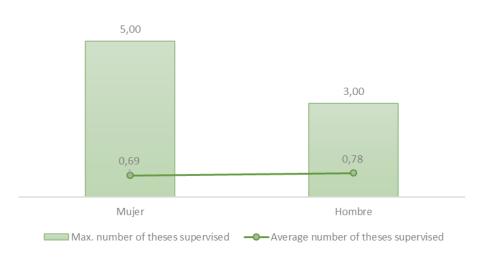


Figure 18. Competitive projects in which the applicant was principal investigator and competitive projects in which they have participated (average and maximum values)

Credit is only given for research projects funded through competitive calls.

• The applicant must have been principal investigator (PI) of a competitive research project, ideally one that is still active.

Training activity





• Credit is given for the applicant's ability to form a research group or nucleus and for having supervised/currently supervising doctoral theses. Credit is also given for involvement in the teaching and/or coordination of postgraduate and master's degree courses.

Final considerations

- Assessments cover three main aspects: publications and transfer of research results (70%), projects (15%) and training activity (10%). The Commission also gives credit for other merits submitted (5%).
- Each area will be rated out of 10 points.

MEDICAL AND HEALTH SCIENCES

Data sheet

Source: Applications assessed favourably by the Specific Commission for Health and Medical Sciences for the post of associate professor for the period 2017-2019 (n = 192). The fields of knowledge assessed by this commission are: Biomedicine, Medicine and Veterinary Medicine. Graphs exclude outliers (data points greater than 3 standard deviations from the mean).

Publications

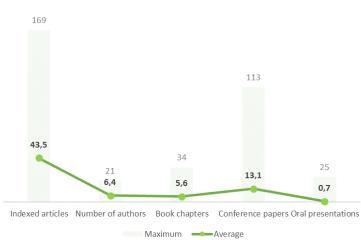


Figure 20. Publications: indexed articles, book chapters, and written and oral presentations at conferences (average and maximum values)

- Credit is only given for publications in peer reviewed journals, which appear in citation indexes such as the Science Citation Index Expanded (SCIE).
- Some of the articles must have been published recently.
- Quality, demonstrated using objective parameters, is more important than the number of publications.
- Clinical cases, publications corresponding to conference papers, letters to the editor and all those contributions that do not have a minimum

length, which do not make an original contribution to knowledge or have not had a significant impact on the scientific community, such as notes or discussion of other articles, will not be considered.

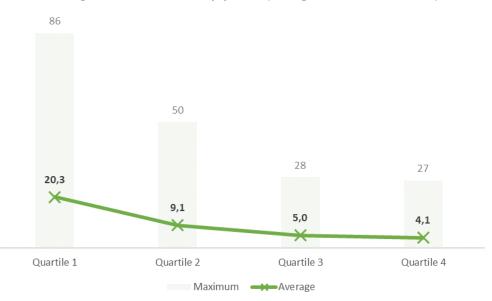


Figure 21. Publications⁸ by quartile (average and maximum values)

- Precedence is given to publications in upper quartile journals.
- The required number of publications is at least twenty. Additional credit is given if ten of them appear in the upper quartile of the corresponding Journal Citation Reports category, and the applicant is the lead author of at least five of these.

Specific considerations for the particular fields of Nursing and Physiotherapy:

- The required number of publications is at least fifteen.
- Additional credit is given if seven of them appear in the upper quartile of the corresponding Journal Citation Reports category, and the applicant is the lead author of at least three of these.

⁸ Only articles published in journals indexed in Journal Citation Reports are included.

Research projects

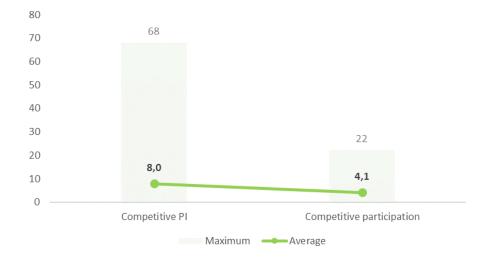
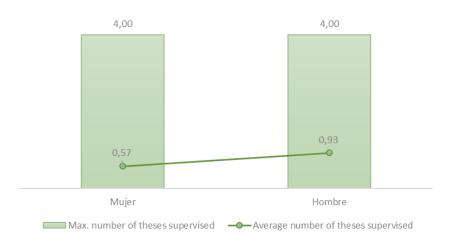


Figure 22. Competitive projects in which the applicant was principal investigator and competitive projects in which they have participated (average and maximum values)

- Credit is only given for research projects funded through competitive calls.
- The applicant must have been principal investigator (PI) of a competitive research project, ideally one that is still active.

Training activity





• Credit is given for the applicant's ability to form a research group or nucleus and for having supervised/currently supervising doctoral theses. Credit is also given for involvement in the teaching and/or coordination of postgraduate and master's degree courses.

