INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI 2005–2010

RC-Specific Evaluation of LEGMILK – Home-grown feeds, milk and healthy aging

Seppo Saari & Antti Moilanen (Eds.)
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Summary:
Researcher Community (RC) was a new concept of the participating unit in the evaluation. Participation in the evaluation was voluntary and the RCs had to choose one of the five characteristic categories to participate.

Evaluation of the Researcher Community was based on the answers to the evaluation questions. In addition a list of publications and other activities were provided by the TUHAT system. The CWTS/Leiden University conducted analyses for 80 RCs and the Helsinki University Library for 66 RCs.

Panellists, 49 and two special experts in five panels evaluated all the evaluation material as a whole and discussed the feedback for RC-specific reports in the panel meetings in Helsinki. The main part of this report is consisted of the feedback which is published as such in the report.

Chapters in the report:
1. Background for the evaluation
2. Evaluation feedback for the Researcher Community
3. List of publications
4. List of activities
5. Bibliometric analyses

The level of the RCs' success can be concluded from the written feedback together with the numeric evaluation of four evaluation questions and the category fitness. More conclusions of the success can be drawn based on the University-level report.

RC-specific information:

Main scientific field of research: Biological, Agricultural and Veterinary Sciences

Participation category: 4. Research of the participating community represents an innovative opening

RC's responsible person: Wähälä, Kristiina

Keywords: Research Evaluation, Meta-evaluation, Doctoral Training, Bibliometric Analyses, Researcher Community

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Foreword

The evaluation of research and doctoral training is being carried out in the years 2010–2012 and will end in 2012. The steering group appointed by the Rector in January 2010 set the conditions for participating in the evaluation and prepared the Terms of Reference to present the evaluation procedure and criteria. The publications and other scientific activities included in the evaluation covered the years 2005–2010.

The participating unit in the evaluation was defined as a Researcher Community (RC). To obtain a critical mass with university-level impact, the number of members was set to range from 20 to 120. The RCs were required to contain researchers in all stages of their research career, from doctoral students to principal investigators (Pis). All in all, 136 Researcher Communities participated in this voluntary evaluation, 5857 persons in total, of whom 1131 were principal investigators. PIs were allowed to participate in two communities in certain cases, and 72 of them used this opportunity and participated in two RCs.

This evaluation enabled researchers to define RCs from the “bottom up” and across disciplines. The aim of the evaluation was not to assess individual performance but a community with shared aims and researcher-training activities. The RCs were able to choose among five different categories that characterised the status and main aims of their research. The steering group considered the process of applying to participate in the evaluation to be important, which lead to the establishment of these categories. In addition, providing a service for the RCs to enable them to benchmark their research at the global level was a main goal of the evaluation.

The data for the evaluation consisted of the RCs’ answers to evaluation questions on supplied e-forms and a compilation extracted from the TUHAT – Research Information System (RIS) on 12 April 2011. The compilation covered scientific and other publications as well as certain areas of scientific activities. During the process, the RCs were asked to check the list of publications and other scientific activities and make corrections if needed. These TUHAT compilations are public and available on the evaluation project sites of each RC in the TUHAT-RIS.

In addition to the e-form and TUHAT compilation, University of Leiden (CWTS) carried out bibliometric analyses from the articles included in the Web of Science (WoS). This was done on University and RC levels. In cases where the publication forums of the RC were clearly not represented by the WoS data, the Library of the University of Helsinki conducted a separate analysis of the publications. This was done for 66 RCs representing the humanities and social sciences.

The evaluation office also carried out an enquiry targeted to the supervisors and PhD candidates about the organisation of doctoral studies at the University of Helsinki. This and other documents describing the University and the Finnish higher education system were provided to the panellists.

The panel feedback for each RC is unique and presented as an entity. The first collective evaluation reports available for the whole panel were prepared in July–August 2011. The reports were accessible to all panel members via the electronic evaluation platform in August. Scoring from 1 to 5 was used to complement written feedback in association with evaluation questions 1–4 (scientific focus and quality, doctoral training, societal impact, cooperation) and in addition to the category evaluating the fitness for participation in the evaluation. Panellists used the international level as a point of comparison in the evaluation. Scoring was not expected to go along with a preset deviation.

Each of the draft reports were discussed and dealt with by the panel in meetings in Helsinki (from 11 September to 13 September or from 18 September to 20 September 2011). In these meetings the panels also examined the deviations among the scores and finalised the draft reports together.

The current RC-specific report deals shortly with the background of the evaluation and the terms of participation. The main evaluation feedback is provided in the evaluation report, organised according to the evaluation questions. The original material provided by the RCs for the panellists has been attached to these documents.
On behalf of the evaluation steering group and office, I sincerely wish to thank you warmly for your participation in this evaluation. The effort you made in submitting the data to TUHAT-RIS is gratefully acknowledged by the University. We wish that you find this panel feedback useful in many ways. The bibliometric profiles may open a new view on your publication forums and provide a perspective for discussion on your choice of forums. We especially hope that this evaluation report will help you in setting the future goals of your research.

Johanna Björkroth
Vice-Rector
Chair of the Steering Group of the Evaluation

Steering Group of the evaluation
Steering group, nominated by the Rector of the University, was responsible for the planning of the evaluation and its implementation having altogether 22 meetings between February 2010 and March 2012.

Chair
Vice-Rector, professor Johanna Björkroth

Vice-Chair
Professor Marja Airaksinen

Chief Information Specialist, Dr Maria Forsman
Professor Arto Mustajoki
University Lecturer, Dr Kirsi Pyhältö
Director of Strategic Planning and Development, Dr Ossi Tuomi
Doctoral candidate, MSocSc Jussi Vauhkonen
Panel members

**CHAIR**
Professor Ary A. Hoffman  
Ecological genetics, evolutionary biology, biodiversity conservation, zoology  
University of Melbourne, Australia

**VICE-CHAIR**
Professor Barbara Koch  
Forest Sciences, remote sensing  
University of Freiburg, Germany

Professor Per-Anders Hansson  
Agricultural engineering, modeling, life cycle analysis, bioenergy  
Swedish University of Agricultural Sciences

Professor Danny Huylebroeck  
Developmental biology  
Katholieke Universiteit Leuven, Belgium

Professor Jonathan King  
Virus assembly, protein folding  
Massachusetts Institute of Technology MIT, USA

Professor Hannu J.T. Korhonen  
Functional foods, dairy technology, milk hygiene  
MTT Agrifood Research Finland

Professor Kristlina Kruus  
Microbiological biotechnology, microbiological enzymes, applied microbiology  
VTT Technical Research Centre of Finland

Professor Joakim Lundeberg  
Biochemistry, biotechnology, sequencing, genomics  
KTH Royal Institute of Technology, Sweden

Professor Dominiek Maes  
Veterinary medicine  
Ghent University, Belgium

Professor Olli Saastamoinen  
Forest economics and policy  
University of Eastern Finland

Professor Kai Simons  
Biochemistry, molecular biology, cell biology  
Max-Planck-Institute of Molecular Cell Biology and Genetics, Germany

The panel, independently, evaluated all the submitted material and was responsible for the feedback of the RC-specific reports. The panel members were asked to confirm whether they had any conflict of interests with the RCs. If this was the case, the panel members disqualified themselves in discussion and report writing.

Added expertise to the evaluation was contributed by the members from the other panels and by one evaluator outside the panels.
External Expert  
Professor Anders Linde  
Oral biochemistry  
Faculty of Odontology  
Gothenburg University  
Sweden

Experts from the Other Panels  
Professor Caitlin Buck, from the Panel of Natural Sciences  
Professor Ritske Huismans, from the Panel of Natural Sciences  
Professor Johanna Ivaska, from the Panel of Medicine, biomedicine and health sciences  
Professor Lea Kauppi, from the Panel of Natural Sciences  
Professor Holger Stark, from the Panel of Natural Sciences  
Professor Peter York, from the Panel of Medicine, biomedicine and health sciences

EVALUATION OFFICE  
Dr Seppo Saari, Doc., Senior Adviser in Evaluation, was responsible for the entire evaluation, its planning and implementation and acted as an Editor-in-chief of the reports. 
Dr Eeva Sievi, Doc., Adviser, was responsible for the registration and evaluation material compilations for the panellists. She worked in the evaluation office from August 2010 to July 2011.  
MSocSc Paula Ranne, Planning Officer, was responsible for organising the panel meetings and all the other practical issues like agreements and fees and editing a part the RC-specific reports. She worked in the evaluation office from March 2011 to January 2012.  
Mr Antti Moilanen, Project Secretary, was responsible for editing the reports. He worked in the evaluation office from January 2012 to April 2012.

TUHAT OFFICE  
Provision of the publication and other scientific activity data  
Mrs Aija Kaitera, Project Manager of TUHAT-RIS served the project ex officio providing the evaluation project with the updated information from TUHAT-RIS. The TUHAT office assisted in mapping the publications with CWTS/University of Leiden.  
MA Liisa Ekebom, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation. She also assisted the UH/Library analyses.  
BA Liisa Jäppinen, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation.

