



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

# The roadmap of Alma Mater Studiorum – Università di Bologna towards the implementation of the CoARA principles

4 June 2024

## PREMISE

The **Agreement on Reforming Research Assessment (ARRA)** establishes a shared framework for modifying assessment practices within research, among researchers, and across research organizations. The overarching objective is to enhance the quality and impact of research. The ARRA outlines principles, commitments, and a timeline for reforms, while also defining the principles for a coalition of organizations willing to collaborate in implementing these changes. Signatories commit to a common vision: research assessment should recognize the diverse outputs, practices, and activities that maximize research quality and impact. Achieving this goal involves primarily qualitative judgment, with peer review playing a central role, complemented by responsible use of quantitative indicators.

The reform movement, driven by the ARRA and the **Coalition for Advancing Research Assessment (CoARA)**, aims to create an inclusive and collaborative space for advancing toward a research system of higher quality, greater impact, and improved efficiency. It provides a platform for experimentation, the development of new assessment criteria, methods, and tools, as well as joint critical reflection, exchange of best practices, and mutual learning. Throughout this process, organizations' autonomy is fully respected, allowing them to freely decide on the steps needed to implement commitments and adjust the pace of their reform journey based on context (e.g., national, disciplinary, or individual researcher assessment) and their strategic goals and mission.

Alma Mater Studiorum – Università di Bologna (UNIBO) signed the ARRA and joined CoARA in **November 2022**. Since September 2023, UNIBO is co-chairing the **Italian National Chapter** of CoARA, together with the National Research Council (CNR).



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## ORGANIZATIONAL CONTEXT AND BASELINE

### Guiding principles for Alma Mater Studiorum – Università di Bologna

UNIBO recognizes the first two CoARA core commitments as the main guiding principles in its approach to reform, both for their significance and for the challenge they represent:

**Commitment 1.** Recognize the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research;

**Commitment 2.** Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators.

As for the supporting commitments, UNIBO intends to focus on 5, 6, and 7:

**Commitment 5.** Commit resources to reforming research assessment as is needed to achieve the organisational changes committed to;

**Commitment 6.** Review and develop research assessment criteria, tools and processes;

**Commitment 7.** Raise awareness of research assessment reform and provide transparent communication, guidance, and training on assessment criteria and processes as well as their use.

### Involvement of our community in the change process

UNIBO has involved, and will continue to involve, the relevant committees in the reform process, namely:

- (i) the **University Quality Committee (PQA)**, which promotes the culture and continuous improvement of quality at the University and supervises proper implementation of Quality Assurance procedures at all levels (Teaching, Research, Knowledge exchange);
- (ii) the **University Research Evaluation Committee (CVRA)**, which is responsible for preparing and updating the criteria for local research assessment, performed periodically by disciplinary panels;
- (iii) the **Working Group on Open Science (GLOS)**, which promotes an open science culture within the University, open access to research outputs and responsible research data management, as well as society's involvement in research activity.



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The Departments have been informed about the CoARA initiatives through Department Research and Open Science Representatives, who will play an active role in the implementation of the Action Plan (see section below). All proposals that will emerge during the reform process will be presented to the Department Research Representatives, to collect feedback from the Departments, and will be subsequently submitted to the competent academic governing boards for discussion/approval. Specific meetings to raise awareness on the CoARA reform will be organized.

Good practices will be:

- **shared internally** through the Intranet and other collaborative tools, and by organizing dedicated meetings with Department Research and Open Science Representatives, who will be asked to raise awareness on the CoARA reform with researchers (at all stages of career) within their departments;
- **shared externally** through the publication of the roadmap and action plan (see section “Communicate progress made on adherence to the principles and implementation of the Commitments”) and through the Italian National Chapter initiatives.

### Key challenges to address

A local reform of research assessment cannot ignore the **national context** in which we are embedded, and the current research assessment system and requirements at national level, with special referent to the National Scientific Habilitation (ASN), which is crucial for early-stage career researchers, and the national Research Quality Assessment campaign (VQR). In addition, the recruitment of professors and researchers is governed by a national law (L. 240/2010, DM 344/2011, and subsequent amendments). Indeed, any change – while advancing the reform – must deal with the current regulatory framework.

Locally, we face the challenges of a **large, multidisciplinary University** embracing all different research communities (from physical sciences and engineering to life sciences to social sciences and humanities), each of which presents different publishing and dissemination practices and different assessment criteria. A key issue is related to the fact that **peer review** for the local assessment of researchers’ scientific production is not feasible internally, due to the considerable number of products to be evaluated (~9500 each year) and the unavoidable conflict of interest that would arise from evaluators being responsible for assessing their own products. We therefore need reliable and objective evaluation criteria that are, however, not uniquely based on quantitative indicators. This point will be further discussed in the following sections.



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To **address these challenges**, UNIBO is working within the relevant national associations (e.g., the Conference of Italian University Rectors – CRUI; the Conference of General Directors of University Administrations – CODAU) and the Italian National Chapter for lobbying purposes. Locally, UNIBO will adopt a gradual approach, by involving all relevant actor groups and by elaborating an effective communication strategy.

