

Advancing Research Assessment at CERN

Quantitative assessment is often used to evaluate researchers in hiring and promotion contexts. However, heavy reliance on such quantitative measures can misconstrue researchers' contributions to a field, decrease the diversity of research approaches, and penalize engagement in open science, education, and outreach. To promote a fair and holistic assessment of researchers, CERN is a signatory of the Agreement of the Coalition on Reforming Research Assessment (CoARA), a coalition of more than 700 organisations involved in research assessment. This document highlights how evaluators can align with CoARA principles to promote quality, fairness, and openness in hiring and research evaluation.

The Four Core CoARA Principles



Value Diverse Contributions and Careers Recognize technical, educational, and collaborative efforts—not just publications. Examples: software development, data stewardship, mentoring, outreach.



Prioritize Qualitative, Peer-Reviewed Evaluation Use peer expertise to assess novelty and impact. Avoid reliance on publication count or citations.



Avoid Misuse of Journal Metrics Do not use journal-based metrics such as the Journal Impact Factor (JIF) or citation-based metrics such as the h-index to judge individuals. Evaluate content, relevance, and substance of outputs.



Don't Rely on Institutional Prestige Assess the researcher, not their affiliation. Talent exists across all institutions.

Applying the Principles in Practice

1. Scientific contributions come not only in papers. Also look for contributions like:
 - a. **Software & Infrastructure:** Review GitHub activity, community uptake, documentation quality.
 - b. **Data Contributions:** Investigate whether data are published, and how findable, accessible, interoperable, and reusable they are.
 - c. **Mentoring & Education:** Look for evidence of student supervision, training, and outreach activities.
2. Use domain-specific judgment to assess novelty, rigor, and relevance, especially in niche technical areas.
3. A paper in a lower-impact journal could represent pioneering work, especially in emerging subfields.
4. Strong candidates can come from less-known institutions. Focus on what they've done, not where they've done it.

Quick Checklist for Evaluators

CERN's participation in CoARA is not just symbolic — it reinforces our dedication to scientific excellence and integrity. This fosters a healthy research culture that supports innovation, inclusion, and openness. To assess researchers in line with CERN's mission, consider the following:

- ✓ Focus on quality over quantity
- ✓ Recognize diverse types of contributions
- ✓ Avoid metrics as shortcuts
- ✓ Rely on peer judgment
- ✓ Promote fairness and inclusion

