

## SECTION 13

### Physical, theoretical and analytical chemistry

*All these criteria are open, non-exclusive, non-hierarchical and not strictly cumulative*

#### The periodic evaluation of researchers

##### **Common evaluation criteria for all researchers**

Above all researchers will be assessed on the quality and originality of their scientific contributions and not simply on quantitative or bibliometric criteria. The latter factors will be taken into account by integrating the specific features of the section's different sub-disciplines and considering the local, national and international context. Periodic evaluation also takes other aspects of research activity into account like the dissemination of scientific culture, the dissemination or transfer of knowledge, collective responsibilities or research management and so forth. By its very nature the evaluation of researchers is multi-criteria.

Scientific contributions: The section will examine a researcher's overall productions (publications, invited lectures at conferences, etc.) and aims to bring out the relative weight of the different contributions (thesis work, post-doctoral work, new subject(s), etc.). The originality and impact of the work in the researcher's scientific community will be a central factor in the evaluation along with the level of interaction with researchers from other disciplines or sub-disciplines. Involvement in national and international research programmes will obviously be taken into account. The section will particularly closely examine original, large-scale experimental developments or theoretical developments that led to software being written and distributed to the research community.

Teaching, training, supervision and dissemination of scientific information: The section will carefully examine any kind of participation in training activities, the dissemination of know-how, scientific outreach, supervision, the organisation of scientific meetings, etc.

Technology transfer, research valorization, industrial relations: The section will take any development or technology transfer activities into account. Patents and patented processes that are actually used will be considered particularly favourably. Also, these criteria will be examined in the light of differing specific features in sub-disciplines which may have their own direct or indirect benefits.

Research objectives and dynamism: This last criterion is eminently qualitative. Its aim is to evaluate how the research project fits into a dynamic and a high-growth national and international context in the short and medium terms. Leadership, teamwork and risk-taking will be assessed here as far as possible.

*Important notes for writing the file:* The section strongly recommends that the list of publications makes a clear distinction between articles published in international peer-reviewed journals, conference proceedings, non-peer-reviewed journals and scientific outreach articles. Researchers are also advised to indicate the corresponding author. Similarly for oral presentations, the nature of the presentation (oral communication, guest speaker, seminar, etc.) and the researcher's role (speaker or co-author) should be specified. It is important for a descriptive summary to be sent to the members of the section, that the relationship between scientific

information and quantifiable data to be made clear and for 'mid-term' and 'full-term' activity reports to be concise.

### **Specific criteria according to the grade**

#### **CRCN - normal grade researchers**

The section will monitor the success of a recently recruited researcher's integration into his or her new environment as well as the abovementioned common criteria. Working autonomously and the level of appropriation of research subject will be increasingly important criteria as the researcher's career progresses.

#### **CRHC - exceptional grade researchers**

In addition to the abovementioned common criteria, the continuity and progress of significant research activity and/or involvement in research administration, training or development activities will be assessed.

#### **DR2 - research professors**

As well as the common criteria above, the section will examine the researcher's role in leading and managing research. This can take various forms such as leadership of a team or a network, the introduction of new themes, taking part in organising a conference or evaluation body, active involvement in academic societies and so forth

The researcher's national and international importance and influence will be an important criterion.

#### **DR1 research professors and DRCE exceptional grade research professors**

As well as the common criteria above and the criteria listed for the DR2 grade, the aspects of collective responsibilities, the organisation or management of research, distinctions and influence will naturally be given greater weight. For example, the section will examine team or laboratory management, taking part in the management of research programmes or national and international committees and commissions, the leadership of national and international networks, membership of journal editorial committees, taking part in organising a conference, distinctions, prestigious invitations and so forth.

### **Grade promotion for researchers**

#### **Common evaluation criteria for all researchers**

Please refer to the abovementioned evaluation criteria. Particular attention will be paid to the work carried out since the researcher's last promotion.

### **Specific criteria according to the grade**

#### **Promotion to CRHC grade**

As well as the abovementioned common criteria, the application file must provide the information required for the researcher's career development since his/her recruitment to be assessed. The section will examine the quality and relevance of the work carried out, the level of adaptation and integration of projects within the research team and the researcher's plans in the medium term. The section will also examine the candidate's involvement in scientific life and local, national and international scientific leadership.

## **Promotion to the DR1 research professors' grade**

As well as the abovementioned common criteria, the section will consider the following points:

- The candidate's originality, thematic openness and creativity as reflected in a high quality, sustained scientific output.
- The candidate's national and international influence.
- The candidate's management, leadership of a team, a CNRS training course or other organisational bodies/structures within the scientific community.

## **Promotion to DRCE grade**

When assessing an application for the DRCE grade, the Section will use all the criteria for DR1 promotion with particular reference to a candidate's 'exceptional' aspects in these areas. Particular attention will be paid to a candidate's international influence, stature and scientific quality as demonstrated by a sustained scientific output. The candidate's involvement and role in the organisation of research should be equally exceptional.

*Comments:* As well as the information provided for the evaluation of researchers' activities, candidates should highlight the strong points of their activity that could justify promotion. An example of this is to expressly indicate the publications and work in the descriptive summary that candidates consider the most significant.

## **The recruitment of researchers**

### **Criteria common to all researchers**

The same general considerations and criteria as those detailed in the 'Grade promotion for researchers' document will be taken into account for the 'recruitment of researchers'.

In general, the jury takes three types of criteria into account. These criteria will be weighted according to the grade involved and the candidate's research career:

- Measurable elements such as: the quality of the scientific career, stays abroad and working in industry, the number and quality of publications in peer-reviewed journals and of patents (including extensions, licensing), invitations to speak at conferences, the supervision of researchers and PhD students, teaching, thematic mobility, participation in reading committees, the organisation of conferences.
- Scientific elements such as: the scientific and/or technological interest of the candidate's research theme(s), project(s) (in their national and international context), innovation and valorization, understanding and explanation, risk-taking and the novelty of his/her work.
- Creativity, scientific scope, influence.

### **Specific criteria according to grade**

#### **Access to the CRCN grade**

As well as the abovementioned common criteria, the following criteria will be taken into account:

- The understanding and value of the scientific project and the candidate's ability to develop this project within the proposed host laboratory.
- The candidate's potential geographical or thematic mobility.
- The candidate's motivation, ability to adapt to teamwork and his/her development of medium-term projects.

### **Access to DR2 grade**

In addition to the criteria of production, quality and relevance, the originality of a researcher's work will be taken into account. In addition, the candidate's ability to supervise and/or direct research will be strongly considered. However, as stated in the abovementioned criteria, scientific merit, will remain the strongest and most central factor in the assessment.

### **Access to DR1 grade**

In addition to the abovementioned criteria, attention will be paid to a candidate's:

- Creativity as illustrated by sustained high quality scientific production since the start of his/her career.
- Scientific stature evaluated on the basis of the quality of his/her scientific output.
- Prominence particularly at the international level.
- Ability to lead a team, a training course or other organisational bodies/structures within the scientific community

*Remarks:* All criteria and specifications regarding the presentation of files for evaluation and promotion to a higher grade are also valid for recruitment files.