



Guidelines for the recruitment and progression in career of researchers and technologists according to the OTM-R strategy

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1. Introduction

The Council for Research in Agricultural and Analysis of Agricultural Economy (CREA) defines the following "Guidelines for the recruitment and career progression of researchers and technologists according to the OTM-R strategy"².

As stated in the "*CREA strategy for open, transparent and merit-based Recruitment (OTM-R)*", CREA implements, both for recruitment and career progression procedures, open, transparent and internationally comparable procedures, formulating the calls with clear and objective information on the methods and timing of the selection process and on fair and transparent evaluation criteria of the candidates.

As a consequence to its adhesion to the *Human Research Strategy for Research*, CREA further adopts additional criteria, which take into account the principles and recommendations set out in the Charter and in the Code.

2. Principles set out in the European Charter of Researchers and in the Code of Conduct for the recruitment and development of researchers' careers

The European Commission recommends that Member States define strategies and evaluation systems for the recruitment and development of researchers' careers, based on the general principles contained in the Charter and in the Code.

CREA, in applying the contents of the Charter and the Code, always refers in an undifferentiated manner to the professional figures of "researcher" and "technologist".

The two cited documents indicate that, for these professional figures, in addition to the assessment of their "global potential", also their creativity and their degree of independence should be duly considered: the merit must therefore be evaluated at both qualitative and quantitative levels, placing the emphasis on the results obtained during their individual career, and not exclusively on the number of publications produced. To this end, the importance of bibliometric indicators will have to be adequately weighed within a wide range of evaluation criteria, such as research management, teamwork, knowledge and innovation transfer, supervision, tutoring and teaching, and activities targeted at raising public awareness. For candidates working on issues related to the industrial sector, attention will be paid to patents, development activities and inventions. In addition, career breaks or changes in the chronological order of the curriculum vitae (CV) should be considered as a potentially valid contribution to professional development. Furthermore, both the Charter and the Code underline that the recognition and evaluation of the qualifications achieved by the candidate during his career should be based on examination of the results obtained, and not on the scientific value of the Institution (Italian or foreign) at which he or she has acquired these qualifications.

¹ This document has been prepared by the CREA Scientific Council, based on the document elaborated by a Working Group established by decree of the Director General n. 1317 of 26 October 2018

² The activity was initiated with the note of the extraordinary Commissioner no. 32351 of 11 July 2016 addressed to the European Commission (DG Research and Innovation) for the endorsement of the European Charter of Researchers' commitment to implement the "Human Resources Strategy for Researchers" (hereafter "Code").

3. Requirements and access modalities for researchers and technologists of public research institutions

The Charter and the Code use the internationally accepted definition of researchers as given in the Frascati Manual:

"Professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned".

More specifically, this document relates researchers and technologists who carry out professional activities in research and development at any stage of their career and regardless of their professional level. This covers any activity in the field of basic, strategic and/or applied research, experimental development and knowledge transfer including innovation and consultancy, supervision and teaching activities, management of research and intellectual property rights, application and dissemination of research results.

The admission requirements and access modalities for CREA researchers and technologists for participation in career-related selection and competition procedures are shown in Table 1 and refer to the currently applicable regulatory and contractual provisions³ regarding recruitment in the public sector, while waiting for the ARAN to create the Commission for the professional rules system, as specified in art. 69 of the CCNL 2016-2018 of the April the 19th 2018.

Table 1: Specific requirements for admission to competition procedures for career progress of researchers and technologists

Profile and professional level	Requirements for admission and access modalities
Researcher - 1 st level (Research manager)	<ul style="list-style-type: none"> • Acquired ability, proven by objective elements, in autonomous execution of research of particular originality, meaning and international value in the prevailing research sector • Knowledge of at least English as foreign language, spoken and written⁴ • Access procedure: national public call, based on qualification
Researcher 2 nd level (Chief Researcher)	<ul style="list-style-type: none"> • Acquired ability, proven by objective elements, in independent execution of significant advances in knowledge in the pre-eminent sector of activity • Qualification required: University degree of the "old" system (DL), specialist degree (LS) as per Ministerial decree no. 509/1999 or Master's degree (LM) pursuant to Ministerial decree no. 270/2004 • Knowledge of at least English as foreign language, spoken and written⁴ • Access procedure: national public calls, based on qualifications and including an exam on the activity carried out

³The admission requirements and access modalities are foreseen by Italian Presidential Decree of 12 February 1991, n. 171 – Attachment1, subsequently modified and integrated by art. 15 of the regulatory four-year period 2002-2005 of the Italian National Provision for Public Contracts (CCNL), signed on April 7, 2006, in compliance with regulations in force regarding staffing in the public sector (articles 51 and 97 of the Constitution, Legislative Decree 30 March 2001, n. 165 et seq.mm.ii and Presidential Decree 9 May 1994, no. 487).

