



# Evaluation of Research Quality 2011-2014 (VQR 2011-2014)

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## Call for participation

Approved by the Board of Directors of ANVUR

on November 11, 2015

## 1. Introduction

The present Call launches the Italian output 2011-14 Research Evaluation Exercise (VQR 2011-14, hereafter called VQR). The exercise aims at evaluating the scientific research of the following research Institutions (hereafter denoted by the term Institutions):

- a) State University;
- b) Non-state universities entitled to grant academic degrees;
- c) Public research institutions controlled by the MIUR (Italian Ministry of Education, University and Research) (hereafter **Research Institutions**), limitedly to research personnel and affiliate University Professors, according to Art. 55, comma 1, Law Decree, February 9 2102, converted into Law 35, April 4, 2012;
- d) Other public and private institutions (**other Institutions** in the following) performing research activities, upon request to be evaluated and conditioned to the coverage of the related expenses.

In addition to the aforementioned Institutions the evaluation process includes also university departments (ex lege 240/2010) or any other similar organization (in the case of Research Institutions and other Institutions). The Institutions that are not organized as departments but possess similar internal structures, and ask for their evaluation, shall promptly submit to ANVUR the name and composition of such structures (in terms of individuals belonging to them), so that CINECA will modify the web procedures accordingly for the accreditation.



Evaluation results can be used by ANVUR to define the scientific quality of Doctoral programs in both the accreditation and evaluation of PhD Courses. In such cases, the evaluation results of all outputs submitted for evaluation by members of Doctoral programs will be used.

ANVUR conducts the Evaluation Exercise according to the scientific expertise mentioned in the Presidential Decree that established the Agency (DPR n. 76 of February the 1<sup>st</sup>, 2010), and in the Ministerial Decree (hereafter **MD**) of June 27<sup>th</sup> 2015, available on the ANVUR website ([www.anvur.it](http://www.anvur.it)).

## 2. VQR Structure

### 2.1 Areas

VQR is organized in the following 16 evaluation Areas (table 1):

Area	Name
Area 1	Mathematics and Computer Sciences
Area 2	Physics
Area 3	Chemistry
Area 4	Earth Sciences
Area 5	Biology
Area 6	Medicine
Area 7	Agricultural and veterinary sciences
Area 8a	Architecture
Area 8b	Civil Engineering
Area 9	Industrial and Information Engineering
Area 10	Ancient History, Philology, Literature and Art History
Area 11a	History, Philosophy, Pedagogy
Area 11b	Psychology
Area 12	Law
Area 13	Economics and Statistics
Area 14	Political and Social Sciences

Table 1. The 16 scientific-disciplinary areas for evaluation

### 2.2 Group of experts for evaluation

For each Area, the ANVUR Governing Board selects a Group (hereafter called **GEV**) composed of highly qualified Italian and foreign Experts, selected according to their scientific expertise and previous experience with evaluation procedures. The selection will be made among those who



replied in due time to the Call for manifestation of interest to be part of the GEV emanated by the ANVUR Governing Board. If the applications received will not ensure an adequate and balanced participation of experts, the ANVUR Governing Board can select experts who did not answer the Call, provided that they possess the same requisites requested in the Call. ANVUR Governing Board appoints GEV members and at the same time will also choose among GEV members the 16 GEV Coordinators.

The number of experts for each group was set by ANVUR on the basis of the number of research outcomes to be evaluated in the different areas and the percentage of outputs to be evaluated in peer review (see table 2). The total number of experts is equal to 400.

Area	Gev Members
Area 1	22
Area 2	33
Area 3	22
Area 4	15
Area 5	33
Area 6	58
Area 7	20
Area 8a	14
Area 8b	9
Area 9	33
Area 10	36
Area 11a	25
Area 11b	6
Area 12	32
Area 13	31
Area 14	11

Table 2. Number of GEV

For those Areas characterized by a particular disciplinary heterogeneity, and with a high number of publications to be evaluated, ANVUR, in agreement with the GEV Coordinators, can set up sub-groups with specific disciplinary expertise.

### 2.3 Human resources and research outputs

The Evaluation involves the research staff (**staff members** hereafter) working in Italian universities: researchers (both full and part-time according to Art. 24 commas 3a e 3b, Law 240/2010, and Art. 1, comma 14 Law 230/2005) assistant professors, associate professors, full professors and part-time “professori straordinari” according to Art. 1, comma 12 Law 230/2005. For Research Institutes and different Institutions, the Evaluation involves the following



staff members: researchers, first researchers, research directors as well as technologists, first technologists and technologist directors (both full and part-time) and academic Professors and researchers formally affiliated<sup>1</sup> or working in the Research Institutes for at least two years, also nonconsecutive, in the years 2011-2014<sup>2</sup>. **The academic research staff can be accredited not only by her university, but also by a research institution supervised by the Ministry of Education, and by a second institution belonging to the category of "voluntary" Research Institutions (i.e. that voluntarily submit to evaluation), or a "voluntary" inter-university consortia. Employees of the Research Institutions can be accredited by their own institution and by a second Institution among: Research Institutions supervised by the Ministry of Education, voluntary Research Institutions, voluntary inter-university consortia.** If a staff member is affiliated to more than one research institution, he/she will have to choose the more relevant institution to which he/she is affiliated to. Affiliation of staff members of a research institution to another research institution is not considered.

