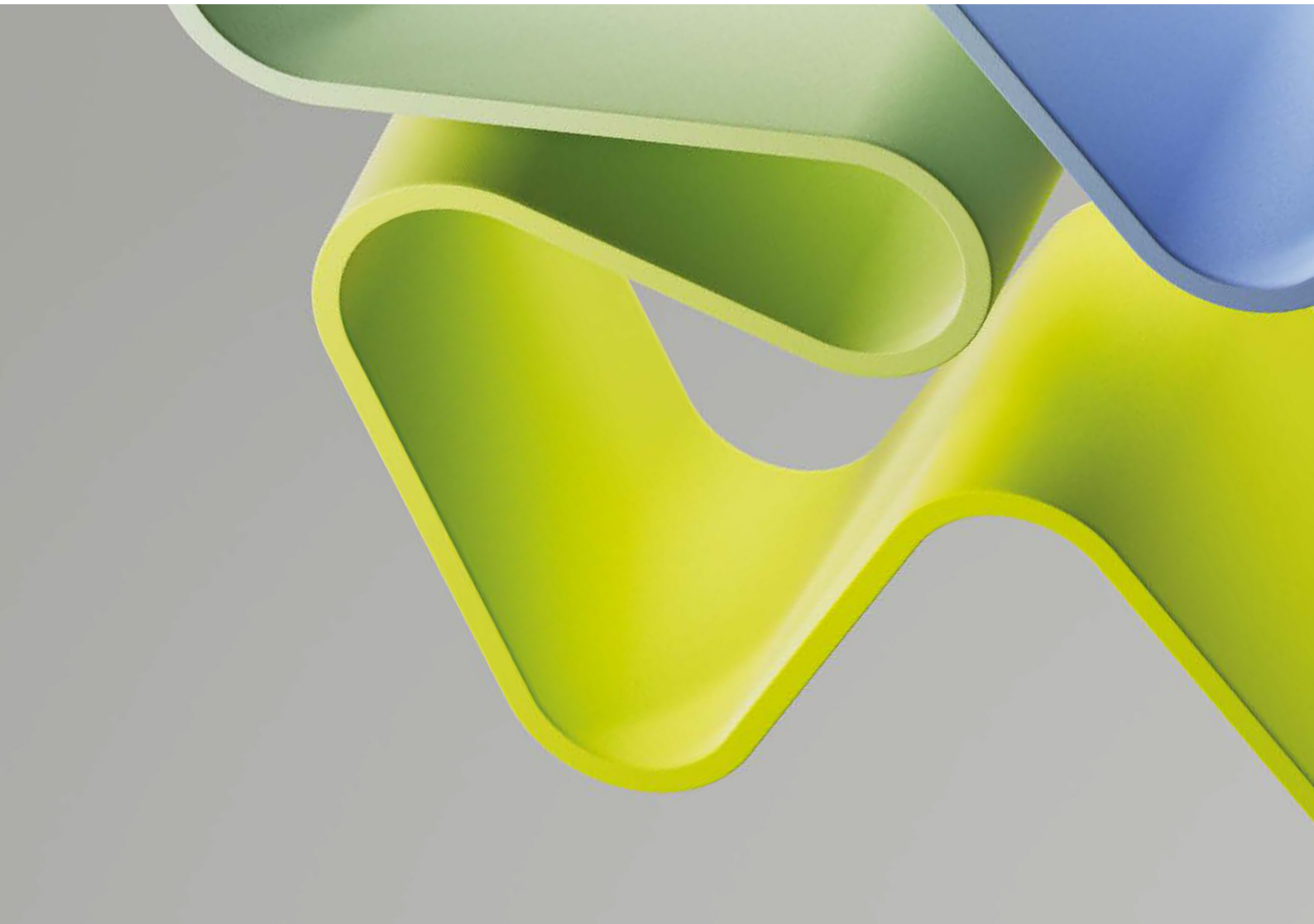
The Research Council of Norway

Evaluation of Medicine and Health 2023-2024

Evaluation report – Panel 3b_1
Research Group: Clinical Immunology
Administrative Unit: Stavanger University Hospital
Institution: Stavanger University Hospital



Content

Preface

The Research Council of Norway (RCN) is given the task by the Ministry of Education and Research to perform subject-specific evaluations. The primary aim of the evaluation of medicine and health (EVALMEDHELSE) 2023-2024 is to reveal and confirm the quality and relevance of research performed at Norwegian Higher Education institutions, research institutions (the institute sector) and the health trusts, in an international perspective. Such knowledge is useful for the institutions that participate in the evaluation, for the Research Council who advice the authorities on how research should be developed further, and for the authorities, who set targets and frameworks for research and higher education. Research groups submitted by their administrative unit will be assessed by 18 expert panels organised by research subjects or themes. The expert panels will assess research groups across institutions and sectors based on research group's self-assessments and examples of scholarly output. These research reports will be part of the evaluation of their belonging administrative units.

