

RESEARCH ASSESSMENT 2018–19 UNIVERSITY OF HELSINKI (RAUH)

II Assessment method

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PURPOSE AND AIM

Research assessment of the University of Helsinki was carried out in 2018–2019 according to the assessment plan (see Appendix I). The aim of the assessment was to produce an overview of the quality and impact of the research performed at the University, to assist in identifying future research opportunities and support research renewal.

The aim was to provide input for the UH 2021–2030 strategy process and produce comprehensive picture of the University to support the development work at all levels. The assessment covered all research carried out at the University. Unit and Panel level initial results were delivered to the Units, Faculties and Independent Institutes in May 2019 when the annual development seminar for Faculty leadership took place.

Organisation of the assessment

The assessment was carried out by international peer-review Panels. The assessment process was managed by the Research Assessment Office (RAO) and led by the assessment Steering Group.

The Units of Assessment (Unit) were defined to be Faculties, Institutes, Departments, disciplines or combinations of disciplines, where common goals and

development plans are, or could be, established. The Unit structure was discussed and agreed on in cooperation with the Faculties in early 2018. In the end, 39 Units were identified for the assessment purposes, mainly based on existing administrative units where available. The assessed Units covered all research activities at UH.

Review Panels

The assessment was organised in four review Panels, defined by their respective research areas/disciplines. The Panels representing the areas of assessment (number of Units in brackets) were:

- Humanities (9)
- Life Sciences (15)
- Natural Sciences (6)
- Social Sciences (9)

Each of the four Panels consisted of highly regarded international experts suggested by the Units. In addition to a Chair (in the Life Science Panel also a Co-Chair), each Panel consisted of a group of 10–15 experts. The number of experts, including the Chairs, was in the end 46. Each Panel also included at least one representative familiar with the

Finnish higher education sector who could assist in matters that require context-specific knowledge and insight.

Assessment themes

The three themes for the assessment were:

1. Scientific quality
 - Scientific quality was approached by looking at the past performance based on scientific outputs created by the current members of the Unit.
2. Societal impact
 - Societal impact referred to the interaction between the Unit and the wider societal audiences.
3. Research environment and viability
 - Research environment and unit viability considered the future prospects and operating culture of the Unit and how they support development and renewal.

Each theme was assessed on a scale of weak – good – very good – excellent, with the RAUH criteria given in Appendix IV.

ASSESSMENT APPROACH

Enhancement-led approach was chosen to support the aim of the assessment – to improve operations. This means the assessment was strongly based on the self-assessment of

the Units describing their goals and recognizing their own strengths and development areas.

ASSESSMENT MATERIAL

Collection of the assessment material

Definitions for the assessment material were agreed upon in the Steering Group in January-April 2018 and the collection was executed by RAO and the Units, supported by Helsinki University Library (HULib) in April-September 2019. In total, the self-assessment documents consisted of about 1150 pages, including the metric data. The assessment material was submitted to the Panels in January 2019.

Self-assessment

Self-assessment refers to the Unit's own assessment of its operations and development work. The Units were provided with and instructed to use a self-assessment report template and to follow the guidelines given in it. The Research Assessment Office (RAO) provided Key figures (metric data) and reviewed that the guidelines on the content and structure were followed. Units were fully responsible for the content of their report text.

The self-assessment followed the thematic structure

of the assessment: scientific quality, societal impact and research environment and Unit viability. In the end, the self-assessment consisted of the Unit's responses to the guiding questions on their research profile and goals for scientific and societal impact as well as reflection on their results and activities. The Unit was also asked to describe its leadership and management practices e.g. goal-setting procedures, follow-up measures, HR and recruitment practices, funding and collaborations.

In accordance with enhancement-led evaluation, self-assessment is primarily a tool for improving operations. Recognising the Unit's own strengths and areas in need of development was an integral part of the self-assessment process. The Unit's capability of critical self-reflection was also taken into account in the assessment carried out by the Panels. This means that the Panels were asked to focus on the Unit's readiness to deal with possible deficiencies, e.g., by describing already taken or planned actions, rather than the deficiencies per se.

Metric data

The assessment period extended from 2012 to 2018. Staff, funding, degree and selected projects statistics were produced for 2013–2017 and publication statistics for 2012–2017. Bibliometric analysis was based on 2012–2016 publications. Staff and funding were estimated for 2018, as the data collection was performed already in the spring of 2018. The source for all data was UH databases. HULib was responsible for processing publication data and RAO other data.

Bibliometric analysis of the publications was performed by the Center of Science and Technology Studies (CWTS), Leiden University. This analysis was performed for those Units where this kind of analysis was considered to provide relevant results, including sufficient coverage of publications of the Unit. HULib analysed publication activity by alternative means for those Units where bibliometric analysis was not performed.

The performance of the Unit was measured

against the mission and goals set by the Unit. Metric data and indicators were used to support qualitative expert assessment. For each set of metric data, the value,

limitations and the context of use were recognised in each Unit. This approach is in line with the Leiden Manifesto for research metrics.

PANELS

Four international peer-review Panels carried out the assessment. The Units proposed suggestions for international and national experts to be invited to the Panels. The recruitment process (the selection of the candidates and invitations) was managed by the Research Assessment Office in co-operation with the Units. In total 46 panellists (including the Chairs) participated in the assessment.

Humanities Panel

Claire Warwick, Durham University (Chair)
 Kirsten Busch Nielsen, University of Copenhagen
 Nello Cristianini, University of Bristol
 Irene Dingel, Leibniz-Institut für Europäische Geschichte
 Martin Halliwell, University of Leicester
 Kristian Kristiansen, University of Gothenburg
 Christian Mair, University of Freiburg
 Urpo Nikanne, Åbo Akademi University
 Sonja Smets, University of Amsterdam
 Jan von Bonsdorff, Uppsala University
 Peter Waldron, University of East Anglia, School of History

Life Sciences Panel

Sven Frøkjær, University of Copenhagen (Chair)
 Paul Stewart, University of Leeds (Vice-Chair)
 Brian Charlesworth, The University of Edinburgh
 Ola Eriksson, Swedish University of Agricultural Sciences (SLU)
 Peter Hufnagl, Charité University Hospital Berlin
 Ulf Magnusson, Swedish University of Agricultural Sciences (SLU)
 Anne Magurran, University of St Andrews
 Martin Parry, Lancaster University
 Véronique Préat, Université catholique de Louvain
 Carlo Sala, CNR Institute of Neuroscience, Milan
 Paul Schulze-Lefert, Max Planck Institute for Plant Breeding Research
 Karin Schwarz, Kiel University
 Kjetil Tasken, University of Oslo
 René van der Wal, University of Aberdeen
 Maarten van Lohuizen, Netherlands Cancer Institute
 Gunilla Westergren-Thorsson, Lund University

Natural Sciences Panel

Ralph Eichler, ETH Zürich (Chair)

Lars Bergström, Stockholm University
 Robert Elliman, Australian National University
 Maria J.Esteban, CEREMADE University of Paris-Dauphine
 Øystein Hov, The Norwegian Meteorological Institute
 Mehdi Jazayeri, University of Lugano
 Pedro Larrañaga, Technical University of Madrid
 Christina Moberg, KTH Royal Institute of Technology
 Kathryn Whaler, The University of Edinburgh

Social Sciences Panel

Björn Wittrock, Uppsala University and Swedish Collegium for Advanced Study (Chair)
 Anneli Anttonen, University of Tampere
 Anne Deighton, University of Oxford
 Hastings Donnan, Queens University Belfast
 Anneli Eteläpelto, University of Jyväskylä
 Hans Petter Graver, University of Oslo
 Martin Jones, Staffordshire University
 Saadi Lahlou, The London School of Economics and Political Science
 Timo Teräsvirta, Aarhus University
 Lena Wängnerud, University of Gothenburg

ADMINISTRATION

Steering group

The rector appointed the Steering Group for the assessment on 21 November 2017 and assigned it to draw up the assessment plan and monitor the implementation of the assessment. The Steering Group decided on the assessment questions, the assessment material and its use, the Panels, the Units of Assessment, and their allocation to the Panels. The term of the Steering Group ends on 31 December 2019.

The Steering Group members:

Chair (21 Nov 2017–31 July 2018), Vice-Rector for Research,
Professor Jouko Väänänen
Chair (1 August 2018–31 Dec 2019), Vice-Rector for Research,
Professor Paula Eerola
Professor Jaakko Kaprio
Professor Pauli Kettunen
Professor Atte Korhola
Professor Jouko Lindstedt
Professor Anne Pitkäranta, Vice-Chair
Professor Marja-Liisa Riekkola
Director of Research Affairs Ritva Dammert

Research Assessment Office

The Research Assessment Office operated under University Services' Research Services and was responsible for carrying out the assessment project. The Research Assessment Office consisted of Project Manager Anssi Mälkki, Senior Advisors Johanna Kolhinen and Riitta Väänänen, and Project Coordinator Maiju Raassina. The Project Manager reported to the Vice-Rector for Research.

Appendix I

ASSESSMENT PLAN

Accepted at Steering Group meeting 27 February 2018

The research of the University of Helsinki (UH) is assessed at regular intervals. The upcoming assessment will take place in 2018–2019; previous assessments were executed in 1999, 2005 and 2012. The assessment will focus on the academic quality of University units as well as their future potential and opportunities to develop operations, and the assessment covers all research performed at the University. Unit-level results will be available in spring 2019,

and the University-level report will be available by the end of 2019.