HELSINKI UNIVERSITY LIBRARY  
Provision of the publication analyses  
Dr Maria Forsman, Chief Information Specialist in the Helsinki University Library, managed with her 10 colleagues the bibliometric analyses in humanities, social sciences and in other fields of sciences where CWTS analyses were not applicable.
Acronyms and abbreviations applied in the report

**External competitive funding**
- AF – Academy of Finland
- TEKES - Finnish Funding Agency for Technology and Innovation
- EU - European Union
- ERC - European Research Council
- International and national foundations
- FP7/6 etc. /Framework Programmes/Funding of European Commission

**Evaluation marks**
- Outstanding (5)
- Excellent (4)
- Very Good (3)
- Good (2)
- Sufficient (1)

**Abbreviations of Bibliometric Indicators**
- P - Number of publications
- TCS – Total number of citations
- MCS - Number of citations per publication, excluding self-citations
- PNC - Percentage of uncited publications
- MNCS - Field-normalized number of citations per publication
- MNJS - Field-normalized average journal impact
- THCP10 - Field-normalized proportion highly cited publications (top 10%)
- INT_COV - Internal coverage, the average amount of references covered by the WoS
- WoS – Thomson Reuters Web of Science Databases

**Participation category**
- Category 1. The research of the participating community represents the international cutting edge in its field.
- Category 2. The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.
- Category 3. The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation.
- Category 4. The research of the participating community represents an innovative opening.
- Category 5. The research of the participating community has a highly significant societal impact.

**Research focus areas of the University of Helsinki**
- Focus area 1: The basic structure, materials and natural resources of the physical world
- Focus area 2: The basic structure of life
- Focus area 3: The changing environment – clean water
- Focus area 4: The thinking and learning human being
- Focus area 5: Welfare and safety
- Focus area 6: Clinical research
- Focus area 7: Precise reasoning
- Focus area 8: Language and culture
- Focus area 9: Social justice
- Focus area 10: Globalisation and social change
1 Introduction to the Evaluation

1.1 RC-specific evaluation reports

The participants in the evaluation of research and doctoral training were Researcher Communities (hereafter referred to as the RC). The RC refers to the group of researchers who registered together in the evaluation of their research and doctoral training. Preconditions in forming RCs were stated in the Guidelines for the Participating Researcher Communities. The RCs defined themselves whether their compositions should be considered well-established or new.

It is essential to emphasise that the evaluation combines both meta-evaluation and traditional research assessment exercise and its focus is both on the research outcomes and procedures associated with research and doctoral training. The approach to the evaluation is enhancement-led where self-evaluation constituted the main information. The answers to the evaluation questions formed together with the information of publications and other scientific activities an entity that was to be reviewed as a whole.

The present evaluation recognizes and justifies the diversity of research practices and publication traditions. Traditional Research Assessment Exercises do not necessarily value high quality research with low volumes or research distinct from mainstream research. It is challenging to expose the diversity of research to fair comparison. To understand the essence of different research practices and to do justice to their diversity was one of the main challenges of the present evaluation method. Understanding the divergent starting points of the RCs demanded sensitivity from the evaluators.

1.2 Aims and objectives in the evaluation

The aims of the evaluation are as follows:

- to improve the level of research and doctoral training at the University of Helsinki and to raise their international profile in accordance with the University’s strategic policies. The improvement of doctoral training should be compared to the University’s policy.
- to enhance the research conducted at the University by taking into account the diversity, originality, multidisciplinary nature, success and field-specificity,
- to recognize the conditions and prerequisites under which excellent, original and high-impact research is carried out,
- to offer the academic community the opportunity to receive topical and versatile international peer feedback,
- to better recognize the University’s research potential.
- to exploit the University’s TUHAT research information system to enable transparency of publishing activities and in the production of reliable, comparable data.

1.3 Evaluation method

The evaluation can be considered as an enhancement-led evaluation. Instead of ranking, the main aim is to provide useful information for the enhancement of research and doctoral training of the participating RCs. The comparison should take into account each field of science and acknowledge their special character.

\[1\] The panellists did not read research reports or abstracts but instead, they evaluated answers to the evaluation questions, tables and compilations of publications, other scientific activities, bibliometrics or comparable analyses.
\[2\] Policies on doctoral degrees and other postgraduate degrees at the University of Helsinki.
The comparison produced information about the present status and factors that have lead to success. Also challenges in the operations and outcomes were recognized.

The evaluation approach has been designed to recognize better the significance and specific nature of researcher communities and research areas in the multidisciplinary top-level university. Furthermore, one of the aims of the evaluation is to bring to light those evaluation aspects that differ from the prevalent ones. Thus the views of various fields of research can be described and research arising from various starting points understood better. The doctoral training is integrated into the evaluation as a natural component related to research. Operational processes of doctoral training are being examined in the evaluation.

**Five stages of the evaluation method were:**
1. Registration – Stage 1
2. Self-evaluation – Stage 2
3. TUHAT\(^3\) compilations on publications and other scientific activities\(^4\)
4. External evaluation
5. Public reporting

### 1.4 Implementation of the external evaluation

**Five Evaluation Panels**

Five evaluation panels consisted of independent, renowned and highly respected experts. The main domains of the panels are:

1. biological, agricultural and veterinary sciences
2. medicine, biomedicine and health sciences
3. natural sciences
4. humanities
5. social sciences

The University invited 10 renowned scientists to act as chairs or vice-chairs of the five panels based on the suggestions of faculties and independent institutes. Besides leading the work of the panel, an additional role of the chairs was to discuss with other panel chairs in order to adopt a broadly similar approach. The panel chairs and vice-chairs had a pre-meeting on 27 May 2011 in Amsterdam.

The panel compositions were nominated by the Rector of the University 27 April 2011. The participating RCs suggested the panel members. The total number of panel members was 50. The reason for a smaller number of panellists as compared to the previous evaluations was the character of the evaluation as a meta-evaluation. The panellists did not read research reports or abstracts but instead, they evaluated answers to the evaluation questions, tables and compilations of publications, other scientific activities, bibliometrics and comparable analyses.

The panel meetings were held in Helsinki:

- On 11–13 September 2011: (1) biological, agricultural and veterinary sciences, (2) medicine, biomedicine and health sciences and (3) natural sciences.
- On 18–20 September 2011: (4) humanities and (5) social sciences.

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\(^3\) TUHAT (acronym) of Research Information System (RIS) of the University of Helsinki

\(^4\) Supervision of thesis, prizes and awards, editorial work and peer reviews, participation in committees, boards and networks and public appearances.
1.5 Evaluation material

The main material in the evaluation was the RCs' self-evaluations that were qualitative in character and allowed the RCs to choose what was important to mention or emphasise and what was left unmentioned.

The present evaluation is exceptional at least in the Finnish context because it is based on both the evaluation documentation (self-evaluation questions, publications and other scientific activities) and the bibliometric reports. All documents were delivered to the panellists for examination.

Traditional bibliometrics can be reasonably done mainly in medicine, biosciences and natural sciences when using the Web of Science database, for example. Bibliometrics, provided by CWTS/The Centre for Science and Technology Studies, University of Leiden, cover only the publications that include WoS identification in the TUHAT-RIS.

Traditional bibliometrics are seldom relevant in humanities and social sciences because the international comparable databases do not store every type of high quality research publications, such as books and monographs and scientific journals in other languages than English. The Helsinki University Library has done analysis to the RCs, if their publications were not well represented in the Web of Science databases (RCs should have at least 50 publications and internal coverage of publications more than 40%) - it meant 58 RCs. The bibliometric material for the evaluation panels was available in June 2011. The RC-specific bibliometric reports are attached at the end of each report.

The panels were provided with the evaluation material and all other necessary background information, such as the basic information about the University of Helsinki and the Finnish higher education system.

**Evaluation material**

1. Registration documents of the RCs for the background information
2. Self evaluation material – answers to the evaluation questions
3. Publications and other scientific activities based on the TUHAT RIS:
   3.1. statistics of publications
   3.2. list of publications
   3.3. statistics of other scientific activities
   3.4. list of other scientific activities
4. Bibliometrics and comparable analyses:
   4.1. Analyses of publications based on the verification of TUHAT-RIS publications with the Web of Science publications (CWTS/University of Leiden)
   4.2. Publication statistics analysed by the Helsinki University Library - mainly for humanities and social sciences
5. University level survey on doctoral training (August 2011)
6. University level analysis on publications 2005–2010 (August 2011) provided by CWTS/University of Leiden

**Background material**

University of Helsinki
- Basic information about the University of the Helsinki
- The structure of doctoral training at the University of Helsinki
- Previous evaluations of research at the University of Helsinki – links to the reports: [1998](#) and [2005](#)

The Finnish Universities/Research Institutes
- Finnish University system
- Evaluation of the Finnish National Innovation System
- The State and Quality of Scientific Research in Finland. Publication of the Academy of Finland 9/09.

The evaluation panels were provided also with other relevant material on request before the meetings in Helsinki.
1.6 Evaluation questions and material

The participating RCs answered the following evaluation questions which are presented according to the evaluation form. In addition, TUHAT RIS was used to provide the additional material as explained. For giving the feedback to the RCs, the panellists received the evaluation feedback form constructed in line with the evaluation questions:

1. Focus and quality of the RC’s research
- Description of
  - the RC’s research focus.
  - the quality of the RC’s research (incl. key research questions and results)
  - the scientific significance of the RC’s research in the research field(s)
- Identification of the ways to strengthen the focus and improve the quality of the RC’s research

The additional material: TUHAT compilation of the RC’s publications, analysis of the RC’s publications data (provided by University of Leiden and the Helsinki University Library)
A written feedback from the aspects of: scientific quality, scientific significance, societal impact, innovativeness
- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

2. Practises and quality of doctoral training
- Organising of the doctoral training in the RC. Description of the RC’s principles for:
  - recruitment and selection of doctoral candidates
  - supervision of doctoral candidates
  - collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes
  - good practises and quality assurance in doctoral training
- Identification of the RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.

