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

RC-Specific Evaluation of Dental – Dental and Oral Health Research

Seppo Saari & Antti Moilanen (Eds.)
INTernational Evaluation Of Research And Doctoral Training At The University Of Helsinki 2005–2010

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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: Medicine, Biomedicine and Health Sciences

Participation category:
1. Research of the participating community represents the international cutting edge in its field

RC’s responsible person:
Rice, David

RC-specific keywords:
Dental  Craniomaxillofacial Development  Dental Genetics Oral Epidemiology Oral Infection Oral Health and General Disease Oral Microbiology  Public Health

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 Lorenz Poellinger
Cancer biology, cell and molecular biology
Karolinska Institute, Sweden

VICE-CHAIR

Professor Cornelia van Duijn
Genetic epidemiology, Alzheimer’s disease and related disorders
Erasmus Medical Centre, the Netherlands

Professor Johanna Ivaska
Molecular cell biology, cell adhesion, cancer biology
University of Turku, VTT Technical Research Centre, Finland

Professor Olli Lassila
Immunology, medical microbiology
University of Turku, Finland

Professor Hans-Christian Pape
Neuroscience, neurophysiology
University of Münster, Germany

Professor Thomas Ruzicka
Dermatology, allergology
Ludwig-Maximilians-Universität (LMU) München, Germany

Professor Lars Terenius
Experimental alcohol and drug dependence research, mental disorders, preventive medicine
Karolinska Institute, Sweden

Professor Peter York
Physical pharmaceutics, pharmaceutical chemistry, pharmaceutical technology
University of Bradford, Great Britain

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 two evaluators outside the panels and by three members from the other panels.

External Experts

Professor Olli Carpén
Pathology, cancer cell metastasis
University of Turku
Finland

Professor Anders Linde
Oral biochemistry
Faculty of Odontology
Göteborg University
Sweden
Experts from the Other Panels
Professor Jan-Otto Carlsson, from the Panel of Natural Sciences
Professor Danny Huylebroek, from the Panel of Biological, Agricultural and Veterinary Sciences
Professor Holger Stark, from the Panel of Natural 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.
MScSc 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.

HELSENKI 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 emphasize 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.

\(^3\) 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. Practices 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 members during 1.1.2005–31.12.2010.

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”.

10
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.

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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

At first sight, the Dental RC seems to have a quite heterogeneous character, giving the impression that it is more or less identical to research at the Institute of Dentistry as a whole. Indeed five, i.e. half the number, of the current professors are involved with the RC, and so are several lecturers and senior researchers. A common problem with research at dental schools, not least in the Nordic countries, is the fragmentation into many minute research groups, more or less spanning the whole spectrum from molecules to the mind, from clinical studies to Society at large - not collaborating and hardly knowing what others are doing.

A major strength with this RC is thus that it represents seven quite successful groups with the joint ambition to produce the highest-quality ‘dental’ research ‘from grain to loaf’ in an integrated manner, i.e. from the basic science laboratory through clinical and epidemiological research, and further to public health initiatives. This transitional perspective is scientifically clearly commendable, also in view of the current human and financial resource situation, which is problematic with regard to a number of aspects.

The research of this RC with a focus on an in-depth understanding of various aspects of dental and orofacial diseases is without doubt of high scientific relevance. Members of the RC are internationally recognized and respected, and the RC has produced timely research and with a largely sustained productivity, certainly when considering the high teaching load. Its activity has already yielded and can also in the future be expected to result in clinical and societal very valuable and useful findings and is thus clearly highly relevant for the Institute of Dentistry and the University of Helsinki.

The sub-groups of the RC have been doing quite well in the past period with a pre-eminent production of high-quality publications in their specific field and sometimes beyond. These range from being ‘outstanding’ to the ‘very good’. Findings have, in general, been characterized by a high degree of novelty and have often had a combined clinical, societal and scientific impact. Dental research has a tendency to be myopic and shows a propensity to produce multitudinous medium-quality publications; it is clear that this RC actively intends to avoid that. Especially laudable is the fact that publications on a regular basis have appeared in high-ranking scientific journals outside the immediate dental research field, a factor that has clearly contributed to the standing of the UH Institute of Dentistry as being at the international forefront.

Dental research in the Nordic counties has traditionally been performed by persons with a ‘dental’ background, mainly dentists. Academic researchers with a different background have been – and still are – an exception. In that, Nordic dental schools differ from many other countries. While this situation may have been adequate in the distant past, it can today be construed as hampering the development of research in the dental field. It is therefore praiseworthy that the Dental Institute has been clear-sighted enough as to bring in two non-dental group leaders (into this RC). Innovations often take place at the interface of disciplines, and this is also a necessary step for a methodological in-depth knowledge and scientific awareness and further progress.

Numeric evaluation: 4 (Excellent)
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.**

- **Additional material: TUHAT compilation of the RC’s other scientific activities/supervision of doctoral dissertations**

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

In general, it seems that the RC has a reliable recruitment and selection system for PhD students. How much that differs from that of the Institute of Dentistry or from the system in Finnish dentistry in general is, however, not obvious.

The number of PhDs produced during the past period seems adequate, given the size of the RC. The problem is of course how many ‘true’ researchers the system really produces, and this is something that needs to be constantly in focus. PhD production at Dental Schools often tends to forget the meaning of true ‘research training’ and what it is really for.

The recruitment of the research students and the main responsibility lie with the individual research groups – and that is adequate. While there should be a mutual set of rules that PhD students have to follow, the risk to ‘over-organize’ things with time-consuming activities less relevant to the core task at hand (to learn how to do research) should be avoided. The overlapping of two systems – a separate graduate school and the ‘normal’ local system – may bring such risks.

The RC highlights the importance of an international scientific outlook in all its activities. This also applies to the research training level and needs to have some system to it.

The RC comments about the courses that constitute part of the PhD programme. It is of course not possible to have any real opinion about those, based on the material at hand, however there are certain recommendations that can be made.

All such courses should finish with a knowledge test, written or oral. It should be absolutely clear what is the level and aim of a course. Some should be in-depth courses for people working in a specific area, while others may be of a more orienting character. The second type of course may be of specific importance for the Dental RC in view of its translational ambitions combined with a very heterogeneous methodology.

A main challenge for the Dental RC is to maintain and further develop cohesiveness between the seven research groups (and presumably additional groups in the future). A starting point for this is a mutual understanding and knowledge of what others are doing, and that begins at the PhD training level.

A further efficacious means for providing PhD students and the various group members with a broader and reasonably deep knowledge base is a dental research seminar series. Such a series seems to exist and is reportedly being expanded. It should be important that such a series of seminars is well-administered, and that seminars are frequent. Presence at seminars (say, two out of three) should also be mandatory for PhD students. Given the various geographic locations of the research groups, such seminars should be a main cohesive force in this RC, if also senior researchers participated on a regular basis.

**Numeric evaluation: 4 (Excellent)**
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.

ASPECTS: Societal impact, national and international collaboration, innovativeness

Needless to say, the research within this RC has an immediate societal impact, a main reason being of course that clinical routines are and have been affected by its results. Adequate means seem to be in place to spread such new knowledge to recipients.

Another important aspect, sometimes forgotten, is that patients want to know what is the cause of a certain ailment or defect – even if there is no cure yet. Just the fact that information is provided by people with a solid knowledge background is of great value and highly appreciated by patients and the public at large. Researchers in this RC and their ‘products’, the PhDs, would certainly live up to such expectations.

It seems clear that the members of the RC have an active ambition to interact with society and to do so on a continuous basis at different levels, from presence in the media to informing the general public, to participation in various activities to inform health services personnel. One manifestation of this is, for example, an array of informative publications in Finnish aimed at clinical colleagues throughout the country.

As a matter of fact, these activities seem to be highly relevant both in terms of volume and level, so the suggestion by the RC to make better use of the dental/medical public relations offices may of course be of value, however not really necessary.

Not all PhDs remain in an academic setting, and many of them will continue their professional life in the health care system, for example as clinical specialists or in administrative positions. Even though these individuals don’t have research as part of their daily work, the fact that there are people with research training during a significant period of their early career in the organization is of great societal value and should not be underestimated.

Members of this RC seem to have relatively limited collaboration with the private sector in the shape of commercial companies. However, as evidenced by numerous examples in dental research, this type of collaboration can indeed be a mixed blessing, and the level and type of collaborations that seem to exist within the RC must be judged as being at a reasonable level. There may, however, be further opportunities to find in this sector, provided research quality and innovations are the governing criteria and not financial needs.

Numeric evaluation: 4 (Excellent)

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.

ASPECTS: Scientific quality, national and international collaboration

The Dental RC has a very clear international outlook in its activities. The fact that one of the group leaders within the RC, a highly accomplished researcher with a clinical anchorage, has been recruited from the UK about 4 years ago is meritorious for the RC. Another example is the extended fellowship period that one of the group leaders presently spends in the UK. Also the other groups in this RC have well-developed international contacts and collaborations and enjoy international recognition and respect.
Less is to say about the national collaborations, which are rather at the expected level. The RC participates in the national research school in Odontology together with the other Finnish dental institutes. It is not clear how many, if any, members of the RC are at present or were recently abroad for a postdoctoral period (i.e. one year or more). The importance of a post-doc in a completely different research environment cannot be overemphasized for the further maturation of a PhD with an interest in a research career, however the number of persons doing this seems to have declined. A strong recommendation would therefore be that the RC identifies practical procedures and economical means - own or from other sources - to actively support uninterrupted post-doc sojourns in top-ranking research environments in other countries.

Numeric evaluation: 3 (Very 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**

By and large, there seem to be adequate resources in terms of localities and equipment for the RC activities. However, this RC has two main, serious problems that cannot be overlooked and are at the core of the planning for the future.

Firstly, the geographical location of the RC member activities is at three different places, where research may occur at one place and teaching and clinical activities at another for one and the same individual. This is a major problem challenging the cohesion of the RC and diminishing the frequency and development of personal interactions. In addition, some research activities seem to interact with groups at the rather remote Viikki campus. This is of course excellent, however it adds to the stretch.

A second major problem is the fragmentation of the working-day for RC members. The RC has 76 members, yet the actual time available for research is very limited due to other duties. In part, this may be a reminiscence of an older dental school structure, where resources were spread out evenly, and all faculty members were expected to teach, make research and perhaps be in the clinic. This is not sustainable any more.

Although in principle beyond RC level, it is important that adequate resources in terms of time are indeed allotted to those productive in research. As personnel resources are communicating vessels, this means that colleagues less inclined for research have to take on more teaching and administration. This is a question for the leadership at the Institute of Dentistry. On the other hand, removing the academic staff most or exclusively committed to do top research from the student population – if carried too far – has the significant drawback that students no longer meet/hear in their courses the local top scientists in a certain field.

The fact that the Institute of Dentistry – hence also the Dental RC – is about to go through a shift of generations will affect the operational conditions and should be taken advantage of. One important specific question needs to be highlighted in this context, namely the existence and future of technical staff, primarily laboratory personnel.

It is a widely spread misconception that this category of personnel is redundant and a source for economic savings. This is clearly a false impression. This type of staff is of decisive importance for continuity and experience of consequence for the research, for maintenance of equipment, as well as for workplace environmental issues including matters of safety. Their functions cannot be substituted for by PhD students or post-docs with a temporary presence, implying that the RC thus needs to see to it that this resource is maintained at a reasonable level. If this could transit into rejuvenation and recruitment of the needed technical staff in new areas, this would be an important asset to this RC.

Another question of operational conditions and related to the generational shift is the need for an adequate recruitment and career ladder for younger researchers, starting with a decent post-doc and
ideally culminating into a transparent tenure-track procedure. This is an absolute necessity for faculty replenishment. However, rather few intermediate positions with research as a main assignment seem to exist at present. Resources to this aim should be identified, to some extent also from extra external sources.

The effects of a generation shift will be discussed further in the ensuing section.

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 impression is that the leadership of the RC in its present configuration is excellent, and that there is an explicit awareness of the strengths, weaknesses and future challenges for the RC as well as a balance between the autonomy of the research groups and their integration as a whole. The leadership also gives an unambiguous impression of having a reliable academic compass for future navigation.