The purpose of the Research Assessment of the University of Helsinki (RAUH) is to reveal and confirm the quality and impact of research, assist in recognising future research prospects, and support renewal.

The aim of the assessment is to produce information that can be used for enhancing quality and supporting strategic decision-making at the University of Helsinki on

unit, faculty and university levels. The assessment will give vital input to the UH 2021–2024 strategy process.

The assessment focuses on overall research activities in *Units of Assessment* (Unit), not on the performance of individual researchers.

The assessment will be carried out by international peer review panels. The assessment process is managed by Research Assessment Office (RAO) and led by the Steering Group.

Assessment themes and questions

The assessment themes are

1. Scientific quality
2. Societal impact
3. Research environment and Unit viability

The subject of the assessment is the Unit's overall research activities, including the management and leadership by the unit in promoting the high quality and impact of research. Scientific Quality will be approached by looking at the past performance between 2012 and 2017, based on the scientific outputs of the current members of the Unit. Societal Impact refers to the interaction between the Unit and wider societal audiences. Research Environment and Unit Viability consider the future prospects and operating culture of the Unit, with the aim of supporting development and renewal.

Scientific quality

The assessment of the scientific quality of the unit's research is based on the quality of the outputs during the assessment period (2012 – 2017). The criteria for assessing the quality of outputs are *originality and novelty, significance, and rigour*.

Originality and novelty are understood as the extent to which the output introduces a new way of thinking about a subject, or its distinctive or transformative nature compared to previous work. Significance implies the influence on an academic field or application, while rigour defines to what extent the purpose of the work is clearly articulated, the methodology is appropriately developed and/or applied, and compelling evidence has shown that the purpose has been achieved.

A variety of outputs, including producing and developing new concepts, methodologies, infrastructures

and other contributions to the research community will also be considered.

Each panel will explain within their reports how they have applied the criteria.

Societal impact

Research can make contributions and have many different kinds of effects and impact depending on the discipline. The expectations of society concerning the contributions of science are also different for different disciplines. The point is to assess contributions in areas that the Unit has itself designated as target areas.

The panel will assess how the Unit positions its research vis-à-vis broader issues, extending also beyond academia: whether potential stakeholders and audiences have been identified, and which research questions or results are

immediately relevant or could be relevant later. Other criteria, with different meanings in different disciplines, are the Unit's activities on valorisation (activities aimed at making results available and suitable for application) and dissemination and communication (activities aimed at making results widely known or providing stakeholders and different actors in civil society a window to current research and novel results). The Unit's approach to supporting and enabling the impact of its activities will also be considered.

Research environment and Unit viability

The assessment theme Research Environment and Unit Viability is approached here as a combination of the operating culture and the sustainability of the research base. The panel assesses the strategy that the Unit intends to pursue in the years ahead and the extent to which it is estimated to be capable of meeting its targets in research and society during this period.

The assessment considers the Unit's goal setting,

the actions taken to reach the goals and the follow-up measures. The sustainability of the research base refers to the analysis of the balance between the resources available and the goals and the strategies in the Unit. The assessment provides information on the renewal potential of the research carried out in the Unit.

Process and timetable

The assessment will be carried out during 2018–2019. The Research Assessment Office (RAO) schedules and manages the process, and gathers metric data. Unit-level results will be available for the UH 2021–2024 strategy process in spring 2019. The final report will be published by the end of year 2019.

WHAT?	WHO?	WHEN?
Data (metric) gathered from university data bases, e.g., TUHAT	RAO	3–5/2018
Analysis of data	RAO	3–5/2018
Data provided with a self-assessment template to the Units of Assessment	RAO	4–5/2018
Quality control of data	Unit & RAO	4–5/2018
Completion of the self-assessment	Unit	5–9/2018
Metric data and self-assessment reports delivered to the panels	RAO	9–11/2018
Consideration of assessment material, panel meeting and site visit, report drafts written	Panels	12/2018–2/2019
Assessment reports and recommendations compiled (Unit level, UH level)	RAO	2–4/2019
Strategic planning and decision-making, development work	Unit/Faculty/UH	3–6/2019

Assessment material

Metric data

Background data will be provided on the Unit's funding, personnel, publications and doctoral education. Those data will contribute to all assessment themes. The metric data will be compiled by the RAO and checked and completed in collaboration with the Unit before being submitted to the panels.

The performance of the Unit is measured against the mission and goals set by the Unit. Metric data and indicators are used to support qualitative expert assessment. For each set of metric data, the value, limitations and the context of use are recognised. This approach is in line with the Leiden Manifesto for research metrics.

Self-assessment

Self-assessment refers to the Unit's own assessment of its operations and development work. The Unit is asked open questions to guide them to reflect upon the research environment and unit viability. The Units will carry out the self-assessment by completing the self-assessment report in a template provided by RAO.

The self-assessment entails questions on the Unit's research profile and goals for scientific and societal impact. The Unit is also asked to describe its goal-setting procedures and follow-up measures. A part of the self-assessment is to discuss the support available for managing the research in the unit.

Recognising the Unit's own strengths and areas in need of development is a part of the self-assessment process. Following the enhancement-led philosophy, the Unit's capability of critical self-reflection will also be taken into account in the assessment carried out by the panels.

Site visit

The panel will conduct a site visit to UH, including an orientation, Unit interviews and a wrap-up meeting.

Units of Assessment

Units of Assessment (Unit) are deemed to be a collection of divisions or research groups, where common goals and development plans are, or could be, established. The results of the assessment should serve future decision-making in

the current organisation, and the organisational structures of today are thus proposed to be considered as the base for assessment.

Units will be defined and agreed upon in cooperation with the faculty/independent institute/joint operational unit management. The Units will cover all research fields and activities in the University of Helsinki.

Use of the results

The Units, Faculties and the University's leadership will review the reports and recommendations. After this, the Faculties and Independent Institutes will discuss development plans with the University's leadership. Further

actions will be agreed on the basis of these discussions. Follow-up measures are recommended to acquire feedback on the implementation of the assessment and its impact.

Management of the assessment project

Steering group and its mandate

The rector appointed the Steering Group on 21 November 2017 and assigned it to draw up the assessment plan and monitor the implementation of the assessment. The Steering Group decides on the assessment questions, the assessment material and its use, the panels, the Units of Assessment, and their allocation to the panels. The term of the Steering Group ends on 31 December 2019.

The Steering Group members:

- Chair, Vice-Rector, Professor Jouko Väänänen (until 31 July 2018); Vice-Rector, Professor Paula Eerola (from 1 August 2018)
- Professor Jaakko Kaprio
- Professor Pauli Kettunen
- Professor Atte Korhola
- Professor Jouko Lindstedt
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Research Assessment Office

The Research Assessment Office (RAO) operates under University Services' Research Services, and consists of Project Manager Anssi Mälkki, two Senior Advisors Johanna Kolhinen and Riitta Väänänen, and Project Coordinator Maiju Raassina (née Hara). The Project Manager reports to the Vice-Rector for Research.

Appendix II

TERMS OF REFERENCE

The Steering Group of Research Assessment 2018–19, University of Helsinki hereby issues the following terms of reference to the assessment panels.

1 Background

Established in 1640 by Queen Christina of Sweden, the University of Helsinki is Finland's largest, oldest and internationally most esteemed research university. The University of Helsinki is among the world's top 100 universities (56th in the Shanghai rankings, 81st in the Taiwan rankings and 90th in the Times rankings), featuring either as the best or second best multidisciplinary university in the Nordic countries. With an international scientific community of 40,000 members, the University of Helsinki is a founding member of the League of European Research Universities (LERU).

The University of Helsinki's prominent role within the national university system is visibly emphasised in the 2016 analysis of the Academy of Finland (AoF), accounting for 26% of all scientific publications (with the percentage ranging between 25% and 54% in 11 out of the 15 disciplines analysed) and receiving 29% of all competitive research funding. The University of Helsinki's scientific excellence

is corroborated by its success in the most prestigious national calls, hosting 12 out of the 32 Academy Professors in Finland, as well as coordinating 7 of the 12 newly selected 2018–2025 Centres of Excellence. Its scientific quality and impact is further evidenced with 64 ERC grants, which comprise about 53% of the ERC grants received in Finland, and by hosting 48% of the Thomson Reuters' highly cited researchers in Finland in 2017.

The University of Helsinki has 11 faculties, several research-oriented institutes as well as units attending to the duties of a national authority. Our annual budget is approximately €700 million, 60% of which is core funding. According to Biggar Economics, the University of Helsinki's contribution to the economy in 2016 was €3.3 billion gross value added and 31,100 jobs, "playing a vital role in supporting long-term economic growth and ensuring that Finland maintains its competitive position in the global economy".

Within 2014–2017, the University secured €48 million in donations (well exceeding the €25 million target), with the impact of these donations further boosted by the governmental matched-funding scheme (up to three euros per each euro donated). Notable University of Helsinki alumni include Linus Torvalds, creator of the Linux operating system, and Bengt Holmström, recipient of the 2016 Nobel Prize in Economics.