The additional material: TUHAT compilation of the RC’s other scientific activities/supervision of doctoral dissertations
A written feedback from the aspects of: processes and good practices related to leadership and management
- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

3. The societal impact of research and doctoral training
- Description on how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).
- Identification of the ways to strengthen the societal impact of the RC’s research and doctoral training.

The additional material: TUHAT compilation of the RC’s other scientific activities.
A written feedback from the aspects of: societal impact, national and international collaboration, innovativeness
- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)
4. International and national (incl. intersectoral) research collaboration and researcher mobility
   ▪ Description of
     - the RC’s research collaborations and joint doctoral training activities
     - how the RC has promoted researcher mobility
   ▪ Identification of the RC’s strengths and challenges related to research collaboration and
     researcher mobility, and the actions planned for their development.
   A written feedback from the aspects of: scientific quality, national and international collaboration
   ▪ Strengths
   ▪ Areas of development
   ▪ Other remarks
   ▪ Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

5. Operational conditions
   ▪ Description of the operational conditions in the RC’s research environment (e.g. research
     infrastructure, balance between research and teaching duties).
   ▪ Identification of the RC’s strengths and challenges related to operational conditions, and the
     actions planned for their development.
   A written feedback from the aspects of: processes and good practices related to leadership and
     management
   ▪ Strengths
   ▪ Areas of development
   ▪ Other remarks
   ▪ Recommendations

6. Leadership and management in the researcher community
   ▪ Description of
     - the execution and processes of leadership in the RC
     - how the management-related responsibilities and roles are distributed in the RC
     - how the leadership- and management-related processes support
       - high quality research
       - collaboration between principal investigators and other researchers in the RC
       - the RC’s research focus
       - strengthening of the RC’s know-how
     - Identification of the RC’s strengths and challenges related to leadership and management, and
       the actions planned for developing the processes

7. External competitive funding of the RC
   ▪ The RCs were asked to provide information of such external competitive funding, where:
     - the funding decisions have been made during 1.1.2005-31.12.2010, and
     - the administrator of the funding is/has been the University of Helsinki
   ▪ On the e-form the RCs were asked to provide:
     1) The relevant funding source(s) from a given list (Academy of Finland/Research Council, TEKES/The
        Finnish Funding Agency for Technology and Innovation, EU, ERC, foundations, other national funding
        organisations, other international funding organisations), and
     2) The total sum of funding which the organisation in question had decided to allocate to the RCs

Competitive funding reported in the text is also to be considered when evaluating this point.
A written feedback from the aspects of: scientific quality, scientific significance, societal impact,
innovativeness, future significance
   ▪ Strengths
   ▪ Areas of development
   ▪ Other remarks
   ▪ Recommendations

8. The RC’s strategic action plan for 2011–2013
   ▪ RC’s description of their future perspectives in relation to research and doctoral training.
   A written feedback from the aspects of: scientific quality, scientific significance, societal impact, processes
   and good practices related to leadership and management, national and international collaboration,
   innovativeness, future significance
   ▪ Strengths
   ▪ Areas of development
9. Evaluation of the category of the RC in the context of entity of the evaluation material (1-8)

The RC’s fitness to the chosen participation category
A written feedback evaluating the RC’s fitness to the chosen participation category
- Strengths
- Areas of development
- Other remarks
- Recommendations

Numeric evaluation: OUTSTANDING (5), EXCELLENT (4), VERY GOOD (3), GOOD (2), SUFFICIENT (1)

10. Short description of how the RC members contributed the compilation of the stage 2 material
Comments on the compilation of evaluation material

11. How the UH’s focus areas are presented in the RC’s research?
Comments if applicable

12. RC-specific main recommendations based on the previous questions 1-11

13. RC-specific conclusions

1.7 Evaluation criteria

The panellists were expected to give evaluative and analytical feedback to each evaluation question according to their aspects in order to describe and justify the quality of the submitted material. In addition, the evaluation feedback was asked to be pointed out the level of the performance according to the following classifications:

- outstanding (5)
- excellent (4)
- very good (3)
- good (2)
- sufficient (1)

Evaluation according to the criteria was to be made with thorough consideration of the entire evaluation material of the RC in question. Finally, in questions 1-4 and 9, the panellists were expected to classify their written feedback into one of the provided levels (the levels included respective descriptions, ‘criteria’). Some panels used decimals in marks. The descriptive level was interpreted according to the integers and not rounding up the decimals by the editors.

Description of criteria levels

Question 1 – FOCUS AND QUALITY OF THE RC’S RESEARCH

Classification: Criteria (level of procedures and results)

Outstanding quality of procedures and results (5)
Outstandingly strong research, also from international perspective. Attracts great international interest with a wide impact, including publications in leading journals and/or monographs published by leading international publishing houses. The research has world leading qualities. The research focus, key research questions scientific significance, societal impact and innovativeness are of outstanding quality.

In cases where the research is of a national character and, in the judgement of the evaluators, should remain so, the concepts of “international attention” or “international impact” etc. in the grading criteria above may be replaced by “international comparability”.

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Operations and procedures are of outstanding quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are in alignment with the documentation. The ambition to develop the community together is of outstanding quality.

Excellent quality of procedures and results (4)
Research of excellent quality. Typically published with great impact, also internationally. Without doubt, the research has a leading position in its field in Finland.

Operations and procedures are of excellent quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of excellent quality.

Very good quality of procedures and results (3)
The research is of such very good quality that it attracts wide national and international attention.

Operations and procedures are of very good quality, transparent and shared in the community. The improvement of research and other efforts are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of very good quality.

Good quality of procedures and results (2)
Good research attracting mainly national attention but possessing international potential, extraordinarily high relevance may motivate good research.

Operations and procedures are of good quality, shared occasionally in the community. The improvement of research and other efforts are occasionally documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of good quality.

Sufficient quality of procedures and results (1)
In some cases the research is insufficient and reports do not gain wide circulation or do not have national or international attention. Research activities should be revised.

Operations and procedures are of sufficient quality, shared occasionally in the community. The improvement of research and other efforts are occasionally documented and operations and practices are to some extent in alignment with the documentation. The ambition to develop the community together is of sufficient quality.

Question 2 – DOCTORAL TRAINING
Question 3 – SOCIETAL IMPACT
Question 4 – COLLABORATION

Classification: Criteria (level of procedures and results)
Outstanding quality of procedures and results (5)
Procedures are of outstanding quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are in alignment with the documentation. The ambition to develop the community together is of outstanding quality. The procedures and results are regularly evaluated and the feedback has an effect on the planning.

Excellent quality of procedures and results (4)
Procedures are of excellent quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of excellent quality. The procedures and outcomes are evaluated and the feedback has an effect on the planning.

Very good quality of procedures and results (3)
Procedures are of very good quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and
management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of very good quality.

**Good quality of procedures and results (2)**

Procedures are of good quality, shared occasionally in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are documented and operations and practices are to large extent in alignment with the documentation. The ambition to develop the community together is of good quality.

**Sufficient quality of procedures and results (1)**

Procedures are of sufficient quality, transparent and shared in the community. The practices and quality of doctoral training/societal impact/international and national collaboration/leadership and management are occasionally documented and operations and practices are to some extent in alignment with the documentation. The ambition to develop the community together is of sufficient quality.

**Question 9 – CATEGORY**

**Participation category – fitness for the category chosen**

The choice and justification for the chosen category below should be reflected in the RC’s responses to the evaluation questions 1–8.

1. *The research of the participating community represents the international cutting edge in its field.*
2. *The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.*
3. *The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation.* The research is of high quality and has great significance and impact in its field. However, the generally used research evaluation methods do not necessarily shed sufficient light on the merits of the research.
4. *The research of the participating community represents an innovative opening.* A new opening can be an innovative combination of research fields, or it can be proven to have a special social, national or international demand or other significance. Even if the researcher community in its present composition has yet to obtain proof of international success, its members can produce convincing evidence of the high level of their previous research.
5. *The research of the participating community has a highly significant societal impact.* The participating researcher community is able to justify the high social significance of its research. The research may relate to national legislation, media visibility or participation in social debate, or other activities promoting social development and human welfare. In addition to having societal impact, the research must be of a high standard.

**An example of outstanding fitness for category choice (5)**

The RC’s representation and argumentation for the chosen category were convincing. The RC recognized its real capacity and apparent outcomes in a wider context to the research communities. The specific character of the RC was well-recognized and well stated in the responses. The RC fitted optimally for the category.

- Outstanding (5)
- Excellent (4)
- Very good (3)
- Good (2)
- Sufficient (1)

The above-mentioned definition of outstanding was only an example in order to assist the panellists in the positioning of the classification. There was no exact definition for the category fitness.