The future fate of this RC lies, however, to a large extent outside its own range of decision-making, a main reason being the generation shift that is to occur the next few years.

This is worrisome but shouldn’t need to be that: high-quality research is an obligation of the Institute of Dentistry, just like it has a responsibility for undergraduate teaching. Academic planning, however, has a tendency to prioritize easily quantifiable matters such as teaching needs, implying that optimization of the research organization often becomes secondary.

Although there are certainly problems and turbulence with a generation shift that leads to a loss of a large proportion of the faculty, it should also be emphasized that, wisely utilized, it provides a golden opportunity to shape and streamline, and update, a research and teaching outfit as well.

It is therefore, as also explicitly stated in the RC’s report, imperative that the research community is heard and its interests taken into serious account during this process. This is a question of academic leadership for the Institute of Dentistry which should be monitored centrally at the Faculty level.

Although obvious, it still deserves to be mentioned in this context: the international recognition and respect for the Institute of Dentistry at Helsinki University is not due to its undergraduate teaching virtues but to its scientific contributions.

Several of the senior staff at the Institute are to retire within the next few years, and it is imperative that the resources thus liberated will benefit the Institute’s research organization as well. A main goal should be to hire new staff with research ability as a primary criterion. This means that the teaching organization might have to adapt somewhat as well. Judging from the departmental organization of the Institute, it may seem that this has already, to some extent, been in the making which is wise.

This is also a necessary adaptation, given the scarcity of dental researchers in general and in some areas of undergraduate teaching as well as clinical specialties in particular. Filling a gap permanently with somebody less accomplished in research is a misdeed, the results of which will have to be borne for years to come. The Institute may e.g. contemplate making use of some variant of a tenure track system.

There are obviously a few other research groups at the Institute of Dentistry, which are not part of the Dental RC – and thus outside this evaluation – but which seem to be also scientifically productive. It may be that some of those have their main scientific collaborations elsewhere. There is of course no principal problem with this. There is absolutely no necessity that all research groups at the Institute of Dentistry
should be under the same hat, and diversity in science may also in this case be an asset. It means, however, that the above reasoning also applies to those activities outside the Dental RC.

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

A substantial amount of funding has been obtained from the Academy of Finland during the evaluation period, which may be taken to classify the research performed as being primarily of a character that is supported by a ‘traditional’ research council. This may also be taken to attest to the quality of research of the RC.

In contrast, no funding seems to have been obtained from the Finnish Funding Agency for Technology and Innovation. While this may be lamented, it is not completely unexpected, given the character of the research of this RC. The RC has also been reasonably well supported from other sources such as various funds supporting research in specific areas.

It is more surprising, then, that very little funding, if any, has been obtained by the Dental RC at the European level. Given the international standing of the Institute of Dentistry and the group leaders in this RC and their various research inclinations, one would have expected more participation in ongoing collaborative projects at the European level. An added reason for this would be the access to the – in an international context – well-organized Finnish health care system. One way to interpret this is that it is a reflection of the time-consuming amount of work necessary to put into a collaborative grant application to the European Union (or similar), combined with a possible underrepresentation of the field in the call for proposals launched by the EC in the past framework programs and the coming one.

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 strategic action plan of this RC gives an impression of realism and clear-sightedness. The battle cry of “a drive towards quality and not quantity” is absolutely right and what is needed in dental research. If brought to fruition, it would place the Institute of Dentistry even more in the international forefront as a modern research institution and reflect very positively onto the University of Helsinki as a whole.

Several of the items brought up in the RC’s strategic plan have been commented about already, such as the serious lack of young academic dentists in Finland; the importance of a thorough PhD training that actually produces researchers; the need for the audacity to prioritize and integrate locally the research of an international standing; as well as the importance to be able to transgress the momentous faculty transubstantiation as a strengthened and focused research community.

Although it has been pointed out several times, it is still important to emphasize that it is crucial that the RC and its members maintain and increase activities to keep the seven research groups together.
primary means to do that is to increase contact surfaces at all levels. To let the Dental RC relapse into its separate building blocks would be a strategic mistake.

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 1. The research of the participating community represents the international cutting edge in its field.

Numeric evaluation: 4 (Excellent)

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

No comments – everything was well in order.

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

Focus area 6: Clinical research

The research endeavors of this RC fall very well within the University’s focus areas. Clinical research is an obvious, central activity of this RC which is integrated in the research programme, given its over-all predominant translational character. A major focus of the RC is also on the understanding of the basic structure of life – if possible for this RC increasingly at the molecular and genetic levels – and this research has implications of an environmental character as well, not least in terms of welfare and safety.

2.12 RC-specific main recommendations

- The activities of the RC are seriously impeded due to the fragmentation of individual research time. Therefore, it is important that redistribution of resources is made to allot time to people truly productive in research.
- The upcoming generational shift at the Institute of Dentistry will affect this RC but does, on the other hand, provide an excellent opportunity to strengthen the research organization.
- It is a question of academic leadership at the Institute of Dentistry that the research community is heard and its interests taken into serious account during this process. This is of such an importance that it should be monitored centrally, at the Faculty and even central coordination UH level.
- Upcoming changes in personnel should, i.a., be utilized to create a recruitment and career ladder for younger researchers. The importance of maintaining a basic structure of technical personnel should not be overlooked.
- The RC should maintain a healthy mix of researchers with a dental as well as a non-dental background.
- There is a serious shortage of younger ‘dental’ researchers in Finland. This RC has a crucial role to fulfil in order to counteract this trend and increase the volume of dental researchers.
- As for PhD training, the focus must lie on activities aimed at supporting its main goal of producing more researchers.
- The RC and its member groups should work actively to provide young PhDs an opportunity for international post-doc sojourns in first-rate scientific environments.
The RC should maintain and further nurture the ‘translational perspective’ in its activities, at the same time being careful not to constrain the development of the individual research groups.

The RC must maintain and further develop the coherence within the RC. This should take place at all levels. To let the RC relapse into its separate building blocks would be a strategic mistake.

The RC should be sure to be faithful to its own bold statement of “a drive towards quality and not quantity”.

2.13 RC-specific conclusions

An excellent and scientifically productive RC with a high international recognition and respect. The RC is a bit heterogeneous and geographically spread out, and it is to go through a transitional phase due to retirements in the immediate future. If well taken care of, and with a primary focus on research quality, this may provide an opportunity for the RC to emerge scientifically even stronger.
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)
International evaluation of research and doctoral training at the University of Helsinki 2005-2010

RC-SPECIFIC MATERIAL FOR THE PEER REVIEW

NAME OF THE RESEARCHER COMMUNITY:
Dental and Oral Health Research (Dental)

LEADER OF THE RESEARCHER COMMUNITY:
Professor David Rice, Institute of Dentistry, Faculty of medicine

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

- Web of Science(WoS)-based bibliometrics of the RC’s publications data 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: Rice, David
E-mail: david.rice@helsinki.fi
Phone: 0504151316
Affiliation: Institute of Dentistry
Street address: Dental Research Laboratories, Room C229a, 2nd floor, Biomedicum, PL 63 (Hartmaninkatu 8), 00014 University of Helsinki

2 DESCRIPTION OF THE PARTICIPATING RESEARCHER COMMUNITY (RC)

Name of the participating RC (max. 30 characters): Dental and Oral Health Research
Acronym for the participating RC (max. 10 characters): Dental
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): The Dental and Oral Health Research Community has been formed on an operational basis. The amalgamation comprises seven research groups, all of which are part of the Institute of Dentistry. This naturally brings some commonality in academic terms but equally the research community demonstrates an important strategy of the Institute, namely to conduct high quality research with a tangible societal impact. This is executed at three levels: disease-related basic science, clinical and epidemiological research to identify disease risk factors and then public health measures. That is to say, to conduct research from laboratory bench, to patient, to community.

The research community is not only aligned academically but also physically by sharing infrastructure in the Dental Research Laboratories in Biomedicum and the Ruskeasuo campus. Principal Investigators: Alaluusua, Meurman, Murtomaa, Nieminen, Pussinen, Rautemaa-Richardson, Rice.

3 SCIENTIFIC FIELDS OF THE RC

Main scientific field of the RC’s research: medicine, biomedicine and health sciences
RC’s scientific subfield 1: Dentistry, Oral Surgery and Medicine
RC’s scientific subfield 2: Developmental Biology
RC’s scientific subfield 3: Microbiology
RC’s scientific subfield 4: Health Care Sciences and Services
Other, if not in the list: Genetics and Heredity
Infectious Diseases
Public, Environmental and Occupational Health
**INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI**

**RC-SPECIFIC STAGE 1 MATERIAL (registration form)**

### 4 RC’S PARTICIPATION CATEGORY

**Participation category:** 1. Research of the participating community represents the international cutting edge in its field

**Justification for the selected participation category (MAX. 2200 characters with spaces):** International

All research groups in the RC hold the leading positions in their field in Finland. In addition, the work of all groups has received wide international interest with most having world leading qualities within the dental research sphere. All research groups in the RC have published in the top international peer-review journals in their individual research area and also in the best general dental journals. All groups have taken their research to a further level and currently publish in first-rate general biomedical journals. This is unusual for dental research groups.

**Cutting edge**

The craniofacial genetics, environment and developmental biology groups (Alaluusua, Nieminen, Rice) have used advanced molecular strategies with the ultimate goal of providing innovative therapies for patients with dental and craniofacial anomalies. This has historically been notoriously difficult as by their very nature the defects occur during embryogenesis and have therefore been inaccessible to standard treatments.

The periodontitis and cardiovascular disease group (Pussinen) has performed genetic, microbiological, clinical and epidemiological studies to establish risk factors for, and develop assays of, these common diseases. It is a rare that one compact and focused group of researchers has all these skills. This property gives them a cutting edge in their domain.

The oral health team (Meurman) has a long track record in leading the way in conducting cross-over research between dentistry, medicine and biochemistry by studying oral health in medically compromised patients.

The emphasis of the oral microbiology and immunology group (Rautemaa-Richardson) is on understanding and treating chronic mucosal infections and here they have discovered novel mechanisms of bacterial invasion and a link between fungal infection and oral cancer.

Oral public health (Murtomaa) has a truly international cutting edge status which under the auspices of the WHO has set up projects in Finland, Iran, Mongolia and Turkey to study dentists and dental student well being and promote oral health.

### 5 DESCRIPTION OF THE RC’S RESEARCH AND DOCTORAL TRAINING

**Public description of the RC’s research and doctoral training (MAX. 2200 characters with spaces):** The Dental and Oral Health RC is a union of 7 research groups, all of which are part of the Institute of Dentistry. The broad aim is to conduct high quality research into dental, oral and facial diseases with a tangible societal impact. This is executed at three levels: disease-related basic science, clinical and epidemiological
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 1 MATERIAL (registration form)

research to identify disease risk factors and then public health measures. That is to say, to conduct research from laboratory bench, to patient, to community. All researchers have the aim of improving patient care.

Research is conducted around three axes

Axis 1
The craniofacial genetics, environment and developmental biology groups have used advanced molecular strategies with the ultimate goal of providing a better understanding of the aetiology of dental and craniofacial anomalies and innovative therapies for patients with dental and craniofacial anomalies, and studying the effects of environmental toxins on tooth development.

Axis 2
The oral health, oral microbiology and immunology, and periodontitis and cardiovascular disease groups have lead the way in conducting cross-over research between dentistry, medicine and biochemistry by studying oral health in medically compromised patients. They aim to advance our understanding and treatment of chronic mucosal infections and oral cancer, and to establish risk factors for and develop assays of periodontitis and cardiovascular disease.

Axis 3
Oral public health research aims to promote the dental and oral health of the general public both nationally and internationally. It also aims to improve the well being of dental health care professionals.

Doctoral training in the research themes described above is carried out with students being supervised closely. They complete a range of course units, have annual review committees and produce a peer-reviewed publication-based thesis that has both pre-examiners and a final public examination. Finnish Doctoral Program in Oral Sciences has recently been established and several students are members of this school. The graduate school has good national and international links and a structured plan for each student.

Significance of the RC's research and doctoral training for the University of Helsinki (MAX. 2200 characters with spaces): Good quality research and doctoral training are fundamental to the education of clinical dentists. Both provide an academic atmosphere that the whole Dental Institute benefits from. The inclusion of research and doctoral training in the Dental Institute’s sphere of activity are what separates the Institute from a mere trade school. They are an integral part of University life.