Abstract

The Clinical Immunology Research Group performs international competitive research on the mechanisms of fatigue. Using cerebrospinal fluid (CSF) analyses by spectrometry and other techniques, molecules involved in fatigue signalling are identified. The group also investigates candidate genes for fatigue by DNA-methylation and large international GWAS studies. Currently, the group participates in three EU studies and two other large international studies. The research group's collaborations on both international and national levels have facilitated high-quality research. The benchmarks established are broad and not easily amenable to measurement other than those relating to publications.

Overall assessment

The Clinical Immunology Research Group at Stavanger University Hospital is administratively organised under the Department of Internal Medicine, while research coordination is supervised through the Research Department. The organisational environment is adequate in supporting the production of excellent research. With the focus on the neurological manifestations of immunological diseases, the involvement of neuroscientists, especially neuroimmunologists, would improve scientific quality. The support pertaining to administration, approvals, contracts, biostatistics and biobanking could be improved.

Grading:

Dimensions	Score
Organisational dimension (How adequate the organisational environment is in supporting the production of excellent research).	3
Quality dimension (Research and publication quality/Research group's contribution)	4/4
Societal impact dimension (Research group's societal contribution/User involvement)	4/3

Recommendations

- In terms of organisational structure, support pertaining to administration, approvals, contracts, biostatistics and biobanking could be improved.
- With the focus on the neurological manifestations of immunological diseases, the involvement of neuroscientists, especially neuroimmunologists, would improve scientific quality.
- Mentorship schemes, research culture of the organisation, and processes to support early or mid-career researchers are recommended.
- Regarding gender distribution, there is under-representation of women in the senior positions, which should be reflected upon.

1. Strategy, resources and organisation

1.1 Research group's organisation and strategy

The Clinical Immunology Research Group at Stavanger University Hospital was established in 2002 and focuses on the neurological manifestations of immunological diseases. The group started at the crossroads between rheumatology and neurology. They described small fibre neuropathies in systemic lupus erythematosus (SLE) and primary Sjögren's syndrome (pSS) and evaluated antibodies against the NR2 subunit of the NMDA receptor in brain neuronal cells associated with cognitive impairment in both rheumatologic disorders.

The research activities mainly focus on the biological and genetic mechanisms for chronic fatigue, including diseases such as SLE, pSS, rheumatoid arthritis, inflammatory bowel diseases, psoriasis, neurodegenerative diseases, and cancer.

The research activities are largely focused on the neurological aspects of chronic inflammatory autoimmune diseases. The focus is now on the genetic and biological aspects of chronic fatigue, and the group works with these issues across several diseases.

By analysing cerebrospinal fluid (CSF) using spectrometry and other techniques, they have managed to identify molecules involved in fatigue signalling. Furthermore, the group investigates candidate genes for fatigue by DNA-methylation and large international GWAS studies.

The research group is administratively organised under the Department of Internal Medicine, while research coordination is supervised through the Research Department.

The group has 4 Professors, 3 Associate Professors, 4 Researchers, 5 Senior Physicians, 4 Bioengineers, 4 PhD students, and 1 Study nurse. There are also 2 psychologists, but no neuroscientists. There are 11 supervised PhD candidates, 17 master students, 4 ongoing PhD students, and 2 postdocs in the group.

The organisational environment is adequate in supporting the production of excellent research. With the focus on the neurological manifestations of immunological diseases, the involvement of neuroscientists, especially neuroimmunologists, would improve scientific quality.

Recommendations to the research group

- Mentorship schemes, research culture of the organisation, and processes to support early or mid-career researchers are recommended. Regarding gender distribution, there is under-representation of women in the senior positions, which should be reflected upon.