---

5 The panels discussed the category fitness and made the final conclusions of the interpretation of it.
1.8 Timetable of the evaluation

The main timetable of the evaluation:

1. Registration   November 2010
3. External peer review    May–September 2011
4. Published reports       March–April 2012
   - University level public report
   - RC specific reports

The entire evaluation was implemented during the university’s strategy period 2010–2012. The preliminary results were available for the planning of the following strategy period in late autumn 2011. The evaluation reports will be published in March/April 2012. More detailed time schedule is published in the University report.

1.9 Evaluation feedback – consensus of the entire panel

The panellists evaluated all the RC-specific material before the meetings in Helsinki and mailed the draft reports to the evaluation office. The latest interim versions were on-line available to all the panellists on the Wiki-sites. In September 2011, in Helsinki the panels discussed the material, revised the first draft reports and decided the final numeric evaluation. After the meetings in Helsinki, the panels continued working and finalised the reports before the end of November 2011. The final RC-specific reports are the consensus of the entire panel.

The evaluation reports were written by the panels independently. During the editing process, the evaluation office requested some clarifications from the panels when necessary. The tone and style in the reports were not harmonized in the editing process. All the reports follow the original texts written by the panels as far as it was possible.

The original evaluation material of the RCs, provided for the panellists is attached at the end of the report. It is essential to notice that the exported lists of publications and other scientific activities depend how the data was stored in the TUHAT-RIS by the RCs.
2 Evaluation feedback

2.1 Focus and quality of the RC’s research

- Description of
  - the RC’s research focus
  - the quality of the RC’s research (incl. key research questions and results)
  - the scientific significance of the RC’s research in the research field(s)
- Identification of the ways to strengthen the focus and improve the quality of the RC’s research

ASPECTS: Scientific quality, scientific significance, societal impact, innovativeness

The RC’s research focus is on natural bioactive compounds in bovine milk and their potential health effects in humans and also cattle. The particular research interest is in organic farming with forage legumes which are sources of isoflavonoids with estrogen-like activity. In Finland, red clover is the predominant legume cultivated on organic dairy farms and therefore the milk from such farms makes an interesting research topic.

The RC is composed of researchers from three departments of the University of Helsinki (UH) with different scientific disciplines, notably organic chemistry, veterinary medicine and animal nutrition. This multidisciplinary expertise adds to the high quality of the scientific outputs by the RC. The PIs of the RC are internationally acclaimed scientists and the groups have published regularly in peer-reviewed journals.

It should be noted, however, that not all the papers published by the RC are related to the topic on milk bioactives linking the groups under the RC. The research carried out by the RC is mainly basic and until now, a limited number of scientific papers has been published by the RC about the possible health effects of milk bioactives under research. It is not clear how much the RC is pursuing in vivo studies about milk bioactives, but on the other hand good results would have tremendous scientific and especially societal impact.

The RC’s joint research topic on novel milk bioactive compounds is highly innovative but real breakthrough results are still to be generated. Therefore, it is difficult to assess the scientific importance of the RC’s work in this field.

The RC has pointed out difficulties to raise funds to upgrade the standard of laboratory equipment. This problem is likely to impair the quality of research to some extent.

Although the general research aims are clear and important for the society, the focus of the RC is quite diverse: Human and animal health, human and animal welfare, basic structure of materials and natural resources, etc. One of the major aims is to study healthy aging of humans. Cooperation with human medicine or nutrition groups would potentially add more focus to the RC’s work and possibilities to achieve the aims.

Numeric evaluation: 2.5 (Good)

2.2 Practises and quality of doctoral training

- Organising of the doctoral training in the RC. Description of the RC’s principles for:
  - recruitment and selection of doctoral candidates
  - supervision of doctoral candidates
  - collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes
  - good practises and quality assurance in doctoral training
  - assuring of good career perspectives for the doctoral candidates/fresh doctorates
- Identification of the RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.
The RC has established very good procedures in doctoral training but it is not clear whether they are applied equally to all candidates. Good practices include supervision by a professor and a younger researcher, annual progress evaluation by a committee, annual participation in international meetings and external supervisor or mentor from a foreign university. Career development of doctoral students after graduation with PhD degree is not clearly described and needs clarification.

Doctoral students are mentioned to be members of national graduate schools and they attend courses organized by national doctoral programs. It is not indicated whether all these students are members of graduate schools, which schools and how the students are funded. This needs further discussion.

The strength of RC's doctoral training is the multidisciplinary environment and scientifically highly qualified supervisors. A major challenge seems to be limitations in international mobility and networking especially with the numerous EU working groups they are involved in.

At present, the RC has 15 doctoral candidates. It is not known how many of these candidates are working on the topic milk bioactives and how many on other topics.

2.3 The societal impact of research and doctoral training

- Description on how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).
- Identification of the ways to strengthen the societal impact of the RC's research and doctoral training.
- Additional material: TUHAT compilation of the RC's other scientific activities.

The RC has shown a good visibility within the public community, as indicated by references made to national press, TV, and good contact to private companies and advisory services in the field. It is highlighted in the evaluation material that the RC's research has potentially a notable social and economic impact on the society and wellbeing of individuals. This remains to be demonstrated in the future, as at present the research is still basic by nature. The societal impact of the RC's work is not described very clearly. The text is more what is planned rather than what has been achieved so far by the RC.

For doctoral training, to create a list of alumni would be useful in order to see how the fresh doctors find good jobs in food industry or somewhere else. Doctoral training could then be better focused to optimize it in relation to job possibilities.

2.4 International and national (incl. intersectoral) research collaboration and researcher mobility

- Description of
  - the RC’s research collaborations and joint doctoral training activities
  - how the RC has promoted researcher mobility
- Identification of the RC’s strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.

According to the material provided by the RC, it has excellent relations with MTT Agrifood Research Finland and collaborations with research groups in the UK and USA, as well as contacts in the Nordic
countries. Short term visits have been arranged to above mentioned collaborating institutions. It appears that national and international research cooperation can still be improved and it is not pursued as a policy measure, though senior PI’s personally have good international networks. In the European network, a clear procedure for student exchange in both directions should be established within the next evaluation period.

It seems that the doctoral students are not requested by routine to engage in international co-operation or exchange as part of their training schedule.

The RC’s strength in international and national collaboration is based on good individual networking of the PI’s, but a more structural collaboration is needed. The challenge seems to be the shortage of funding. Part of the limited international collaboration or the lack of a structural basis for that may be due to the fact that the RC probably is the only group in the world with this specific research focus.

**Numeric evaluation: 2.5 (Good)**

### 2.5 Operational conditions

- **Description of the operational conditions in the RC’s research environment (e.g. research infrastructure, balance between research and teaching duties).**
- **Identification of the RC’s strengths and challenges related to operational conditions, and the actions planned for their development.**

**ASPECTS: Processes and good practices related to leadership and management**

The RC has a modern and suitable infrastructure at disposal, albeit not all up-to-date research facilities at the Viikki and Kumpula Campuses. The combination of the facilities of three departments has been an effective and economic way to allow expensive animal studies. The instrumental equipment is at a very high level and fulfills many criteria for modern analytics. Since maintaining state-of-the-art equipment seems difficult, the faculty may get some general support in this respect from the UH.

**Comment**

The facilities are also used (frequently) by other research groups. So, good agreements between the RCs are necessary, especially if long lasting trials with animals are taking place.

### 2.6 Leadership and management in the researcher community

- **Description of**
  - the execution and processes of leadership in the RC
  - how the management-related responsibilities and roles are distributed in the RC
  - how the leadership- and management-related processes support
    - high quality research
    - collaboration between principal investigators and other researchers in the RC
    - the RC’s research focus
    - strengthening of the RC’s know-how
- **Identification of the RC’s strengths and challenges related to leadership and management, and the actions planned for developing the processes**

**ASPECTS: Processes and good practices related to leadership and management**

The RC has a management committee consisting of PI’s from each of the three departments: Each PI is responsible for the management and leadership issues in his or her own section. The committee has regular meetings and evaluates also the quality of the research performed by the RC. As long as all decisions can be made in a friendly and cooperative way there is no problem. The organizational structure for conflict cases has to be managed and fixed in advance.

According to the opinion of the RC, the above system has worked smoothly and the management committee has been operating very efficiently. Smooth management seems to be the strength of the RC.
The challenges pointed out by the RC are 1) lack of assistance from the UH regarding application on international funding and 2) heavy teaching load in addition to research and supervisory duties.

To improve the above situation, the RC suggests recruitment of a (full-time) PhD-level coordinator. This issue needs further discussions since the size of this RC would not recommend a coordinator on its own, whereas for some RCs in combination, this may be highly useful, especially since some teaching activities with overlap can be reduced and the need on innovative topics may be seen more easily.

Comment
The RC is rather small, which has the advantage that it is easier to manage, and that decisions can be made faster. However, it is important to have a sufficient critical mass of researchers on one specific research topic, so that the researchers can complement each other.

2.7 External competitive funding of the RC

• The RCs were asked to provide information of such external competitive funding, where:
  • the funding decisions have been made during 1.1.2005–31.12.2010, and
  • the administrator of the funding is/has been the University of Helsinki
• On the e-form the RCs were asked to provide:
  1) The relevant funding source(s) from a given list (Academy of Finland/Research Council, TEKES/The Finnish Funding Agency for Technology and Innovation, EU, ERC, foundations, other national funding organisations, other international funding organizations), and
  2) The total sum of funding which the organisation in question had decided to allocate to the RCs members during 1.1.2005–31.12.2010.