Secondly, good quality research is an excellent way to spread the erudite reputation of the University of Helsinki and elevate the University both nationally and internationally.

Thirdly, conducting good quality research and doctoral training attracts foreign nationals to the University of Helsinki. Evidenced by the recruitment of the Professor of Orthodontics from the United Kingdom and...
several postdoctoral fellows. Promoting internationalism is one of the stated strategic goals of the University of Helsinki.

Fourthly, another of the University of Helsinki strategic objectives is to exercise significant societal influence and responsibility. The research of this research community is specifically targeted at improving the dental and oral health of patients and the general public, as well as improving the well being of dental health care professionals thereby fulfilling this objective.

Keywords: Dental
Crainofacial Development
Dental Genetics
Oral Epidemiology
Oral Infection
Oral Health and General Disease
Oral Microbiology
Public Health

6 Quality of RC’s Research and Doctoral Training

Justified estimate of the quality of the RC’s research and doctoral training at national and international level during 2005-2010 (MAX. 2200 characters with spaces): In terms of publication quality, funding competitiveness, peer esteem factors, collaborative networks, societal interaction, student/teacher prizes, the RC produces high quality research and education with societal impact.

Publication record
The RC has consistently published in the top journals in the relevant fields as well as the top general dental journals notably the J Dental Research (Impact factor IF 3.5) and the J Clinical Periodontology (IF 3.5). In addition, the RC has gone beyond the safety zone of the dental journals and published in high ranking more general biomedical journals, which is relatively rare for a dental school (J Clin Oncol IF 17.8, Circulation IF 15, Hum Mol Genet IF 7.8).

External competitive funding
Several of the groups within the Research Community have won continuous, funding from the Research Council (Academy of Finland), Ministry of Health (EVO), form charities and from the WHO.

High level peer esteem
Five honorary doctorates, memberships fellowships or professorships have been awarded to RC members, plus 2 top-level prizes from the International Association for Dental Research, the most respected society in
the field. One member has been a journal editor (invited) (Clinical Microbiology and Infection) and 1 been appointed editor-in-chief (European J Orthodontics) of premium journals in their specialities.

Positions of societal/governmental importance
RC members have been appointed as advisors national and European health and welfare authorities, as a chairman of a national health care board, and as an honorary member of a patient-run society.

Doctoral training
The quality of doctoral training is high. Students are supervised closely, have regular review committees and complete a publication-based thesis. Several students are members of graduate schools including the recently established Finnish Doctoral Program in Oral Sciences. This was established in response to an external evaluation of dental research in Finland, commissioned by the Academy of Finland. High quality doctoral training is exemplified by awards students and supervisors. These include awards from UNESCO, Finnish Dental Society and King’s College London.

Comments on how the RC’s scientific productivity and doctoral training should be evaluated (MAX. 2200 characters with spaces):

Methods of assessing productivity:
The Dental and Oral Health Research Community suggests that productivity be assessed in relation to the proportion of time the Community members are able to commit, that is to say, the use of research Full Time Equivalent (rFTE) in relation to output.
The evaluation should be done by a peer ie by an independent expert in dentistry.
The evaluation should be made in comparison to other dental research communities of similar size. Otherwise the use of standard methods (citation indices, H indices, impact factors) is acceptable.

Publishing strategy:
The Research Community aims to publish high quality international publications in the top journals in its sub-specialities, as well as in the top dental journals. The Community also aims to extend beyond the dental field and publish in more general, more widely read fora. The Community aims to produce publications with societal impact ie translational biomedical science, from laboratory bench, to patient, to community.
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</table>
Name of the RC’s responsible person: Rice, David

E-mail of the RC’s responsible person: David.Rice@Helsinki.Fi

Name and acronym of the participating RC: Dental and Oral Health Research, Dental

The RC’s research represents the following key focus area of UH: 6. Kliininen tutkimus – Clinical research

Comments for selecting/not selecting the key focus area: This research community investigates important and fundamental questions in dentistry. Although the topics which the individual groups study are varied, all the groups have the common goals of trying to understand dental diseases and have a direct impact on the well being of both patients and clinicians. The community is special as it has expertise in basic and applied laboratory science as well as clinical and public health research. It has successfully used these strengths to conduct genuine translational science from the laboratory bench to the clinic and onto society at large.

1 Focus and quality of RC’s research (max. 8800 characters with spaces)

- 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).

Summary:

This research community investigates important and fundamental questions in dentistry. Although the topics which the individual groups study are varied, all the groups have the common goals of trying to understand dental diseases and have a direct impact on the well being of both patients and clinicians. The community is special as it has expertise in basic and applied laboratory science as well as clinical and public health research. It has successfully used these strengths to conduct genuine translational science from the laboratory bench to the clinic and onto society at large.

Craniofacial genetics, environment and developmental biology groups (Alaluusua, Nieminen, Rice)

Focus:

These groups focus on using advanced molecular strategies with the ultimate goal of providing innovative therapies for patients with dental and craniofacial anomalies.

Key aims

- To find etiological factors behind developmental enamel defects
- To examine effects of environmental toxicants on developing tooth
- To understand the molecular genetic aetiology of dental/craniofacial anomalies

Key results

- Amoxicillin use during the first years of the child’s life is associated with molar-incisor hypomineralization (MIH)
- Environmental toxicants such as dioxins disturb dental development
- Mutations in the DSPP gene cause dentin dysplasia type II and dentinogenesis imperfecta type II
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

- Found the molecular basis for mesenchymal epithelial interactions during early palate development
- Uncovered a signalling network which controls calvarial bone development
- Discovered role for hedgehog growth factor signalling in intramembranous ossification and an animal model for craniosynostosis

Scientific significance
- Studies on MIH concern a high number of children since its prevalence is around 5 to 35% in different countries
- This research is significant at the fundamental level of dentistry: the aetiology of craniofacial and dental abnormalities
- The research is applied directly to improve patient information, to genetic counselling and to the development of targeted treatment.

Best papers

Nieminen P et al Frameshift mutations in dentin phosphoprotein and dependence of dentin disease phenotype on mutation location. J Bone Miner Res. 2010 IF 6.0
Renkonen ET et al Adenomatous polyposis families that screen APC mutation-negative by conventional methods are genetically heterogeneous. J Clin Oncol 2005 IF 17.8
Rice DP et al Gli3Xt-J/Xt-J mice exhibit lambdoid suture craniosynostosis which results from altered osteoprogenitor proliferation and differentiation. Hum Mol Genet 2010 IF 7.4

Periodontitis and cardiovascular disease (Pussinen)

Focus
This group determines risk factors for, and develop assays of, periodontitis and cardiovascular disease.

Key questions/aims
To find out the systemic effects of etiologic periodontal pathogens and the mechanism how the pathogens contribute to the risk of cardiovascular diseases.

Key results
- Developed and validated serological, biochemical and genetic assays of markers for periodontitis that can be used in clinical and epidemiological studies
- Developed a mouse model to study the role of periodontitis pathogens in atherogenesis
- Our clinical studies suggest that lipopolysaccharides derived from periodontal pathogens promote atherogenesis by interfering macrophage and mast cell cholesterol homeostasis.

Scientific significance
Periodontitis and cardiovascular disease are common inflammatory illnesses. The discovery of risk factors and the establishment of usable assays have had very significant societal and scientific impact.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

Best paper


Oral health team (Meurman)

Focus

This group has a long track record in leading the way in conducting cross-over research between dentistry, medicine and biochemistry by studying oral health in medically compromised patients.

Key questions/aims

- How does oral infection affect general health?
- How do systemic diseases manifest in the oral cavity?
- What is the impact of probiotics on oral health?

Key results

- Found that periodontal disease may associate with breast cancer.
- Salivary IgA is positively and salivary IgG is inversely associated with coronary artery disease and may have a role in the risk assessment of coronary artery disease.
- Irrespective of low levels of high-sensitivity C-reactive protein, periodontitis appears to increase the risk for atherosclerosis.

Scientific significance

- Landmark studies in showing the impact of oral infections on systemic health
- Pioneering/innovative with a new research area on probiotics vs. oral health

Best paper


Oral microbiology and infections group (Rautemaa-Richardson)

Focus

To understand the interplay between oral microbes and the host and the effect of oral infection on general health. The group studies oral biofilms, host-microbe interactions, endodontic microbiology, biomaterial infections and infection control.

Key aims

To understand the pathogenesis and treat chronic mucosal infections, particularly in immunocompromised patients, and to establish the connection between oral infections and oral cancer.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

Key results
- Porphyromonas gingivalis causes an intracellular infection which allows it to evade host immune systems and most antibiotics
- Chronic oral candidal infection in APECED patients can be carcinogenic and that the production of acetaldehyde from dietary sugars and alcohol can partially explain this

Scientific significance
- The group has discovered novel mechanisms of bacterial invasion and a link between fungal infection and oral cancer

Best paper

Oral public health (Murtomaa)
Focus and key aims
To study dentists’ and dental student’s well being and promote oral health.

Key results
- The evaluation of dental anxiety and practices in oral health promotion both from a patient’s and a professional’s point of view.
- Dentists’ and dental students’ occupational health hazards including stress, smoking and high alcohol consumption have been identified.

Scientific significance
- Determinants of professional behaviour of dentists have been identified which allow the construction of professional development programmes, practical recommendations and guidelines for enhancing high quality and evidence based dental care.
- Determinants of oral health behaviour and its development during early ages have been identified which allow dentists to better interact with their patients.
- The role of today’s and future dental professionals in tobacco cessation and the factors enhancing its implementation have been characterized.

Best paper
Rintakoski K et al Genetic and environmental factors in oral health among twins. J Dent Res. 2010 IF 3.5

- Ways to strengthen the focus and improve the quality of the RC’s research.

Time and Money
The RC has good people, but most members spend a fraction of their time on research. The staffing structure of the Dental Institute is based on the needs for undergraduate teaching not on research. It is outdated and short sighted to expect people to be a ‘jack of all trades’. A selected number of researchers should be allocated ring-fenced (protected) research time. However, the Institute has
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

...suffered greatly from years of lack of investment and is now run on a skeleton academic staff. It would take relatively little to employ a few more teaching staff so that others can flourish in research.

The Dental Institute has taken the enlightened step in employing 2 non dental PIs (Pussinen & Nieminen) but due to funding restrictions they are employed on a temporary basis, with the Institute paying only half their salary. This needs to be rectified with a proper track-tenure (internal promotion) system which rewards the very best. Equally, the system should be robust enough to deal with under-performers.

There needs to be better career development opportunities at all level.

<table>
<thead>
<tr>
<th>2 PRACTICES AND QUALITY OF DOCTORAL TRAINING (MAX. 8800 CHARACTERS WITH SPACES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 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 practices and quality assurance in doctoral training, and assuring good career perspectives for the doctoral candidates/fresh doctorates.</td>
</tr>
<tr>
<td>The quality of doctoral training is high. Students are supervised closely, have regular review committees and complete a publication-based thesis which is examined in public with an external opponent. Several students are members of graduate schools including the recently established Finnish Doctoral Program in Oral Sciences (FINDOS). This was established in response to an external evaluation of dental research in Finland, commissioned by the Academy of Finland in 2007. High quality doctoral training is exemplified by the awards the students and supervisors have received. These include awards from UNESCO, the Finnish Dental Society and King’s College London. Twenty one theses have been completed within the research community (2005-2010).</td>
</tr>
<tr>
<td>Recruitment and selection of doctoral candidates</td>
</tr>
<tr>
<td>Recruitment and selection of doctoral candidates is done at the individual research group level. There is no centralised mechanism for this except for those students within a graduate school program. The graduate school program selection of doctoral candidates is done by open competition. In addition, the receiving group must prove that they have the skill, experience and funds to supervise the potential PhD student.</td>
</tr>
<tr>
<td>Supervision, good practices and quality assurance in doctoral training.</td>
</tr>
<tr>
<td>Responsibility for supervision, good practices and quality assurance in doctoral training is at the supervisor level with the medical faculty governing overall regulation. The medical faculty broadly recommends that student supervision follow the principles of the graduate schools in having a systematic approach to supervision and progress from year to year. Some supervisors have adopted this.</td>
</tr>
<tr>
<td>Some groups have students within a graduate school for example the Biomedical Graduate School or FINDOS. These doctoral candidates are governed by the regulations of each graduate school. In general these involve a formal system which includes: The establishment of a follow-up group (second supervisors); annual progress meetings/discussions; annual progress reports; two way feedback; access and funding of local, national and international courses; fellow student support; 80% funding of the student salary.</td>
</tr>
</tbody>
</table>
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

FINDOS has organised several courses. In cooperation with the Swedish Dental Graduate School, FINDOS recently (2011) organised the course in Umeå 'Development and regeneration of bones and teeth'. On this course there was excellent participation, support and feedback from students, supervisors and lecturers. It is planned to expand future courses to include students from other Nordic and Baltic countries. These should be encouraged and supported.

