



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

RC-Specific Evaluation of Legal protection and welfare – Forensic medicine: from citizen's protection to community welfare

Seppo Saari & Antti Moilanen (Eds.)



Evaluation Panel: Medicine, Biomedicine and Health Sciences

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Title: International Evaluation of Research and Doctoral Training at the University of Helsinki 2005–2010 : RC-Specific Evaluation of Legal protection and welfare – Forensic medicine: from citizen's protection to community welfare	Type of publication: Evaluations
Summary: Researcher Community (RC) was a new concept of the participating unit in the evaluation. Participation in the evaluation was voluntary and the RCs had to choose one of the five characteristic categories to participate. Evaluation of the Researcher Community was based on the answers to the evaluation questions. In addition a list of publications and other activities were provided by the TUHAT system. The CWTS/Leiden University conducted analyses for 80 RCs and the Helsinki University Library for 66 RCs. Panellists, 49 and two special experts in five panels evaluated all the evaluation material as a whole and discussed the feedback for RC-specific reports in the panel meetings in Helsinki. The main part of this report is consisted of the feedback which is published as such in the report. Chapters in the report: 1. Background for the evaluation 2. Evaluation feedback for the Researcher Community 3. List of publications 4. List of activities 5. Bibliometric analyses The level of the RCs' success can be concluded from the written feedback together with the numeric evaluation of four evaluation questions and the category fitness. More conclusions of the success can be drawn based on the University-level report.	
RC-specific information:	
Main scientific field of research: Medicine, Biomedicine and Health Sciences	RC-specific keywords: forensic pathology, forensic genetics, forensic toxicology
Participation category: 5. Research of the participating community has a highly significant societal impact	
RC's responsible person: Sajantila, Antti	
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 led 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 Pyhälä**

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 pharmaceuticals, 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 biochemi
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.

MSocSc Paula Ranne, Planning Officer, was responsible for organising the panel meetings and all the other practical issues like agreements and fees and editing a part the RC-specific reports. She worked in the evaluation office from March 2011 to January 2012.

Mr Antti Moilanen, Project Secretary, was responsible for editing the reports. He worked in the evaluation office from January 2012 to April 2012.

TUHAT OFFICE

Provision of the publication and other scientific activity data

Mrs Aija Kaitera, Project Manager of TUHAT-RIS served the project ex officio providing the evaluation project with the updated information from TUHAT-RIS. The TUHAT office assisted in mapping the publications with CWTS/University of Leiden.

MA Liisa Ekebom, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation. She also assisted the UH/Library analyses.

BA Liisa Jäppinen, Assisting Officer, served in TUHAT-RIS updating the publications for the evaluation.

HELSINKI UNIVERSITY LIBRARY

Provision of the publication analyses

Dr Maria Forsman, Chief Information Specialist in the Helsinki University Library, managed with her 10 colleagues the bibliometric analyses in humanities, social sciences and in other fields of sciences where CWTS analyses were not applicable.

Acronyms and abbreviations applied in the report

External competitive funding

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

Evaluation marks

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

Abbreviations of Bibliometric Indicators

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

Participation category

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

Category 2. The research of the participating community is of high quality, but the community in its present composition has yet to achieve strong international recognition or a clear break-through.

Category 3. The research of the participating community is distinct from mainstream research, and the special features of the research tradition in the field must be considered in the evaluation.

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

Category 5. The research of the participating community has a highly significant societal impact.

Research focus areas of the University of Helsinki

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

Focus area 2: The basic structure of life

Focus area 3: The changing environment - clean water

Focus area 4: The thinking and learning human being

Focus area 5: Welfare and safety

Focus area 6: Clinical research

Focus area 7: Precise reasoning

Focus area 8: Language and culture

Focus area 9: Social justice

Focus area 10: Globalisation and social change

1 Introduction to the Evaluation

1.1 RC-specific evaluation reports

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

It is essential to emphasise that the evaluation combines both meta-evaluation¹ 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.²
- 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. TUHAT³ compilations on publications and other scientific activities⁴
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. Practises and quality of doctoral training

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

The 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

- Other remarks
- Recommendations

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".