Competitive funding reported in the text is also to be considered when evaluating this point.
ASPECTS: Scientific quality, scientific significance, societal impact, innovativeness and future significance

The RC has received public and private funding from many national and international sources: The Ministry of Agriculture and Forestry, Academy of Finland, the Finnish Funding Agency for Technology and Innovation (Tekes), EU, Finnish foundations and private companies. The funds obtained are not substantial but the diversity of funding sources would reflect on good networking and high quality of research produced by the RC. EU funding helps greatly for the international visibility, it is at a good level and should be pursued further in the future.

2.8 The RC’s strategic action plan for 2011–2013

• RC’s description of their future perspectives in relation to research and doctoral training.
ASPECTS: Scientific quality, scientific significance, societal impact, processes and good practices related to leadership and management, national and international collaboration, innovativeness, future significance

The RC’s strategic plan seems to focus on basic research regarding the metabolism of bioactive compounds of milk in cows and humans. Details are not disclosed and it is difficult to assess the plan further, if it exists.
2.9 Evaluation of the category of the RC in the context of entity of the evaluation material (1-8)

The RC’s fitness to the chosen participation category.

Category 4. The research of the participating community represents an innovative opening.

The RC has selected participation category 4 (‘The research of the participating community represents an innovative opening’) and gives as justification that the RC represents an innovative opening in research areas organic production, organic chemistry, animal health and healthy ageing among elderly people.

The material provided by the RC would support the above selection.

Comment
The RC’s output and plans for the future suggest that category 3 (‘The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation’) would give the best fit. This would also better meet the numerical evaluation 3.

Numeric evaluation: 3 (Very good)

2.10 Short description of how the RC members contributed the compilation of the stage 2 material

The processes employed were fair and appropriate with the involvement of all responsible persons.

2.11 How the UH’s focus areas are presented in the RC’s research

Focus area 1: the basic structure, materials and natural resources of the physical world

The relevant focus areas are covered by the chosen scientific fields of the RC.

2.12 RC-specific main recommendations

The RC’s research focus is bioactive compounds in milk and the target healthy aging of humans. This concept should be defined in a more specific manner and showing clearly the target and research tasks planned for the coming years.

International cooperation is substantial but requires a more coherent structure and approach, also with regard to doctoral training.

The leadership and management of the RC could still be improved by a part time coordinator but separate funding is likely to be an obstacle, unless an EU project is anticipated.

More EU funding should be pursued to increase international networking, visibility and mobility of doctoral students.

2.13 RC-specific conclusions

The quality of the RC’s research is very good, approach being more basic than applied. Senior PI’s have are distinguished researchers with variable special expertise, which allows interdisciplinary and multidisciplinary research. This collaboration is highly encouraged as it has good potential to generate
outstanding and innovative science provided that more efforts are put to coherent collaboration and coordination of joint research activities.

The societal impact of the RC’s research is still quite marginal, though it has quite good visibility.

Doctoral training is well established with help of the graduate schools and qualified supervisors but it needs a more uniform structure for all doctoral students. The output of doctoral training is still marginal.

International cooperation is based more on personal networking than a coordinated system, this applies also to doctoral training.

Leadership and management seem to be functioning smoothly but could benefit from a part time coordinator running the RC’s operations.

2.14 Preliminary findings in the Panel-specific feedback

The RC is multidisciplinary led by internationally reputed PI’s.

The RC’s research in specific research fields run by the PI’s is of high quality and innovative but the approach and target of joint research needs focusing.

The societal impact is marginal as yet, though the work has some good visibility.

Doctoral training is quite well established but needs streamlining with regard to recruitment procedures and funding of doctoral students.

International cooperation is commendable by individual PI’s but not systematic and coordinated, it needs strengthening and more focus.

Research funding is quite scattered, more EU funding should be pursued.

2.15 Preliminary findings in the University-level evaluation

The RC is multidisciplinary and has excellent potential to produce cutting-edge research but the output of joint research is still marginal and societal impact cannot be recognized.

Doctoral training is arranged individually and no fixed procedures are followed unless the doctoral students are recruited through graduate schools. This needs streamlining.

International cooperation is based on individual PI’s networking, which is provided also to doctoral students but could be improved.
3 Appendices

A. Original evaluation material
   a. Registration material – Stage 1
   b. Answers to evaluation questions – Stage 2
   c. List of publications
   d. List of other scientific activities

B. Bibliometric analyses
   a. Analysis provided by CWTS/University of Leiden
   b. Analysis provided by Helsinki University Library (66 RCs)
NAME OF THE RESEARCHER COMMUNITY:
Home-grown feeds, milk and healthy aging (LEGMILK)

LEADER OF THE RESEARCHER COMMUNITY:
Professor Kristiina Wähälä, Laboratory of Organic Chemistry, Department of Chemistry, Faculty of Science

RC-SPECIFIC MATERIAL FOR THE PEER REVIEW:

- Material submitted by the RC at stages 1 and 2 of the evaluation
  - STAGE 1 material: RC’s registration form (incl. list of RC participants in an excel table)
  - STAGE 2 material: RC’s answers to evaluation questions
- TUHAT compilations of the RC members’ other scientific activities 1.1.2005-31.12.2010
  (analysis carried out by CWTS, Leiden University)

NB! Since Web of Science(WoS)-based bibliometrics does not provide representative results for most RCs representing humanities, social sciences and computer sciences, the publications of these RCs will be analyzed by the UH Library
(results available by the end of June, 2011)
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 1 MATERIAL (registration form)

1 RESPONSIBLE PERSON

Name: Wähälä, Kristiina
E-mail:
Phone: +358 50 521 9927 or 191 50356
Affiliation: Univ of Helsinki Dept of Chemistry
Street address: A.I. Virtasen aukio 1

2 DESCRIPTION OF THE PARTICIPATING RESEARCHER COMMUNITY (RC)

Name of the participating RC (max. 30 characters): Home-grown feeds, milk and healthy aging
Acronym for the participating RC (max. 10 characters): LEGMILK
Description of the operational basis in 2005-2010 (eg. research collaboration, joint doctoral training activities) on which the RC was formed (MAX. 2200 characters with spaces): Innovative combination of research areas. Multidisciplinary research where all contributing researchers are international level experts in their fields. This research would not be possible without this conglomeration and makes possible multidisciplinary doctoral training.

3 SCIENTIFIC FIELDS OF THE RC

Main scientific field of the RC’s research: biological, agricultural and veterinary sciences
RC’s scientific subfield 1: Chemistry, Organic
RC’s scientific subfield 2: Agriculture, Dairy and Animal Science
RC’s scientific subfield 3: Veterinary Sciences
RC’s scientific subfield 4: Chemistry, Medicinal
Other, if not in the list: Molecular chemistry in life science
Organic analysis
Spectrometry

4 RC'S PARTICIPATION CATEGORY

Participation category: 4. Research of the participating community represents an innovative opening
Justification for the selected participation category (MAX. 2200 characters with spaces): Innovative combination of research areas: "organic" production (luomutuotanto), organic chemistry, animal health and healthy ageing among elderly. Our common aim is understand at a molecular level the effects of organic home-grow feeds (eg silage), animal health, composition of milk and healthy aging of humans. Objectives of the research are to create new knowledge by new multidisciplinary collaborative research in order to promote healthy aging. In relation to societal impacts it is expected that this research will

1
Contribute to public health by developing a feeding strategy to monitor and regulate certain key organic compounds in milk to be used as a raw material in Finnish food industry.

**Description of the RC’s research and doctoral training**

Consortium of Laboratory of Organic Chemistry in Department of Chemistry, Departments of Agricultural Sciences and Production Animal Medicine aims to investigate natural organic chemical compounds in milk, and its health effects, either positive or negative, on humans and also on ruminants. In cattle nutrition, forage plants (grasses and legumes) and small grains have an essential role. Our interest is particularly in organic farming with forage legumes which are important due to their capability to bind nitrogen from air. In Finland, red clover is the predominant legume cultivated in organic dairy farms and we are studying the milk from such production.

**Significance of the RC’s research and doctoral training for the University of Helsinki**

We are the only multidisciplinary group working in this field which gives us unique possibilities to produce multifaceted results in our field in the whole world and in this way conduct innovative research of excellent quality. Naturally this will also bring visibility to Univ of Helsinki at the society at large.

**Keywords:** analysis, cow, milk, plasma, urine, small grain, legumes, isoflavonoids, lignans, metabolism, cancer cell studies, genotypes, stereoisomers, virtual screening, synthesis, feeding study, cultivation, health effects, nutraceuticals, aging

**Justified estimate of the quality of the RC’s research and doctoral training at national and international level during 2005-2010**

The participants have already shown their capability of collaboration by numerous scientific papers in international peer-reviewed journals and conference reports and invited talks. Number of Ph.D. thesis are due within the near future. This research community has not been funded as consortium nevertheless been able to carry out and report research.