The research at the University of Helsinki is assessed at regular intervals. The current assessment will take place in 2018–2019, and previous assessments were executed in 1999, 2005 and 2012. The assessment will focus on the academic quality and impact potential of research performed at University units, as well as their future potential and opportunities to develop operations. The assessment covers all research activities in the University. Unit-level results will be available in spring 2019, and the University-level report by the end of 2019.

2 Purpose and aim of the assessment

The purpose of the Research Assessment of the University of Helsinki is to reveal and confirm the quality and impact of research, assist in recognising future research prospects, and support renewal.

The aim of the assessment is to produce information that can be used for enhancing quality and supporting strategic decision-making at the University of Helsinki on unit, faculty and University levels. The assessment will give

vital input to the University of Helsinki's strategy process for the period 2021–2024.

3 Organisation of the assessment

The assessment is carried out by international peer review panels. The assessment process is managed by the Research Assessment Office and led by a steering group.

3.1 Steering Group

The rector of the University appointed the Steering Group and assigned it to draw up the assessment plan and to monitor the implementation of the assessment. The Steering Group decides on the assessment questions, the assessment material and its use, the panels, the Units of Assessment, and their allocation to the panels. The term of the Steering Group ends on 31 December 2019.

The Steering Group members are the following:

- Chair, Vice-Rector, Professor Jouko Väänänen (until 31 July 2018); Vice-Rector, Professor Paula Eerola (from 1 August 2018)
- Professor Jaakko Kaprio
- Professor Pauli Kettunen

- Professor Atte Korhola
- Professor Jouko Lindstedt
- Professor Anne Pitkäranta, Vice-Chair
- Professor Marja-Liisa Riekkola
- Director of Research Services Ritva Dammert

3.2 Research Assessment Office

The Research Assessment Office operates under University Services' Research Services and is responsible for carrying out the assessment project. The Research Assessment Office consists of Project Manager Anssi Mälkki, Senior Advisors Johanna Kolhinen and Riitta Väänänen, and Project Coordinator Maiju Raassina (née Hara). The Project Manager reports to the Vice-Rector for Research.

3.3 Units of Assessment

The assessment focuses on overall research activities in the Units of Assessment (Units). Units have been defined and

agreed upon in cooperation with the faculty/independent institute/joint operational unit management. The Units cover all research fields and activities in the University of Helsinki. Altogether there are 39 Units divided into four panels.

By definition, the Units of Assessment represent a collection of divisions or research groups, where common goals and development plans are, or could be, established. They are broadly based on existing departments and administrative units in the faculties and independent research institutes.

Major changes have recently taken place in the organisational structure of the University of Helsinki. The structure varies between faculties also in the amount of autonomy within the organisation of the faculties. The results of the assessment should serve future decision-making in the current organisation, and the Units of Assessment have been agreed in a way that reflects the current situation and enables the assessment of future prospects for the University.

3.4 Review Panels

Each of the four panels consist of highly regarded international experts that assess the Units' research during a four-day panel meeting and site visit in Helsinki. Each panel has an international chair and a group of 10–15 experts. Each panel will also include at least one representative familiar with the Finnish higher education sector who can assist in matters that require context-specific knowledge and insight.

A local “panel guide” will support the panel in practical matters during the visit.

The panels representing the areas of assessment:

- Humanities
- Life Sciences
- Natural Sciences
- Social Sciences

The allocation of the Units to the four panels is described in Appendix 3.

4 Carrying out the assessment

As a member of the expert panel, you will be asked to assess the quality and impact of the research conducted by the Unit as well as its goals and the extent to which the Unit is equipped to achieve them. You should do so by judging the Unit's performance according to the three assessment criteria listed below. In your analysis, please take into account the profile and goals of the Unit, current international trends and developments in science at large and in the field(s) you are assessing specifically, as well as in society beyond academia.

4.1 Assessment criteria

The three criteria for the assessment:

1. Scientific quality

Scientific quality is approached by looking at the past performance based on scientific outputs created by the current members of the Unit.

2. Societal impact

Societal impact refers to the interaction between the Unit and the wider societal audiences.

3. Research environment and Unit viability

Research environment and unit viability considers the future prospects and operating culture of the Unit and how they support development and renewal.

For each of the criteria, the Unit will be assigned a performance category. For a description of the categories, see Appendix 4.

The subject of assessment is the Unit's overall research activities, including the role of the management and leadership of the Unit in promoting the high quality and impact of research.

4.2 The role of the Panel

The panel members will serve as experts, and as such will

- Review the assessment material,
- Take part in panel meetings including the site visit, and
- Write the assessment reports concerning the Units assigned to the panel.

Please provide a written assessment on each of the three criteria and assign the Unit to a particular category. Evaluative comments are more valuable than descriptive phrases. In each case, the consistency between the category that is assigned and the written comments is particularly important. Please also provide recommendations for improvement. In this assessment, research outputs such as new or improved instruments, methodologies or new infrastructure developed by the Unit contribute to the quality of research. The assessment will be written on a report template provided with instructions by the Research Assessment Office.

4.3 Method of assessment

The necessary documentation will be available on the Eduuni workspace (Word online-based collaborative writing platform) no less than six weeks prior to the site visit. The documents will include at least the following:

- The Unit's self-assessment with appendices (see the Self-assessment template in Appendix 5)
- Background information and metric data on the Unit and Faculty
- Background information on the University of Helsinki

The background information and metric data have served as a basis for the Unit's self-assessment, which aims for constructive, critical self-reflection. Please note that the performance of the Unit is assessed in the context of the profile and goals set in the Unit. Metric data and indicators

are used to support qualitative expert assessment, as per the principles described in the Leiden Manifesto¹. For each set of metric data, the value, limitations and the context of use are recognised.

4.4 Panel meeting and site visits

The panel meeting and site visits at the University of Helsinki will take place on 11–15 March 2019. We will contact you about practical matters by the end of year 2018.

4.5 Operating principles

The panel must comply with the following operating principles and ethical guidelines in its work:

- Impartiality and objectivity: Panel members must take an impartial and objective approach towards the Unit, as well as recognise their position of power and the

responsibility related to it.

- Transparent and evidence-based assessment: The assessment must be based on Research Assessment 2018–19, University of Helsinki criteria as well as on material collected in connection with the assessment.
- Confidentiality: All of the information acquired during the process, except for that published in the final report, is confidential.
- Interaction: The assessment is carried out through good cooperation and interaction with the Unit.

Before embarking on your assessment work, you will be asked to sign a statement of impartiality/confidentiality agreement. In this statement, you declare any direct relationship or connection with the University of Helsinki.

5 Assessment report

will ask you to report your findings on two levels: the Unit report for each Unit and a Panel summary combining and reviewing results from all Units within a panel (see Appendix 3 for the allocation of the Units to each panel). Please include also strategic recommendations for the area of the panel as a whole.

The reports are to be drawn up in accordance with the Research Assessment 2018–19, University of Helsinki criteria and assessment report format. The reports for each Unit are a result of the collective work of the panel. Each panellist will take part in writing and commenting on a Unit report as well as contributing to the Panel summary led by the chair.

You should send the complete draft reports to the University of Helsinki Research Assessment Office no more than six weeks after the site visit. The reports will be checked for factual inaccuracies; if such inaccuracies are detected, you will be asked to revise the report.

¹ Hicks, Wouters, Waltman, de Rijcke, Rafols (2015). The Leiden Manifesto for Research Metrics, *Nature*, April 23, 2015.

6 Use of the results

The results and recommendations of the Research Assessment are based on the reports of the external review assessing the quality and impact of research as well as the viability of the Units. The assessment uses metric data, self-

assessment reports and site visits.

The Units, faculties and the University's leadership will review the reports and recommendations. After this, the faculties and independent institutes will discuss

development plans with the University's leadership. Further actions will be agreed on the basis of these discussions. We aim to provide feedback to the panellists of the results of the assessment.

Appendix III

UNITS OF ASSESSMENT, CODES AND PANELS

UNIT OF ASSESSMENT	RAUH code	Panel
Aleksanteri Institute, Faculty of Arts	HUM Unit 01	Humanities
Department of Cultures, Faculty of Arts	HUM Unit 02	Humanities
Department of Digital Humanities, Faculty of Arts	HUM Unit 03	Humanities
Department of Finnish, Finno-Ugrian and Scandinavian Studies, Faculty of Arts	HUM Unit 04	Humanities
Department of Languages, Faculty of Arts	HUM Unit 05	Humanities
Department of Philosophy, History and Art Studies, Faculty of Arts	HUM Unit 06	Humanities
Philosophy, Faculty of Social Sciences and Faculty of Arts	HUM Unit 07	Humanities
Faculty of Theology	HUM Unit 08	Humanities
Helsinki Collegium for Advanced Studies	HUM Unit 09	Humanities
Department of Agricultural Sciences, Faculty of Agriculture and Forestry	LS Unit 10	Life Sciences
Department of Food and Nutrition, Faculty of Agriculture and Forestry	LS Unit 11	Life Sciences
Department of Forest Sciences, Faculty of Agriculture and Forestry	LS Unit 12	Life Sciences
Department of Microbiology, Faculty of Agriculture and Forestry	LS Unit 13	Life Sciences
Ecosystems and Environment Research Programme, Faculty of Biological and Environmental Sciences	LS Unit 14	Life Sciences
Molecular and Integrative Biosciences Research Programme, Faculty of Biological and Environmental Sciences	LS Unit 15	Life Sciences
Organismal and Evolutionary Biology Research Programme, Faculty of Biological and Environmental Sciences	LS Unit 16	Life Sciences
Faculty of Medicine	LS Unit 17	Life Sciences
Faculty of Pharmacy	LS Unit 18	Life Sciences
Faculty of Veterinary Medicine	LS Unit 19	Life Sciences
Finnish Museum of Natural History LUOMUS	LS Unit 20	Life Sciences