Technologists, first technologists and technologist directors involved in administrative activities or different activities not directly tied to research, are not considered for evaluation.

Research staff will be counted for the evaluation of the Institutions they are affiliated to on November 1, 2015, regardless to previous affiliations and their outputs are submitted by the current Institution, regardless their affiliation at the time of the publication. An exception, as determined by the DM to paragraph 6 of Article 4, is formed by professors and researchers who have served at a university or research institution other than that the one they belong in the period 2011-2014 under Article 6, paragraph 11 of Law 240/2010 or Article 55, paragraph 1, of the decree-law on Feb. 9, 2012, n. 5, converted with amendments by Law 4 April 2012, n. 35. Evaluation results will be attributed to the Institutions proportionally to the duration their engagement in each institution.

CINECA makes available facilities for updating and validating the lists of individuals inserted in the data base of MIUR.

**All staff members belonging to the Institutions to be evaluated must possess an ORCID ID that will be reported during the accreditation procedures. CINECA will prepare an ad hoc procedure, available to the Institution free of charge, in order to simplify the ORCID acquisition.** Staff members without an ORCID ID will not be considered for evaluation; however, their research outputs will be considered in the total number of outputs expected from

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<sup>1</sup> Research institutes use different denominations for the university professors and researchers affiliated with them to conduct research. Here we refer to those who have a formalized collaboration with a research institute, which imply scientific cooperation and financing or co-financing of a research by the research institute.

<sup>2</sup> Here for "year" we mean the formalization of cooperation for a calendar year, and not the actual time of the collaboration.



their institution. Staff members of Research Institutes will also declare their Scientific Sector of Activity (SC and SSD) during the accreditation procedure in order to compute the indicators for these sub-sets.

Research outputs (**outputs** in the following) are considered for evaluation **only if they are published for the first time in the period 2011-14**. In case of outputs first published online and then in print, the first publication date is the one considered for the evaluation (e.g., an article published online in 2014 can be presented for evaluation even if it is the journal issue containing the article has a publication date after 31<sup>st</sup> December 2014). Articles published online in 2010 and contained in a journal issue in 2011-2014 are an exception and can be submitted to the VQR 2011-2014.

**The following research outputs represent the complete set of outputs considered for evaluation. However, each GEV can further detail the description of the outputs, or limit the list of outputs being eligible for evaluation on the basis of the scientific characteristics of each sector, motivating their choices in the evaluation criteria report.**

#### 1. Scientific monographs and related outputs:

- a. Research monograph
- b. Collection of essays of the author (excluding essays published before 2011)
- c. Concordance
- d. Scientific comments<sup>3</sup>
- e. Research bibliography
- f. Critical editions
- g. Critical editions of excavations, intended as the communication of the results of a scientific research of a non-negligible length
- h. Publication of unedited sources with introduction and comments
- i. Manuals (non purely educational)
- j. Scientific Grammars and dictionaries
- k. Book translations (upon GEV decision), if characterized by a critical approach

#### 2. Journal contributions, limited to:

- a. Scientific article
- b. *Review essay*
- c. Letter<sup>4</sup>

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<sup>3</sup> Based on notes illustrating and interpreting in an innovative way with respect to the previous knowledge the significance, language construct, style, cultural-historic context, composition styles and history of a text.

<sup>4</sup> Publications in journals specialized in that kind of publication. Letters to the editor are excluded if containing comments to articles published in the journal.



- d. Forum contribution, on invitation by the journals' editorial boards
- e. Comments on a court sentence (Nota a sentenza)
- f. Journal translation, only when scientifically relevant (upon GEV decision)

3. Book contributions, limited to:

- a. Chapter or essay
- b. Conference proceedings with *peer review*
- c. Preface/Postface essays
- d. Editing of volumes with an essay
- e. Catalogues with introduction essay
- f. Critical entrance in dictionary or encyclopedia
- g. Book translation, only when scientifically relevant (upon GEV decision)
- h. Part of catalogues, repertoires, corpora

4. Other scientific outputs (only if accompanied by documents allowing the identification of the publication date):

- a. Compositions
- b. Drawings and Designs
- c. Architecture projects
- d. Performances
- e. Exhibitions
- f. Shows
- g. Manufactures and art operas
- h. Data bases and software
- i. Online cards
- j. Psychological tests
- k. Audiovisual materials

5. Patents granted within the evaluation period (from 1/1/2011 to 31/12/2014)

GEVs will determine in which cases the following publications contain significant innovative contents making them eligible for evaluation:

1. New editions and translations of works published before 2011
2. Introductions and/or postfaces to new editions of publications appeared before 2011
3. *Abstracts*.

The following outputs are not considered as eligible for evaluation:

1. Educational Manuals
2. Simple book reviews, without an analysis of the related literature
3. Short encyclopedic entrances or dictionaries without an innovative content



4. Short note to judgment (Note a sentenza) without an innovative content
5. Short parts of catalogues without proper scientific content

For each staff member, the Institution selects a number of outputs from a set chosen by the author in ranked order, as defined in Table 3.