**Comments on how the RC’s scientific productivity and doctoral training should be evaluated**

Site visits, video conference, peer-review.
<table>
<thead>
<tr>
<th>Last name</th>
<th>First name</th>
<th>PI-status (TUHAT, 29.11.2010)</th>
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<td>Braune</td>
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<td>Deb</td>
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<td>Wähälä</td>
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<td>Taponen</td>
<td>Juhani</td>
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INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

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<th>BACKGROUND INFORMATION</th>
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<tr>
<td>Name of the RC’s responsible person: Wähälä, Kristiina</td>
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<tr>
<td>E-mail of the RC’s responsible person:</td>
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<tr>
<td>Name and acronym of the participating RC: Home-grown feeds, milk and healthy aging, LEGMILK</td>
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<tr>
<td>The RC’s research represents the following key focus area of UH: 1. Maailman perusrakenne, materiaalit ja luonnonvarat – The basic structure, materials and natural resources of the physical world</td>
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<tr>
<td>Comments for selecting/not selecting the key focus area: This multidisciplinary research aims at improving the human and animal welfare and the safety aspects of food in healthy aging of our population. This field of research is also internationally societally relevant. The scientific expertise of the participating scientists and the infrastructure of the departments support this key focus area.</td>
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<tr>
<th>1 FOCUS AND QUALITY OF RC’S RESEARCH (MAX. 8800 CHARACTERS WITH SPACES)</th>
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<tr>
<td>• Description of the RC’s research focus, the quality of the RC’s research (incl. key research questions and results) and the scientific significance of the RC’s research for the research field(s).</td>
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<tr>
<td>RC’s research focus</td>
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<td>Objectives of the research are to create new knowledge in new multidisciplinary collaborative research in order to promote healthy aging. In relation to societal impacts it is expected that this research will contribute to public health in the long run by identifying new bioactive compounds in milk and by developing a feeding strategy to regulate these compounds in milk to be used as a raw material in Finnish food industry.</td>
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<tr>
<td>The early results from the RC’s work have been accepted for publication in highly respected journals such as the British Journal of Nutrition, Journal of Organic Chemistry, Molecular Nutrition and Food Research, etc.</td>
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<tr>
<td>Scientific significance of the RC’s research</td>
</tr>
<tr>
<td>We are the only multidisciplinary group working in this field which gives us unique possibilities to produce multifaceted results in our field in the whole world and in this way conduct innovative research of excellent quality. Naturally this will also bring visibility to Univ of Helsinki at the society at large.</td>
</tr>
<tr>
<td>Ways to strengthen the focus and improve the quality of the RC’s research.</td>
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<tr>
<td>The data produced so far have been collected from research projects focused on other research issues and therefore animal studies conducted so far are not designed for this particular purpose. We have applied funding to establish a larger project to continue in this field and if successful we will be able to answer to a more specific questions from the point of view of this topic.</td>
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<tr>
<td>At present it is difficult to raise funding to upgrade standard laboratory equipment (in the order &lt;150000).</td>
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</tbody>
</table>
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

2 PRACTISES AND QUALITY OF DOCTORAL TRAINING (MAX. 8800 CHARACTERS WITH SPACES)

- How is doctoral training organised in the RC? Description of the RC’s principles for recruitment and selection of doctoral candidates, supervision of doctoral candidates, collaboration with faculties, departments/institutes, and potential graduate schools/doctoral programmes, good practises and quality assurance in doctoral training, and assuring good career perspectives for the doctoral candidates/fresh doctorates.

recruitment: by international applications; applicants having highly successful study history, English proficiency, motivation, seriousness of purpose

supervision every postgraduate is supervised by a professor aided by a younger staff member

collaboration annual progress evaluation is carried out by two professors from two different faculties or departments; student progress is followed in monthly sessions where all principal investigators and students are present. Doctoral candidates are members of national graduate schools and attend courses organized by national doctoral programs

good practices... annual development discussions provide a tool to maintain the quality of training. Students are encouraged to participate in international training and mobility. Students are expected to participate annually in international meetings and present their research. Some of our students have an external supervisor or mentor from a foreign university. Prof. Wähälä is involved in several EU working groups where the third cycle doctoral studies and generic skills are discussed.

assuring... Connections with prospective employers are maintained to keep abreast with the knowledge and skills expected of fresh doctorates entering the job market

- RC’s strengths and challenges related to the practises and quality of doctoral training, and the actions planned for their development.

As the RC is a multidisciplinary and international consortium the PhD student will learn to work in a multidisciplinary and multicultural environment. This will also motivate them in their research since they see how they are forming a part of the general machinery.

3 SOCIETAL IMPACT OF RESEARCH AND DOCTORAL TRAINING (MAX. 4400 CHARACTERS WITH SPACES)

- Description of how the RC interacts with and contributes to the society (collaboration with public, private and/or 3rd sector).

The research of this RC has aroused much interest in the national press (METRO newspaper; health/sports magazine YOU) and TV (Akuutti). This work has potentially a notable social and economic impact on the society and wellbeing of individuals. One of our principal investigators has good contacts with private companies and advisory services in this field. Thus it is possible to get promising research results in practical use in terms of producing milk containing novel bioactive compounds in dairy farms.

- Ways to strengthen the societal impact of the RC’s research and doctoral training.

Improving research funding will strengthen the societal impact.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

4 INTERNATIONAL AND NATIONAL (INCL. INTERSECTORAL) RESEARCH COLLABORATION AND RESEARCHER MOBILITY (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the RC’s research collaborations and joint doctoral training activities and how the RC has promoted researcher mobility.

We have excellent research collaboration with MTT ((Agrifood Research Finland)), and collaborations with research groups in the UK and USA, as well as contacts within the Nordic countries. Doctoral students and principal investigators have made short term visits to collaborating institutes. Funding for this mobility is being applied.

- RC’s strengths and challenges related to research collaboration and researcher mobility, and the actions planned for their development.

The strength of the RC is in how the knowledge and skills of the partners complement each other, but limitations of funding for researcher mobility is the main challenge at present. EU money will be sought but we will need to find funding for mobility to the USA.

5 OPERATIONAL CONDITIONS (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the operational conditions in the RC’s research environment (e.g. research infrastructure, balance between research and teaching duties).

We have combined existing facilities and research projects of the three departments in an effective and innovative way. Physiological studies to follow the fate of natural organic compounds in dairy cows are conducted at Department of Agricultural Sciences, which has completely renovated facilities for a dairy research herd of 60 cows including also place and equipment for metabolic studies as well as a laboratory equipped for general feed analyses. As animal experimentation with large farm animals is very expensive we have taken full advantage from the on-going studies, where legume feeding-derived milk has been produced.

- RC’s strengths and challenges related to operational conditions, and the actions planned for their development.

We have an excellent multidisciplinary group which has shown that dairy milk contains highly interesting organic compounds which can be controlled with fodder originating from organic farming. These compounds have proved to possess clear health effects. The Lab. of org. chem. is well equipped for the synthesis and identification of new potential metabolites from biological samples including NMR, IR, UV, MS-MS, LC-NMR. Lab. has HPLC instruments equipped with a wide range of detection methods for both qualitative and quantitative analysis. The partners from the Fac. of Veterinary Med. have a long experience in different long-duration sampling experiments. The laboratory is well equipped with several instruments for analysis with various detection units. The biological studies and human studies will be conducted by our international collaborators. One of the strengths of the laboratory of organic chemistry is their ability to provide enantiopure compounds in their natural form. Our international collaborators are world famous in their field. Fred Hutchinson Cancer Research Center has been
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

6 LEADERSHIP AND MANAGEMENT IN THE RESEARCHER COMMUNITY (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the execution and processes of leadership in the RC, how the management-related responsibilities and roles are distributed in the RC and how the leadership- and management-related processes support high quality research, collaboration between principal investigators and other researchers in the RC, the RC’s research focus and strengthening of the RC’s know-how.

The management committee consists of the principal investigators from each of the three Departments. Each principal investigator is responsible for the management and leadership issues in his or her own section. The committee will meet several times annually and assess the quality of research carried out, collaborative issues, research focus, and strengthening the know-how. The management committee will also prepare the joint grant application.

- RC’s strengths and challenges related to leadership and management, and the actions planned for developing the processes.

So far the system has worked smoothly and the management committee has been operating very efficiently. For international grant applications it would be helpful to have assistance from the university administration, not only people who can take care of budgets but who can check that the application has the structure and key words to be successful.

In the future, the management committee will require a PhD-level fulltime coordinator, because the committee members have a heavy teaching load in addition to their research and supervisory duties. Regular team meetings between the research groups working at the three Departments are essential for the progress and follow-up of research in order to achieve the commonly set research targets.