The quality of theses from the Dental Institute is internationally regarded as high. Regulations and requirements are governed by the Medical Faculty and are the same for all candidates within this faculty. This involves the completion of a preset number of course/credit units and the production of a thesis which is based on scientific articles published in peer review journals. A monograph thesis is possible although one was completed from the Dental Institute in 2010, it is otherwise rare.

A dental research seminar series is already in Biomedicum, this should be expanded and participation encouraged. There should be an annual scientific meeting. This would be a chance for PIs, postdocs and students to interact and present data.

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

More systematic follow-up

All PhD students should be governed by similar regulations as those of the Finnish Dental Graduate School (FINDOS), including follow-up groups (2nd supervisors); annual progress meetings; progress reports and two way feedback.

Part time PhD’s for clinicians who wish to pursue a research project should still be open. These individuals have proved to be important to the RC.

Joint courses

These could be under the auspices of FINDOS. In cooperation with the Swedish Dental Graduate School, FINDOS has already organized courses and it is planned to expand future courses to include students from other Nordic/Baltic countries. These should be encouraged and supported.

Review of the assistants program or creation of a new PhD studentship program

At an institute level there are no real PhD studentships available. There is an aged system of teaching assistants which is aimed at recruiting junior individuals interested in research. However, these positions are not in high demand as the system is relatively rigid and demands the individual to perform a large amount of t

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).

All the research carried out in the RC is for the benefit of dental patients and therefore has high societal impact. All members of the RC are very aware of the need to target their investigations so that tangible societal benefit is achieved.

Research targeted towards improving clinical practice

The RC excels in improving patient information about their disease; strengthening genetic counselling; developing novel therapeutics; changing clinical practices; changing public health advice and practices.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

Alaluusua, Nieminen, Rice

Research in these groups has a big societal impact as it addresses the fundamentals and aetiology of common dental and craniofacial anomalies (Hypodontia, dental hard tissue defects, cleft lip and palate and craniosynostosis). Affected individuals and their families suffer profound effects that require extensive multidisciplinary treatment over many years. This research helps patient comprehension and gives patients insight into the nature of their condition. Questions frequently asked by parents in the clinic are: 'Why, how and when has this happened?' and of course 'can this be fixed and can this be avoided in the future'. Ultimately, this research is targeted towards developing novel treatments.

Pussinen

Studies by the Pussinen group have uncovered a novel causal role of periodontal disease pathogens in atherogenesis. To date, the mechanism behind the association of cardiovascular diseases and periodontitis or periodontal pathogens has not previously been clarified. Since severe periodontitis is common affecting approximately 20% of middle-aged and elderly populations worldwide, its relevance to public health is extensive.

Meurman, Rautemaa-Richardson

Oral infections and oral cancer are amongst the most common diseases known to man. As such studies in showing the impact of oral infections on systemic health and investigating the link between oral infections on oral cancer are of high significance to the general public.

Murtomaa

By its very nature research into dental public health, when combined with dentist education and publicity, has an immediate societal impact. The Murtomaa group has been highly successful in the construction of professional development programmes, practical recommendations and guidelines for enhancing high quality and evidence based dental care.

Positions of societal and governmental importance (Meurman, Rautemaa-Richardson)

Community members have been appointed as advisors to national and European health and welfare authorities, as national and international consultants for oral diseases, as a chairman of a national health care board, and as an honorary member of a patient-run society.

Undergraduate and specialist clinical education

RC members are responsible for undergraduate and specialist education in Dentistry for Children, Orthodontics, Oral Infectious Diseases and Oral Public Health. In addition all members have engaged in national and international clinical courses. Several awards for education have been won (Arte, Rautemaa-Richardson).

All members have written or edited text books or chapters or databases. Of particular note is the Therapia Odontologica project. This is the definitive dental/oral medicine textbook and database in Finland and Meurman and Murtomaa are

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

Better use could be made of the dental/medical public relations offices.
Description of the RC’s research collaborations and joint doctoral training activities and how the RC has promoted researcher mobility.

The type of research that the RC undertakes can not be done in isolation. As one would expect from research groups at the forefront of their fields all principal investigators have productive and extensive local, national and international collaborative networks. Many of these are with the world’s most acclaimed institutions and include PhD students and senior scientists visiting other institutions and also the RC hosting foreign researchers for extended periods. The text below highlights some of the excellent examples of internationalism and researcher mobility.

The Alaluusua group has collaborated intensively with researchers from National Institute of Health, Department of Environmental Health, Kuopio, Finland. Prof Alaluusua was a contractor in two EU studies, coordinated by Prof Jouko Tuomisto on ‘Dioxin risk assessment’ and a member in a consortium on ‘Environmental and occupational chemicals’ in the ‘Finnish Research Programme on Environmental Health’ funded by the Academy of Finland. The international collaboration in those programmes has generated 17 scientific articles and two theses.

An excellent example of international mobility is the arrival of Prof Rice in 2007. He is the first foreign national to be appointed professor in the Medical Faculty at the University of Helsinki. Prof Rice is also a visiting professor at the University of London (2008-2012). Prof Rice has had 1 foreign PhD student (Spanish) in the Marie Curie International Mobility Action, graduated 2008 University of London, and one foreign post doc (Japanese) 2008-2010.

Prof Meurman is an adjunct professor at Karolinska Institute, Stockholm, and Käre Buhlin DDS PhD from the Karolinska spends several months each year in a productive collaboration with Dr. Pussinen.

Rautema-Richardson is currently in the UK on a prestigious 2 year senior clinical fellowship at Manchester University School of Translational Medicine, UK. She has collaboration grants with teams in Glasgow and Manchester. Dr Rautema-Richardson is a founder member and chairman of the European Clinical Oral Microbiology Network, a forum for standardising processing and reporting clinical oral samples and providing a quality control scheme for diagnostic oral microbiology.

Joint doctoral training activities

The FINDOS partner organisations are the dental schools of Turku, Oulu and Helsinki as well as the Institute of Biotechnology Helsinki and the Institute for Regenerative Medicine, National Institute of Health and Welfare Tampere. FINDOS has close collaborative ties with other national and international Graduate Schools. Through this network graduate students have gained training through lab visits and joint courses.

Prof Murtomaa supervises doctoral students from Mongolia, Turkey and with the WHO collaborative research project in Iran (9 PhD students, of whom 8 have already defended their thesis in Helsinki). Prof Meurman has one doctoral student (double registered) in Karolinska institute.
RC-SPECIFIC STAGE 2 MATERIAL

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

The RC has not been very successful in obtaining funding for EU-based collaborative consortia. Paradoxically, the University of Helsinki has actually a very high success rate in its EU applications. The University of Helsinki provides very good administrative support for applications and this resource could be utilized more.

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).

The majority of the groups in the Research Community are located in the Biomedicum, the Medical Faculty’s research facility. In Biomedicum, excellent infrastructure is available for basic science research. Modern laboratory space and excellent multiple core facilities are available, these include a state of the art animal house, transgenic, histology and imaging facilities, central sterilisation, a media kitchen and sequencing and molecular support (Finnish Institute in Molecular Medicine). In addition, the Dental Institute provides first-rate technical, administrative and financial administrative support. However, it is worrying that several members of the technical staff are soon to retire and it is hoped that the money for their positions can be safe guarded. Another operational issue is the fact that the Dental School, the clinical departments and Biomedicum are on 3 different campuses. This physical separation means that there is less interaction between researchers, students and clinicians.

Equally important to infrastructure is the scientific environment. The medical campus is a very active and vibrant location with several globally acclaimed research groups, with an excellent weekly international series of lectures, and with regular national and international meetings and symposia. Helsinki Biomedical Graduate School and the National Graduate School of Clinical Investigation graduate schools are both located in Biomedicum and these both provide potential funding for dental PhDs, student support and courses. In addition, the Dental Research Community has close links with the life science campus of the University of Helsinki in Viikki, in particular with the with evolutionary and developmental biology program in the Institute of Biotechnology.

The dental research laboratories organise an autumn and spring seminar series. This is essentially an internal seminar series with the intention of promoting inter-group understanding and cooperation.

Dental academics are overburdened with teaching and administration. The Dental Institute in Helsinki has undergone a prolonged and severe contraction in staff and resources. As a consequence many departments have only one professor and one lecturer and relatively little time is spent on research. As resources are so thin there is little scope for staff that are good at research to focus on research, and others who wish to focus on teaching and administration being encouraged focus on this. Career prospects are particular poor for intermediate-stage and senior researchers.

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

There needs to be more cohesion within the RC.

The RC is small and we can use this to our advantage. We all know each other pretty well. However, further knowledge of each others strengths and weaknesses is relatively easy to obtain and can help us forge closer cooperation for the common good.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

Action plan

The dental research seminars should be encouraged and expanded.

There should be an annual general and scientific meeting. This would be a chance for PIs, postdocs and students to interact and present data. The meeting should also be open to undergraduate students to allow them to learn more about the individual groups and encourage them to participate in research.

PIs should have more meetings, initially in the form of a research board, see section 7

There should be more salaried positions for teachers so that existing staff who wish to can focus more on research. Also, there should be more salaried positions for intermediate and senior researchers.

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6 LEADERSHIP AND MANAGEMENT IN THE RESEARCHER COMMUNITY (MAX. 4000 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.

There is excellent technical and administrative support and management. Otherwise, each research group has a very high degree of autonomy.

Some researchers feel that there is a disconnection between the running of the dental teaching and administration on one hand and the research community on the other. This needs to be bridged. The lack of a rigid research management structure is understandable when the size of the community is small. However, small can also be vulnerable and the researchers need a more formal conduit through which to express their opinion.

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

Eight out the 10 professors will be retiring in the next few years. The Dental Institute will clearly be in a state of flux for the foreseeable future. During these exciting times it is imperative that the interests of the research community are heard and taken into account.

Action plan

The dental research board needs to be revitalised. As the Dental Institute is so small, this body should include all PIs in the Dental Institute, and have postdoc, student and technical representation.

This body should meet regularly to discuss openly and transparently matters of common interest, whether they be issues of future direction, lab space allocation, technical assistance, overheads, recruitment etc. The research board should include the research representative on the Dental Institute Board or steering group ‘Laitosneuvoston kokous’, so that the bridge between the researchers and the rest of the Dental Institute is maintained and strengthened. And that research matters are taken into account in the overall strategy of the Dental Institute.
Listing of the RCs 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: **1293000**

- **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:

- **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:

- **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: Jusellius Foundation
  - Jenny and Antti Wihuri Found.
  - Finnish Dental Society Trust
  - Yrjö Jahnsson Foundation
  - Paulo Foundation
  - Finnish Found. cardiovasc. dis
  - Nat. Aspergillosis Centre
  - Prize, Ass. F. Female Dentists
  - The Medical Society Finland
  - total amount of funding (in euros) from the above-mentioned foundations: **725000**

- **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: WHO
  - total amount of funding (in euros) from the above-mentioned funding organizations: **73000**

- **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: HUCH Research Funds (EVO)
  - Univ. Helsinki Research grant
  - Biocentrum Helsinki
  - HY central funds
  - total amount of funding (in euros) from the above-mentioned funding organizations: **795000**
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC STAGE 2 MATERIAL

8 RC’S STRATEGIC ACTION PLAN FOR 2011–2013 (MAX. 4400 CHARACTERS WITH SPACES)

- Description of the RC’s future perspectives in respect to research and doctoral training.