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)⁵

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

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

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

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

1.8 Timetable of the evaluation

The main timetable of the evaluation:

- | | |
|--|-----------------------|
| 1. Registration | November 2010 |
| 2. Submission of self-evaluation materials | January–February 2011 |
| 3. External peer review | May–September 2011 |
| 4. Published reports | March–April 2012 |
| - University level public report | |
| - RC specific reports | |

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

1.9 Evaluation feedback – consensus of the entire panel

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

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

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

2 Evaluation feedback

2.1 Focus and quality of the RC's research

- *Description of*
 - *the RC's research focus*
 - *the quality of the RC's research (incl. key research questions and results)*
 - *the scientific significance of the RC's research in the research field(s)*
 - *Identification of the ways to strengthen the focus and improve the quality of the RC's research*
- ASPECTS: Scientific quality, scientific significance, societal impact, innovativeness*

The RC represents five research groups working in the Department of Forensic Medicine and in the Hjelt Institute. The RC has a strong experience in genetics and molecular technologies. Doctoral training has been successful through Prof. Sajantila's active participation in Finnish Population Genetics Graduate School. The RC is heavily loaded with case studies, and collaboration with Criminal Police and NIHW is extensive.

Internationally the RC has an excellent reputation in their special areas like dental verification of the victims of various wars (Prof. Helena Ranta).

The RC has a very high level of their research in forensic medicine shown in their publication records.

Recommendation is to continue the excellent collaboration with human genetics and doctoral training in a doctoral programme of population genetics.

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

Doctoral training has been successful through Prof. Sajantila's active participation in the Finnish Population Genetics Graduate School although the five PhDs achieved within the evaluation period is not comparable to other RCs but quite high in Forensic Medicine at the European level.

Active collaboration with the doctoral programmes nominated by the Academy of Finland and funded by the Ministry of Culture and Education in the future would also be fruitful for the forthcoming years.

Numeric evaluation: 3 (Very good)

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

This RC has a very high societal impact, and they are the most important experts in their field of research in Finland, and they have the newest molecular technologies in their use to help the Criminal Police and NIHW. The RC is also responsible for forensic autopsies done in Helsinki area. Internationally the RC has an excellent reputation in their special areas like dental verification of the victims of various wars (Prof. Helena Ranta).

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 RC has an excellent collaboration records in their own field and collaboration with population genetics in Finland, NIHW and Criminal Police is extensive. The RC is also well-known internationally and has very good international scientific collaboration.

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

From the description of the work provided by Prof. Sajantila, it shows that excellent synergy within the unit and even more synergy could be found with the population genetics. The research environment is excellently equipped because of service related funding is likely much higher than external funding shown in the report.

The whole forensic system in Finland is currently under big changes, and these changes have taken a lot of time of PIs in the reorganization, and the role of NIHW has become more important.

Recommendation: try to keep up the research at a high level despite the constant changes and try to attract more funding for basic research. The University and NIHW should consider additional funding for the RC.

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 panel is convinced that the RC is well led and managed but constant changes in the reorganization of the forensic medicine in Finland is a challenging task for this RC.

Try to even increase the collaboration in population genetics in Helsinki Area and to be an active participant in the doctoral programme like before.

2.7 External competitive funding of the RC

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

Competitive funding reported in the text is also to be considered when evaluating this point.

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

The internal funding from service fees has most likely been much higher than external funding (described in stage 2 material), which was not very extensive. However, the RC has an excellent cutting edge infrastructure for modern molecular forensic medicine.

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

After the reorganization of the Forensic Medicine in Finland, the RC appears to continue more in-depth collaboration with NIHW. Hopefully the resources obtained from the service fees could be used also for the scientific research, and that the case-research is not the only research platform performed in this RC. Also more collaboration with medical genetics would be beneficial, and the recruitment of young medical doctors into Forensic Medicine should be increased.