1.2 Research group's resources

The Clinical Immunology research group has a long experience in running large-scale clinical investigations, a well-equipped research laboratory, and highly skilled laboratory personnel. The research laboratory offers a working surrounding for the interdisciplinary projects at the hospital with labs for proteomics, metabolomics, and toxicology screening, including ultra-performance liquid chromatography and mass spectrometry. The research laboratory serves as a working area for many projects at the hospital. The resources seem to be sufficient to support the production of excellent research.

The Clinical Immunology Research Group is supported at the hospital with research administration, biostatistics and data management, and a general research biobank. For genomics, there is a cooperation with the SNP&SEQ Technology Platform at Uppsala University, Sweden.

Currently, the group participates in three EU studies and two other large international studies. The large IBD prospective study (>700 pts) is ongoing and led at the hospital. In addition, a national IBD study (BIOSTOP) and a study on the possible association between fatigue and the bacterial and eukaryotic microbiome are ongoing in inflammatory bowel disease.

The research strategy has been to focus on this specific niche, chronic fatigue, which appears entirely relevant given the size of the research group and resources available.

Funding is mainly obtained from regional and EU sources. International funding is accomplished by participating in international studies (FOREUM, SGENE, DISSECT, Blastocystis in Inflammatory Bowel Disease). In 2022, the research group received funding from the Research Council of Norway (NOK 347.000), other national sources (NOK 3.298.000), and international funding from NIH, NSF, and EU (NOK 655.000). A relevant proportion of work has been undertaken as collaborators in muti-centre studies with relatively small funding. Positively, the funding trajectory is steadily increasing at a modest level across the past 5 years, with a welcome shift towards international funding sources.

Recommendations to the research group

- The support pertaining to administration, approvals, contracts, biostatistics and biobanking could be improved.

1.3 Relevance to the institution

The Clinical Immunology research group contributes to institutional research objectives through the establishment of international research collaborations and securing additional funding to support infrastructure for research. The group has integrated its research into several departments of the hospital and across disciplines, contributing to cross-sectional collaboration and knowledge transfer. The quality of the research is internationally excellent.

Recommendations to the research group

- In terms of organisational structure and support, relatively minimal information has been provided in the report, with emphasis on the focus of research. However, support appears modest but satisfactory, pertaining to administration, approvals, contracts, biostatistics and biobanking.
- There is no information about mentorship schemes, the research culture of the organisation, and whether there are embedded processes to support early or mid-career researchers. The provision of this information would help determine whether recommendations could be made in these areas. Regarding gender distribution, there is an under-representation of women in senior positions, which should be reflected upon (e.g. 20% in senior physicians, 0% professors, 33% assistant professors).

2. Research quality

2.1 Research group's scientific quality

The research on chronic fatigue is of high relevance. The research group's organisation and strategies provided are suitable to conduct the proposed research activities. The group cooperates with strong research groups at several national and internationally based universities. The group is a member of several international research networks including Uppsala University, Gothenburg, Oklahoma Medical Research Foundation, Kitasato University School of Medicine Tokyo, The Feinstein Institute, NYC, Albert Einstein College of Medicine, New York, Denver University, Colorado, Newcastle University UK, Université Paris-Sud (INSERM), Stanford University, and Erasmus MC University Medical Centre in Rotterdam.

Strong regional collaborators are Broegelmanns Research Laboratory, the Proteomics Unit at the University of Bergen, and the Institute of Clinical Medicine and the Institute of Health and Society at the University of Oslo.

Ongoing scientific projects include biological mechanisms of chronic fatigue (since 2010), inflammatory bowel disease and celiac disease (since 2013), and the discovery and characterisation of genetic risk loci in Sjogren's syndrome (since 2013).

Benchmarks established are broad and not easily amenable to measurement other than those relating to publications. The research group contributed to publications with first and/or final authorship in BMJ Journals, Rheumatology, J Neurol, J Neuroinflammation, Lupus, Innate Immunity. Judging by the order of authors in the publications, the group has had highly relevant roles in the research process of the publications.

There is a series of publications in high-quality, peer-reviewed, scientific journals. This research group have been significantly involved in these throughout the research process and are the main authors.

Recommendations to the research group

- So far, the research group's collaborations on both international and national levels have facilitated high-quality research. The available resources and support for administration, biostatistics and biobank are sufficient but may be improved.
- The educational contribution is moderate with a total of 11 supervised PhD candidates and 17 master students, while 4 PhD-students are ongoing, and 2 are postdocs in the group. In addition, several group members participate actively in the specialist education of doctors (registrars) and supervision of medical students.
- With the focus on the neurological manifestations of immunological diseases, the involvement of neuroscientists, especially neuroimmunologists, would improve scientific quality. The scientific role of the 2 psychologists in the group is not clear.
- Mentorship schemes, research culture of the organisation, and processes to support early or mid-career researchers are recommended. Regarding gender distribution, there is under-representation of women in the senior positions, which should be reflected upon.