  A drive towards quality not quantity
  There has traditionally been a tendency to produce a lot of medium quality research. The EVO funding system, on which the RC is reliant, still favours high volume publishing over quality. The RC recognises that it is important to be valued on world and national platforms within the relevant dental specialities. The RC recognises/acknowledges that although its work maybe highly regarded within the dental community at large, most dental research has low impact by general science standards. That said all members of the RC have already, not only published in the best journals in their specific domains, but have taken their science to another level and are competitive on a broader stage. This will be continued.

- Doctoral training
  The need to train academic dentists has never been greater. There is a severe lack of young academic dentists in Finland. This is due to many reasons but, in part, it is a consequence of the clinical training of dental students being run by the community health care centres in their educational dental clinics. Thus, fewer positions are available at the universities for young dentists interested in an academic career.
  As stated in section 2b, the training of doctoral candidates needs to be systematic. More rigorous systems of recruitment, timely graduation, supervision, follow-up, feedback, joint courses and financial support should be employed. These needs are already being addressed, both at a local level and at a national level in cooperation with the Finnish Dental Graduate School (FINDOS) scheme. The link between FINDOS and Helsinki will be strengthened even further in 2014 when Prof Rice takes over the leadership of FINDOS.

9 SHORT DESCRIPTION OF HOW THE RC MEMBERS HAVE CONTRIBUTED TO THE COMPILATION OF THE STAGE 2 MATERIALS (MAX. 1100 CHARACTERS WITH SPACES).

The compilation of material for this research evaluation has been a transparent, vibrant, cordial and constructive process.

All Research Community members have had the chance to contribute to the compilation of the submission in an open manner. In practice, the majority of the content has been supplied by the principal investigators, all of whom have actively been engaged in the process by supplying information, text and ideas. RC members have had a chance to comment on the text at all stages. The project has been coordinated by Prof Rice with support from Dr Pussinen. The submission has been written by Prof Rice. The Research Community has been open to all PIs in the Dental Institute. The leadership of the Dental Institute have been consulted at all stages of the submission process.
### APPENDIX: External competitive funding of DENTAL - funding decisions 1.2005-31.12.2010

<table>
<thead>
<tr>
<th></th>
<th>Satu Alaluusua</th>
<th>Jukka Meurman</th>
<th>Heikki Muntomaa</th>
<th>Pirkko Pussinen</th>
<th>David Rice</th>
<th>Rena Richardson</th>
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<tr>
<td>1) Academy of Finland</td>
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<td>240.000</td>
<td>275.000</td>
<td>364.000</td>
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## 1 Analysis of publications

- Associated person is one of Kirsi Johanna Alakurtti, Kirsi.Alakurtti@helsinki.fi, Satu Alaluusua, Satu.Alaluusua@helsinki.fi, Masamitsu Amemori, masamitsu.amemori@helsinki.fi, Sirja Tauriainen, sirja.tauriainen@helsinki.fi, Basak Cinar, basak.cinar@helsinki.fi, Jussi Funaholm, jussi.funaholm@helsinki.fi, Heidi Ghasami, heidi.ghasami@helsinki.fi, Lisa Maria Grönroos, lisa.maria.gronroos@helsinki.fi, Juara Helinio-Helakka, juara.a.helinio@helsinki.fi, Janeko Helenen, janko.helenen@helsinki.fi, Kati Hvistendahl, kati.hvistendahl@helsinki.fi, Päivi Hölttä, pavi.holtta@helsinki.fi, Kati T. Karjus, kati.karjus@helsinki.fi, Sari Kettunen-Koskela, sari.koskela@helsinki.fi, Arja Kulmala, arja.kulmala@helsinki.fi, Anu Maaranen, anu.maaranen@helsinki.fi, Anja Padjuk, anja.paduk@helsinki.fi, Anja Pernander, anja.pernander@helsinki.fi, Laura Piironen, laura.piironen@helsinki.fi, Perin Pussinen, perin.pussinen@helsinki.fi, Kirsi Pulkkinen, kirsi.pulkkinen@helsinki.fi, Jarmo Rentschk, jarmo.rentsch@helsinki.fi, Kari Ruokonen, kari.ruokonen@helsinki.fi, Turku Saarinen, turku.saarinen@helsinki.fi, Kirsi Schubert, kirsi.schubert@helsinki.fi, Marko Tapani, marko.tapani@helsinki.fi, Pirkko Vehkalahti, pirkko.vehkalahti@helsinki.fi, Jorma Vuorinen, jorma.vuorinen@helsinki.fi, Jorma Virtanen, jorma.virtanen@helsinki.fi, Kari Vuori, kari.vuori@helsinki.fi, Thomas Åberg, thomas.berg@helsinki.fi, Miira M Vehkalahti, miira.vehkalahti@helsinki.fi, Laura Vehkalahti, laura.vehkalahti@helsinki.fi, Marja Vehkalahti, marja.vehkalahti@helsinki.fi, Jukka Vepsäläinen, jukka.vepsalainen@helsinki.fi, Jorma Virtanen, jorma.virtanen@helsinki.fi, Sonata Vysniauskaite, sonata.vysniauskaite@helsinki.fi, Helvi Yli-Knuuttila, helvi.yli-knuuttila@helsinki.fi, Thomas Åberg, thomas.berg@helsinki.fi.

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<td>3</td>
<td>39</td>
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<tr>
<td>A4 Article in conference publication (refereed)</td>
<td>8</td>
<td>12</td>
<td>3</td>
<td>9</td>
<td>2</td>
<td>5</td>
<td>39</td>
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<td>B1 Unrefereed journal article</td>
<td>6</td>
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<td>3</td>
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<td>B3 Unrefereed article in conference proceedings</td>
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<tr>
<td>C1 Published scientific monograph</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
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<tr>
<td>D1 Article in professional journal</td>
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<td></td>
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<td></td>
<td>5</td>
<td>5</td>
<td>10</td>
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<tr>
<td>D2 Article in professional hand or guide book or in a professional data system, or text book material</td>
<td>2</td>
<td>2</td>
<td></td>
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<td></td>
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<td>D4 Published development or research report</td>
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<td>1</td>
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</tr>
<tr>
<td>D5 Text book or professional handbook or guidebook or dictionary</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
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<tr>
<td>E1 Popular article, newspaper article</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>E2 Popular monograph</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
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<td>I1 Audiovisual materials</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
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</tr>
</tbody>
</table>
2 Listing of publications

A1 Refereed journal article

2005


Dental/Rice


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

RC-SPECIFIC TUTHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


Vysniauskaité, S, Vehkalahti, M 2006, 'First-time dental care and the most recent dental treatment in relation to utilisation of dental services among dentate elderly patients in Lithuania', Gerodontology, vol 23, pp. 149-156.


2007


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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


2009


Stamatova, I., Kari, K., Drägberg, S., Murtomaa, H. 2009, 'In vitro evaluation of yoghurt starter lactobacilli and Lactobacillus rhamnosus GG adhesion to saliva-coated surfaces', *Oral Microbiology and Immunology*, vol 24, pp. 218-223.


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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


2010


Rice, DPC, Connor, EC, Vetmaat, JM, Lana-Eliola, E, Veistinen, L, Taniyama, Y, Bellucci, S, Rice, R 2010, 'Gl3(0) mice exhibit lambda sulfure crossinaytosis which results from altered osteoprogenitor proliferation and differentiation', Human Molecular Genetics, vol 19, no. 17, pp. 3457-3467.


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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


A2 Review in scientific journal

2005

2006


2007


2008

2009
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010


2010


A3 Contribution to book/other compilations (refereed)

2005


2006


2007


2008
Richardson, M, Rautemaa, RMK 2008, ‘Current combination antifungal therapies: the need for safer more effective options’, European Infectious Diseases, European Infectious Diseases, pp. 78-80.

2009

2010

A4 Article in conference publication (refereed)

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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


Ruotoistenmäki, J, Murtomaa, H 2005, 'Drinking Habits Among Undergraduate Dental Students in Helsinki, Finland', in IADR 2005, Jadriya, Kuwait.


2006


Murtomaa, H 2006, 'The role of dental public health in undergraduate and postgraduate education in Europe', in EADPH 2006, Prague, Czech republic; Keynote lectures.


2007


2008

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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

**Dental/Rice**


**2009**

Murto, H, Al-Soufi, O 2009, Smoking among dental students at the University of Helsinki,

Murto, H, Virtanen, JI, Khami, M, Razeghi, S 2009, Attitudes towards preventive dentistry among Iranian senior dental students,

**2010**


Murto, H, Meurman, J, Autti, H, Lebell, Y 2010, 'The use and experience of conventional and online dental database material in Finnish dental students,'

**B1 Unrefereed journal article**

**2005**

Janket, S, Meurman, JH 2005, 'Underlying chronic infection and leukocyte count', Archives of Internal Medicine, vol 165, pp. 1795.


**2006**


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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


2007


2008


2009


2010


Richardson, RMK, Seppänen, L 2010, 'Leukojen alueen syvät infektiot', Duodecim, vol 126, no. 6, pp. 695-701.
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Dental/Rice


B3 Unrefereed article in conference proceedings

2006
Takatalo, MS, Ronnholm, R 2006. Identification and Characterization of a Novel Golgi Protein GPER, Molecular Biology of the Cell 17.

C1 Published scientific monograph

2007

2008


2009
Haapasalo, M, Kotiranta, A, Siren, E, Endal, U 2009. Kaytannon juunahoito, 2 p edn, [M. Haapasalo], [Kerava].

D1 Article in professional journal

2010


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

2010


D4 Published development or research report

2010

D5 Text book or professional handbook or guidebook or dictionary
2009

2010

E1 Popular article, newspaper article

2005

2006

2008
Meurman, JH. 2008, 'Muuutoksen tuulet', Suomen hammaslääkärilehti, vol N.S. 13, no. 6, pp. 52.

2009

2010
E2 Popular monograph

2010

I1 Audiovisual materials

2005
Verkijärvi-video, video

2009
Käsihygieinia suu- ja leuakkirurgian klinikassa -video, video
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

Dental/Rice

1 Analysis of activities 2005-2010

- Associated person is one of Kirsi Johanna Alakurtti, Kirsi.Alakurtti@helsinki.fi, Satu Alaluusua, Satu.Alaluusua@helsinki.fi, Masamitsu Amemori, masamitsu.amemori@helsinki.fi, Sirja Teltavuo Arte, Sirja.Artu@helsinki.fi, Basak Cinar, basak.cinar@helsinki.fi, Jussi Furholm, Jussi.Furholm@helsinki.fi, Heidi Ghasemi, heidi.ghasemi@helsinki.fi, Lisa Maria Grönroos, aura.harmonen@helsinki.fi, Jussara Heluo-Helola, jussara.e.heluo@helsinki.fi, Janne Hietanen, Janne.Hietanen@helsinki.fi, Kati Hyvärinen, Kati.Hyvärinen@helsinki.fi, Päivi Höltä, Päivi.Höttä@helsinki.fi, Kjell T Karl, Kjell.Karl@helsinki.fi, Sari Helenka Keroento-Soppila, Sari.Keroento-Soppila@helsinki.fi, Anu Päkylä Kuidonen, anu.päkylä@helsinki.fi, Arja Kultti, Arja.Kultti@helsinki.fi, Laura Elna Lakio, laura.lakio@helsinki.fi, Laura Johanna Lammi, Laura.Lammi@helsinki.fi, Pirjo-Liisa Lukkonen, Pirjo-Liisa.Lukkonen@helsinki.fi, Jukka Mäkinen, Jukka.Mäkinen@helsinki.fi, Heli Voutilainen, Heli.Voutilainen@helsinki.fi, Jorma Ilmari Virtanen, Jorma.Ilmari.Virtanen@helsinki.fi, Pirkko Pussinen, pirkko.pussinen@helsinki.fi, Pirkko Annikki Pärnänen, pirkko.pärnänen@helsinki.fi, Ania-Maja Kyllikki Partanen, ania.maja.kyllikki.partanen@helsinki.fi, Karin Proctor Rice, david.rice@helsinki.fi, Riina Maarja Katriina Richardson, riina.richardson@helsinki.fi, Helene Merja Anneli Ruckmori, Cern Sunberg, Cern.Sunberg@helsinki.fi, Elja Helena Salmela, elja.salmela@helsinki.fi, Lotta Seppäläinen, lotta.seppalainen@helsinki.fi, Eija Sirkus, emilia.sirkus@helsinki.fi, Iva Vasaeva Stametsina, iva.vasaeva@helsinki.fi, Kimmo Sosman, kimmo.sosman@helsinki.fi, Maarit Takatalo, Maarit.Takatalo@helsinki.fi, Laura Kristiina Tarkola, Laura.Tarkola@helsinki.fi, Olli Tenkanen, Olli.Tenkanen@helsinki.fi, Antti Tuomainen, antti.tuomainen@helsinki.fi, Mitra M Veilias, mira.veilias@helsinki.fi, Lotta Katainen Veistinen, Lotta.Veistinen@helsinki.fi, Maarit Vesterinen, Maarit.Vesterinen@helsinki.fi, Jorma Ilmari Virtanen, jorma.virtanen@helsinki.fi, Sonata Virenus, sonata.virenus@helsinki.fi, Heli-Yli Knuttila, heli.yli-knuttila@helsinki.fi, Thomas Åberg, thomas.berg@helsinki.fi