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 5. The research of the participating community has a highly significant societal impact

The RC fits perfectly within the chosen participation category.

Numeric evaluation: 3 (Very good)

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

The compilation of the evaluation material was done clearly with all PIs involved.

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

Focus area 5: Welfare and safety

2.12 RC-specific main recommendations

Recommendations:

1. Try to cope the reorganization of Forensic Medicine in Finland in a way that scientific research is done actively with services the RC provides for the society, NIHW and CP.
2. Continue actively very successful collaboration within Doctoral Programme in Population Genetics.
3. Try to attract young medical doctors into the RC's area of research of utmost importance for the society.
4. Keep up the excellent level of molecular forensic research in the RC.

2.13 RC-specific conclusions

Very good RC within UH including Hjelt Institute with excellent international reputation and groups are complimentary to each other. Internationally very good reputation and strongest area for the scientific research is the population genetic research also for the future.

The panel has a very positive impression on the work done in this RC both in the past and future perspective. A stronger support in the future for their RC by the university, NIHW and CP should be considered.

2.14 Preliminary findings in the University-level evaluation

The RC Sajantila has a high societal impact, and this RC is undergoing great changes in the area of Forensic Medicine both in the administration and scientific research. The population genetic approach by the leader of the RC is highly esteemed, and further collaboration in the doctoral programme of population genetics would achieve even better doctoral training in the future.

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)



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at the University of Helsinki 2005-2010

RC-SPECIFIC MATERIAL FOR THE PEER REVIEW

NAME OF THE RESEARCHER COMMUNITY:

Forensic medicine: from citizen's protection to community welfare (Legal protection and welfare)

LEADER OF THE RESEARCHER COMMUNITY:

Professor Antti Sajantila, Department of Forensic medicine, Hjelt Institute

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' publications 1.1.2005-31.12.2010
- 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)



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RC-SPECIFIC STAGE 1 MATERIAL (registration form)

1 RESPONSIBLE PERSON

Name: Sajantila, Antti

E-mail:

Phone: +358-400-605205

Affiliation: Hjelt Institute, Department of Forensic Medicine

Street address: Kytösuntie 11

2 DESCRIPTION OF THE PARTICIPATING RESEARCHER COMMUNITY (RC)

Name of the participating RC (max. 30 characters): Forensic medicine: from citizen's protection to community welfare

Acronym for the participating RC (max. 10 characters): Legal protection and welfare

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): Forensic medicine is a multidisciplinary sector of medicine hosting several subfields: forensic pathology, toxicology, genetics, odontology, anthropology, and clinical forensic medicine. The research community's aim is to develop, through a multidisciplinary approach, the highest possible standards of forensic evidence to be used for the determination of cause and manner of death, personal identification, and a range of investigations of living persons in sexual abuse and other assaults, drunken drivers and body-packers. These common goals are achieved by integration, within and between the different above mentioned subfields of forensic medicine, of a wide-range of scientific methods, which are currently under intensive development. High-quality medico-legal investigations represent the basis for the collection of reliable data, which can be used at different levels, and ultimately to improve the community's welfare.

3 SCIENTIFIC FIELDS OF THE RC

Main scientific field of the RC's research: medicine, biomedicine and health sciences

RC's scientific subfield 1: Biology

RC's scientific subfield 2: Medicine, Legal

RC's scientific subfield 3: Pathology

RC's scientific subfield 4: Toxicology

Other, if not in the list:

4 RC'S PARTICIPATION CATEGORY

Participation category: 5. Research of the participating community has a highly significant societal impact