<b>Role</b>	<b>Restriction</b>	<b>N. outputs</b>	<b>Institution</b>
Full Professor or “Professore straordinario”		2	University
Associate Professor and Assistant		2	University
Researcher	If working before 1/1/2012	2	University
	If the hiring date is between 1/1/2012 e 31/12/2013	1	University
	If the hiring date is posterior to 1/1/2014	0	University
Research Director		3	Research institution
First Researcher		3	Research institution
Researcher	If working before 1/9/2011	3	Research institution
	If hired between 1/9/2011 and 31/12/2012	2	Research institution
	If hired between 1/1/2013 e 31/12/2013	1	Research institution
	If hired after 1/1/2014	0	Research institution
Research Director with other institutional duties		2	Research institution
First researcher with other institutional duties		2	Research institution
Researcher with other institutional duties	If working before 1/1/2012	2	Research institution
	If the hiring date is between 1/1/2012 e 31/12/2013	1	Research institution
	If the hiring date is posterior to 1/1/2014	0	Research institution
Technologist Director		2	Research institution
First technologist		2	Research institution
Technologist	If working before 1/1/2012	2	Research institution
	If the hiring date is between 1/1/2012 e 31/12/2013	1	Research institution
	If the hiring date is posterior to 1/1/2014	0	Research institution
Full Professor or “Professore straordinario”		1	Research institution



collaborating with research institution for at least 2 years in the period 2011/14			
Associate Professor collaborating with research institution for at least 2 years in the period 2011/14		1	Research institution
Full Professor collaborating with research institution for at least 2 years in the period 2011/14		1	Research institution
Research Director affiliated in a research institution supervised by the Ministry of Education		1	Research institution
First Researcher affiliated in a research institution supervised by the Ministry of Education		1	Research institution
Researcher affiliated in a research institution supervised by the Ministry of Education		1	Research institution



Technologist Director affiliated in a research institution supervised by the Ministry of Education		1	Research institution
First technologist affiliated in a research institution supervised by the Ministry of Education		1	Research institution
Technologist affiliated in a research institution supervised by the Ministry of Education		1	Research institution

**Table 3. Number of outputs for different evaluated subjects**

For the last **nine rows** of Table 3, the output is to be considered in addition to the two to be presented by University staff members. **For the other Institutions, the accreditable researchers and the number of outputs to be presented will be established by ANVUR together with the Institution, based on its activity.**

Authors may decide that their scientific monographs and related outputs be counted as two outputs; in such cases, their evaluation results will be double-counted for the final assessment of the Institution.

#### **2.4 Total or partial exemptions**

In case of leaves taking place in 2011-14 according to the article 13 of Decree n. 382, 1980 or, otherwise, for reasons unrelated to research activities, such as maternity, parental leave, illness, etc., the number of outputs to be evaluated is reduced by 1 compared to the value indicated in Table 3 for leaves lasting between 2 and 3 years, also nonconsecutive. For longer leave periods, total exemption applies. For maternity leaves, the birth of one child reduces by one the number of outputs to be presented by the mother; the birth of more than one child results in total exemption from the evaluation. Total or partial exemptions are optional; staff members can



decide to present part of or all the outputs requested. Calculation of the expected outputs for each Institution will be performed after staff members have decided about possible exemptions.

For those in Senior managerial positions for at least two (consecutive or nonconsecutive) years during the evaluation period, the exemptions reported in Table 4a apply. In this case too, exemptions are optional.

<b>Senior managerial positions</b>	<b>Number of outputs to be presented</b>
Rector	0
Director of Department (pre Law no. 240) or University School President (after Law no. 240)	1
<b>President and Director of Research Institution</b>	<b>0</b>
Director of Department or similar role in Research Institution	2

**Table 1a. Total or partial exemptions for Senior managerial positions**

Total or partial exemptions apply also to members of the National Scientific Habilitation Commissions for the years 2012-13, provided that they have served at least for one whole evaluation term, or for at least six months.

<b>Member of National Scientific Habilitation Commissions, 2012-13</b>	<b>Number of outputs to be presented</b>
Member of National Scientific Habilitation Commissions, 2012-13	1

**Table 4b. Partial exemptions for Members of National Scientific Habilitation Commissions, 2012-13**

No exemptions apply to part-time staff members.

## **2.5 Submitting the research outputs for evaluation**

In each Institution, each output is associated univocally to a research staff member identified as the author or coauthor of the output.

For University staff members who have been formally affiliated to a Research Institute (still active at the date of November 1<sup>st</sup> 2015) for at least two years (consecutive or nonconsecutive) in the period 2011-14, the three research outputs to be submitted for evaluation will be attributed as follows: 2 to the University and 1 to the Research Institute, as in Table 3. The aforementioned staff members will prepare the list of their outputs to be submitted for evaluation, attributing each of them either to the University or the Research Institute. Outputs attributed to the Research



Institute should include an explicit affiliation to the Institute, or an explicit mention of the financial contribution of the Research Institute. Evaluation results for the three outputs will be attributed separately to the University and the Research Institute (2 to the University and 1 to the Research Institute).

Outputs with co-authors belonging to different Institutions can be submitted once by each Institution.

