**NOR-CAM**

**A national framework for recognition and rewards in academic careers**

**Recommendations from a working group under Universities Norway**

In recent years, initiatives to further develop ways of assessing research quality and academic careers have increased in scope and strength. Some of the key change processes that contribute to these discussions are as follows:

* **Open Science**. There are strong indications that, in the time ahead, openness will be an integral part of all knowledge production and dissemination. Open science is about to become the new norm, and it will therefore be natural for all results, activities and competencies to be assessed in the light of the aims of open research. Open research will therefore affect how careers are assessed.
* **Assessing and recognising a greater breadth of competencies** in teaching and research. Many of the activities that academic staff perform in line with the institution’s goals and work are not systematically assessed or valued. Individual research achievements in the form of published research results are more strongly incentivised than other work, and individual achievements are given greater weight than collaborative efforts. A better balance in the assessment of the various key activities has been called for.
* **The need to modify and supplement the use of quantitative publication metrics** for academic career assessment practices. The implicit and overly one-sided emphasis on quantitative research results and the traditional, quantifiable indicators with which they are measured (e.g. number of publications, h-index and Journal Impact Factor) have become a challenge in many environments. These indicators do not reflect the full extent of the research activity, nor do they cover the other activities and competencies that are expected in an academic career.

This working group therefore proposes a more flexible and holistic framework for recognition and rewardsin academic career paths. The ambition has been to develop a guide that takes into account the three points above: more transparency, greater breadth in the assessments, and comprehensive assessments as opposed to one-sided use of indicators. NOR-CAM (Norwegian Career Assessment Matrix) is a systematic framework in which the various elements are assessed and can be combined for different purposes and needs. The purpose is to incentivise and reward a broader range of academic activities, and ultimately to improve academic culture.

NOR-CAM and the associated framework for assessment can be used

* by the **academic institutions**
  + when advertising and hiring scientific staff, and
  + in processes related to promotion from one scientific career stage to the next
* by **funding providers** when assessing project managers and participants in connection with research applications
* by the **individual academic** in their own career development

An important goal of the guidance and framework is to make the assessment processes more transparent and predictable, both for the individual and for the institutions. What skills are needed for the position to be filled? How well does your own competence fit the position advertised? What are the requirements for promotion?

The guide is flexible but offers a systematic and structured framework for assessments. By emphasising different competencies for different tasks/positions/career stages, the assessments can be adapted to both the individual's career and the institution's needs. This will mean greater transparency about which assessment criteria are emphasised in the specific context, and will improve predictability, not least for applicants. It will also provide a better basis for career follow-up throughout the academic career path.

It is not enough just to agree on the need to modernise career assessment practices among rectors and leaders. Real change only happens when it becomes common practice within the academic communities. The responsibility for implementing the new practice therefore has to be rooted both in the institutions and locally in departments and research centres. NOR-CAM and its principles will be a helpful tool for designing specific changes in routines for vacancy announcments, evaluation committees and appointment committees.

Furthermore, the knowledge sector is global, so changing the framework for recognition and rewards in one country at a time would be difficult. Researcher mobility and international funding makes it challenging to implement practices that are at odds with international norms. NOR-CAM is therefore developed in close contact with partners in several other countries, as well as in the European University Association (EUA) and the EU.

**The main recommendations from the working group are as follows:**

**Six principles:**

1. What is quality and how should excellence be measured? Balance between quantitative and qualitative goals
   * Bibliometric indicators should be used with caution and supplemented with other information
2. The individual academic is not expected to excel in all areas
   * Several competencies should be recognised as merits, but not all the requirements need to be met. It is the universities that must achieve the legal objectives of research, education and social impact, not the individual academic
3. Open Science as a guiding principle
   * All results, activities and competencies are assessed in the light of Open Science
4. Transparency in the assessment and visibility of what should be recognised as merit
   * Those who are to be assessed must know what criteria will be used and must gain insight into how they are used
5. Promote gender balance and diversity
   * Changes in the assessment criteria must be seen in the light of better gender balance and diversity
6. Assist in the design of vacancy announcements and assessment processes locally
   * The new framework must be directly applicable to recognition and rewards in the institutions and within the academic communities