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Justification for the selected participation category (MAX. 2200 characters with spaces): Forensic medicine has a high societal impact. Academic forensic science provides the means and scientific basis for multidisciplinary cause of death investigations, which, in turn, is crucial for protection of the citizens. In fact it is one of the best methods to find out what is happening in the society. The information obtained in forensic casework can, when properly archived and analyzed, reveal long-time trends which are useful in administrative and political decision-making. Detailed information on unintentional and other non-natural deaths are among the core data sets only forensic medicine can provide for injury surveillance and prevention, and also drug monitoring. More sophisticated information can be obtained from post-mortem pharmacogenetics, drug interaction studies and population genetics. Due to the nature of forensic data, forensic laboratories have unique possibilities and thus a leading role in developing methods for human identification and toxicological analysis that can be utilized also in other fields of science and society. In turn, the data obtained with these new molecular methods can be effectively utilised for instance in disaster victim identification and early detection of new designer drugs.

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 Hjelt Institute Department of Forensic Medicine has focused its scientific research in forensic pathology, toxicology and genetics. The department performs internationally recognized scientific research within these fields.

The forensic pathology research has been focused on:

- 1) Diagnostics and epidemiology of drowning,
- 2) General trauma prevention,
- 4) Molecular autopsy,
- 3) Cellular changes in asthmatic children,
- 5) Gene expression in brain tissue connected to suicide. This recently started international project involves the department's forensic pathology unit, and genetic and toxicology laboratories.
- 6) Post mortem biochemical diagnostic markers

During the period of 2005 to 2010 there were two post graduate students in the unit, both of them have finished their PhDs

The forensic toxicology research has been focused on:

- 1) Quality assured analytical toxicology laboratory methods
- 2) Epidemiology of drug abuse and poisoning. The post-mortem toxicology statistics are the most reliable source of fatal poisoning and drug abuse information in the country.
- 3) Post-mortem toxicology database research



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RC-SPECIFIC STAGE 1 MATERIAL (registration form)

During the period of 2005 to 2010 there were five post graduate students in the laboratory, two of which have finished their PhDs.

The forensic genetic research has been focused on

- 1) Characterizing DNA marker diversity among Finns. Understanding of different markers is a prerequisite for reliable forensic genetics with an accentuated significance in Finland. This data has also been successfully used to study the population history of Finns.
- 2) Factors affecting DNA analyses from degraded bones. Our laboratory is the only Finnish laboratory capable of using bone tissue as source of DNA, required esp. in identification of decomposed/burned bodies.
- 3) Post mortem pharmacogenetics, the genetic determinants affecting the ability to metabolize drugs and other compounds. This rather new field of research can help in finding the cause and manner of deaths and setting safety limits for drug administration.

During the period of 2005 to 2010 there were six post graduate students in the laboratory, three of which have finished their PhDs.

Significance of the RC's research and doctoral training for the University of Helsinki (MAX. 2200 characters with spaces): The research community "Forensic medicine: from citizen's protection to community welfare" has a leading academic role in the Finnish forensic community, contributing significantly to the scientific basis of this field. This knowledge is applied in the forensic casework not only in Finland, but also internationally. A direct application of this information is delivered by the Finnish Forensic Expert Team on its international missions in countries like former-Yugoslavia, Peru, Thailand, Colombia and Nepal. The data collected by the research community and the expertise for their interpretation of is often provided to external non-academic institutions (eg. Statistics Finland, National Institute for Health and Welfare, Accident Investigation Board of Finland) involved at different level in promoting safety, health and community welfare. The topics of doctoral theses and research activities provide practical knowledge, vital for experts in all subfields of forensic science. Doctoral training educates students with academic background to later work in non-university organisations, such as Criminal Police laboratory or National Institute of Health and Welfare. Owing to this, the research group is an important factor in fulfilling University's "third task", the societal interaction (one of the focal areas in the UH 2010-2012 strategy plan). Furthermore, the research conducted adds to the diversity of science in the University of Helsinki.