UNIT OF ASSESSMENT	RAUH code	Panel
HiLIFE Joint Activities and Infrastructure, HiLIFE Helsinki Institute of Life Science	LS Unit 21	Life Sciences
Institute for Molecular Medicine Finland (FIMM), HiLIFE Helsinki Institute of Life Science	LS Unit 22	Life Sciences
Institute of Biotechnology (BI), HiLIFE Helsinki Institute of Life Science	LS Unit 23	Life Sciences
Neuroscience Center (NC), HiLIFE Helsinki Institute of Life Science	LS Unit 24	Life Sciences
Department of Chemistry, Faculty of Science	NS Unit 25	Natural Sciences
Department of Computer Science, Faculty of Science	NS Unit 26	Natural Sciences
Department of Geosciences and Geography, Faculty of Science	NS Unit 27	Natural Sciences
Department of Mathematics and Statistics, Faculty of Science	NS Unit 28	Natural Sciences
Department of Physics and Helsinki Institute of Physics (HIP), Faculty of Science	NS Unit 29	Natural Sciences
Institute for Atmospheric and Earth System Research (INAR), Faculty of Science	NS Unit 30	Natural Sciences
Department of Economics and Management, Faculty of Agriculture and Forestry	SOC Unit 31	Social Sciences
Ruralia Institute, Faculty of Agriculture and Forestry	SOC Unit 32	Social Sciences
Faculty of Educational Sciences	SOC Unit 33	Social Sciences
Faculty of Law	SOC Unit 34	Social Sciences
Economics, Faculty of Social Sciences	SOC Unit 35	Social Sciences
Politics, Media and Communication, Faculty of Social Sciences	SOC Unit 36	Social Sciences
Social Research, Faculty of Social Sciences	SOC Unit 37	Social Sciences
Society and Change, Faculty of Social Sciences	SOC Unit 38	Social Sciences
Swedish School of Social Science	SOC Unit 39	Social Sciences

Appendix IV

ASSESSMENT CRITERIA

Category	Scientific quality	Societal impact	Research environment and Unit viability
EXCELLENT	The Unit has outstandingly strong research, with world leading qualities. The Unit has a track record of multiple discoveries, creative findings or conceptual openings.	In the Unit, there is clear understanding of the role and positioning of their research in society. The Unit has identified audiences and stakeholders as well as activities to reach them. The outcomes provide convincing evidence.	The Unit is excellently positioned for the future. Operations and procedures are of outstanding quality, transparent and comprehensively shared in the Unit.
VERY GOOD	The Unit conducts very good, also internationally recognised research. The Unit has a track record of solid discoveries, findings or openings.	In the Unit, there is understanding of the role and positioning of their research in society. The Unit has identified audiences and stakeholders. There are activities to reach them and proof of successful outcomes.	The Unit is very well positioned for the future. Operations and procedures are of very good quality, transparent and shared in the Unit.
GOOD	The Unit conducts good research in terms of scientific standard, mainly national but possessing potential of international recognition.	Activities and outcomes exist but not in a consistent manner. The Unit has not yet developed understanding of the role and positioning of their research in society or identified audiences and stakeholders.	The Unit is adequately positioned for the future. Operations and procedures are of good quality and shared occasionally in the Unit.
WEAK	The Unit does not achieve sufficient results in its field.	Audiences and stakeholders have not been identified and there is only little activity or outcomes. The Unit has not defined their role or positioning in society.	The Unit is not adequately positioned for the future. Operations and procedures are not systematic in the Unit.

Appendix V

SELF-ASSESSMENT REPORT TEMPLATE

INSTRUCTIONS

Self-assessment refers to the Unit of Assessment's (Unit) own assessment of its operations and their development. Within your Unit you can choose how to carry out your self-assessment and write the report.

The report must be structured according to the headings listed below, but you can freely decide on the use of any sub-headings.

In the report, you are expected to carry out as reflective a self-assessment as possible, identify areas in need of development and provide a concrete description of the operations and results.

The first part of the report focuses on background information. The core of the self-assessment is the second

part: the description of the organisation, profile, mission and goals of the unit. The Unit's performance and operations are primarily assessed against those measures. Self-assessment includes reflection on the strengths and weaknesses of the described actions. Supporting metric data will be provided on funding, personnel, publications and other outputs as well as on doctoral research (see Appendix 1*, *by Research Assessment Office latest on 15 August 2018*). In section three you will provide a short description of the self-assessment process in your Unit.

It is important to reflect upon the research and the research environment in a nuanced way in order to have a truly useful basis for further development. The panels will

also value the Unit's capacity for critical self-reflection. This means that the panels are asked to focus on the Unit's readiness to deal with possible deficiencies, e.g., by describing already taken or planned actions, rather than the deficiencies per se. In accordance with enhancement-led evaluation, self-evaluation is primarily a tool for improving operations.

The suggested length of the report is approximately in total 15 (-20) pages, depending on the complexity of the Unit, including the number of subunits. NB! Excluding pictures and Part I (Basic information)

* References to appendices in Self-assessment report template do not correspond with appendices in this publication.

1 BASIC INFORMATION (1-2 PAGES)

1.1 Organisation and profile

- a. Please outline the scientific profile of the Unit. What are the main contents and focus areas of the research carried out in your Unit? What is the rationale behind the choices? Please fill in the list of Professors in the Unit (Appendix 2) with keywords and areas of interest.
- b. Please provide a concise description of the Unit's organization and composition (departments, divisions, subunits, disciplines/sub disciplines, research centres, The Academy of Finland's Centres of Excellence etc.).
- c. Please specify any specific (national) tasks, roles or responsibilities the Unit has or which have an effect, e.g., on its priorities for research targets or resource allocation.
- d. Please provide a short summary of the history of the Unit.

1.2 Key figures

*(provided by Research Assessment Office)
(Key indicator information on funding, personnel,
publications, Academy Professors, Centres of Excellence and
ERC funded projects)*

1.3 Key achievements during the assessment period

Top five achievements in the Unit in 2012–2018, highlighting the scientific and societal impact of the Unit.

2 SELF-ASSESSMENT

(approximately 15 pages)

In this section you should focus on describing and self-assessing your Unit's activities following the three assessment themes: *scientific quality*, *societal impact*, and *research environment and Unit viability*. The descriptions and reflections on strengths and weaknesses will provide

a base for the external assessment carried out by the international panellists.

In the case of a recently reorganised or completely new organisation, the Unit can focus more on describing future plans or on-going work, including how to deal with issues if procedures are not yet in place. It is important to

give a realistic view of the activities or development plans for the external panellists to facilitate useful feedback for future development. This applies to all of the following self-assessment themes.

2.1 Scientific quality

In the Scientific quality part you should first *describe the main research goals set in or for the Unit*. The description may entail short-term and long-term goals and targets of the past, present and future depending on the history of your Unit. In the case of a new organisation, you can focus on describing future goals instead of past ones.

At the University of Helsinki the goals can be set on the Faculty level, Unit level or even the subunit/group level. If your Unit follows the goals set on the Faculty level, you can refer to the Faculty-level descriptions collected elsewhere. Please note also that the goal-setting **procedures** are described and analysed in Part 3: Research environment and Unit viability.

Secondly, you are asked to *provide a self-reflection on research results and the metric data considering the research outputs*, mainly publication activities, in relation to

your goals and level of ambition.

Thirdly, you should *provide an example of an international benchmark* unit or institute you wish to use and a short explanation of the choice.

Research goals

- a. What are the current research goals in your Unit? Where do you aspire to be in 5–10 years' time with your research? Please take also into consideration the University of Helsinki Strategy 2017–2020 in your current goal description. What were the main goals before the current strategy period (if applicable)?
- b. Please explain the rationale for the selection of your goals, in terms of contribution to the scientific body of knowledge.

Research results

Name and describe some of the most important results of the research carried out in your Unit during the assessment period and provide relevant justifications on why those have been selected. Results are often answers to a research problem or research question. You can assess the significance of a result (Why is the result significant?), for example, from the perspective of scientific novelty, societal impact and/or relevance, or the further use and applicability of the data/methods.

The effects and impact of the results are described in more detail under the section Societal impact.

Scientific and other publications, IPRs and other outcomes related to the results are reported separately in Question 3 in the section Scientific quality and Question 2

in the section Societal impact. In this section, it is enough to refer to the outputs reported in the following questions when applicable.

Analysis on research outputs

Please refer to the metric data in the analysis.

- a. Comment upon your research outputs and indicators (research articles, scientific/scholarly books as listed in Appendix 1) with regard to productivity, citations and publication channels as well as the number of doctoral degrees. Please feel free to provide other field-specific

indicator information here, if relevant. Noticeable changes over time? Potential for improvement?