**Four suggestions:**

1. To establish a comprehensive framework for the assessment of academic careers that:
   * balances quantitative and qualitative goals and forms of documentation for academic standards and competence
   * enables various career paths and promotes high standards in the three key areas: education, research and interaction with society
   * recognises the independent and individual competencies of academic staff as well as their achievements in groups and through collaboration
   * values ​​open research practices (including open assessment systems)
   * values and encourages academic leadership and management
2. To take advantage of the opportunity to develop a Norwegian assessment model in close dialogue with actors internationally because:
   * changes in the assessment criteria cannot be made by one country alone
   * a Norwegian model can contribute to related processes internationally
3. The use of NOR-CAM as a practical and flexible tool for assessing academic results, competence and experience for academic personnel. NOR-CAM will highlight six areas of expertise through systematic documentation and reflection:

*See the matrix below.*

1. Additionally, it is proposed that an ‘Automagic CV function’ is developed that enables academics to retrieve data that can be used to document competencies and results in their own career, including applications for positions, promotions and external funding.

**Who does what?**

* **The institutions:**
* NOR-CAM and the principles behind it should be supported by the institution's management and be incorporated into the institution's career and HR policy.
* The institutions update their guidelines for the announcement of academic positions and for assessment in connection with employment and promotion.
* Scientific assessment committees are followed up to ensure that the new system is implemented in practice.
* **The scientific staff:**
* Use NOR-CAM to build an academic career with components from the entire range of academic work throughout their career.
* **Funding providers:**
* Use NOR-CAM as a basis for assessing applicants and project participants' competencies when assessing research projects.
* **Authorities:**
* Ministry of Education and Research: incorporate the principles of NOR-CAM into the new national framework for the evaluation of Norwegian research and higher education.
* Unit (Directorate for ICT and joint services in higher education and research): develop a module that makes it easy to import, register and retrieve documentation of results and competence (‘Automagic CV function’).

## NOR-CAM – Norwegian Career Assessment Matrix

The Norwegian Career Assessment Matrix (NOR-CAM) is a further development of OS-CAM. The intention is for the matrix to serve as a framework for assessing general academic activity (results and competencies). One of the main aims of NOR-CAM is for multiple areas of expertise to be assessed more systematically than is currently the case.

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| **1. Area of competence** | **2. Results and competencies** (examples) | **3. Documentation** | **4. Reflection** |
| ***A. Research output*** | * Published works * Datasets * Software * Methodologies * Artistic results * Research reports | CRIS systems (e.g. Cristin) and other databases | Reflection on the relevance and quality of the results. Emphasis is placed on open access to published works and other results, as well as whether the data adhere to the FAIR principles. |
| ***B. Research process*** | * Leadership and participation in research groups * Working across disciplines * Research integrity/RRI[[1]](#footnote-1) * Editorial activity * Peer reviews * Building collaborative relationships * External funding * Development of research infrastructure * Leadership and participation in clinical trials | CRIS systems and other databases. Narrative CV system with links to source data. | Reflection on roles and relevance. How and why various actors within and outside academia have been involved in the research process. Emphasis is placed on transparency in the research process. |
| ***C. Pedagogical qualifications*** | * Planning, execution, evaluation and development of lectures and supervision of students * Participation in the development of educational standards in academic communities * Mentoring * Devising and sharing learning materials | CV system with links to source data.  Institutional registration of lecturing activity. Pedagogical portfolio. | Reflection on formal and informal competence and experience.  Emphasis is placed on open education and the sharing of educational resources. |
| ***D. Research impact*** | * Publishing activity * Innovation * Entrepreneurship and commercialisation * Social innovation * Innovation in the public sector * Citizen science * Textbooks * Research reports and studies * Application of research in public administration and industry | CRIS systems and other databases. Altmetrics. Narratives and impact stories. Patents and licences. | Reflection on the relevance and effects of activities for society, as well as external contributions to research.  Sharing of research and educational results with the general public and others. |
| ***E. Leadership*** | * Institutional and departmental leadership * Leadership in academic networks and projects * Leadership outside academia * Leadership in panels and other committee work | CV system with links to source data, CRIS systems and other databases, narratives. | Formal and informal leadership, reflection on roles, processes and effects.  Contribution to strategies and policy development in relation to open research. |
| ***F. Other experience*** | * Experience and competence from sectors outside academia. * Courses and discipline-related development work. | CV system with links to source data. | Reflection on how these experiences contribute to the competence in general. |

1. Responsible research and innovation. See for example <https://www.rri-practice.eu/about-rri-practice/what-is-rri/> [↑](#footnote-ref-1)