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<th>Activity type</th>
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<tr>
<td>Supervisor or co-supervisor of doctoral thesis</td>
<td>17</td>
</tr>
<tr>
<td>Prizes and awards</td>
<td>20</td>
</tr>
<tr>
<td>Editor of research journal</td>
<td>114</td>
</tr>
<tr>
<td>Peer review of manuscripts</td>
<td>40</td>
</tr>
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<td>Membership or other role in review committee</td>
<td>1</td>
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<tr>
<td>Membership or other role in national/international committee, council, board</td>
<td>59</td>
</tr>
<tr>
<td>Membership or other role in public Finnish or international organization</td>
<td>48</td>
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<tr>
<td>Membership or other role of body in private company/organisation</td>
<td>17</td>
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<tr>
<td>Participation in interview for written media</td>
<td>27</td>
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<td>Participation in radio programme</td>
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<td>Participation in TV programme</td>
<td>9</td>
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</tbody>
</table>
2 Listing of activities 2005-2010

Supervisor or co-supervisor of doctoral thesis

Satu Alaluusua, Satu.Alaluusua@helsinki.fi

Anja Kotiranta, Anja.Kotiranta@helsinki.fi
Tutkijama, Anja Kotiranta, 01.01.2006, Finland

Jukka Meurman, Jukka.Meurman@helsinki.fi
Väitöskirjan ohjaus, Jukka Meurman, 16.04.2010

Heikki Murtooma, Heikki.Murtooma@helsinki.fi
Väitöskirjan ohjaus, Heikki Murtooma, 16.05.2008

David Paul Cracroft Rice, david.rice@helsinki.fi
Supervision of doctoral thesis, David Paul Cracroft Rice, 31.01.2001 → 31.05.2005, United Kingdom

Kimmo Suomalainen, Kimmo.Suomalainen@helsinki.fi

Prizes and awards

Kirsu Johanna Alakurtti, Kirsu.Alakurtti@helsinki.fi
The Prize of the Best Poster Presentation, Kirsu Johanna Alakurtti, 04.09.2008 → 07.09.2008, United Kingdom

Satu Alaluusua, Satu.Alaluusua@helsinki.fi
Honorary Member, Satu Alaluusua, 01.01.2007 → 31.12.2011, United Kingdom
Price, Satu Alaluusua, 01.01.2008 → 31.12.2011, Finland

Sirpa Tellervo Arte, Sirpa.Arte@helsinki.fi
Vuoden kirjous, Suomen hammaslääkärilehti, Sirpa Tellervo Arte, 01.01.2005 → 31.12.2011, Finland

Jukka Meurman, Jukka.Meurman@helsinki.fi
Deutsche Akademie der Naturforscher Leopoldina, invited member, Jukka Meurman, 01.01.2005 → 31.12.2011, Germany
Distinguished Scientist Award in Geriatric Oral Research, Jukka Meurman, 01.01.2005 → 31.12.2011, United States
The Best Article Published in the year 2005 in Acta Odontologica Scandinavica, Jukka Meurman, 01.01.2006 → 31.12.2011, Sweden
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

Dental/Rice

Doctor honoris causa, Jukka Meurman, 01.01.2007 → 31.12.2011, Sweden
Doctor honoris causa, Jukka Meurman, 01.01.2009 → 31.12.2011, Bulgaria
IADR Plaque of Merit, Jukka Meurman, 2010 → 31.12.2011, United States

Heikki Murtomaa, Heikki.Murtomaa@helsinki.fi
Honorary Distinguished Professor, Heikki Murtomaa, 23.11.2009, Iran

Pirjo Annikki Pärnänen, pirjo.parnanen@helsinki.fi
Hatton Award, Pirjo Annikki Pärnänen, 01.01.2007 → 31.12.2011

David Paul Cracroft Rice, david.rice@helsinki.fi
Honorary Fellowship in Dental Surgery, David Paul Cracroft Rice, 01.01.2007 → 31.12.2011, United Kingdom

Riina Maarja Katrīna Richardson, riina.richardson@helsinki.fi
CME Trainer of the year, Riina Maarja Katrīna Richardson, 01.01.2008 → 31.12.2011, Finland
Lecturer of the year (Oral Medicine), Riina Maarja Katrīna Richardson, 01.01.2008 → 31.12.2011, Finland

Eija Helena Salmela, eija.salmela@helsinki.fi
Award of Advanced Special Studies of Faculty of Medicine of University of Helsinki, Eija Helena Salmela, 01.01.2005 → 31.12.2011, Finland

Miira M Vehkalahti, Miira.Vehkalahti@helsinki.fi
Arje Scheinin medal, Miira M Vehkalahti, 01.01.2007 → 31.12.2011, Finland

Editor of research journal

Satu Alaluusua, Satu.Alaluusua@helsinki.fi
Environmental Toxicology and Pharmacology, Satu Alaluusua, 01.01.2005 → 31.12.2005
Eur Arch Paediatric Dent, Satu Alaluusua, 01.01.2006 → 31.12.2006, United Kingdom
Int J Paediatric Dent, Satu Alaluusua, 01.01.2006 → 31.12.2006, United Kingdom
Hammaslääkärilehti, Satu Alaluusua, 01.01.2008 → 31.12.2011, Finland
Int J Paed Dent, Satu Alaluusua, 01.01.2008 → 31.12.2011, United States
Canadian Journal of Microbiology, Satu Alaluusua, 08.10.2009 → 31.12.2011, Canada
European Arch Paediatr Dent, Satu Alaluusua, 01.01.2009 → 31.12.2011, United Kingdom

Jarkko Hietanen, Jarkko.Hietanen@helsinki.fi
European J Oral Sciences, Jarkko Hietanen, 01.01.2005 → 31.12.2005
J Oral Pathol, Jarkko Hietanen, 01.01.2006 → 31.12.2006
Journal of Molecular Histology, Jarkko Hietanen, 01.01.2006 → 31.12.2006
Journal of Molecular Histology, Jarkko Hietanen, 2006
Journal of Oral Pathology, Jarkko Hietanen, 2006
Oral Oncology, Jarkko Hietanen, 01.09.2007 → 31.12.2008, United Kingdom
Journal of Oral Pathology &amp; Medicine, Jarkko Hietanen, 01.09.2008 → 31.12.2011, United Kingdom

Paivi Hölttä, Paivi.Holtta@helsinki.fi
Suomen Hammaslääkärilehti, Paivi Hölttä, 01.08.2008 → 16.10.2009, Finland

Jukka Meurman, Jukka.Meurman@helsinki.fi
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

Dental/Rice

Clinical Microbiology, Jukka Meurman, 01.01.2005 – 31.12.2005

Heikki Murtomaa, Heikki.Murtomaa@helsinki.fi
Community Dentistry and Oral Epidemiology, Heikki Murtomaa, 01.01.2006 – 31.12.2006, Denmark
Community Dentistry and Oral Epidemiology, Heikki Murtomaa, 01.01.2007 – 31.12.2011, Lithuania
Medical Principles and Practice, Heikki Murtomaa, 01.01.2007 – 31.12.2011, Kuwait
Community Dentistry and Oral Epidemiology, Heikki Murtomaa, 01.01.2008 – 31.12.2011, Denmark
Community Dentistry and Oral Epidemiology, Heikki Murtomaa, 01.01.2009 – 31.12.2011, Denmark
Medical Principles and Practice, Heikki Murtomaa, 01.01.2009 – 31.12.2011, Kuwait

Pekka Tapani Nieminen, Pekka.Nieminen@helsinki.fi
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

Dental/Rice

Journal of Dental Research, Pekka Tapani Nieminen, 01.01.2005 → 31.12.2005, United States
Orthodontics and Craniofacial Research, Pekka Tapani Nieminen, 02.02.2007 → 31.12.2011, Netherlands
Clinical Genetics, Pekka Tapani Nieminen, 09.12.2008 → 31.12.2011, United States
Journal of Dental Research, Pekka Tapani Nieminen, 06.05.2009 → 31.12.2011, United States

Pirkko Pussinen, pirkko.pussinen@helsinki.fi

Arteriosclerosis, Thrombosis, and Vascular Biology, Pirkko Pussinen, 08.01.2004 → 31.12.2011, United States
Anaerobe, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United States
Cancer Letters, Pirkko Pussinen, 01.01.2005 → 29.12.2005, United Kingdom
Circulation, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United States
Clinica Chimica Acta, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United Kingdom
Clinical Biochemistry, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United States
Clinical Chemistry and Laboratory Medicine, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United States
Journal of Dental Research, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United States
Lääkärilehti, Pirkko Pussinen, 01.01.2005 → 31.12.2005, Finland
Oral Biosciences and Medicine, Pirkko Pussinen, 01.01.2005 → 31.12.2005, United States
European Journal of Oral Sciences, Pirkko Pussinen, 01.01.2006 → 31.12.2006, United Kingdom
FEIMS Immunology and Medical Microbiology, Pirkko Pussinen, 01.01.2006 → 31.12.2006, United Kingdom
Journal of Clinical Periodontology, Pirkko Pussinen, 01.01.2006 → 31.12.2006, United States
Journal of Endotoxin Research, Pirkko Pussinen, 01.01.2006 → 31.12.2006, Germany
Journal of Periodontal Research, Pirkko Pussinen, 01.01.2006 → 31.12.2006, United States
Stroke, Pirkko Pussinen, 01.01.2006 → 31.12.2006, United States
Atherosclerosis, Pirkko Pussinen, 01.01.2007 → 31.12.2011, United Kingdom
Clinical Science, Pirkko Pussinen, 29.01.2007 → 31.12.2011, United Kingdom
International Journal of Laboratory Methods, Pirkko Pussinen, 03.01.2007 → 31.12.2011, United States
Journal of Clinical Microbiology, Pirkko Pussinen, 04.01.2007 → 31.12.2011, United States
Journal of Periodontitis, Pirkko Pussinen, 03.01.2007 → 31.12.2011, United States

David Paul Cracroft Rice, david.rice@helsinki.fi

Associate editor, Frontiers in Craniofacial Biology, David Paul Cracroft Rice, 01.06.2010 → 01.01.2017
Editor in Chief, European Journal of Orthodontics, David Paul Cracroft Rice, 01.09.2010 → 31.08.2017, United Kingdom

Riina Maarja Katrina Richardson, riina.richardson@helsinki.fi

Clinica Chimica Acta, Riina Maarja Katrina Richardson, 01.01.2002 → 31.12.2006
Suomen Hammaslääkärilehti, Riina Maarja Katrina Richardson, 01.01.2005 → 31.12.2005, Finland
Clinical Oral Investigations, Riina Maarja Katrina Richardson, 01.01.2006 → 31.12.2006
APMIS, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011
Annals of Medicine, Riina Maarja Katrina Richardson, 11.05.2007 → 31.12.2011
Annals of Medicine, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011
Clinical Microbiology and Infection, Riina Maarja Katrina Richardson, 01.04.2007 → 31.07.2007