- b. Please provide examples of the top publications in your Unit in the assessment period 2012–2017, with a link to the publication if possible. Please use Appendix 3 for the list of top 10 publications. Here you can choose a maximum of 10 publications that showcase the scientific output of your Unit.
- c. Assessed against your own goals, how well do the outputs match your goals and level of ambition?

International benchmark(s)

Provide an example from an institution outside of Finland you appreciate and would consider appropriate as a benchmark for your Unit in terms of activities, profile and standing in the scientific community. Include a short explanation of your choice.

2.2 Societal impact

In Part 2.2 Societal impact you should *provide a description of your target areas for societal impact, the potential stakeholders and audiences as well as the research questions relevant to them*. Research can make contributions and have many different kinds of effects and impacts depending on the discipline. The point is to assess contributions in areas that the Unit has itself designated as target areas. Here you are also asked to *describe the goals set in the Unit for societal impact*.

After that you should *describe the activities* aimed at making the Unit's research available to wider audiences beyond academia. Finally, you should *present the main outcomes of such activities*.

Please note that this part requires some data collection in your Unit. Answering the questions below may involve indicator, output and outcome information not collected

jointly at the University of Helsinki at the moment. Please ask the Research Assessment Office for supporting data if needed.

Target areas, audiences, research questions and goals

- a. What are the target areas set for societal impact in your Unit?
- b. Who are the potential stakeholders and audiences beyond academia that you have identified could benefit from your research results and skills?
- c. Which research questions in your research areas have you recognised as being or having the potential to become relevant to the identified stakeholders and audiences?
- d. What are the goals related to your societal impact target areas? Consider also the past and future long-term targets in the Unit (if applicable).

- e. Please explain the rationale for your selection [of the Societal impact goals] in terms of their link to your research and its wider contribution and impact in society

Activities and outcomes

- a. What are the activities related to the valorisation, dissemination and communication of research outputs in your Unit? Please give examples and provide evidence/data from recent years as appropriate. Please ask for supporting data from the Research Assessment Office if needed.
- b. What are the key outcomes of your societal impact activities? (See Appendix 4 for examples.)
- c. Assessed against your own goals, how well do the outcomes match your goals and level of ambition?

2.3 Research environment and Unit viability

Recognising the Unit's own strengths and areas in need of development is a part of successful self-assessment. In Part 3: Research environment and Unit viability you should focus on describing and self-assessing the operating culture and sustainability of the research base. In short, this means the activities you have or plan to have in place for developing your research. At the core of the assessment is the balance between the resources available and the goals and strategies in the Unit. You should take into consideration the profile, organisational history and structure of the Unit, especially recent changes, when describing the activities.

Here you should provide a description of the *Unit's goal-setting procedures, the actions taken to reach the goals and the follow-up measures as well as development activities*. Please refer to previous research assessments at the University of Helsinki if suitable for your Unit. For assessing the sustainability of the research base, you should *describe and analyse the resources* (human, financial and infrastructure) of the Unit, as well as *collaborations and societal or contextual factors* effecting the Unit's performance.

Leadership, goal setting and follow-up

- a. Please describe how the formal and informal leadership and management practices are organised within the Unit and with the Faculty (if applicable). Explain the roles of different actors (boards, heads, leaders, informal structures etc.) in the organisation.
- b. What kind of support does the Faculty or the University of Helsinki provide to leadership in the Unit? What are the strengths and weaknesses of the support? What kind

of needs for support do you have?

- c. Please provide a description of the goal-setting procedures in the Unit. What are the strengths and weaknesses of the chosen procedures?
- d. What kind of procedures do you have to track the progress towards reaching the goals? Please give examples of methods of monitoring success and tracking development in the Unit. These can be quantitative (e.g., indicators) or qualitative measures (feedback methods, discussion events, seminars, regular meetings etc.). Here you can refer to the previous Research Assessment 2010–2012 findings and the actions taken after it, if suitable.
- e. What kind of development activities have you done in your Unit based on the follow-up measures? What are the strengths and weaknesses of your development activities?
- f. Please describe how individual researchers receive feedback on their performance.

Human resources, careers and recruitment

- a. Describe the personnel structure and the roles of each personnel group in the Unit. What are the strengths and weaknesses? Please refer to the metric data (Appendix 1) in the analysis.
- b. How are you working to support researchers in their career (researchers in all phases of their career)?

How are you currently working to ensure that recruitment contributes to the high quality and sustainability of research and renewal? How appealing are the career and

development possibilities in your unit for different personnel groups? How do you make sure your personnel structure is well prepared for the future?

Researcher education

- a. Please describe the practices of agreeing on the research topics and questions for doctoral thesis work. How are the doctoral students recruited and selected in your Unit?
- b. What is the role of doctoral students in the research of the Unit?

How do you integrate the doctoral students into the community and research activities? How do doctoral students receive feedback about their progress?

Research infrastructure (if applicable)

- a. Please describe the research infrastructure you have or that is available for the Unit. How well does the infrastructure serve your research purposes?
- b. How are you working to maintain and develop the research infrastructure in order to support high-quality research and renewal?

Funding

- a. Please describe your current funding situation and strategy. You can refer to the metric data in Appendix 1.
- b. On what basis is the portfolio of different funding sources selected? What are the strengths and weaknesses of the chosen strategies? How well balanced is the portfolio, considering the research goals of the Unit?

- c. How do you work to secure funding, including predictable and sustainable funding from different sources?

Collaboration

- a. Please describe what kind of research collaboration and networks there are in the Unit
- i. within the University of Helsinki,
 - ii. nationally with other Universities in Finland, and
 - iii. internationally.

These may include, e.g., cross-border and interdisciplinary collaborations.

- b. What kind of future plans have been made in relation to developing internal and external collaboration? What are the strengths and weaknesses of the current situation?

Connections with “other constellations” (optional, if applicable)

- a. Please describe the relationship and connections with relevant joint operational units (INAR, HELSUS), the Helsinki Institute of Life Sciences (HiLIFE), the Helsinki Collegium for Advanced Studies (HCAS) or other relevant constellations within the University of Helsinki (if applicable).

- b. What are the strengths and weaknesses of the cooperation?

Societal and contextual factors

- a. Please reflect on relevant factors/developments over the past five to six years. What kind of changes have or might influence the performance of the Unit in some way?
- b. Please give a forecast of the most important trends and developments for the coming years.

2.4 Organisation of the work of carrying out the self-assessment

Please describe briefly how you have organised the work of carrying out the self-assessment in the Unit.

Appendix VI

SELF-ASSESSMENT QUESTIONS FOR THE FACULTY

1 Organization

- Description of the Faculty's organization and composition (departments, divisions, subunits, disciplines/sub disciplines, research centres, etc.)
 - Short summary of the history of the Faculty's internal structure.
 - Specific (national) tasks, roles or responsibilities the Faculty has or which have an effect, e.g., on its priorities of research targets or resource allocation.
-

2 Scientific Quality: Goals

- Shared research goals in the Faculty – link to UH strategy.
-

3 Societal impact: Goals

- Shared goals related to societal impact in the Faculty.
-

4 Leadership, goal-setting and follow-up

- Description of the forms leadership and management practices within the Faculty, which are shared between the Units of Assessment. Explain the roles of different actors (discussion fora, preparatory groups, other academic leaders etc.).
- Description of the goal-setting procedures in the Faculty.
- What kind of procedures do you have for following progress towards reaching the goals? Please provide examples of ways of monitoring success and tracking development in the Faculty. Here you can refer to the previous Research Assessment 2010-2012 findings and actions taken after it, if suitable.

Appendix VII

UNIT ASSESSMENT REPORT

INSTRUCTIONS

This is the assessment report template for Research Assessment 2018 – 19 University of Helsinki. Please use the following structure in reporting the findings and recommendations for the Unit.

The structure of the report template follows the self-assessment report completed by the Unit. Please see

also the Terms of Reference and Criteria for more detailed instructions on carrying out the assessment.

The assessment work starts with reading and analysing the assessment material of the Unit. The first draft of the report is written based on the assessment material latest 1st of March 2019 on this template. The initial findings

of the report draft are confirmed and reassessed during the site-visit 11th – 15th of March 2019.

The final report should be completed no later than six weeks after the site-visit, by 1st of May 2019.

The suggested length of the report is approximately in total 5-10 pages

1 SUMMARY

1.1 Description of the use of criteria

Please describe how the RAUH criteria has been interpreted and used in the panel.

1.2 Assessment summary

A short and concise summary of the assessment of the Unit in general. The summary should be based on the three assessment themes and conclude the main remarks of each theme. The summary should include the key strengths and

areas of development of the Unit. Please provide also a set of recommendations for the Unit, how to improve their research activities, enhance quality and support renewal.

- Strengths
- Development areas
- Recommendations

2 ASSESSMENT OF THE UNIT

2.1 Scientific quality

Instructions

Scientific quality is approached by looking at the past performance of the staff, based on scientific outputs created by the current members of the Unit. The criteria for assessing the quality of outputs are originality and novelty, significance, and rigour. The key issues are:

- The extent to which the output introduces a new way of thinking about a subject, or its distinctive or transformative nature compared to previous work (originality and novelty),
- the influence on an academic field or application (significance),

- to what extent the purpose of the work is clearly articulated, the methodology is appropriately developed and/or applied, and compelling evidence has shown that the purpose has been achieved (rigour).