7 EXTERNAL COMPETITIVE FUNDING OF THE RC

- Listing of the RC’s external competitive funding, where:
  - the funding decisions have been made during 1.1.2005-31.12.2010, and
  - the administrator of the funding is/has been the University of Helsinki

- Academy of Finland (AF) - total amount of funding (in euros) AF has decided to allocate to the RC members during 1.1.2005-31.12.2010: 283010

- Finnish Funding Agency for Technology and Innovation (TEKES) - total amount of funding (in euros) TEKES has decided to allocate to the RC members during 1.1.2005-31.12.2010: 479 300

- European Union (EU) - total amount of funding (in euros) EU has decided to allocate to the RC members during 1.1.2005-31.12.2010: 420744

- European Research Council (ERC) - total amount of funding (in euros) ERC has decided to allocate to the RC members during 1.1.2005-31.12.2010:

- International and national foundations - names of international and national foundations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the foundations: Magnus Ehrnrooth, Wihuri, CIMO, NOVA, August
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

- Johannes ja Aino Tiuran säätö, Raisio Oyj:n tutkimussäätiö, Univ. of Helsinki
- total amount of funding (in euros) from the above-mentioned foundations: **284 400**

- Other international funding - names of other international funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the funding organizations:
  - total amount of funding (in euros) from the above-mentioned funding organizations:

- Other national funding (incl. EVO funding and Ministry of Education and Culture funded doctoral programme positions) - names of other national funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
  - names of the funding organizations: MMM, Valio, Huoltovarmuuskeskus
  - total amount of funding (in euros) from the above-mentioned funding organizations: **287 000**

<table>
<thead>
<tr>
<th>8 RC’S STRATEGIC ACTION PLAN FOR 2011–2013 (MAX. 4400 CHARACTERS WITH SPACES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of the RC’s future perspectives in respect to research and doctoral training.</td>
</tr>
<tr>
<td>The research is basic research and will provide knowledge of the metabolism of natural organic compounds in cows and humans and further the content of metabolites in cow milk. Most of the compounds studied in this project are new and they have not been studied in milk or in biological studies. The biological activity of the new metabolites will be tested by the international collaborators in the connection of health aspects in humans and particularly in prevention of breast and prostate cancers. Most importantly, the results will show how the contents of milk can be modified towards the prevention of chronic diseases in life long consumption. Also the new metabolites will enable the biological studies in pure compounds.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9 SHORT DESCRIPTION OF HOW THE RC MEMBERS HAVE CONTRIBUTED TO THE COMPILATION OF THE STAGE 2 MATERIALS (MAX. 1100 CHARACTERS WITH SPACES).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal investigators have jointly provided the information and text to this Stage 2 form, and all Ph.D students and post docs have been asked to take care of their own data in the TUHAT database.</td>
</tr>
</tbody>
</table>
1 Analysis of publications

<table>
<thead>
<tr>
<th>Publication type</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Total Count 2005 - 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Refereed journal article</td>
<td>12</td>
<td>23</td>
<td>14</td>
<td>20</td>
<td>15</td>
<td>14</td>
<td>98</td>
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<tr>
<td>A3 Contribution to book/other compilations (refereed)</td>
<td>1</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>A4 Article in conference publication (refereed)</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>B1 Unrefereed journal article</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>B3 Unrefereed article in conference proceedings</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>C2 Edited book, compilation, conference proceeding or special issue of journal</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>D1 Article in professional journal</td>
<td>4</td>
<td>1</td>
<td></td>
<td>2</td>
<td>1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>D2 Article in professional hand or guide book or in a professional data system, or text book material</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>E1 Popular article, newspaper article</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>E1 Popular contribution to book/other compilations</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>H1 Patents</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
2 Listing of publications

A1 Refereed journal article

2005


Kiuru, PS, Wähälä, K 2005, 'Microwave-assisted synthesis of deuterium labeled estrogen fatty acid esters', Steroids, vol 71, no. 1, pp. 54-60.


2006


2008


Punsainen, P, Tuori, M 2008, ‘Effect of ensiling field bean, field pea and common vetch in different proportions with whole-crop wheat using formic acid or an insulant on fermentation characteristics’, *Grass and Forage Science*, vol 63, no. 1, pp. 60-78.


Tseng, M, Olufade, T, Kurzer, MS, Wähälä, K, Fang, CY, Schouw, YTVD, Daly, MB 2008, ‘Food-frequency questionnaires and overnight urine samples are valid indicators of daidzein and genistein intake in U.S. women relative to multiple 24-h urine samples’, *Nutrition and Cancer, vol* 60, no. 5, pp. 619-626.


2009


2010


A3 Contribution to book/other compilations (refereed)

2005

2006


2007


2008


2010

Ad Article in conference publication (referred)

2005

2007


2008
2005


2009


2006


INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

LEGMILK/Wähälä


2007


2008


2009


2010


C2 Edited book, compilation, conference proceeding or special issue of journal

2005


2007


2010


2010


INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

LEGMILK/Wähälä

D1 Article in professional journal

2005

2006

2009


2010

D2 Article in professional hand or guide book or in a professional data system, or text book material

2008

2010

E1 Popular article, newspaper article

2005


2006


INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

LEGMILK/Wähälä

2007

2008

2009

2010

E1 Popular contribution to book/other compilations

2005

H1 Patents

2008

2009

2010
1 Analysis of activities 2005-2010

<table>
<thead>
<tr>
<th>Activity type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor or co-supervisor of doctoral thesis</td>
<td>13</td>
</tr>
<tr>
<td>Prizes and awards</td>
<td>1</td>
</tr>
<tr>
<td>Editor of research journal</td>
<td>24</td>
</tr>
<tr>
<td>Peer review of manuscripts</td>
<td>14</td>
</tr>
<tr>
<td>Editor of series</td>
<td>1</td>
</tr>
<tr>
<td>Editor of special theme number</td>
<td>2</td>
</tr>
<tr>
<td>Assessment of candidates for academic posts</td>
<td>7</td>
</tr>
<tr>
<td>Membership or other role in review committee</td>
<td>4</td>
</tr>
<tr>
<td>Membership or other role in national/international committee, council, board</td>
<td>23</td>
</tr>
<tr>
<td>Membership or other role in public Finnish or international organization</td>
<td>8</td>
</tr>
<tr>
<td>Membership or other role of body in private company/organisation</td>
<td>4</td>
</tr>
<tr>
<td>Participation in interview for written media</td>
<td>20</td>
</tr>
</tbody>
</table>
2 Listing of activities 2005-2010

Supervisor or co-supervisor of doctoral thesis

Juhani Taponen,
Supervision of Mari Rantalas’s PhD thesis, Juhani Taponen, 2004 → ...
Supervision of Elke Muotkoi’s PhD thesis, Juhani Taponen, 2006 → ...
Supervision of Marja Mikkola’s PhD thesis, Juhani Taponen, 2008 → ...
Co-supervision of Simo Rintakoski’s PhD thesis, Juhani Taponen, 2009 → ...

Aila Vanhatalo,
Thesis supervision / Helena Hepola, Aila Vanhatalo, 01.08.2004 → 18.04.2008
Thesis supervision, Aila Vanhatalo, 24.08.2005 → 17.09.2010
Thesis supervision / Arto Huuskonen, Aila Vanhatalo, 2005 → 25.06.2009
Thesis supervision / Tomasz Stefanski, Aila Vanhatalo, 29.11.2006 → ...
Thesis supervision / Anne Honkanen, Aila Vanhatalo, 02.02.2007 → ..., Finland
Thesis supervision, Aila Vanhatalo, 01.01.2008 → ..., Finland
Thesis supervision / Pia Kariainen, Aila Vanhatalo, 26.09.2008 → ...
Thesis supervision / Katarina Manni, Aila Vanhatalo, 2010 → ...
Thesis supervision / Maiju Pesonen, Aila Vanhatalo, 2010 → ...

Prizes and awards

Kristiina Wähälä,
Pro Congress Award, Kristiina Wähälä, 2006

Editor of research journal

Kristiina Wähälä,
Environmental Chemistry Letters, Kristiina Wähälä, 01.01.2005 → 31.12.2005, Germany
Environmental Chemistry Letters, Kristiina Wähälä, 01.01.2006 → 31.12.2006
Environmental Chemistry Letters, Kristiina Wähälä, 01.01.2007 → 31.12.2007, Germany
Galenos Ihmiselimistö kohtaa ympäristön, Kristiina Wähälä, 01.01.2007 → 31.12.2007, Finland
Environmental Chemistry Letters, Kristiina Wähälä, 01.01.2008 → 31.12.2008, Germany
Steroids, Kristiina Wähälä, 01.01.2008 → 31.12.2008
The Open Natural Products Journal, Kristiina Wähälä, 01.01.2008 → 31.12.2008

Juhani Taponen,
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

LEG MILK/Wähälä

INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

LEGMILK/Wähälä

Acta veterinaria scandinavica, Juhani Taponen, 01.01.2005 → 31.12.2005
Reproduction, Juhani Taponen, 01.01.2005 → 31.12.2005
Reproduction in Domestic Animals, Juhani Taponen, 01.01.2005 → 31.12.2005
Reproduction in Domestic Animals, Juhani Taponen, 01.01.2006 → 31.12.2006
Acta Veterinaria Scandinavica, Editorial board, member, Juhani Taponen, 2009 → …

Hannu Saloniemi ,
Canadian Journal of Plant Science, Hannu Saloniemi, 01.01.2007 → 31.12.2007, Canada
Suomen Eläinlääkärilehti, Hannu Saloniemi, 01.01.2007 → 31.12.2007, Finland

Peer review of manuscripts

Juhani Taponen ,
Peer-reviewing: Reproduction in Domestic Animals * 1, Acta Veterinana Scandinavica * 1, Reproduction * 1, Juhani Taponen, 2005
Peer-reviewing: Acta Veterinaria Scandinavica * 1, Juhani Taponen, 2006
Peer-reviewing: Reproduction in Domestic Animals * 2, Juhani Taponen, 2007
Peer-reviewing: Acta Veterinaria Scandinavica * 2, Juhani Taponen, 2008
Peer-reviewing: Reproduction in Domestic Animals * 1, Acta Veterinaria Scandinavica * 1, Juhani Taponen, 2009
Peer-reviewing: Reproduction in Domestic Animals * 1, Acta Veterinaria Scandinavica * 2, Juhani Taponen, 2010