5
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

**Dental/Rice**

Clinical Microbiology and Infection, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011
Journal of Oral Pathology and Medicine, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011
Journal of Oral Rehabilitation, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011
Medical Mycology, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011
Suomen Lääkärilehti, Riina Maarja Katrina Richardson, 01.01.2007 → 31.12.2011, Finland

**Carin Sahlberg**, Carin.Sahlberg@helsinki.fi
Journal of Oral Pathology and Medicine, Carin Sahlberg, 01.01.2005 → 31.12.2005, Denmark

**Miira M Vehkalahti**, Miira.Vehkalahti@helsinki.fi
Community Dentistry and Oral Epidemiology, Miira M Vehkalahti, 01.01.2005 → 31.12.2005
Community Dentistry and Oral Epidemiology, Miira M Vehkalahti, 01.01.2006 → 31.12.2006
Community Dental Health, Miira M Vehkalahti, 01.01.2007 → 31.12.2007
Community Dentistry and Oral Epidemiology, Miira M Vehkalahti, 01.01.2007 → 31.12.2007

**Jorma Ilmari Virtanen**, jorma.virtanen@helsinki.fi
Suomen Hammaslääkärilehti, Jorma Ilmari Virtanen, 01.01.2005 → 31.12.2011
Community Dental Health, Jorma Ilmari Virtanen, 01.01.2006 → 31.12.2006
JECH, Jorma Ilmari Virtanen, 01.01.2006 → 31.12.2006
Preventive Medicine, Jorma Ilmari Virtanen, 01.01.2006 → 31.12.2006

**Peer review of manuscripts**

**Satu Alaluusua**, Satu.Alaluusua@helsinki.fi
Further examination of the prevalence of MIH in the Wellington region, Satu Alaluusua, 2010, New Zealand
Molar-Incisor Hypomineralization (MIH) and oral hygiene in 10-to-12-year-old Swedish children born preterm, Satu Alaluusua, 28.08.2010
Virulence traits of Streptococcus sobrinus isolated from caries-free children and children suffering severe early childhood caries, Satu Alaluusua, 01.11.2010

**Päivi Hölttä**, Paivi.Holtta@helsinki.fi
International Journal of Paediatric Dentistry, Päivi Hölttä, 2005 → 2007, United Kingdom
Suomen Hammaslääkärilehti, Päivi Hölttä, 2007, Finland
Angle Orthodontist, Päivi Hölttä, 2010
Stem Cell Research and Therapy, Päivi Hölttä, 2010
Suomen Hammaslääkärilehti, Päivi Hölttä, 2010, Finland

**Pekka Tapani Niemenen**, Pekka.Niemenen@helsinki.fi

**David Paul Cracroft Rice**, david.rice@helsinki.fi
European Journal of Orthodontics, David Paul Cracroft Rice, 01.01.2001 → 01.01.2017
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

American Journal of Pathology, David Paul Cracroft Rice, 31.01.2003 → 31.12.2011, United States
Development, David Paul Cracroft Rice, 31.01.2003 → 31.12.2011, United States
Human Molecular Genetics, David Paul Cracroft Rice, 31.01.2005 → 31.12.2011
Bone, David Paul Cracroft Rice, 31.01.2006 → 31.12.2011
Gene Expression Patterns, David Paul Cracroft Rice, 31.01.2006 → 31.12.2011
Nature Medicine, David Paul Cracroft Rice, 31.01.2006 → 31.12.2011
The European Journal of Medical Genetics, David Paul Cracroft Rice, 31.01.2006 → 31.12.2011
The Lancet, David Paul Cracroft Rice, 31.01.2006 → 31.12.2011, United States
Histology and Histopathology, David Paul Cracroft Rice, 31.01.2007 → 31.12.2011

Membership or other role in review committee
David Paul Cracroft Rice, david.rice@helsinki.fi
RED10, David Paul Cracroft Rice, 01.08.2010 → 25.02.2011, Sweden

Membership or other role in national/international committee, council, board
Satu Alaluusua, Satu.Alaluusua@helsinki.fi
European Science Foundation (COST), Satu Alaluusua, 01.01.2005 → 31.12.2005
Suomen Hammastäkääriseura Apollonia asiantuntijalautakunta, Satu Alaluusua, 01.01.2005 → 31.12.2005
European Science Foundation (COST), Satu Alaluusua, 01.01.2006 → 31.12.2006
Jarkko Hietanen, Jarkko.Hietanen@helsinki.fi
Hgyn yliopiston lääketieteellisen tiedekunnan tutkimusneuvosto, Jarkko Hietanen, 01.01.2005 → 31.12.2005, Finland
Hgyn yliopiston lääketieteellisen tiedekunnan tutkimusneuvosto, Jarkko Hietanen, 01.01.2006 → 31.12.2006, Finland
Hgyn yliopiston lääketieteellisen tiedekunnan tutkimusneuvosto, Jarkko Hietanen, 01.01.2006 → 31.12.2006
Terveydenhuollon ammatihenkilöiden neuvottelukunta, Jarkko Hietanen, 01.08.2007 → 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

Dental/Rice

Kati Hyvärinen , Kati.Hyvarinen@helsinki.fi
Suomen Ateroskleroosiyhdistys ry, Kati Hyvärinen, 16.03.2007 → ..., Finland

Päivi Hölttä , Paivi.Holtta@helsinki.fi
European Academy of Paediatric Dentistry, Päivi Hölttä, 2010 → ..., Finland

Anja Kotiranta , Anja.Kotiranta@helsinki.fi
Apollonia, Anja Kotiranta, 01.01.2008 → 31.12.2011, Finland

Jukka Meurman , Jukka.Meurman@helsinki.fi
IADR Scandinavian Division (NOF, Jukka Meurman, 01.01.2005 → 31.12.2005
IADR Scandinavian Division (NOF), Jukka Meurman, 01.01.2006 → 31.12.2006
IADR Scandinavian Division (NOF), Jukka Meurman, 01.01.2006 → 31.12.2006
Finnish Academy of Sciences and Letters, Jukka Meurman, 08.02.2007 → 31.12.2011, Finland
German Academy of Sciences "Leopoldina", Jukka Meurman, 08.02.2007 → 31.12.2011, Germany
International Association for Dental Research, Jukka Meurman, 08.02.2007 → 31.12.2011, United States

Heikki Murtomaa , Heikki.Murtomaa@helsinki.fi
Dented, Heikki Murtomaa, 01.01.2005 → 31.12.2005
Dented, Heikki Murtomaa, 01.01.2006 → 31.12.2006, Ireland
Norska Forskningsrådet, Heikki Murtomaa, 01.01.2006 → 31.12.2006, Norway
Dented, Heikki Murtomaa, 01.01.2007 → 31.12.2011, Ireland
Norska Forskningsrådet, Heikki Murtomaa, 01.01.2007 → 31.12.2011, Norway
Association for Dental Education in Europe, Heikki Murtomaa, 01.01.2008 → 31.12.2011, Ireland
FINOHTA, Heikki Murtomaa, 01.01.2008 → 31.12.2011, Finland
International Federation of Dental Educators and Associations, Heikki Murtomaa, 01.01.2008 → 31.12.2011, United States
Norska Forskningsrådet, Heikki Murtomaa, 01.01.2008 → 31.12.2011, Norway
Association for Dental Education in Europe, Heikki Murtomaa, 01.01.2009 → 31.12.2011, Ireland
FINOHTA, Heikki Murtomaa, 01.01.2009 → 31.12.2011, Finland
International Federation of Dental Educators and Associations, Heikki Murtomaa, 01.01.2009 → 31.12.2011, United States

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European Atherosclerosis Society, Pirkko Pussinen, 19.01.2009 → 31.12.2011, United Kingdom

David Paul Cracroft Rice , david.rice@helsinki.fi
British Orthodontic Society, David Paul Cracroft Rice, 31.05.1994 → 31.12.2011, United Kingdom
European Orthodontic Society, David Paul Cracroft Rice, 31.05.1994 → 31.12.2011, United Kingdom
Medical Defence Union, David Paul Cracroft Rice, 31.01.2004 → 31.12.2011
Finnish Dental Society, David Paul Cracroft Rice, 01.01.2009 → 31.12.2011, Finland
Finnish Dental Union, David Paul Cracroft Rice, 01.01.2009 → 31.12.2011, Finland

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Finnish Dental Society, Riina Maarja Katriina Richardson, 01.01.1990 → 31.12.2011, Finland
Finnish Society for Immunology, Riina Maarja Katriina Richardson, 11.01.2001 → 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

Dental/Rice

Suomen sairaalahygieniayhdistys, Riina Maarja Katrinna Richardson, 01.01.2006 → 31.12.2011, Finland
Infektioautten tutkimusyhdistys, Riina Maarja Katrinna Richardson, 01.01.2007 → 31.12.2011, Finland
International Society for Human and Animal Mycology, Riina Maarja Katrinna Richardson, 01.01.2009 → 31.12.2011

Carin Sahlberg , Carin.Sahlberg@helsinki.fi
Suomen kehitysbiologian yhdistys ry, Carin Sahlberg, 01.01.2005 → 31.12.2005, Finland
Suomen kehitysbiologian yhdistys ry, Carin Sahlberg, 01.01.2006 → 31.12.2006, Finland

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Finnish Dental Society Apollonia, Lotta Seppänen, 17.08.2006 → 31.12.2011, Finland
European Society of Clinical Microbiology and Infectious Diseases, Lotta Seppänen, 01.04.2007 → 31.12.2011, Switzerland
Odontologiska Samfundet i Finland, Lotta Seppänen, 01.01.2007 → 31.12.2011, Finland

Kimmo Suomalainen , Kimmo.Suomalainen@helsinki.fi
Suomen Hammastäkkärillitto, koulutuspolitiittinen valiokunta, Kimmo Suomalainen, 01.01.2006 → 31.12.2006
Suomen Hammastäkkäriseura Apollonia, lensairaikuisen käypä hoito -työryhmä, Kimmo Suomalainen, 01.01.2006 → 31.12.2006
Anita Tuomainen , anita.tuomainen@helsinki.fi
Suomen ateroskleroosiyhdistys SATY, Anita Tuomainen, 01.02.2008 → 31.12.2011, Finland

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SHS Apollonia, Miira M Vehkalahdi, 01.01.2006 → 31.12.2006, Finland

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SHS / Kansanterveysjärjestö, Jorma Ilmari Virtanen, 01.01.1999 → 31.12.2011, Finland
Suomen Epidemiologian Seura, Jorma Ilmari Virtanen, 01.01.2000 → 31.12.2011, Finland
Suomen Lääkintäkäytäntö ja -etikat Seura, Jorma Ilmari Virtanen, 01.01.2007 → 31.12.2011, Finland

Membership or other role in public Finnish or international organization
Satu Alaluusua , Satu.Alaluusua@helsinki.fi
Duodecim, Satu Alaluusua, 01.01.2005 → 01.02.2009
HY Lääketieteellisen tiedekunnan erikoishammaslääkäritiedekunta, Satu Alaluusua, 01.01.2005 → 31.12.2005, Finland
HY hammaslääketieteet tiedekunnan erikoishammaslääkäritiedekunta, Satu Alaluusua, 01.01.2005 → 31.12.2005, Finland
Käypä hoito, Duodecim, Satu Alaluusua, 01.01.2005 → 31.12.2005, Finland
Opintosuoritusten tutkimusneuvontayhtymä, Satu Alaluusua, 01.01.2005 → 31.12.2005, Finland
Terveydenhuollon menetelmien arvioinnin arvokunnan arvopalkinnotiedekunta, Satu Alaluusua, 01.01.2005 → 31.12.2005, Finland
HY lääketieteellisen tiedekunnan erikoishammaslääkäritiedekunta, Satu Alaluusua, 01.01.2006 → 31.12.2006, Finland
Opintosuoritusten tutkimusneuvontayhtymä, Satu Alaluusua, 01.01.2006 → 31.12.2006, Finland
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

Dental/Rice

Terveydenhuollon menetelminen arvioinnin neuvottelukunta/Stakes, Satu Alaluusua, 01.01.2006 → 31.12.2006, Finland

Jarkko Hietanen, Jarkko.Hietanen@helsinki.fi

HUSLAB patologian toimialan ohjausryhmä, Jarkko Hietanen, 01.01.2005 → 31.12.2005, Finland