2.2 Research group's societal contribution

Chronic fatigue is increasingly recognised as a significant issue in numerous chronic diseases affecting the population. The research group focuses on the biological mechanisms underlying this disorder. The investigation of fatigue and the effects of exercise on its manifestation led to a dedicated effort to understand and mitigate the long-term effects of COVID-19.

A user group from The Norwegian Rheumatism Association has been involved for several years.

Members of the group have given talks to patient organisations on the topic and written popular scientific articles in patient journals. They have contributed to Norwegian online science news platforms. Members of the group are engaged in a series of highly sought-after talks and scientific lectures tailored for patients and the public; there are popular scientific articles by the group in relevant patient journals, and members give interviews to media (newspapers and television).

The research group engages user groups in the development of proposals, research implementation and education and dissemination of findings.

Recommendations to the research group

- The public contributions are predominantly educational in nature towards the understanding of the biological mechanisms that generate chronic fatigue in somatic diseases. The societal contribution could be made more explicit.
- A user group from The Norwegian Rheumatism Association has been involved for several years. This also applies to some selected users with autoimmune diseases. Especially the involvement of patients should be increased given the high prevalence and public attention in the mechanisms and treatment of fatigue.

Appendices

The Research Council of Norway

Evaluation of Life Sciences in Norway 2022-2024

Evaluation of Medicine and Health 2023-2024

Mandate Expert panels

The Research Council of Norway (RCN) is given the task by the Ministry of Education and Research to perform subject-specific evaluations. The Portfolio board for Life Sciences in the Research Council of Norway has decided to carry out an evaluation of medicine and health in 2023-2024 as the second of two evaluations within Life Sciences. The evaluation of biosciences takes place in 2022-2023.

1. The objective of the evaluation

The primary aim of the evaluation of Life Sciences is to reveal and confirm the quality and the relevance of research performed at Norwegian Higher Education Institutions (HEIs), by the institute sector and by health trusts.

The results of the evaluation will be used as recommendations to the institutions, the Research Council, and the ministries.

2. Tasks of the expert panels

The panels are requested to:

- evaluate the strategy, resources and organisation of/for the research groups.
- evaluate research production and quality of the research groups.
- grade and write a short evaluation text to the evaluated research groups.

Each of the expert panels will write a brief report with evaluations of the different research groups as well as specific recommendations.

3. Time schedule

Digital panel meetings will take place in the period March 15. - June 15. 2024.
Deadline for submitting panel report to the Research Council: June 15. 2024.

4. Miscellaneous

Other important aspects of Norwegian life sciences research that ought to be given consideration.

EVALMEDHELSE 2023-2024 – Panel group description – January 2024

Panel group	Description	Panel no.
Group 1 PHYSIOLOGY Physiology-related disciplines (human physiology), including corresponding translational research	Anatomy, physiology, embryology, nutritional physiology, pathology, basic odontological research, exercise physiology, neurobiology, toxicology, pharmacology, medicinal chemistry, chemistry, biology, pathology.	Panel 1a Panel 1b
Group 2 MOLECULAR BIOLOGY Molecular Biology, including corresponding translational research	Microbiology, bacteriology, inflammation and infection disease research, forensic medicine, genetics, immunology, vaccine development, microbiological diagnostics, pharmaceutical microbiology, cell biology, molecular medicine and -biophysics, medical biochemistry, omics, organoids, imaging, toxicology, pathology, drug development, cancer research, translational research, systems biology, personalized medicine, biomarkers, oncology, genetics, genomics, epigenetics, proteomics, bioinformatics-/statistics, computational science, AI, biology, virology, radiology, ionisation, molecular biology, microbiology, pharmacology, pharmacogenomics, regenerative medicine and related subjects.	Panel 2a Panel 2b Panel 2c
Group 3a CLINICAL RESEARCH	Clinical Research, including surgery and translational research within: paediatrics, women's health, gynaecology, otorhinolaryngology, head and neck surgery, oncology, haematology, radiology and medical imaging.	Panel 3a_1 Panel 3b_2
Group 3b CLINICAL RESEARCH	Clinical Research, including surgery and translational research within: general medicine, emergency medicine, anaesthesiology, neurology, geriatric medicine, rehabilitation medicine, cardiology, nephrology/urology, endocrinology, pulmonary medicine, orthopaedics, rheumatology, Infection, gastroenterology.	Panel 3b_1 Panel 3b_2 Panel 3b_3
Group 4 PUBLIC HEALTH Public Health and Health-related Research	Public health, community research, epidemiology, preventive medicine, mental health, behavioural research and ethics, medical statistics, environment, nutrition, preventive medicine, physiotherapy, sports medicine, implementation research, public health, health care services research, global health, nursing	Panel 4a Panel 4b Panel 4c