Outputs with more than one author may be submitted only once by the Institution; doubly submitted outputs will be excluded from evaluation. When the same output appears more than once in the lists selected by individual staff members, the structure will resolve conflicts of attribution at the level of individuals, departments and areas. The following exceptions apply:

- Outputs with co-authors belonging to different CNR **Institutes** may be presented by **each Institute** of the co-authors;
- Outputs with co-authors belonging to different INFN Sections may be presented by each Section of the co-authors;
- Outputs with co-authors belonging to different INGV Sections may be presented by each Section of the co-authors;
- Outputs with co-authors belonging to different INAF Observatories may be presented by each Observatory of the coauthors.

To avoid a second round of output selection by staff members, these must include, in cases of outputs with more authors, in the list a number of outputs allowing sufficient margins of choice to Institutions. In the case of outputs of a single author, or with co-authors belonging to different institutions, staff members can propose a number of outputs equal to the minimum number required that satisfies the number of expected outputs.

Institutions will send electronically a PDF of the output to GEVs through the CINECA procedure. Each selected output must be accompanied by a descriptive form written in Italian or English (where the language selection made by the Institution depends on the characteristics of the Area of reference) that includes the following information (supplementary information may be required by the GEVs in their evaluation criteria):

- 1) Bibliographic metadata of the output, including WoS and Scopus identifiers for the articles published in these *databases*;
- 2) Identification of the author using the ORCID ID;
- 3) Identification of the co-authors belonging to the same Institution using the ORCID ID;
- 4) Identification of Area, Scientific Sector (SSD), Academic Recruitment Field (SC) and ERC code for evaluation; for all the articles comprised in the ISI WoS and Scopus databases, the Subject Category (SC or ASJC) should also be identified in order to be used for the bibliometric evaluation;
- 5) Identification of the language of the output;



- 6) An *abstract* of the output. This abstract is needed in order to inform reviewers of the content of the output they are asked to review, before they receive the PDF. If the *abstract* is already included in the output, it will be attached to the output form. If the *abstract* is not already included in the output, the author of the output shall prepare and attach it to the form;
- 7) The indication that the output is the outcome of research in emerging areas, or in areas of high specialization or inter-disciplinary character, for which it is suggested the adoption of *peer evaluation*;
- 8) A description of the importance of the research output in the international scientific context and the impact that the research output has had in addition to what understandable using bibliometric data. This section contains whatever information could prove useful for the enhancement of the output (such as awards and reviews).

In cases of special and motivated unavailability of the output in electronic format, the Institution is allowed to send it by mail in paper form, upon communication to, and acceptance by the GEV.

For the methods of transmission and, in particular, the role played by publishers with respect to books, see the document "Guidelines for the upload of research outputs in VQR 2011-2014", that will be prepared by CINECA.

If the pdf copy is still not available two weeks before the deadline for output submission, Institutions are authorized to produce their own pdf copy to be uploaded into the CINECA interface. This copy will be used only for evaluation purposes and will not be distributed elsewhere. More generally all pdf files used in the evaluation process (for every kind of outputs) will be used exclusively within the evaluation process; GEV members and external reviewers are formally forbidden to distribute the documents outside the evaluation procedures.

## 2.6 Evaluation procedures

Evaluation results are expressed, for each Institution and Department, according to three quality profiles, aggregate in a synthetic profile:

- a) Quality profile, specific for Area, Academic Recruitment Field (SC) and Scientific Sector (SSD), expressed as the percentage distribution in the five levels defined in Art. 5, comma 2, of the MD, for each expected research output of the Institution or Department in the period 2011-14. Evaluation results will be public only when the calculation is made on at least three staff members;
- b) Quality profile, specific for Area, Academic Recruitment Field (SC) and Scientific Sector (SSD), expressed as the percentage distribution in the five levels defined in Art. 5, comma 2, of the MD for each expected research output authored by staff members promoted or hired in the evaluation period. Evaluation results will be public only when the calculation is made on at least three staff members;
- c) competitiveness profile of the research environment, defined as indicated below:



- for Universities: ability to raise funds through competitive international and state-national calls; characteristics of the doctoral courses;
- Research Institutes: ability to raise funds through competitive international and state-national calls; presence of doctoral courses in collaboration with Universities.

The overall quality profile for each Institution is determined combining the three quality profiles a), b) and c), giving a weight of 75% to the profile defined in subparagraph a), a weight equal to 20% to the profile defined in point b) and a weight of 5% to the profile defined in subparagraph c).

In addition, for each Institution and Department (or equivalent internal structure) at least the following indicators, also defined by area, Academic Recruitment Field(SC) and Scientific Sector (SSD), will be calculated:

- d) the ratio between the sum of evaluations assigned to the expected research outputs of the Institution in the Area and the overall assessment of the Area;
- e) the ratio between the average score awarded to expected research outputs of the Institution in the Area and the average score awarded by all the research outputs in the Area;
- f) the ratio between the fraction of research outputs evaluated as excellent in the Institutions in the Area and the fraction of research outputs evaluated as excellent in the Area.

In addition to the above-listed indicators, more general methods for computing indicators at the department level may be implemented (such as the “Standardized Score” for Department), as in the ANVUR-CRUI collaboration that followed the 2004-2010 VQR.