Final considerations

- Assessments cover three main aspects: publications and transfer of research results (70%), projects (15%) and training activity (10%). The Commission also gives credit for other merits submitted (5%).
- Each area will be rated out of 10 points.

ENGINEERING AND ARCHITECTURE

Data sheet

Source: Applications assessed favourably by the Specific Commission for Engineering and Architecture for the post of associate professor for the period 2017-2019 (*n* = 155). The fields of knowledge assessed by this commission are: Architecture, Agricultural Engineering, Civil Engineering, Industrial Technologies and Information and Communication Technologies. Graphs exclude outliers (data points greater than 3 standard deviations from the mean).

Publications

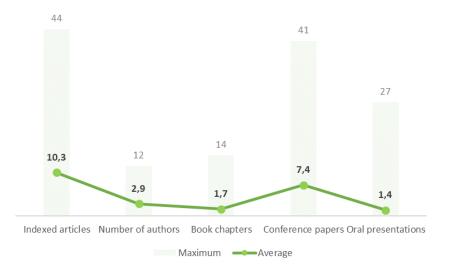


Figure 24. Publications: indexed articles, book chapters, and written and oral presentations at conferences (average and maximum values)

- Credit is only given for publications in peer reviewed journals in fields corresponding to the areas of Engineering and Architecture.
- Some of the articles must have been published recently.

• Quality, demonstrated using objective parameters, is more important than the number of publications.

Associate professor profiles (2017-2019)

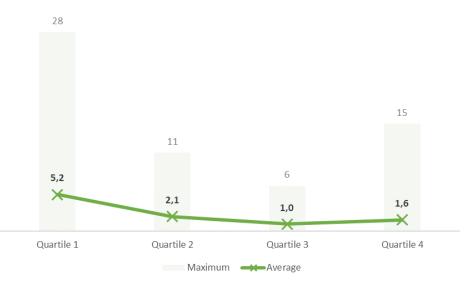


Figure 25. Publications⁹ by quartile (average and maximum values)

In the assessment process, a guideline indicator of an acceptable level of scientific and technical publications is the authorship of eight quality contributions and articles published in journals of recognised standing:

- Publications in journals of recognised international standing (indexed in SCIE, SSCI or AHCI).
- Patents in operation.
- Artistic works that have received external awards or accolades.

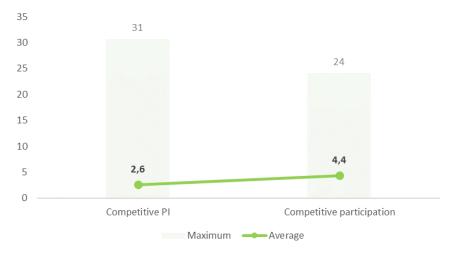
 Congress proceedings published with ISSN will not be considered publications in journals, even if they are indexed in SCIE, SSCI or AHCI. Such congress proceedings and also those referenced in such databases as the Conference Proceedings Citation Index of Clarivate Analytics or similar ones, will have only a complementary consideration with respect to the publications in indexed journals.

⁹ Only articles published in journals indexed in Journal Citation Reports are included.

 In the field of knowledge of Information and Communication Technologies, highly ranked works in the GGS ranking (<u>GIIGRIN-SCIE</u>) may be considered.

Research projects

Figure 26. Competitive projects in which the applicant was principal investigator and competitive projects in which they have participated (average and maximum values)



- Credit is only given for research projects funded through competitive calls.
- The applicant must have led or participated in research projects.
- Credit is also given for derived publications and patents.

Training activity

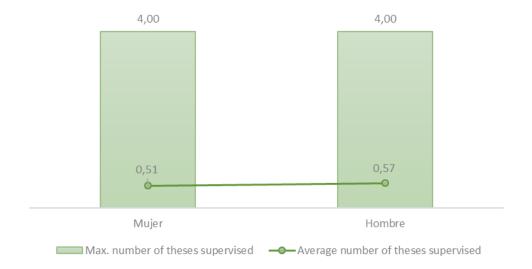


Figure 27. Doctoral thesis supervision

 Credit is given for the applicant's ability to form a research group or nucleus and to contribute actively to the training of researchers. Credit is given for having supervised/ currently supervising doctoral theses and for involvement in the teaching and/or coordination of postgraduate and master's degree courses.

Final considerations

- Assessments cover three main aspects: publications and transfer of research results (70%), projects (15%) and training activity (10%). The Commission also gives credit for other merits submitted (5%).
- Specific considerations for the field of Architecture: publications and transfer of research results (50%), projects (10%) and training activity (20%). The Commission also gives credit for other merits submitted (20%).
- Each area will be rated out of 10 points.

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