	sciences, rehabilitation sciences, public health systems, digital health care services, ICT, HTA, health competence, genetic and epigenetic epidemiology, non-communicable diseases, pharmacology, nursing research, professional research, occupational medicine.	Panel 4d Panel 4e Panel 4f
Group 5 PSYCHOLOGY Psychology and Psychiatry	Clinical psychology, personality psychology, developmental psychology, cognitive psychology, biological psychology and forensic psychology, psychiatry, including geriatric psychiatry, child and adolescent psychiatry and biological psychiatry, social-, community- and workplace psychology, organizational psychology, developmental psychology, behavioural and health psychology, health promotion and well-being.	Panel 5a Panel 5b

Panel group 3b CLINICAL RESEARCH

Expert panel 3b_1

Name	Title	Institution
Peter Berlit (chair)	Professor	Alfried Krupp Krankenhaus
Graciela Muniz Terrera	Professor	University of Edinburgh
Jennifer Freeman	Professor	University of Plymounth
Erika Frischknecht Christensen	Professor	Aalborg University

Evaluation of Medicine and Health (EVALMEDHELSE) 2023-2024

Self-assessment for research groups

Date of dispatch: **15. September 2023**
Deadline for submission: **31. January 2024**

Updated: **13. October 2023**

Institution (name and short name):_____
Administrative unit (name and short name):_____
Research group (name and short name):_____
Date: _____
Contact person: _____
Contact details (email): _____

Content

Introduction

The primary aim of the evaluation is to reveal and confirm the quality and the relevance of research performed at Norwegian Higher Education Institutions (HEIs), the institute sector and the health trusts. These institutions will henceforth be collectively referred to as research performing organisations (RPOs). The evaluation report(s) will provide a set of recommendations to the RPOs, the Research Council of Norway (RCN) and the responsible and concerned ministries. The results of the evaluation will also be disseminated for the benefit of potential students, users of research and society at large.

You have been invited to complete this self-assessment as a research group. The self-assessment contains questions regarding the group's research- and innovation related activities and developments over the years 2012-2022. All submitted data will be evaluated by expert panels.

Deadline for submitting the self- assessment to your administrative unit – 26 January 2024
The administrative unit will submit the research groups' completed self-assessments and the administrative unit's own completed self-assessment to the Research Council within 31 January 2024. Please submit completed self- assessment to the administrative unit no later than 26 January 2024.

Please use the following format when naming your document: [short name of the institution]_[short name of the administrative unit]_[short name of the research group], e.g. *UiT_DepPsy_Short name of the research group*.

For questions concerning the self-assessment or EVALMEDHELSE in general, please contact RCN at evalmedhelse@forskningsradet.no.

Thank you!

Guidelines for completing the self-assessment

- Please read the entire self-assessment document before answering.
- The evaluation language is English.
- Please link to websites/documents in the self-assessment where relevant.
- Please be sure that all documents linked to in the self- assessment are written in English and are accessible.
- The page format must be A4 with 2 cm margins, single spacing and Calibri and 11-point font.
- The self-assessment follows the same structure as the evaluation protocol. In order to be evaluated on the two evaluation criteria described in the evaluation protocol, the research group must answer all questions.
    - ⇨ Provide information – provide documents and other relevant data or figures about the research group, for example strategy and other planning documents, as well as data on R&D expenditure, sources of income and results and outcomes of research
    - ⇨ Describe – explain and present using contextual information about the research group and inform the reader about the research group.
    - ⇨ Reflect – comment in a reflective and evaluative manner how the research group operates.
- Data on personnel should refer to data reported to DBH on 1 October 2022 for HEIs and to the yearly reporting for 2022 for the institute sector and the health authorities. Other data should refer to 31 December 2022 if not specified otherwise.
- It is possible to extend the textboxes when filling in the form. **NB!** A completed self- assessment form cannot exceed 25 pages (pdf file). Expert panels are not requested to read more than the maximum of 25 pages. Pages exceeding maximum limit of 25 pages **might not** be evaluated.
- Submit the self- assessment as a pdf (max 25 pages) to the administrative unit within **26 January 2024**. Before submission, please be sure that all text are readable after the conversion of the document to pdf. The self- assessment should be sent from the administrative unit to evalmedhelse@forskningsradet.no within **31 January 2024.**

Please note that information your write in the self assessment and the links to documents/websites in the self-assessment are the only available information for the expert panel.