The methodology used to evaluate the research outputs, resulting in the definition of the first two quality profiles defined in subparagraphs a) and b) above and in definition of the synthetic indicators d), e) and f), is described in Section 2.6.1. The method used to build the third quality profile regarding the characteristics of the research environment and defined in subparagraph c) above is described in Section I.1 of Appendix I.

### **2.6.1 Evaluation of research outputs**

Each GEV defines with ANVUR the principles for the evaluation of research outputs and illustrates them in a document about evaluation criteria (one for each GEV), published by ANVUR. GEVs have the responsibility of evaluating the quality of each research output selected by the Institutions.



In order to evaluate this quality, GEVs adopt either one or both of the following two methodologies:

- a) direct assessment, also using, where applicable, the bibliometric analysis, based on citations obtained by the research output and on indicators of the impact of the journal hosting the research output. In order to compute the bibliometric indicators, each GEV uses the databases selected by ANVUR;
- b) *peer-review* carried out by external and independent experts chosen by the GEV (usually two for each research output). Experts will anonymously express their judgment on the quality of the research output to be evaluated.

Each GEV is free to decide the percentage of research outputs to which to apply bibliometric analysis; however, the overall proportion of peer reviewed outputs (for all GEVs taken together) must exceed 50%.

Evaluation will be based on the following criteria:

- a) *originality*, to be understood as the level at which the research output introduces a new way of thinking in relation to the scientific object of the research, and is thus distinguished from previous approaches to the same topic;
- b) *methodological rigor*, to be understood as the level of clarity with which the research output presents the research goals and the state of the art in literature, adopts an appropriate methodology in respect to the object of research, and shows that the goal has been achieved;
- c) *attested or potential impact* upon the international scientific community of reference, to be understood as the level at which the research output has exerted, or is likely to exert in the future, a theoretical and/or applied influence on such a community also on the basis of its respect of international standards of research quality.

Following this quality evaluation, every publication will be attributed to one of the following levels:

- a) *Excellent* (weight 1): the publication reaches the highest levels in terms of originality and methodological rigor, and has achieved or is likely to achieve a strong impact in the scientific community of reference at the international and/or national level. Ideally, the research output is in the highest 10% of the distribution of the international scientific research output of the Area.



b) *Good* (weight 0.7): the publication reaches good levels in terms of originality and methodological rigor, and has achieved or is likely to achieve a significant impact in the scientific community of reference at the international and/or national level. Ideally, the research output is in the 10-30% segment of the distribution of the international scientific research production of the Area.

c) *Fair* (weight 0.4): the publication reaches fair levels in terms of originality and methodological rigor, and has achieved or is likely to achieve an appreciable impact in the scientific community of reference at the international and/or national level. Ideally, the research output is in the 30-50% segment of the distribution of the international scientific research production of the Area.

d) *Acceptable* (weight 0.1): the publication reaches sufficient levels in terms of originality and methodological rigor, and has achieved or is likely to achieve a restricted impact in the scientific community of reference at the international and/or national level. Ideally, the research output is in the 50-80% segment of the distribution of the international scientific research production of the Area.

e) *Limited* (weight 0): the publication reaches low levels in terms of originality and methodological rigor, and has achieved or is likely to achieve a very limited impact in the scientific community of reference at the international and/or national level. Ideally, the research output is in the 80-100% segment of the distribution of the international scientific research production of the Area.

f) *Not eligible for evaluation* (weight 0): the publication belongs to types excluded from this assessment exercise, or has attachments and/or documentation inadequate for evaluation or was published in the years before or after the four-year period of reference for evaluation. Missing, non-submitted research outputs are also included in this category.

Quality levels are immediately assigned when the evaluations attributed to the three criteria are consistent; GEVs will define the rules to be applied for the final classification when evaluation in each criteria are discordant (for example research outputs that reach the highest levels in terms of originality, while having a level of methodological rigor not so high, and maybe getting a low impact).

The calibration of the algorithm for bibliometric evaluation will guarantee that the percentages indicated in the definitions of the quality levels are respected, with reference to the "international scientific research production of the Area", which is identified as the content of the bibliometric databases at subject category level (ISI WoS) and ASJC level (Scopus).



In peer review evaluation, peer-reviewers will be asked to evaluate separately the three criteria giving a numerical score to each of them on an appropriate scale. A rule of composition of these scores will be defined in order to attain the final quality level. In addition, each peer reviewer will have to write a synthetic final evaluation.

### 2.6.2 The third quality profile

The third quality profile concerns the competitiveness of the research environment. It is defined by the indicators described in Appendix I.

## 3. Duties of the VQR different actors

### 3.1 CINECA

CINECA will fulfill the following tasks:

1. To implement the interface to obtain the ORCID identifier (**ORCID interface**);
2. To implement the interface for the accreditation of research staff (**accreditation interface**);
3. To publish the Guidelines for uploading the research outputs to be evaluated (**guidelines for the uploading of research outputs**);
4. To implement the interface for the upload of research outputs (**Submission of research outputs**).

### 3.2 Research staff members

Research staff members will fulfill two tasks:

1. To get the ORCID identifier required in order to be accredited as research staff member and to participate in the VQR, using the IT tool made available by CINECA (**ORCID identification**);
2. To list, in order of preference, the research outputs from which Institution will choose those submitted for evaluation.