	EXCELLENT	VERY GOOD	GOOD	WEAK
SCIENTIFIC QUALITY	The Unit has outstandingly strong research, with world leading qualities. The Unit has a track record of multiple discoveries, creative findings or conceptual openings.	The Unit conducts very good, also internationally recognised research. The Unit has a track record of solid discoveries, findings or openings.	The Unit conducts good research in terms of scientific standard, mainly national but possessing potential of international recognition.	The Unit does not achieve sufficient results in its field.

Caption

- Main conclusions and rationale behind the grading
- Strengths and weaknesses of the Scientific quality

GRADING

Feedback of the Panel

Please analyse and reflect the following topics based on the assessment material and site-visit.

Research goals

- Research goals in the Unit (past, current, future)

- Rationale for the selection of the goals in the Unit

Research results

- Most important results chosen by the Unit
- Significance of the results e.g. from the perspective of scientific novelty, societal impact and/or relevance, or the further use and applicability of the data/methods.

NOTE: Scientific and other publications, IPRs and other outcomes related to the results are reported separately in self-assessment section *Analysis on research outputs* and *Activities and outcomes*.

Analysis on research outputs

- Research outputs and indicators (research articles, scientific/scholarly books, doctoral degrees etc. as listed in Appendix 1*) in the Unit
- Reflection on how well do the outputs match the Unit’s goals based on its self-reflection

International benchmark(s)

- Selection of benchmarks in the Unit
- Unit’s rationale behind the choices

2.2 Societal impact

Instructions

In this assessment, we understand societal impact referring to the interaction between the Unit and the wider societal audiences. The key issues are:

- Whether potential stakeholders and audiences have been

identified, and which research questions or results are immediately relevant or could be relevant later,

- the Unit’s activities on valorisation (activities aimed at making results available and suitable for application) and dissemination and communication (activities aimed at

making results widely known or providing stakeholders and different actors in civil society a window to current research and novel results),

- outcomes providing evidence of successful societal impact activities.

	EXCELLENT	VERY GOOD	GOOD	WEAK
SOCIETAL IMPACT	In the Unit, there is clear understanding of the role and positioning of their research in society. The Unit has identified audiences and stakeholders as well as activities to reach them. The outcomes provide convincing evidence.	In the Unit, there is understanding of the role and positioning of their research in society. The Unit has identified audiences and stakeholders. There are activities to reach them and proof of successful outcomes.	Activities and outcomes exist but not in a consistent manner. The Unit has not yet developed understanding of the role and positioning of their research in society or identified audiences and stakeholders.	Audiences and stakeholders have not been identified and there is only little activity or outcomes. The Unit has not defined their role or positioning in society.

* References to appendices in Unit Assessment report template do not correspond with appendices in this publication.

Caption

- Main conclusions and rationale behind the grading
- Strengths and weaknesses of the Societal impact

GRADING

Feedback of the Panel

Please analyse and reflect the following topics based on the assessment material and site-visit.

Target areas, audiences, research questions and goals

- Identifying target areas, audiences, research questions and goals
- Unit’s rationale for the selection of the choices

Activities and outcomes

- Activities of valorisation, dissemination and communication
- Societal impact outcomes as evidence

- Reflection on how well do the outcomes match the Unit’s goals based on its self-reflection

2.3 Research environment and Unit viability

Instructions

Research environment and unit viability considers the future prospects, by assessing the operating culture of the Unit and how they support development and renewal. The key issues are:

- The Unit’s goal setting, the actions taken to reach the goals and the follow-up measures
- the sustainability of the research base: analysis of the balance between the resources available and the goals and the strategies in the Unit,
- renewal potential of the research carried out in the Unit.

	EXCELLENT	VERY GOOD	GOOD	WEAK
RESEARCH ENVIRONMENT AND UNIT VIABILITY	The Unit is excellently positioned for the future. Operations and procedures are of outstanding quality, transparent and comprehensively shared in the Unit.	The Unit is very well positioned for the future. Operations and procedures are of very good quality, transparent and shared in the Unit.	The Unit is adequately positioned for the future. Operations and procedures are of good quality and shared occasionally in the Unit.	The Unit is not adequately positioned for the future. Operations and procedures are not systematic in the Unit.

Caption

- Main conclusions and rationale behind the grading
- Strengths and weaknesses of the Research environment and Unit viability

GRADING**Feedback of the Panel**

Please analyse and reflect the following topics based on the assessment material and site-visit.

Leadership, goal setting and follow-up

- Formal and informal management practices, roles of different actors
- Goal-setting and follow-up at the Unit level as well as the feedback and development activities
- Analysis of the Faculty/UH level support needs in the Unit

Human resources, careers and recruitment

- Personnel structure and the roles of each personnel group in the Unit (see metric data in Self-Assessment Appendix 1)

- Career support for researchers
- Recruitment practices

Researcher education

- Recruitment of doctoral students, the Unit's role, see also the Faculty level self-assessment report
- Agreeing on research topics and thesis work
- Integrating the doctoral students into the research community

Research infrastructure (if applicable)

- Unit's reflection on usability of the infrastructure
- Maintaining and developing the infrastructure

Funding

- Selection of funding sources, How well balanced is the portfolio, considering the research goals in the Unit (see metric data in Self-Assessment Appendix 1)
- Ways of securing the funding, including predictability and sustainability

Collaboration

- Different forms of collaboration (UH, national, international, cross-border, interdisciplinary), how well connected is the Unit in its field, strengths and weaknesses of the situation
- Plans to develop collaboration

Connections with 'other constellations' (optional, if applicable)

- Cooperation and relationship with relevant joint operational units and other constellations within UH
- Strengths and weaknesses of the cooperation

Societal and contextual factors

- Any other factors or changes the Unit mentions influencing the performance of the Unit in some way
- Units forecast on most important trends and developments for the coming years

Appendix VIII

PANEL ASSESSMENT REPORT

INSTRUCTIONS

This is the panel report template for Research Assessment 2018 – 19 University of Helsinki. Please use the following structure in reporting the findings and recommendations from the panel. The panel report should be understandable without reading the reports of the Units of Assessment (Units).

The final panel report should be completed no later than six weeks after the site-visit, by 1st of May 2019.

The suggested length of the report is approximately in total about 5-10 pages.

PANEL ASSESSMENT

1 Overall assessment

A short and concise summary of the assessment by the panel.

After a brief introductory statement and general conclusions, the overall assessment should also include the

main findings and conclusions across the Units, organised under the three assessment themes:

- Scientific quality
- Societal impact

- Research environment and viability

The overall assessment of each theme may include examples from and references to the Units as appropriate.

2 Strengths and development areas

Short introductory text to this section, including both sections 2.1 and 2.2. You can include brief introductions also or in those subsections if you wish.

2.1 Key strengths and highlights

Key strengths areas per assessment theme as recognised by the panel. You should aim at a synthesis of the findings

instead of repeating lists of observations.

- Scientific quality
- Societal impact
- Research environment and viability

2.2 Development areas

Key development areas per assessment theme as

recognised by the panel. You should aim at a synthesis of the findings instead of repeating lists of observations.

- Scientific quality
- Societal impact
- Research environment and viability

3 Good practices and recommendations

3.1 Good practices

Selection of good practices arising from the assessment material and site-visit.

A good practice can be a single event, process, procedure or a way of operating that enhances quality and renewal. The scale of the practice does not matter, small and

local ideas can be fruitful to the larger audiences, too. Please choose examples that have potential of enhancing learning between the Units.

3.2 Recommendations

Set of recommendations from the panel.

A recommendation is a suggestion of how to improve the research activities, enhance quality and support renewal in the Units within the panel. The number of recommendations is up to the panel to decide.

Appendix IX

ASSESSMENT GUIDELINES

1 PURPOSE AND AIM OF THE ASSESSMENT

The purpose of the Research Assessment of the University of Helsinki (UH) is to reveal and confirm the quality and impact of research, assist in recognising future research prospects, and support renewal. The aim of the assessment is to produce information that can be used for enhancing quality and supporting strategic decision-making at the University of Helsinki on unit, faculty and University levels. The assessment will give vital input to the University of

Helsinki's strategy process for the period 2021–2030.

The Units of Assessment (Unit) are Faculties, Institutes, Departments, disciplines or combinations of disciplines, where common goals and development plans are, or could be, established. They are mainly based on existing administrative units.

Background, purpose and aim, organisation and carrying out the assessment are described in detailed in

Terms of Reference and its appendices (see Annex 1)*.

As a member of the expert panel, you will be asked to assess the quality and impact of the research conducted by the Unit as well as its goals and the extent to which the Unit is equipped to achieve them. The three criteria for the assessment are scientific quality, societal impact and research environment and unit viability.

* References to annexes and appendices in Assessment guidelines document do not correspond with appendices in this publication.