⁴ With reference to the knowledge of at least one spoken and written foreign language referred to in Annex 1 of Presidential Decree no. 171/91, the current legislation (art.37 of Legislative Decree 165/01 as amended by art.7, paragraph 1, Legislative Decree 25 May 2017, n.75) has changed the requirement of possession of the language referred to in Annex 1 of the Presidential Decree. 171/91, requesting mandatory knowledge of the English language and, where appropriate and in relation to the professional profile required, of other foreign languages.

Profile and professional level	Requirements for admission and access modalities
<p>Researcher 3rd level (Researcher)</p>	<ul style="list-style-type: none"> • Capability, proven by objective elements, to advance knowledge in the specific sector • Qualification required: qualification allowing access to PhD courses, i.e. a University degree of the “old” system (DL), a specialist degree (LS) referred to in Ministerial decree n. 509/1999 or master's degree (LM) pursuant to Ministerial decree no. 270/2004 • Possession of a PhD related to the activity specified in the call, or three years of research or technological and/or professional activities carried out at universities or qualified public and private bodies and research centers, including foreign ones⁵, as certified pursuant to paragraph 4 of art. 63 of the CCNL 21.02.02 • Knowledge of at least English as foreign language, spoken and written⁴ • Access procedure: national public call, based on qualifications and including an exam on the activity carried out
<p>Technologist 1st level (Technical Manager)</p>	<ul style="list-style-type: none"> • Capability to autonomously carry out the design, processing and management of functions and activities related to technological and/ or professional activities of particular complexity, and/or coordination and supervision of services related to complex technical-scientific structures of significant interest and size also in sectors where professional activities are required • Qualification required: University degree of the “old” system (DL), specialist degree (LS) as per Ministerial decree no. 509/1999 or Master's degree (LM) pursuant to Ministerial decree no. 270/2004 • Possession of State Exam Certificate and enrollment in the Register of Professionals, where required for the activities to be carried out. • At least 12 years of specific professional experience • Knowledge of at least English as foreign language, spoken and written⁴ • Access procedure: national public call, based on qualifications and including an exam on the activity carried out

⁵ Art. 15 of the Public Contracts Law (CCNL) of 7/4/2006 modifies and integrates Annex 1 of Presidential Decree 171/91 with reference to the requirements for access to 3rd level researcher and technologist, in such cases where it requires for the 3rd level researcher work experience of at least two years post-graduate in research acquired through scholarships, research doctorates or other equivalent training channels, it establishes the requirement to hold a PhD related to the activity required by the call or having carried out for three years an activity, certified pursuant to paragraph 4 of art. 63 of the CCNL 21.02.02, research or technological and/or professional at universities or qualified public and private bodies and research centers, including foreign ones.

<p>Technologist 2nd level (Chief Technologist)</p>	<ul style="list-style-type: none"> • Capability to autonomously perform the design, processing and management of functions and activities related to technological and/ or professional activities and/or to coordinate for these purposes technical skills, also in sectors where professional activities are required • Qualification required: University degree of the “old” system (DL), specialist degree (LS) as per Ministerial decree no. 509/1999 or Master's degree (LM) pursuant to Ministerial decree no. 270/2004 • Possession of State Exam Certificate and enrollment in the Register of Professionals, where required for the activities to be carried out • At least 8 years of specific professional experience. • Knowledge of at least English as foreign language, spoken and written⁴ • Access procedure: national public call, based on qualifications and including an exam on the activity carried out
<p>Technologist 3rd level (Technologist)</p>	<ul style="list-style-type: none"> • Capability to perform analysis review tasks, technical collaboration related to technological activities and/or to carry out professional activity in CREA facilities and to perform analysis review tasks • Qualification required: University degree of the “old” system (DL), specialist degree (LS) as per Ministerial decree no. 509/1999 or Master's degree (LM) pursuant to Ministerial decree no. 270/2004 • Possession of PhD related to the activity indicated by the call or 3 years of experience gained at universities or qualified public and private bodies and research centers, including foreign ones⁵, in carrying out research or technological and/or professional activities, as certified pursuant to paragraph 4 of art. 63 of the CCNL 21.02.02 • Possession of State Exam Certificate and enrollment in the Register of Professionals, where required for the activities to be carried out • Knowledge of at least English as foreign language, spoken and written⁴. • Access procedure: national public call, based on qualifications and including an exam on the activity carried out.