In exceptional cases, documents/publications that are not openly available must be submitted as attachment(s) to the self- assessment (pdf file(s)).

1. Organisation and strategy

1.1 Research group´s organisation

Describe the establishment and the development of the research group, including its leadership (e.g. centralised or distributed etc.), researcher roles (e.g. technical staff, PhD, post docs, junior positions, senior positions or other researcher positions), the group's role in researcher training, mobility and how research is organised (e.g. core funding organisation versus project based organisation etc.).

Table 1. List of number of personnel by categories
Instructions: Please provide number of your personnel by categories.
For institutions in the higher education sector, please use the categories used in DBH, https://dbh.hkdir.no/datainnhold/kodeverk/stillingskoder. Please add new lines or delete lines which are not in use.

	Position by category	**No. of researcher per category**	**Share of women per category (%)**	**No. of researchers who are part of multiple (other) research groups at the admin unit**	**No. of temporary positions**
No. of Personnel by position	Position A (Fill in)				
	Position B (Fill in)				
	Position C (Fill in)				
	Position D (Fill in)				

1.2 Research group´s strategy

a) Describe the research group's main goals, objectives and strategies to obtain these (e.g. funding, plans for recruitment, internationalization etc.) within the period 2012-2022.

b) Please describe the benchmark of the research group. The benchmark for the research group should be written by the administrative unit in collaboration with the research group. The benchmark can be a reference to an academic level of performance (national or international) or to the group's contributions to other institutional or sectoral purposes.

Example: A benchmark for a research group is related to the research groups' aim which again is included in the strategy for the administrative unit. A guidance for the administrative unit to set a benchmark for the research group(s) can e.g. be: What do the administrative unit expect from the research group(s)?

c) Describe the research group`s contribution to education (master´s degree and/or PhD).

d) Describe the support the host institution provides to the research group (i.e., research infrastructure, access to databases, administrative support etc.).

1.3 Relevance to the institutions

Describe the role of the research group within the administrative unit. Consider the research group's contribution towards the institutional strategies and objectives, and relate the research group`s benchmark to these.

1.4 Research group´s resources

Describe the funding portfolio of the research group for the last five years (2018-2022).

Table 2. Describe the sources of R&D funding for the research group in the period 2018-2022.

	2018 (NOK)	2019 (NOK)	2020 (NOK)	2021 (NOK)	2022 (NOK)
Basic funding					
Funding from industry and other private sector sources					
Commissioned research for public sector					
Research Council of Norway					
Grant funding from other national sources					
International funding e.g. NIH, NSF, EU framework programmes					
Other					

1.5 Research group´s infrastructures

Research infrastructures are facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. These include major equipment or sets of instruments, knowledge-related facilities such as collections, archives or scientific data infrastructures, computing systems communication networks. Include both internal and external infrastructures.

a) Describe which national infrastructures the research group manages or co-manages.

b) Describe the most important research infrastructures used by the research group**.**

1.6 Research group´s cooperations

Table 3. Reflect on the current interactions of the research group with other disciplines, non-academic stakeholders and the potential importance of these for the research (e.g. informing research questions, access to competence, data and infrastructure, broadening the perspectives, short/long-term relations).

Interdisciplinary (within and beyond the group)	About 1/3 page
Collaboration with other research sectors e.g. higher education, research institutes, health trusts and industry.	About 1/3 page
Transdisciplinary (including non academic stakeholders) *Transdisciplinary research involves the integration of knowledge from different science disciplines and (non-academic) stakeholder communities with the aim to help address complex societal challenges.*	About 1/3 page

2. Research quality

2.1 Research group's scientific quality

Describe the research profile of the research group and the activities that contribute to the research group´s scientific quality. Consider how the research group's work contributes to the wider research within the research group's field nationally and internationally.