### Operational action plan for implementing the ten commitments

#### Recognize the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research

Since the creation of the Working Group on Open Science (GLOS) in 2023, UNIBO has been committed to **promoting Open Science**, regarding both publications and research data management, also by addressing discipline-specific issues and needs. At present, informative webinars on Open Science principles and practices are held monthly for the entire academic community (“Open Science Corner”), including early-stage researchers and technical staff. The University also provides specific Open Science training for PhD students and plans to introduce additional training on other aspects of the reform, such as narrative CVs. In addition to these initiatives, events are being held within the departments (with the collaboration of the Open Science Representatives and librarians) to raise awareness on Open Science issues, policies (UNIBO has just approved a new policy for research data management), and services/opportunities offered by the University. The latter include: the Digital Library institutional publishing service (IPSP) for Diamond Open Access; the Library System support service for Green Open Access; transformative agreements and other kinds of agreements with publishers for OA; Data Stewardship support (UNIBO was the first university in Italy to introduce this professional figure and is actively promoting the creation of a Data Steward Community of Practice).

Moreover, UNIBO intends to **value interdisciplinary research** (within the limits imposed by the current national context): starting with the recognition (mapping) of the relevant products through shared and internationally recognized criteria, the University aims at creating a virtuous circle that could support interdisciplinary research by overcoming disciplinary borders.

Furthermore, UNIBO is committed to foster a critical reflection on **fundamental values of research**, by organizing a cycle of open international events on the following topics: reliability, transparency, and reproducibility; interdisciplinarity; ethics and academic freedom.



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As for **recruitment**, UNIBO currently recognizes diverse contributions to research: besides publications (and teaching), other activities are considered, including project coordination, patents and (for professor positions) knowledge exchange. Institutional work and clinic activity are also considered. Interdisciplinarity is a weak point due to national regulations; however, the recruitment process of professors is structured so that interdisciplinarity can be valued in the very last phase, where the departments select the best candidate among short-listed applicants. The assessment of collaborative work (like in multi-author publications) can be customized by the recruitment committees, coherently with disciplinary practice.

UNIBO recognizes diverse contributions to research also for **salary progressions** and for participating in recruitment committees, where project coordination is also considered.

Part of the overhead and leftover budget of competitive projects can be used for the **salary integration** of the Principal Investigator (PI) and project team members. Furthermore, incentives are recognized for departments in terms of additional recruitment resources to hire PIs of European projects.

As already mentioned, recruitment is highly constrained by national regulations. However, the University will consider a revision of the guidelines for the evaluation committees and will reflect on reviewing the criteria currently used for salary progression, which are less subject to national rules.

### **Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators**

UNIBO is already adopting **purely qualitative** evaluation mechanisms in several internal calls for funding, such as *Almaldea*, *AlmaScavi*, *AlmaCares* and *AlmaAttrezzature*: for these procedures, the evaluation is entirely based on peer review.

Regarding the local **University Research Assessment** (VRA), which applies annually to all individual researchers (approx. 3400) and is carried out by disciplinary panels of faculty members, the University needs to face the challenges of evaluating many publications and guaranteeing a fair and objective process. In this context, **peer review** alone is simply not feasible, and the adoption of quantitative, automatic, and objective metrics seems unavoidable. Currently, journal metrics are used in combination with citation metrics, whenever possible.

The VRA procedure also includes a **quantitative evaluation** based on the indicators of scientific qualification used in the National Scientific Habilitation (ASN). UNIBO has recently introduced this quantitative evaluation for two reasons: (i) to align to the national procedure with a view



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of preparing its early-stage researchers to face those requirements; (ii) to decrease the required number of research outputs to submit (thus aiming at quality vs. quantity) with respect to the past. However, the score resulting from ASN-based criteria is never used for qualitative analysis or for monitoring research quality.

Regarding internal calls for funding, the University plans to continue with the current approach based on peer review by evaluation committees, using criteria published in advance. The process can be improved by devoting an even greater attention to conflicts of interest and by ensuring error avoidance, transparency and correctness.

Regarding the local University Research Assessment (VRA), see the next section.

### **Abandon inappropriate uses in research assessment of journal- and publication-based metrics, in particular inappropriate uses of Journal Impact Factor (JIF) and $h$ -index**

The  $h$ -index is partially used in the local procedures, namely for the quantitative evaluation part of the VRA based on the National Scientific Habilitation (ASN) (see previous section), and for the open calls for professor positions, in accordance with the national regulations. JIF and other journal-based metrics are used mainly in combination with citation-based metrics.

UNIBO plans to debate the use of metrics within the University Research Assessment Committee (CVRA) to identify actions for further **mitigating reliance on journal metrics**, particularly in those disciplinary areas where the application of a combination of indicators is not straightforward. More in general, the University plans to discuss with the CVRA a way to further mitigate the use of quantitative criteria and, if possible, to elaborate new tools.

### **Avoid the use of rankings of research organizations in research assessment**

Rankings are not used for evaluation purposes at any level, but only as a reputational or promotional tool.