Aila Vanhatalo ,
Agricultural and Food Science, Aila Vanhatalo, 2001 → …
Journal of Dairy Science, Aila Vanhatalo, 2001 → …, United States
Animal, Aila Vanhatalo, 2004 → …, United Kingdom
Canadian Journal of Animal Science, Aila Vanhatalo, 2008 → …
Grass and Forage Science, Aila Vanhatalo, 2008 → …, United Kingdom
Livestock Science, Aila Vanhatalo, 2008 → …, Netherlands
Journal of Animal Science, Aila Vanhatalo, 2010 → …, United States
Rangeland Ecology and management, Aila Vanhatalo, 2010 → …, United States

Editor of series

Aila Vanhatalo ,
Agricultural and Food Science, Aila Vanhatalo, 2001 → 2005, Finland

Editor of special theme number

Aila Vanhatalo ,
Agricultural and Food Science - Special issue dedicated to Professor emeritus Esko Poutiainen, Aila Vanhatalo, 2006
Agricultural and Food Science - Special issue dedicated to the 100th anniversary of the Scientific Agricultural Society of Finland, Aila Vanhatalo, 2009, Finland

Assessment of candidates for academic posts

Kristina Wähälä ,
External examiner for university lecturer in Organic Chemistry, Kristina Wähälä, 2007 → …, Sweden
External examiner for professorship in Organic Chemistry, Kristina Wähälä, 2007 → …, Sweden
Referee for research fellow, Kristina Wähälä, 2007 → …, Sweden

Aila Vanhatalo ,

Evaluation of applications for academic posts / Docent, Aila Vanhatalo, 2006, Sweden
Evaluation of applications for academic posts / Professor, Aila Vanhatalo, 2008, Norway
Evaluation of applications for academic posts / Senior lectureship, Aila Vanhatalo, 2008, Sweden
Evaluation of applications for academic posts / Professor, Aila Vanhatalo, 2010, Sweden

Membership or other role in review committee
Aila Vanhatalo,
Evaluation of project proposals for research funding, Aila Vanhatalo, 2007, Estonia
Member of Professorship Appointment Committee, Aila Vanhatalo, 2008
Member of External Evaluation Committee of Animal Science study programmes of Norwegian University of Life Sciences (UMB), Aila Vanhatalo, 26.10.2009 – 30.10.2009, Norway
Member of Evaluation Committee for a European Doctorate Mention, Aila Vanhatalo, 2010, Spain

Membership or other role in national/international committee, council, board
Kristiina Wähälä,
European Chemistry Thematic Network Association, Kristiina Wähälä, 01.01.2007 – 31.12.2007, Belgium
Member of the board, Kristiina Wähälä, 2007 — 2010
The Eurobachelor and Euromaster in Chemistry Label Committee, Kristiina Wähälä, 01.01.2007 – 31.12.2007, Belgium
Tuning Educational Structures in Europe, Kristiina Wähälä, 01.01.2007 – 31.12.2007, Belgium
member of the scientific board, Kristiina Wähälä, 2008 – 2010, France
session organizer and chairperson, Kristiina Wähälä, 2008 – 2009, United States
Management committee member, Kristiina Wähälä, 2009 – 2012, Belgium
Member of the administrative council, Kristiina Wähälä, 2010 – 2014, France

Hannu Saloniemi,
ECVP, Credential Committee Population Medicine Group, Hannu Saloniemi, 01.01.2007 – 31.12.2007, United Kingdom

Aila Vanhatalo,
Vice-member of the Executive Board of the Department of Animal Science, Aila Vanhatalo, 2004 – 2007
Member of the Entrance Examination Committee of the Faculty, Aila Vanhatalo, 2007 – 2009
Member of the Postgraduate and Research Committee of the Faculty, Aila Vanhatalo, 2007 – 2009
Member of the Executive Board of the Department of Animal Science, Aila Vanhatalo, 2008 – 2009
Vice-director of the Department of Animal Science, Aila Vanhatalo, 2008 – 2009
Member of the Department of Agricultural Sciences Board, Aila Vanhatalo, 2010
Member of the Faculty of Agriculture and Forestry Board, Aila Vanhatalo, 2010 – …

Membership or other role in public Finnish or international organization
LEGMILK/Wähälä

INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

Juhani Taponen,
Maa- ja metsätalousministeriö, Ohjausryhmä tutkimusprojekteissa Geenidiagnostiikan ja ekspresioni-analyysien käyttö aikovalinnassa
lysykarjalla sekä Uusia työkaluja eurooppalaisen lySykarjan tulevalvojastyötoiminnan vähentämiseksi, Juhani Taponen, 01.01.2005 →
31.12.2005
Maa- ja metsätalousministeriö, Ohjausryhmä tutkimusprojekteissa Lehman tuotantoikään vai-kuuttavien geenien kartottais ja uudet
valintamenetelmät, Juhani Taponen, 01.01.2005 → 31.12.2005
Opetusministeriö, Karjalaisuuden tukintotuomikunta, Juhani Taponen, 01.01.2005 → 31.12.2005
Helsingin yliopiston opetus- ja tukintotuomion johtokunta, Juhani Taponen, 01.01.2008 → 31.12.2008, Finland
Karjalaisuuden tukintotuomikunta, Opetusministeriö, Juhani Taponen, 01.01.2008 → 31.12.2008, Finland
Ohjausryhmä hankekkeessa Lääkärikohta tuotteita laatukaisu tuotantotehtävä, Savonia ammattikorkeakoulu (rahoitus: Itä-Suomen lääinnahdistus,
Euroopan sosiaalirahasto), Juhani Taponen, 01.01.2008 → 31.12.2008, Finland
Ohjausryhmä tutkimusprojektiissa Lehman energiasapainon ja rehunkäyttökyvyn mitaaminen, Maa- ja metsätalousministeriö, Juhani
Taponen, 01.01.2008 → 31.12.2008, Finland
Ohjausryhmä tutkimusprojektiissa Lehman tuotantoikään valikuuttavien geenien kartoitus ja uudet valintamenetelmät, Maa- ja
metsätalousministeriö, Juhani Taponen, 01.01.2008 → 31.12.2008, Finland

Membership or other role of body in private company/organisation

Eeva Mustonen,
Salpausselän Eläinlääkäriseura, Eeva Mustonen, 01.01.2005 → 31.12.2005, Finland

Aila Vanhatalo,
Member of the Scientific and Research Foundation of Finnish Association of Academic Agronomists, Aila Vanhatalo, 2004 → ...
Vice-President of the Scientific Agricultural Society of Finland, Aila Vanhatalo, 2004 → 2006
President of the Scientific Agricultural Society of Finland, Aila Vanhatalo, 2007 → 2009

Participation in interview for written media

Kristiina Wähälä,
Helsinki Newsletter, Kristiina Wähälä, 01.01.2005 → 31.12.2011, Finland
Helsinki Newsletter tammikuu 2006, haastattelu, Kristiina Wähälä, 01.01.2006 → 31.12.2011, Finland
Mediuutiset, haastattelu, Kristiina Wähälä, 01.01.2006 → 31.12.2011, Finland
Yleisestä talosta no 4-6, 2006, haastattelu, Kristiina Wähälä, 01.01.2006 → 31.12.2011, Finland
Finland Convention Bureau, Äänittäjäehdotustapahtuma, Kristiina Wähälä, 05.02.2007 → 31.12.2011, Finland
Kampin Rotarit kokous, Kristiina Wähälä, 15.02.2007 → 31.12.2011, Finland
Kongressi 2007 -tapahtuma, Kristiina Wähälä, 06.03.2007 → 31.12.2011, Finland

Juhani Taponen,
International congress on cattle reproduction, ELTDK, KLEL, Juhani Taponen, 28.08.2003 → 31.12.2011, Finland
Seminologien jatkokoulutuspäivä, FABA, Kuopio, Juhani Taponen, 22.10.2003 → 31.12.2011, Finland

Hannu Saloniemi,
Tilaisuus: Maaseutukeskusten Liiton neuvonantopäivät, Hannu Saloniemi, 30.08.2003 → 31.12.2011, Finland
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF OTHER SCIENTIFIC ACTIVITIES 2005-2010

LEGMILK/Wähäälä

Helsingin Sanomat, Hannu Saloniemi, 10.10.2002 → 31.12.2011, Finland

Eeva Mustonen,
Uudenmaan maaseutukeskuksen järjestämä luontotävät: Mäntsälä, Hollola ja Lahti, Eeva Mustonen, 01.01.2001 → 31.12.2011, Finland


INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING
AT THE UNIVERSITY OF HELSINKI
by CWTS, Leiden University, the Netherlands

Research Group: Wähälä K

Basic statistics
Number of publications (P)  91
Number of citations (TCS)  405
Number of citations per publication (MCS)  4.45
Percentage of uncited publications 29%
Field-normalized number of citations per publication (MNCS)  1.11
Field-normalized average journal impact (MNJS)  1.00
Field-normalized proportion highly cited publications (top 10%)  1.19
Internal coverage .81

Trend analyses

Collaboration

Performance (MNCS) by collaboration type
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Research profile