Age limits are not foreseen for participation in the abovementioned calls⁶, except for derogations adopted by the CREA contained in specific regulations, referring to the nature of the activities to be carried out or to objective needs. In this regard, in Council Directive 2000/78/EC states that unequal treatment with reference to the "setting of a maximum age for staffing" might be justified, specifying, however, that such discrimination can only be tolerated if proportionate to the activity for which participants are competing.

4. Selection procedure

The procedure for recruiting staff must be open, transparent, guarantee equal treatment of candidates and must be comparable at European and international level. The calls must also provide extensive information on the skills required.

The recruitment of civil servants through the competition system responds to the need of public administrations to hire the most capable and worthy staff, in compliance with the constitutional principles of good performance and impartiality of the public administration.

The establishment of the CREA staffing procedures takes place through approval and publication of calls, within which a formal correspondence is made with respect to Recital no. 14 of the Charter "... *employers must offer researchers open, transparent and internationally compatible selection and hiring procedures*", as well as to applicable national legislation⁷.

The calls published by CREA specify future working conditions, the procedures and criteria adopted in the selection process, the administrations' instruments of communication of the final judgment at the end of the selection, as well as the rights and career prospects as established by the current Italian National Provision for Public Contracts (CCNL).

For all calls open to the public and in order to facilitate access to the competition procedure to all EU citizens, access is given through the EURAXESS website: <https://euraxess.ec.europa.eu/jobs/>,

including an excerpt of the call in English language, with explicit reference to the publication of the call in Italian on the official CREA website. For foreign applicants, good knowledge of the Italian language constitutes a minimum requirement for admission (ref. art. 2, paragraph 1 point 1 of Presidential Decree 9 May 1994, no. 487, as well as possession of the Italian citizenship or of one of the Member States of the European Union or of Third Countries within the limits referred to in art. 38 of Legislative Decree no. 165/2001) for the purpose of participation at competitions launched by Italian PAs. Access to the profiles of III, II and I level researchers and technologists takes place through a competition in the manner defined by applicable normative and contractual regulations⁸.

⁶ With regard to the age limit set out in Annex 1 of Presidential Decree 171/1991 as a requirement for access to level II of the profile of researcher and technologist, the Bassanini law (art. 3, paragraph 6 of the law 15 May 1997, n. 127) eliminates an age limit for the participation in public calls. The law, still in force today, states verbatim that "*participation in calls organized by public administrations is not subject to age limits*". In this regard, Council Directive 2000/78 / EC specifies that the "setting of a maximum age for staff hiring" can be applied, if there are training conditions for the position or a reasonable working period before retirement, justifying such discrimination only if proportionate to the activity called for.

⁷ Access to employment in public administrations finds its principles in the Constitution in articles 97 and 51 and its discipline in sources of public law such as Legislative Decree March 30, 2001, n. 165 and Presidential Decree No. 487 of 9 May 1994, as well as in the contractual regulations for different sectors.

⁸ The matter of access to employment in public administrations finds its principles in the Constitution in articles 97 and 51 and its discipline in sources of public law such as Legislative Decree March 30, 2001, n. 165 and the DPR 9 May 1994, n. 487, as well as in the sectoral contractual legislation, pending understanding of the scope of the various jurisprudential rulings regarding the application of art. 15 of the CCNL of 7/4/2006.

5. Assessment of candidates

For the identification of the elements to be considered in the assessment of the candidates, the selection procedure must take into account all experience gained by these candidates.

Candidates must present a verifiable CV, which reflects a set of activities and qualifications relative to the position and professional level to which they aspire. In order to facilitate the work of the commission, the CV submitted by the candidate must be drawn up according to the European format, containing the information in a manner which is consistent with the requirements of the call.

The elements to be considered for the evaluation of researchers and technologists, both in the context of initial training and in the further stages of the career, are listed below, divided into five criteria. These criteria must be kept valid and stable over time; however, depending on the recruitment needs for specific professional figures, the administration reserves the right to update the assessment elements associated with each criterion.

Both in the case of procedures for the recruitment of research and technological staff, and for progressions within their respective profiles, the calls must specify the evaluation elements for which the commissions will also consult databases for verification, where available.