### **Commit resources to reforming research assessment as is needed to achieve the organizational changes committed to**

UNIBO is currently allocating **human resources** for the Italian National Chapter (which the University co-chairs). University structures, committees, and working groups on topics related to research, research assessment and Open Science are already active and will be involved. Further efforts will be defined and put in place as the activities unfold.



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## Review and develop research assessment criteria, tools and processes

Although the regulatory framework at the national level needs to be amended before significant changes can be implemented at the local level, the University plans to debate alternative/new assessment criteria, tools, and processes.

More specifically, UNIBO recognizes that there are some aspects of researchers' careers that are more difficult to grasp and reward with the current evaluation system, for example: specific skills within collaborative research, management of research equipment, Open Science practices, and other activities such as peer review and editorial service, dissemination and knowledge exchange.

The University plans to start a debate on the opportunity of **rewarding further research practices, skills and outputs** within evaluation procedure at the department level (e.g., for assigning RFO or other types of funding). To this end, the University will discuss the opportunity to enhance standard CV formats with more narrative parts that highlight further skills and achievements.

## Raise awareness of research assessment reform and provide transparent communication, guidance, and training on assessment criteria and processes as well as their use

UNIBO has identified the **training of reviewers** as a fundamental aspect, which was also brought to the attention of ANVUR (Italian National Assessment Agency) during the open consultation phase preceding the VQR 2020/2024 campaign's launch.

Locally, there are no formalized training activities for reviewers, but guidelines are provided to jury members. The University intends to organize training and dissemination activities for the community, thus indirectly to potential jurors. Initiatives will be organized to involve the community at large in a **critical analysis** of the opportunities and limits of peer review, in line with the effort the University towards promoting **research integrity and ethics**.

The University also plans to raise awareness on good peer-review and ethics practice within the editorial boards of the **Diamond OA journals** hosted by the institutional platform *AlmaDLJournals*, which all have a publication ethics statement inspired by COPE Code of Conduct. *AlmaDLJournals* already adopts a Data Policy to ensure that research data used within submitted contributions are managed according to the FAIR principles.



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## Exchange practices and experiences to enable mutual learning within and beyond the Coalition

UNIBO will exchange practices and foster exchange of good practices through the **Italian National Chapter**, which will interact with other National Chapters and with the CoARA Working Groups.

The University will not miss any opportunities to exchange good practices and promote the advancement of the reform, making the most of the numerous international **networks** to which it belongs and actively contributes (e.g., The Guild, UNA Europa, EUA, Coimbra Group, EOSC Association).

## Communicate progress made on adherence to the principles and implementation of the Commitments

UNIBO currently ensures the **transparent communication** of the local research assessment processes by publishing criteria and documentation on the Intranet. All administrative practices submitted to the academic governing boards are available for consultation by the whole academic community.

Future steps will include the creation of a **webpage** that illustrates the University's commitment to the CoARA movement, the present roadmap, and the updates with respect to the Action Plan.

## Evaluate practices, criteria and tools based on solid evidence and the state-of-the-art in research on research, and make data openly available for evidence gathering and research

The **monitoring** and evaluation of criteria, tools, and processes is intrinsic to the functioning of the University. All permanent institutional committees (CVRA, PQA, Equipment committee, etc.) and the Rector's Delegates report periodically to the academic governing boards on their work and revise their methods. As for the VRA, there is an annual revision of criteria, tools, and practices: at the end of every year, the CVRA members draft a report on the process and the results.

Finally, UNIBO is committed to make **data openly available** for evidence gathering and research: beside assigning a CC0 license to the metadata contained in IRIS-IR (institutional repository of research products), the University was among the first signatories of the "Barcelona Declaration on Open Research Information", launched on April 16, 2024.



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## ACTION PLAN (NOW-2027)

### Phase 1: 2024 to mid-2025

- **Action 1** – Create a CoARA Working Group that will be in charge of: (i) gathering input from the departments; (ii) elaborating a second, more detailed version of the Action Plan; (iii) overseeing the implementation of the Action Plan itself; and (iv) raising awareness on the reform within the academic community.
- **Action 2** – Contribute to the debate on fundamentals issues in research that are central to ARRA – like transparency/reproducibility, interdisciplinarity, academic freedom – by organizing a trilogy of international events open to everyone.
- **Action 3** – Foster Open Science practices and their monitoring, ranging from research outputs (publications, data, etc.) to training activities, and enhance dissemination by developing a new communication strategy.
- **Action 4** – Experiment a new monitoring of knowledge exchange and its societal impact.

### Phase 2: mid-2025 to 2027

- **Action 5** – Launch training initiatives for young researchers (beginning from doctoral studies) and newly hired individuals, with a focus on continuous improvement of research quality.
- **Action 6** – Foster a discussion on the application of CoARA principles to the following domains (considering national regulations and other factors that cannot be overcome at present):
  - guidelines for recruitment committees (for example, by promoting a more holistic evaluation of candidates, differentiated by career stage);
  - criteria used within the VRA process (for example, by maximizing qualitative criteria and by avoiding a merely quantitative evaluation);
  - criteria for salary progression (for example, by including a more diverse range of activities that could be required or valued);
  - criteria used to distribute resources within departments (for example, for assigning RFO or other types of funding).