Please add a link to the research group`s website:

Table 4. List of projects

Instructions: Please select 5-10 projects you consider to be representative/the best of the work in the period 1 January 2012 – 31 December 2022. The list may include projects lead by other institutions nationally or internationally. Please delete tables that are not used.

Project 1 -10: *Project title/Project period (year from – year to)*	**Project owner(s)** (project leaders organisation)	
	Total budget and share allocated to research group	
	Objectives and outcomes (planned or actual) **and link to website**	

Table 5. Research group's contribution to publications

Instructions: Please select 5-15 publications from the last 5 years (2018-2022) with emphasis on recent publications where group members have a significant role. **If the publication is not openly available, it should be submitted as a pdf file attached to the self-assessment.** We invite you to refer to the Contributor Roles Taxonomy in your description: https://credit.niso.org/.

Cf. Table 1. List of personell by categories: Research groups up to 15 group members: 5 publications. Research groups up to 30 group members: 10 publications. Research groups above 30 group members: 15 publications.

Please delete tables that are not used.

Publication 1 -15: *Project title/Journal/Year/DOI/URL*	**Authors** (Please highlight group members)	
	Short description	
	Research group's contribution	

Table 6. Please add a list with the research group´s monographs/scientific books.
Please delete lines which are not used.

1	Title - Authors (Please highlight group members)- link to webpage (if possible)
2	

2.2 Research group´s societal contribution

Describe the societal impact of the research group's research. Consider contribution to education, economic, societal and cultural development in Norway and internationally.

Table 7. The research group's societal contribution, including user-oriented publications, products (including patents, software or process innovations
Instructions: Please select 5–10 of your most important user-oriented publications or other products from the last 5–10 years with emphasis on recent publications/products. For each item, please use the following formatting. Please delete lines which are not used.

3. Challenges and opportunities

Information about the strengths and weaknesses of the research group is obtained through the questions above. In this chapter, please reflect on what might be the challenges and opportunities for developing and strengthening the research and the position of the research group.

Scales for research group assessment

Organisational dimension

Score	Organisational environment
5	An organisational environment that is outstanding for supporting the production of excellent research.
4	An organisational environment that is very strong for supporting the production of excellent research.
3	An organisational environment that is adequate for supporting the production of excellent research.
2	An organisational environment that is modest for supporting the production of excellent research.
1	An organisational environment that is not supportive for the production of excellent research.

Quality dimension

Score	Research and publication quality	Score	Research group's contribution Groups were invited to refer to the Contributor Roles Taxonomy in their description https://credit.niso.org/
5	Quality that is outstanding in terms of originality, significance and rigour.	5	The group has played an outstanding role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
4	Quality that is internationally excellent in terms of originality, significance and rigour but which falls short of the highest standards of excellence.	4	The group has played a very considerable role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
3	Quality that is recognised internationally in terms of originality, significance and rigour.	3	The group has a considerable role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
2	Quality that meets the published definition of research for the purposes of this assessment.	2	The group has modest contributions to the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
1	Quality that falls below the published definition of research for the purposes of this assessment.	1	The group or a group member is credited in the publication, but there is little or no evidence of contributions to the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.

Societal impact dimension

Score	Research group's societal contribution, taking into consideration the resources available to the group	Score	User involvement
5	The group has contributed extensively to economic, societal and/or cultural development in Norway and/or internationally.	5	Societal partner involvement is outstanding – partners have had an important role in all parts of the research process, from problem formulation to the publication and/or process or product innovation.
4	The group's contribution to economic, societal and/or cultural development in Norway and/or internationally is very considerable given what is expected from groups in the same research field.	4	Societal partners have very considerable involvement in all parts of the research process, from problem formulation to the publication and/or process or product innovation.
3	The group's contribution to economic, societal and/or cultural development in Norway and/or internationally is on par with what is expected from groups in the same research field.	3	Societal partners have considerable involvement in the research process, from problem formulation to the publication and/or process or product innovation.
2	The group's contribution to economic, societal and/or cultural development in Norway and/or internationally is modest given what is expected from groups in the same research field.	2	Societal partners have a modest part in the research process, from problem formulation to the publication and/or process or product innovation.
1	There is little documentation of contributions from the group to economic, societal and/or cultural development in Norway and/or internationally.	1	There is little documentation of societal partners' participation in the research process, from problem formulation to the publication and/or process or product innovation.

The Research Council of Norway

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