### 3.3 Institutions

Each Institution will fulfill six tasks:

1. If it is not explicitly organized in departments, but has similar internal divisions, the Institution will communicate to ANVUR the name of the internal structures and their composition in terms of research staff members (**department definition**);
2. To certify the lists of research staff members prepared by CINECA also using the databases of Ministry of Education (**accreditation**), taking preliminarily care that each researcher has an ORCID identifier;
3. To select the research outputs, using the lists defined by research staff members and informing them of the choices made; to ensure the transmission of outputs to the GEVs through the





CINECA procedure, resolving any possible conflict of attribution and assigning each research output to only one staff member (**research outputs transmission**);

4. To send the information related to the mobility of research staff members in 2011-2014, such as internal promotions, hirings, or transfers from another Institution (**mobility**);

5. To verify the list of the names of personnel under training (**control of personnel under training**):

i) PhD students in universities at the dates of December 31st for the years 2011, 2012, 2013, 2014, specifying whether holding a PhD scholarships or not, and reporting the Area, the Department, the funding bodies for the scholarships and the contract Institution, where applicable;

ii) Medical school graduates in specialisation by December 31st for the years 2011, 2012, 2013, 2014;

iii) Post-doctoral fellows with scholarships granted by the Institution or by other bodies and carrying out their research activity within the Institution by December 31st, of the years 2011, 2012, 2013, 2014, specifying the Area and the Department;

iv) Personnel awarded with “assegni di ricerca” by the Institution or by other bodies and carrying out their research activity within the Institution by December 31st, of the years 2011, 2012, 2013, 2014, specifying the Area and the Department.

6. To send electronically information regarding cash revenues (**further data transmission**), by Area and Departments (or equivalent divisions), derived from research projects awarded through competitive calls, for each year of the period 2011-2014, specifying the projects funded by PRIN, FIRB, FAR, Framework Programmes of the European Union and the European Research Council, European programmes co-funded by structural funds, and any other public and private entities (national and international).

Research Institutes and other bodies transmit, in relation to paragraph 5 above, the following information:

i) PhD students funded with scholarships paid by the institution;

ii) PhD students of doctoral courses in collaboration with universities officially carrying out their doctoral thesis in the institution;

iii) Personnel awarded with “assegni di ricerca” and post-doctoral fellowships by the Institution carrying out their research activity within the institution.

### 3.4 GEVs

GEVs will fulfill the following five tasks:

1. If necessary and in accordance with ANVUR they will create internal sub-groups more homogeneous from a disciplinary point of view (**sub-groups appointment**);



2. In accordance with ANVUR they will define and publicize evaluation criteria of research outputs, for both *peer review* and direct evaluation (**criteria definition**) ;
3. To select peer reviewers and to manage the interaction with them in order to reach the final evaluation of research outputs, also defining sub-groups of evaluation within the GEV, using the classes of merit specified in Section 2.6 (**Peer review evaluation**);
4. To manage direct evaluation of a part of research outputs, using also bibliometric indicators where possible (**direct evaluation**). The bibliometric analysis is carried out using the data available on December 31, 2015;
5. To prepare the Final Area Report that includes the following 3 parts (**final GEV report**):
  - a) The adopted methodology and work organization, including the procedures to solve any possible evaluation conflict arising among GEV members and/or reviewers;
  - b) An assessment of the Area based on the evaluation results of the publications. This evaluation will include the quality profiles described in Section 2.6 letters a) and b), and at least the indicators described in letters d), e) and f) related to the Area, Academic Recruitment Field (SC) and Scientific Sector (SSD) for Institutions and Departments (or equivalent divisions);
  - c) An analysis of the strengths and weaknesses of the Area at the national level, in relation to the quality and quantity of research outputs, indicating, whenever possible, specific lines of action for improvement.

### 3.5 ANVUR

ANVUR will fulfill the following three tasks, also using the GEVs' final reports and the data transmitted by the Institutions:

1. To select the members and the Coordinators of each GEV (**GEV appointment**);
2. To develop, where applicable, a bibliometric analysis concerning all publications in the four years under consideration comprised in the bibliometric databases, with reference to specific areas and categories, in order to verify the positioning of the Italian Research System (SNR) in the international contest (**international SNR positioning report**).
3. To prepare the Final 2011-2014 VQR Report (**Final ANVUR Report**). The final report includes the following parts:
  - a) Evaluation of the SNR as a whole, and as divided at least by Areas;
  - b) Evaluation of the Institutions based on the GEVs' final reports, as well as on data and information transmitted by the Institutions. In building the merit evaluation, ANVUR uses the criteria, indicators and weights described in Appendix I;
  - c) Evaluation of the Departments (or equivalent divisions). In this evaluation, ANVUR uses the criteria, indicators and weights described in Appendix II;



4. ANVUR will use the VQR results, together with other the criteria and parameters defined in the Regulation containing Criteria for classification of journals for the National Scientific Habilitation and in the attached Document (April 28<sup>th</sup>, 2015), for the revision of the list of scientific journals, in particular A-Class journals;
5. According to article 13 of Presidential Decree n. 76, 2010, ANVUR will publish the 2011-2014 VQR results regarding the evaluation of Institutions and their internal divisions. Evaluation results of single research outputs and the names of their specific reviewers will not be disclosed. A list of the reviewers will be published within 30 days from the publication of the final VQR Report.