STM ja OPM, Jarkko Hietanen, 01.01.2005 → 31.12.2005, Finland

STM ja OPM, Jarkko Hietanen, 2005, Finland

Anja Kotiranta, Anja.Kotiranta@helsinki.fi

Koulutustoimikunnan jäsen, Anja Kotiranta, 31.01.2010 → 31.12.2010

Jukka Meurman, Jukka.Meurman@helsinki.fi

Etelä-Suomen Lääninhallitus, Jukka Meurman, 01.01.2005 → 31.12.2005, Finland

KEA sosiaalilääketieteellinen toimikunta, Jukka Meurman, 01.01.2005 → 31.12.2005, Finland

Lääkekotiolos, Jukka Meurman, 01.01.2005 → 31.12.2005, Finland

STAKES, Jukka Meurman, 01.01.2005 → 31.12.2005, Finland

Teo, Jukka Meurman, 01.01.2005 → 31.12.2005, Finland

YTHS-valtuuskunta, Jukka Meurman, 01.01.2005 → 31.12.2005, Finland

HUS, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

KEA, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

Lääkekotiolos, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

Sos- ja terveysministeriö, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

Sakes, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

TEO, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

YTHS, Jukka Meurman, 01.01.2006 → 31.12.2006, Finland

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Terveydenhuollon oikeusturveskus, Heikki Murtomaa, 01.01.2006 → 31.12.2011, Finland

TEO, Heikki Murtomaa, 01.01.2007 → 31.12.2011, Finland

Terveydenhuollon oikeusturveskus, Heikki Murtomaa, 01.01.2008 → 31.12.2011, Finland

Terveydenhuollon oikeusturveskus, Heikki Murtomaa, 01.01.2009 → 31.12.2011, Finland

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Lääkekotiolos (Helsinki, Suomi), hammaslääkärin vastaantulon hygienialäkymysten asiantuntija, Riina Maarja Katirina Richardson, 01.01.2004 → 01.06.2007, Finland

HYKS Kurjungin saaraa Sairaalhygieniatomikuuta, Riina Maarja Katirina Richardson, 01.01.2005 → 31.12.2005, Finland

Posaconazole European advisory group, Riina Maarja Katirina Richardson, 01.01.2005 → 31.12.2005

HYKS Kurjungin saaraa, Sairaalhygieniatomi, Riina Maarja Katirina Richardson, 01.01.2006 → 31.12.2006, Finland

Finnish Medical Association Current Care Guidelines working group for Antibiotics in Dentistry, Riina Maarja Katirina Richardson, 01.01.2009 → 31.12.2011, Finland

Jorma Ilmari Virtanen, Jorma.virtanen@helsinki.fi

OPM virtuuallopistohekke, Jorma Ilmari Virtanen, 01.01.2002 → 31.12.2005, Finland

Scientific Committee, Jorma Ilmari Virtanen, 01.01.2003 → 31.12.2011, Belgium

Referee for the Health Research Board in Ireland, Jorma Ilmari Virtanen, 01.01.2005 → 31.12.2011, Ireland

WHO Oral Health Programme, Jorma Ilmari Virtanen, 01.02.2006 → 01.08.2007, Switzerland

Scientific Committee, Jorma Ilmari Virtanen, 01.01.2007 → 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

Dental/Rice

Tupakasta vieroitus terveydenhuollossa, Jorma Ilmari Virtanen, 01.01.2008 → 31.12.2011, Finland

Membership or other role of body in private company/organisation

Jarkko Hietanen , Jarkko.Hietanen@helsinki.fi
British Society for Oral and Maxillofacial Pathology, Jarkko Hietanen, 01.09.1986 → 31.12.2011, United Kingdom

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SHS Apollonia, Lasten hampasmäkit jaosto, Päivi Hölttä, 01.01.2004 → 31.12.2005, Finland
Suomen Migroenyhdistys ry, Päivi Hölttä, 01.01.2005 → 31.12.2011, Finland
European Academy of Paediatric Dentistry, Päivi Hölttä, 01.01.2007 → 31.12.2011, Finland
Suomen Migroenyhdistys rt, Päivi Hölttä, 01.01.2008 → 31.12.2011, Finland

Anja Kotiranta , Anja.Kotiranta@helsinki.fi
SHS Apollonia, Endodontian jaosto, Anja Kotiranta, 01.01.2006 → 31.12.2006, Finland
SHS Apollonia, koulutustoimikunta, Anja Kotiranta, 15.11.2007 → 31.12.2011, Finland

Heikki Murтомaa , Heikki.Murтомaa@helsinki.fi
Association for Dental Education in Europe, Heikki Murтомaa, 01.01.2006 → 31.12.2006, Ireland
ADEE, Heikki Murтомaa, 01.01.2007 → 31.12.2011, Ireland
ADEE, Heikki Murתוכa, 01.01.2008 → 31.12.2011, Ireland

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Scandinavian Society for Atherosclerosis Research, Pirkko Pusssinen, 01.01.1993 → 31.12.2011, Denmark
European Atherosclerosis Society, Pirkko Pusssinen, 01.01.2004 → 31.12.2011, United Kingdom
Hampaspääkäriseura Apollonia, Pirkko Pusssinen, 01.03.2007 → 31.12.2011, Finland
Suomen Ateroskleroosiyhdistys SATY, Pirkko Pusssinen, 16.03.2007 → 31.12.2011, Finland

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The New York Academy of Sciences, Jorma Ilmari Virtanen, 01.11.2001 → 31.10.2008, United States

Participation in interview for written media

Satu Alaluusua , Satu.Alaluusua@helsinki.fi
Helsingin Sanomien viikollite Nyt, Satu Alaluusua, 05.11.2010, Finland
MLL, Lasten ja ruoan kuntoutussäätiön sopeutumisvalmennuskurssi: Kalsium-fosfaattiaineenvaihdunnan sairaudet, Satu Alaluusua, 18.08.2008, Finland
Helsingin sanomat, Satu Alaluusua, 18.08.2008, Finland
Huvudstadsbladet, Satu Alaluusua, 28.05.2009, Finland
Lapsen terveys -teemanähti Helsingin Sanomien liitteenä, Satu Alaluusua, 13.01.2005, Finland
Hampus vietiä, Satu Alaluusua, 03.10.2009, Finland
Hus, hus hampaspäkoit, Satu Alaluusua, 03.10.2010, Finland
Pitää hampastasi huolta, Satu Alaluusua, 30.09.2010, Finland
Pitää hampastasi huolta, Satu Alaluusua, 09.10.2010, Finland

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Vetenskap & arbete, Jarkko Hietanen, 05.11.2010, Finland

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

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

Dental/Rice

HYKSin lapsisypälapotilaan vanhemmat ja ystävät ry:n jäsenlehti "Sääteitä", Päivi Hölttä, 01.12.2005, Finland

Hem/Onc today -Lehti, USA, Päivi Hölttä, 01.07.2005, United States

Mannerheinin lastensuojelutiliitto, kuntoutuskiitto, sopeutumisvalmennus kurssi perheille, Päivi Hölttä, 2006, Finland

Midián perhe-lehti, haastattelu., Päivi Hölttä, 01.04.2006, Finland

Mannerheinin lastensuojelutiliitto, kuntoutuskiitto, sopeutumisvalmennus kurssi, Päivi Hölttä, 27.09.2007, Finland

Suomen Migreeniyhdistys ry:n jäsenlehti "Päänsärky", Päivi Hölttä, 01.02.2007, Finland

Suun Terveydeksi -lehti, haastattelu., Päivi Hölttä, 01.04.2007, Finland

Yliopistolehti, haastattelu., Päivi Hölttä, 03.05.2007, Finland

Suomen Migreeniyhdistys ry:n jäsenlehti "Päänsärky", Päivi Hölttä, 20.09.2008, Finland

Heikki Murtomaa, Heikki.Murtomaa@helsinki.fi

Plusterveys Oy 30 vuotta, Heikki Murtomaa, 01.09.2009, Finland

Hammasjarja sähköllä vai ilman?, Heikki Murtomaa, 19.01.2010

Hampaisten harjaaminen retuperällä, Heikki Murtomaa, 20.02.2010

Parodontitoli ja sydänsairaudet kulkevat käskkiin, Heikki Murtomaa, 15.03.2010

Ruskeasuo punaisilla liikailla, Heikki Murtomaa, 19.11.2010

Riina Maarja Katriina Richardson, riina.richardson@helsinki.fi

Suomen APECED-yhdistyksen koulutuspäivä jäsenille, Riina Maarja Katriina Richardson, 07.05.2006, Finland

Sydänlääsi ja aikuiset ry:n sopeutumisvalmennusviikonloppu, Riina Maarja Katriina Richardson, 01.10.2007, Finland

Miira M Vehkalahti, Miira.Vehkalahti@helsinki.fi

Lehti Super, Miira M Vehkalah, 01.10.2006, Finland

Participation in radio programme

Satu Alaluusua, Satu.Alaluusua@helsinki.fi


Heikki Murtomaa, Heikki.Murtomaa@helsinki.fi

radio interview, Heikki Murtomaa, 19.02.2007, Finland


Susanna Paju, Susanna.Paju@helsinki.fi

Kurssi tupakoinnin lopettajille, Yleisradio Oy, Susanna Paju, 05.04.2006 → 31.12.2011, Finland

Kurssi tupakoinnin lopettajille, Yleisradio Oy, Susanna Paju, 04.07.2006 → 31.12.2011, Sweden

Kurssi tupakoinnin lopettajille, Yleisradio Oy, Susanna Paju, 18.04.2007 → 31.12.2011, Finland

Radio-ohjelma Päiväkontakti, Yleisradio, Radio Suomi, Susanna Paju, 09.01.2007 → 31.12.2011, Finland


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Radiohaastattelu, Seniöjen paikallisradio, Riina Maara Katriina Richardson, 10.03.2006 → 31.12.2011, Finland

Participation in TV programme

Satu Alaluusua, Satu.Alaluusua@helsinki.fi

Haastattelu, uutiset, Satu Alaluusua, 09.10.2010, Finland

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Prisma/ Yle 1, Jukka Meurman, 01.12.2005, Finland
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING AT THE UNIVERSITY OF HELSINKI

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

Dental/Rice

Susanna Paju, Susanna.Paju@helsinki.fi
Aamutohtori, Aamu-TV, Yleisradio TV1, Susanna Paju, 01.01.2005 → 31.12.2011, Finland
Aamutohtori, Aamu-TV, TV 1; Aamutohtori, Susanna Paju, 04.07.2006 → 31.12.2011, Sweden
Aamutohtori, Aamu-TV, Yleisradio TV1, Susanna Paju, 04.07.2006 → 31.12.2011, Finland
Aamutohtori, Aamu-TV, Yleisradio, TV 1, Susanna Paju, 16.03.2006 → 31.12.2011, Finland
Aamutohtori, Aamu-tv, Yleisradio TV1, Susanna Paju, 22.01.2007 → 31.12.2011, Finland
Aamutohtori, Aamu-tv, Yleisradio Oy, Susanna Paju, 07.01.2008 → 31.12.2011, Finland

David Paul Cracroft Rice, david.rice@helsinki.fi
National TV Channel 1, i, David Paul Cracroft Rice, 01.10.2008, Finland
Research Group: Rice D

Basic statistics

- Number of publications (P) 220
- Number of citations (TCS) 1,314
- Number of citations per publication (MCS) 6.10
- Percentage of uncited publications 32%
- Field-normalized number of citations per publication (MNCS) 1.09
- Field-normalized average journal impact (MNJS) 1.04
- Field-normalized proportion highly cited publications (top 10%) 1.13
- Internal coverage .81

Trend analyses

Collaboration

Performance (MNCS) by collaboration type
INTERNATIONAL EVALUATION OF RESEARCH AND DOCTORAL TRAINING
AT THE UNIVERSITY OF HELSINKI

by CWTS, Leiden University, the Netherlands

Research profile

![Diagram showing research profile categories]

- Dentistry, Oral Surgery & Medicine
- Microbiology
- Medicine, General & Internal
- Immunology
- Infectious Diseases
- Developmental Biology
- Peripheral Vascular Disease
- Oncology
- Pathology
- Surgery
- Public, Environmental & Occupational Health

Threshold: \( P \geq 5 \)