2 UNIT ASSESSMENT MATERIAL, UNIVERSITY OF HELSINKI MATERIAL AND ADDITIONAL MATERIAL

2.1 List of the material

As a member of the expert panel, you will be asked to carefully read all assessment material for each Unit you assess. The assessment material for each Unit includes:

- Unit self-assessment report (SAR), including
 - Descriptive part (text)
 - Metric data (SAR Appendix 1)
 - List of professors (SAR Appendix 2)
 - List of TOP10 publications (SAR Appendix 3)
 - Optionally: additional Figures and Tables
- Publication analysis carried out by the
 - Center of Science and Technology Studies (CWTS), Leiden University, OR
 - Helsinki University Library (HULib), OR
 - both

- Faculty self-assessment report (SAR) for Units belonging to Faculties (see Annex 1 for Unit codes and names):
 - Life Sciences panel (LS) Units 10, 11, 12 and 13; Social Sciences panel (SOC) Units 31 and 32: Faculty of Agriculture and Forestry SAR
 - LS Units 14, 15 and 16: Faculty of Biological and Environmental Sciences SAR
 - Humanities panel (HUM) Units 01, 02, 03, 04, 05, 06 and 07: Faculty of Arts SAR
 - Natural Sciences panel (NS) Units 25, 26, 27, 28, 29 and 30: Faculty of Science SAR
 - SOC Units 35, 36, 37 and 38; HUM Unit 07: Faculty of Social Sciences SAR

- HiLIFE Helsinki Institute of Life Science self-assessment report for Units belonging to HiLIFE
 - LS Units 21, 22, 23 and 24

In addition, you will be asked to carefully read the UH material which includes:

- University of Helsinki General Information
- University of Helsinki Strategy 2017-2020

You will also get additional material which you can utilize at your own will. This material is provided mostly as a list of websites.

2.2 Unit self-assessment report

General remarks

The Units were instructed to use the self-assessment report template (See Annex 2) and to follow the guidelines given in it. The Research Assessment Office (RAO) provided Key figures and checked that all parts had been covered. Small variations in the structure were allowed. Units are fully responsible for the content of their report text.

Appendix 1 Metric data

The assessment period extends from 2012 to 2018. Staff, funding, degree and selected projects statistics were produced for 2013-2017 and publication statistics for 2012-17. Bibliometric analysis was based on 2012-16 publications. Staff and funding were estimated for 2018. The source of all data was UH databases. Helsinki University Library HULib was responsible for processing publication data and RAO other data.

The aim was to produce metric data to support the future-looking orientation of the assessment. Ideally data for the assessment period should be reliable, uniform and equal for all Units. However, during the assessment period the UH organization has changed. The Units mainly follow the new 2018 organization whereas UH statistics for the assessment period were available for the previous organization. As a result, staff, funding and affiliation-based publication statistics for the assessment period are not available for the changed or new Units. This applies to about 50% of the Units in the Faculties of Arts, Agriculture and Forestry, Biological and Environmental Sciences, Social Sciences and Science. To ensure data reliability over the assessment period, Faculty statistics are presented as past reference

data for all Units in the above-mentioned Faculties.

Statistics on selected projects and on author-based publications were compiled for each Unit. The Faculties of Theology, Medicine, Pharmacy and Veterinary Medicine, Independent Institutes Finnish Museum of Natural History LUOMUS and Helsinki Collegium for Advanced Studies, and the Swedish School of Social Science are each assessed as a single Unit. Internal organization changes at these Units did not impact metric data collection. Tables and Figures presenting staff, funding, affiliation-based publications and degree statistics refer to the Faculty or the Institute name, in order to separate them from statistics compiled separately for each Unit.

HiLIFE started as a new independent institute in 2017. Previously independent Institute of Biotechnology (BI), Institute of Molecular Medicine Finland (FIMM) and Neuroscience Center (NC) joined HiLIFE as operative units, and are here assessed as separate Units. Previously independent organizational unit Laboratory Animal Centre (LAC) joined HiLIFE as infrastructure. In this assessment it is a part of HiLIFE Joint Activities and Infrastructure Unit (LS Unit 21). BI, FIMM and NC were independently managed for the main part of the assessment period and Unit staff and funding statistics are presented for these Units separately. However, BI, FIMM and NC publication statistics for 2017 could not be extracted from HiLIFE statistics. Therefore, HiLIFE affiliation-based publication statistics are presented in addition to Unit author-based statistics for these units. Before 2017 HiLIFE Joint Activities and Infrastructure Unit staff statistics consist of LAC staff. Unit funding statistics

for 2013-2017 include LAC incomes, and for years 2015-2016 also funding for the forthcoming HiLIFE.

From 2018 on, data in UH databases are available for the current organization, i.e. the Units of this assessment except for HUM Unit 07 Philosophy, which is a Unit formed temporarily only for research assessment purposes. Staff and funding 2018 are presented for each Unit acknowledging that the figures are estimates, because data were collected before the end of the year. It is also acknowledged that figures for only one year give a limited representation of the Unit. Faculty figures are presented alongside Unit figures in cases when a Unit belongs to a Faculty. Correspondingly, HiLIFE figures 2018 are presented alongside the figures of its operational Units.

Staff categories and titles. UH has a human resources policy which defines staff titles. These are summarized in Unit SAR Appendix 1. Title Professor occurs at teaching and research staff Levels 3 and 4. Tenured professors are at Level 3 whereas full professors are at Level 4. In the metric data the job title of a Tenure track position is Assistant professor or Assistant professor, second term, translated from the Finnish terminology. The latter corresponds to Associate professor. Both titles are used in parallel in SARs. Category Other staff includes all others but teaching and research staff (e.g. IT, library, technical, administrative and other support and specialist staff). Research assistants and teaching assistants belong to this group.

Definition of Unit staff and Unit affiliated staff. Staff statistics for 2018 was generated based on the number of work contracts and co-employee contracts on 1st March

2018 at the Unit. At the UH, work contract has one unit even when the work of the person is divided between two or several units. Persons with affiliation in more than one unit were included in the staff 2018 lists of all involved Units. Information on double affiliation was collected from the Units and are presented as Unit affiliated staff in statistics. There is variation in the completeness of these data, and the statistics are not fully uniform across Units.

Co-employees are researchers who are not UH employees but are permitted to utilize UH facilities through signing a contract with the Faculty/unit. The figures of co-employees are less comprehensive than the figures of employees.

International staff. Other nationalities but Finnish were categorized as international staff. Staff members who now have Finnish or double nationality but previously have had other nationality than Finnish could not be identified as international staff.

Funding. The funding 2018 is the income budget for year 2018. The external funding budget was updated on 1st September 2018 and the governmental core funding budget on October 2017. At the UH, governmental core funding is administered at Faculty and Independent Institute level. Governmental core funding budget in Units belonging to a Faculty or HiLIFE is an estimate of expenses allocated to the Unit. The estimation was done by the Faculties and HiLIFE and the estimation method of Unit governmental core funding may vary.

Affiliation-based and author-based publication statistics. Two separate publication statistics are presented. For Unit publication statistic we used staff 2018 lists to compile the author-based publication statistic for 2012-17. This statistic includes publications 2012-17 of Unit staff 2018 (and Unit affiliated staff 2018 when applicable) where at least one author of the publication had a contract (or double affiliation when applicable) with the Unit on 1st March 2018, and the affiliation of the publication is UH. Faculty and Independent institute publication statistics include publications 2012-17 where the affiliation of at least one author is the Faculty or Independent institute, and is referred to as affiliation-based statistics.

Selected projects. Academy professors, ERC grants and Academy of Finland Centres of Excellence are regarded among the most prestigious funding instruments. Statistics on selected projects present the number of ongoing projects at the Unit. Academy of Finland Centres of Excellence figures include Centres of Excellence coordinated within the Unit. Units may host a research group that is a partner of Academy of Finland Centre of Excellence. These are not included in the figures because uniform data was not available.

Degrees and granted permits to pursue doctoral degree. At the UH, Faculties grant degrees and the permits to pursue degrees. These statistics are thus provided at Faculty level only. Some degree programs have a close linkage to a certain Unit. Units may present their own

estimate on degrees 'belonging' to their Unit. The Swedish School of Social Science only grants first-cycle degrees. At the UH, second-cycle Master's degree is 120 credits in scope except in Psychology, 150 credits. The second-cycle degree is Licentiate's degree in Medicine (360 credits), Dentistry (330 credits) and Veterinary Medicine (180 credits). First-cycle degrees are 180 credits in scope.

Appendix 2 List of professors

RAO provided a list of professors and assistant professors who had an employment contract with the UH at the Unit on 1st March 2018. Units updated the list to correspond the situation in September 2018.

Appendix 3 TOP10 publications

Each Unit was instructed to choose a maximum of 10 publications to showcase the scientific output of the Unit. There were no further instructions on how to make the selection and these need not be, e.g., the most cited publications. As a member of the expert panel, you are not expected to review them as they already are peer-reviewed. The term 'TOP10 publications' in here does not refer to the bibliometric top10-index.

Optionally: Figures and Tables

Figures and Tables provided by the Unit are appended to the end of the Unit SAR.

2.3 Publication analyses

The Units were provided with a publication analysis suitable to the publication culture of their discipline(s). The analyses were based on the same data which was used in the author-based publication statistics.

Bibliometric analysis of the publications was performed by the Center of Science and Technology Studies (CWTS), Leiden University. The applicability of bibliometric analysis depends on the publication traditions and practices in different fields of research. This analysis was performed for those Units where it was relevant and covered sufficient

percentage of publications of the Unit, i.e. all LS and NS Units except for NS Unit 26 Department of Computer Science. The analysis details are described in Annex 3a. Indicators used in the CWTS report are explained in Annex 3b.