Regarding “Third Mission” activities performed by the Institutions and mentioned in comma 6, article 2 of the MD, ANVUR will operate according to the guidelines “La valutazione della terza missione nelle università italiane” approved by the ANVUR Governing Board on April 1<sup>st</sup> 2015 (<http://www.anvur.it/attachments/article/26/Manuale%20valutazione%20terza~.pdf>), and using expert committees whose members will be chosen among those listed in the relevant register. Third mission activities will be evaluated independently, and will not contribute to the calculation of the indicators described in Appendix I and II.

#### 4. Deadlines

The following deadlines are set for all the actors involved in the 2011-2014 VQR. Tasks’ names are those reported in bold in Section 3.

##### 4.1 CINECA

1. ORCID interface: September 1<sup>st</sup>, 2015
2. Accreditation interface: September 15<sup>th</sup>, 2015
3. Guidelines for research outputs upload: October 15<sup>th</sup>, 2015
4. Submission of research outputs: November 1<sup>st</sup>, 2015

##### 4.2 Research staff members

1. ORCID identification: the deadline is established by the Institution of affiliation considering the deadline for accreditation of research staff members;
2. Submission of research outputs: the deadline is established by the Institution of affiliation considering the deadline for the transmission of research outputs.

##### 4.3 Institutions

1. Department definition for Research Institute and other Institutions: September 15<sup>th</sup>, 2015
2. Accreditation: November 30<sup>th</sup>, 2015
3. Mobility: November 30<sup>th</sup>, 2015
4. Transmission of research outputs: January 31<sup>st</sup>, 2016 for the University, and February 29<sup>th</sup>, 2016 for the research Institutes and other Institutions
5. Control of personnel under training: February 29<sup>th</sup>, 2016



6. Further data transmission: February 29<sup>th</sup>, 2016.

Institutions wishing to participate to the 2011-2014 VQR must inform ANVUR, and sign a contract indicating their contribution to the expenditures by September 30<sup>th</sup>, 2015.

#### 4.4 GEVs

1. Sub-groups appointment: September 30<sup>th</sup>, 2015
2. Criteria definition: November 15<sup>th</sup>, 2015
3. *Peer* review evaluation: September 10<sup>th</sup>, 2016
4. Direct evaluation: September 10<sup>th</sup>, 2016
5. GEV Final Report: September 30<sup>th</sup>, 2016.

#### 4.5 ANVUR

1. GEVs' appointment: by September 15<sup>th</sup>, 2015
2. International SNR positioning report: October 31<sup>st</sup>, 2016
3. ANVUR Final Report: October 31<sup>st</sup>, 2016.

## 5. Coordination of VQR 2011-2014

The coordination of the 2011-2014 VQR activities, anyway subordinated to the decisions of the ANVUR Governing Board, is assigned to:

**Coordinator:** Sergio Benedetto

**Vice-coordinator:** Andrea Graziosi.



## Appendix I. Criteria, indicators and weights for evaluation of Institutions

### I.1 General Area criteria related to research

With reference to Section 2.6, the evaluation results are provided for each Institution as three different quality profiles and an overall quality rating:

- a) Quality profile, specific for Area, Academic Recruitment Field (SC) and Scientific Sector (SSD), expressed as the percentage distribution in the five levels defined in Art. 5, comma 2, of the MD, for each expected research output of the Institution or Department in the period 2011-14. Evaluation results will be public only when the calculation is made on at least three staff members;
- b) Quality profile, specific for Area, Academic Recruitment Field (SC) and Scientific Sector (SSD), expressed as the percentage distribution in the five levels defined in Art. 5, comma 2, of the MD for each expected research output authored by staff members promoted or hired in the evaluation period. Evaluation results will be public only when the calculation is made on at least three staff members;
- c) competitiveness profile of the research environment, defined as indicated below:
  - for Universities: ability to raise funds through competitive international and state-national calls; characteristics of the doctoral courses;
  - Research Institutes: ability to raise funds through competitive international and state-national calls; presence of doctoral courses in collaboration with Universities.

The overall quality profile for each Institution is determined combining the three quality profiles a), b) and c), giving a weight of 75% to the profile defined in subparagraph a), a weight equal to 20% to the profile defined in point b) and a weight of 5% to the profile defined in subparagraph c).

In addition, for each Institution and Department (or equivalent internal structure) at least the following indicators, also defined by Area, Academic Recruitment Field (SC) and Scientific Sector (SSD), will be calculated:

- d) the ratio between the sum of evaluations assigned to the expected research outputs of the Institution in the Area and the overall assessment of the Area;
- e) the ratio between the average score awarded to expected research outputs of the Institution in the Area and the average score awarded by all the research outputs in the Area;
- f) the ratio between the fraction of research outputs evaluated as excellent in the Institutions in the Area and the fraction of research outputs evaluated as excellent in the Area.