5.1 - Productivity

This criterion evaluates the scientific and technological production of the researchers and technologists, specifically considering the following elements:

- scientific and other publications (articles in ISI journals, books and chapters in international books with ISBN, articles in international refereed journals, articles in national refereed journals, contributions in national and international journals without referees and conference proceedings; other);
- patents and intellectual property, registrations and protection of plant varieties;
- notes, scientific and technical reports;
- unprinted reports.

5.2 - Scientific and professional visibility

This criterion assesses the candidates' scientific and professional preparedness, through the following elements:

- coordination of or responsibility in national and international projects;
- responsibility for work packages, tasks and/or operational units in national and international projects;
- responsibility for privately funded research;
- evaluation of national and international projects;
- participation in Editorial boards of magazines or in scientific committees of national and international conferences;
- invited speaker or chairing of sessions in national and international conferences;
- membership in scientific, national and international societies;
- scientific acknowledgments (National Scientific Qualification, prizes, etc.);
- responsibility for large laboratory equipments;
- responsibility for research support and/or management;
- procedural/process responsibility;
- institutional activity;
- direction of and/or responsibility for research and/or experimental institutions operating in the sector of reference;
- participation in working groups, commissions, committees and technical boards of CREA as well as in other national and international structures, bodies or bodies;

- extra-institutional assignments;
- service activities for third parties;
- activity carried out at research and/or experimentation institutions;
- review of scientific articles.

5.3 - Training

This criterion evaluates the training activity followed or offered by the candidate, through the following elements:

- successful attendance to qualifying courses;
- PhD, master or other specialization courses;
- Lecturer for qualifying courses, at universities or other scientific institutions;
- registration in Registers of professionals and authorization to practice the indicated profession;
- supervisor/tutor or co-supervisor/co-tutor, master's thesis supervisor in research doctorates, fellowships, research fellowships and post-doc research;
- other supervision activities.

5.4 – Dissemination of results

This criterion assesses the activity of dissemination of the results of research and experimentation, through the following elements:

- organization of conferences, seminars, workshops;
- speaker at seminars, conferences, workshops;
- dissemination and technology transfer activities to farmers, technicians and operators in the reference sector and consumers;
- information and scientific initiatives targeting educational institutions.

5.5 - Mobility

This criterion evaluates the experiences of the candidate's mobility through the following elements:

- geographic mobility (working or training periods at foreign institutions in the public or private sector);
- intersectoral mobility (working periods at public or private institutions belonging to sectors other than research, for example schools, productive sector, etc.);
- inter and trans disciplinary mobility (working periods dedicated to different disciplines).

6. Weighting of the different criteria for the different levels of researcher and technologist profiles

Taking into account the differences existing between the profiles of researcher and technologist and, within each profile, between the single professional levels, different weights are assigned to the evaluation criteria, taking into account these differences (Table 2).

Table 2: Weighting of the criteria according to the profile and level of researchers and technologists

Criterion	Researchers: weight of single criteria			Technologist: weight of single criteria		
	1 st level Research Manager	2 nd level Chief Researcher	3 rd level Researcher	1 st level Technology Manager	2 nd level Chief Technologist	3 rd level Technologist
Productivity	+++	+++	++	+++	+++	++
Visibility	+++	+++	+	+++	+++	+
Training	+	++	+++	+	++	+++
Dissemination	+++	++	+	+++	++	+
Mobility	+	++	+++	+	++	+++

During the process of preparation of a call, the attribution of weights to the different criteria might deviate from the indications shown in the table, in consideration of the specificity of a job position, according to the professional figure to be selected and the related activities and skills required.

In the case of a call based on qualification and exam, an overall score of not less than 10/30 and to the maximum extent permitted by law must be assigned to the qualifications; furthermore, the call must indicate the assessable qualifications and the maximum score attributable to them individually and by categories of categories of qualifications⁹.

The relative commissions will have the task of defining the weight of the criteria and elements considered in the evaluation grid established by the call.

6. Communication of outcome to the candidate

At the end of the assessments, the relative commissions draw up a report on the results of the competition with reference to each candidate, whether winner or non-winner. This report contains the scores obtained by each candidate with reference to the qualifications presented, as well as to the written and oral tests (when performed). In order to guarantee each candidate full information on the strengths and weaknesses of his/her candidacy, at the end of the competition procedure, CREA guarantees the candidates the right to access to the documents of the procedure, upon formal request to the administration.

⁹ art. 8, para of Presidential Decree of 9 May 1994, n. 487.