HULib analysed the publication of those Units where bibliometric analysis was not relevant or covered an insufficient percentage of publications of the Unit. The HULib analysis was adjusted for the Humanities panel, Social Sciences panel, Natural Science panel and Department of

Computer Science Unit separately. These four separate analyses are described in detailed in Annexes 4a, 4b, 4c and 4d. Unlike any other assessment material, HULib analyses are spreadsheet files. Each file contains several sheets, one sheet for each analysis type.

Both CWTS bibliometric analysis and HULib analysis were provided for NS Unit 27 Department of Geosciences and Geography, and for all SOC Units 31-39. The Units whose publication analyses are included in the assessment material for the panellists.

2.4 Faculty and HiLIFE self-assessment report

The Faculties of Arts, Agriculture and Forestry, Biological and Environmental Sciences, Social Sciences and Science, and HiLIFE were instructed to use a template (see Annex 5) for describing the Faculty/HiLIFE level procedures. This way the

Units that are a part of a Faculty or HiLIFE structure at UH do not have to repeat the descriptions of, for example, shared decision making processes in their self-assessment reports.

2.5 University of Helsinki material

University of Helsinki General Information

The purpose of the University of Helsinki General Information document is to provide contextual information about UH. The UH has undergone several changes during the assessment period, which affect the resources, organisation and management of the research at the Units.

The document is compiled by RAO and contains an overall view to UH, and the higher education field in Finland in the assessment period, as well as some key facts and achievements of UH.

University of Helsinki Strategy 2017-2020 document

UH strategy guides the strategic management of the research activities in the Faculties and Units. The Units have been asked to reflect their own planning and goalsetting against the UH strategy in their self-assessment reports.

2.6 Additional material

The UH official research portal ('TUHAT') contains information on UH researchers, research outputs, projects, activities etc. Researchers were instructed to upload their CV or corresponding information to the research portal. Website for the research portal will be provided.

Additional information on UH, higher education and research in Finland, Finnish research funding agencies etc. will be made available for optional background information and further reading.

3 WRITING THE ASSESSMENT REPORT

3.1 General remarks

The panel will provide their feedback to the Units in written form by using the assessment report template (see an example in Annex 6; actual working templates are in the online workspace). The assessment report template contains detailed assessment questions. The assessment report is structured as follows:

Summary

- Description of the use of criteria: written after the site-visit, explaining the internal calibration of the use of the criteria within the panel.

- Assessment summary: the key strengths and development areas of the Unit as well as recommendations.

Assessment of the Unit

- The assessment of the Unit based on the three assessment themes: scientific quality, societal impact and research environment and Unit viability (see next section 3.2 for more guidelines).

In the assessment report, you should identify the key

strengths and development areas of each theme, based on the evidence provided by the assessment material and site-visit. In addition to the grading (weak – good – very good – excellent, see Annex 1 for criteria) on each theme, you should also give written feedback to the Unit of each sub-theme to enhance future development and learning. This is in-line with the enhancement-led approach chosen to this assessment.

The assessment report should be understandable without reading the self-assessment report. A good assessment report contains a purposeful balance between descriptive and evaluative text.

3.2 How to interpret scientific quality, societal impact and research environment and Unit viability

The focus of the assessment is on the future competitiveness of the Unit within the three assessment themes: scientific quality, societal impact and research environment and Unit viability. This emphasis should be

taken into account in writing the assessment report.

Past performance is an important underpinning factor for future success, especially in scientific quality. On the other hand, in the themes of societal impact and research

environment and Unit viability, the past outcomes, practices and metric data provide supporting evidence when assessing the Unit's potential for future success.

Scientific quality

The scientific quality of the Unit should be assessed against the goals set in the Unit by looking at the research questions, activities, results and outputs of the Unit. Both quantity and quality of results and outputs should be considered. At the same time, they shall be compared to international standards within the fields of the research concerned. This applies also for any disciplines or activities that may have specific national tasks or roles within Finland.

At the UH, we are committed to the responsible use of metric data in research assessment, following the principles described in the Leiden Manifesto (see Annex 1 for full reference). The bibliometric data (where applicable) reflects the scientific impact of the research in the Unit and it is a good proxy for the scientific impact of earlier work. However, the metric data and indicators are meant to be used to support qualitative expert assessment. The indicators should not overly dominate the grading of scientific quality.

Societal impact

Societal impact in RAUH emphasizes the capacity and potential within the Unit to be a source for societal impact in the future. The potential for societal impact strongly depends on field of research, and in the long term, unexpected impact in an unpredictable and unforeseeable direction may be observed. The point is to assess contributions in areas that the Unit has itself designated as target areas and focus on factors that the Unit's academic community has full control over.

The aim thus is to assess how the following steps towards impact are implemented in the Unit: 1) identifying the target areas of the societal impact, 2) identifying potential audiences and which research questions or results

are or would be relevant to them, and 3) outreach and valorisation activities.

Societal impact stems from the core research areas and competences within the Unit. Through identifying those areas and competences, the Unit can position their research into a broader context and consider its potential relevance to non-academic audiences.

Only in rare cases, non-academic impact comes about through the actions of the academic actors only. For impact to develop, it is thus necessary that the research-based knowledge and skills reach the potential stakeholders beyond academia. Identifying relevant stakeholders and audiences is crucial for best success in outreach and valorisation.

The role of the examples of outcomes is to provide evidence of successful promotion of impact. The grading for societal Impact should be based primarily on the key factors for future success, and the examples of outcomes are there to support the conclusions. To reach either of the two highest grades, successful outcomes shall always be presented.

In the assessment, you should also consider the potential for identifying the relevant target areas and audiences in a realistic manner. The Unit may not have identified relevant societal/non-academic questions they could contribute to, or stakeholders/audiences for its research or for some parts of it. If the panel agrees they cannot identify potential audiences or uses for the specific research area either, societal impact for that part of work within the Unit should not be affected negatively. However, if the panel can identify questions/audiences or potential uses for the research and the Unit has not yet reached that kind of level of understanding, there probably is room for improvement.

Research environment and Unit viability

In this theme, the core of the assessment is the question how well the Unit is positioned for the future. The starting point for the assessment is the description and self-reflection provided by the Unit. In SAR the Unit assesses their own goal-setting procedures, leadership and management practices and resources. Metric data for example staff and funding is provided in SAR Appendix 1 at the Unit and/or Faculty/Independent institute level. Together the qualitative and quantitative data form a picture of the Unit's research environment and viability.

Research environment and Unit viability theme is strongly linked with the two other assessment themes, especially with the goal-setting in scientific quality and societal impact. In here, you should assess the alignment of the plans, goals and the Units capability of following and developing its own activities in a meaningful way.

Please note that in some Units, there are Faculty level practices for example concerning the decision making (e.g. Units of the Faculty of Arts) common to the Faculty. To get a complete picture of the Units' operations and to understand its limitations, you should also consider the Faculty level self-assessment description when available.

The Units assessed here have a varying history and positioning in the University structure. Some of the Units are Faculties with their own decision-making structure and a long history. Some have been just recently formed as a Unit within a Faculty, without a possibility to track or show full record of results and development history yet. The activities described in the SAR can be something the Unit already has had for a long time or plans to have in place in the future. The emphasis of the assessment should be on the reflection of such activities including the Unit's capability of recognising their own strengths and development areas.

In this theme, qualitative feedback is the most valuable outcome of the assessment to the Unit. Grading gives the overall idea of the 'development stage' but the written feedback allows to express more subtle nuances.

For example, the Unit can be in 'excellent' category even if the ways of operating are not fully shared yet but there is evidence of successful development activities existing in the Unit.

4 RAUH PANELS AND TASKS

Panels

- The assessment work is carried out in four panels covering the UH research areas
 - Humanities
 - Life Sciences
 - Natural Sciences
 - Social Sciences
- Each panel is responsible for assessing 9-15 Units (see Annex 1)
- Each Unit is assessed individually and receive an individual report
- RAO assigns the panellists to act as a primary and supporting reviewer of Units (see Annex 8)
- Each panellist will act as a primary reviewer to one or two Units
- Each panellist will act as a supporting reviewers to one or two other Units

Primary and supporting reviewers' tasks

The primary reviewer is responsible for

- preparing a Unit assessment report draft before the site-visit, by 1st March 2019
- delivering a mature Unit assessment report draft by the end of the site-visit, by 15th March 2019
- finalising the Unit assessment report after the site-visit.

The supporting reviewer is responsible for

- assisting the primary reviewer in the assessment by reading the Unit assessment report draft before the site-visit, by 1st March 2019
- contributing with comments during the site-visit,
- collaborating in writing the final Unit assessment report with the primary reviewer.

All reviewers

- are responsible for participating in the panel meetings
- are welcome to participate and contribute to the interviews according to their own interest and expertise.

Panel Chairs' tasks

The panel Chairs are responsible for coordinating the panel work, including

- reading the pre-visit assessment report drafts
- chairing the panel meetings and interviews
- overseeing the finalizing phase of the Unit assessment reports after the site-visit
- providing initial feedback on Friday 15th March 2019 for the UH Rectorate on behalf of the whole panel
- compiling the panel assessment report after the site-visit.

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