Regarding the quality of the publications, the following indicators<sup>5</sup> are calculated (definitions are presented for the Area but the indicators will be calculated for “Academic Recruitment Field” and scientific sector as well):

1. **Quali-quantitative indicator IRAS1, (weight 0.75)**, calculated as the ratio between the sum of evaluations obtained by the outputs presented by the Institute in a specific Area and the overall evaluation of the Area.
2. **Quali-quantitative indicator IRAS2, (weight 0.20)**, calculated as the previous IRAS1 for the subset of publications and research outputs presented by research staff members who have been recruited or promoted by the Institution in 2011-2014.
3. **Qualitative indicator R**, defined as the ratio between the average of the evaluations obtained by the expected outputs from the Institute in a specific Area and the average evaluations obtained from all outputs of the Area.
4. **Qualitative indicator X**, defined as the ratio between the percentage of excellent outputs from the Institute in a specific Area and the percentage of excellent outputs of the Area.

The quality profiles relative to the environmental features of the research activity are obtained through the calculation of the following indicators:

5. **The quali-quantitative indicator for resources attraction IRAS3, (weight 0.01)**, calculated by summing funds obtained through participation in competitive calls for national (PRIN, FIRB, FAR, ASI, PNR,...) and international research projects (Framework Programs of the European Union, European Space Agency, NIH, etc.). The value is expressed as a percentage of the overall value of the Area.
6. **The higher education indicator IRAS4, (weight 0.01)**, calculated as the number of researchers under training (PhD students, medical and sanitary specialization school students, research fellows, post-doctoral personnel). The value is expressed as a percentage of the overall value of the Area.
7. **The quali-quantitative indicator of improvement IRAS5, (weight of 0.03)**. Given the significant differences between the VQR 2004-2010 and VQR 2011-2014, the improvement indicator will not be based on the values obtained in the two evaluation exercises. Rather, it will be calculated with reference to rank differentials in the two exercises in the distribution of the R indicator. Institution positioned in the top rank in both evaluation processes will not be penalized.

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<sup>5</sup> The list of indicators and their weights apply to universities and research institutions supervised by the Ministry of Education. For the other Institutions, the indicators and their weights will be established by ANVUR together with the Institutions.



In addition to the above-listed indicators, more general methods for computing indicators at the department level may be implemented (such as the “Standardized Score” for Department), as in the ANVUR-CRUI collaboration that followed the 2004-2010 VQR.

## I.2 Weight of area and Institution indicators

The final evaluation of the Institutions, finalized to the distribution of the FFO premium quota, will be based on the area indicators IRAS1-IRAS5 (or a subset of these), appropriately integrated into a single indicator, and reported to the Institution.

The qualitative indicators *R* and *X* will be used for generating a ranking of the Institutions at the level of Area, Academic Recruitment Field and Scientific Sector.

## Appendix II. Criteria, indicators and weights for departments evaluation

### II.1 General Area criteria related to research

Evaluation of departments (or equivalent structures) is provided as three different quality profiles and an overall quality rating. For the quality profiles related to publications, the evaluation process will use the same indicators already described in the Institutions' case, suitably renamed:

1. **Quali-quantitative indicator IRD1, (weight 0.75)**, calculated as the ratio between the sum of evaluations obtained by the outputs presented by the Department and the overall evaluation of the Area.
2. **Quali-quantitative indicator IRD2, (weight 0.20)**, calculated as the previous IRD1 in the subset of publications and research outputs presented by research staff members who have been recruited or promoted by the Department in 2011-2014.
3. **The qualitative indicator *R***, defined as ratio between the average of the evaluations obtained by the expected outputs from the Department in a specific Area and the average of the evaluations obtained from all outputs of the Area.
4. **The qualitative indicator *X***, defined as ratio between the percentage of excellent outputs from the Department in a specific Area and the percentage of excellent outputs of the Area.

The quality profiles relative to the environmental features of the research activity are obtained through the calculation of the following indicators. In the following definitions, indicators are



related to the Area. Indicators will be also calculated related to the Academic Recruitment Field (SC) and Scientific Sector (SSD).

**5. The quali-quantitative indicator for resources attraction IRD3, (weight 0.01)**, calculated by summing funds obtained through participation in competitive calls for national research projects (PRIN, FIRB, FAR, ASI, PNR,...) and international ones (Framework Programs of the European Union, European Space Agency, NIH, etc.). The value is expressed as a percentage of the overall value of the Area.

**6. The higher education indicator IRD4, (weight 0.01)**, calculated as the number of researchers under training (PhD students, medical and sanitary specialization school students, research fellows, post-doctoral personnel). The value is expressed as a percentage of the total value of the Area. Identification of the Department will be based on the affiliation of the *tutor*.

**7. The indicator of improvement (IRD5, weight 0.03)**. Given the significant differences between the VQR 2004-2010 and VQR 2011-2014, the improvement indicator will not be based on the values obtained in the two evaluation exercises. Rather, it will be calculated with reference to rank differentials in the two exercises in the distribution of the *R* indicator. Departments positioned in the top rank in both evaluation processes will not be penalized.

In addition to the above-listed indicators, more general methods for computing indicators at the department level may be implemented (such as the “Standardized Score” for Department), as in the ANVUR-CRUI collaboration that followed the 2004-2010 VQR.