Keywords: forensic pathology, forensic genetics, forensic toxicology

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): Forensic pathology: The unit has extensively studied the diagnostics and epidemiology of drowning and gained an international reputation as one of the leading countries in studies of "Bodies found in water". The unit has also gained an internationally leading



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RC-SPECIFIC STAGE 1 MATERIAL (registration form)

position in the project of molecular autopsies. These are reflected by invitations to international conferences as key note speakers, invitations for reviews in international journals, and as references to the publications. The doctoral training has produced two PhD dissertations during 2005-2010. Most of the doctoral training and research is performed during the specialization period, which limits the dissertation frequency.

Forensic toxicology:

Two research areas have gained international reputation with publications in high-quality journals and invited lectures: 1) Substance identification and quantification without reference standards, based on accurate molecular mass and chemiluminescence nitrogen detection

2) Post-mortem database research and epidemiology with new findings based on drug interactions and metabolite ratios

Forensic genetics: The laboratory of forensic biology has contributed significantly towards understanding the distribution of genetic marker diversity in Finland, as well as globally. These studies have been conducted with markers for human identification and for pharmacogenetics. The gained knowledge has been applied on forensic casework, as exemplified by the introduction of new marker systems, new laboratory methods and new result interpretation guideline. Population genetic analysis of the markers has led to a novel interpretation of Finnish population history. The work on pharmacogenetics has laid a foundation for understanding global variation at selected CYP2 genes and revealed safety parameters for some drugs. The work has also resulted on a "proof of principle" study in post mortem pharmacogenetics together with case studies. One form of doctoral training is the participation into the Ministry of Education funded "Graduate School". Department has a Board member of the Finnish Population Genetics Graduate School. With this funding and training two PhD students have

Comments on how the RC's scientific productivity and doctoral training should be evaluated (MAX. 2200 characters with spaces): Methods: Diversity of scientific publications, diversity of professional commitments (international missions)

Publishing strategy:

1) Forensic pathology: aim at the highest ranking forensic journals (good success), injury prevention journals (good success) and pulmonary (asthma) journal (very good success). The unique possibility to use samples from forensic pathology unit, and to exhaustively search the existing registers has been effectively utilised.

2) Forensic toxicology: aim at the highest ranking forensic journals (with good success) as well as analytical chemistry and epidemiology journals (moderate success). Close contacts with clinicians in the field of drug addiction are essential. Modern instrumentation is a key benefit in analytical toxicology studies.

3) Forensic genetics: aim at the highest ranking forensic journals (with good success) as well as human population genetic journals (moderate success). As forensic genetics lies in the intersection of medico-legal



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investigations and population genetics (or evolutionary biology), it has considerable benefit: using the same data sets it is possible to investigate two different (but closely intertwined) questions, published in different series. This has been effectively utilized.

Doctoral training: diversity of doctoral theses, the quality of individual articles included into the theses.

LIST OF RC MEMBERS

NAME OF THE RESEARCHER COMMUNITY:			Legal protection and welfare		
RC-LEADER			A. Sajantila		
CATEGORY			5		
	Last name	First name	PI-status (TUHAT, 29.11.2010)	Title of research and teaching personnel	Affiliation
1	Sajantila	Antti	x	Professor	Hjelt Institute, Department of Forensic medicine, University of Helsinki
2	Vuori	Erkki	x	Professor	Hjelt Institute, Department of Forensic medicine, University of Helsinki
3	Ranta	Helena	x	Professor	Hjelt Institute, Department of Forensic medicine, University of Helsinki
4	Ojanperä	Ilkka	x	Senior Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
5	Lunetta	Philippe	x	Senior Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
6	Palo	Jukka		Senior Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
7	Vaahtera	Katarina		Senior Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
8	Pelander	Anna		Postdoctoral Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
9	Rasanen	Ilpo		Postdoctoral Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
10	Ranta	Merja		Postdoctoral Researcher	Hjelt Institute, Department of Forensic medicine, University of Helsinki
11	Vauhkonen	Hanna		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
12	Pimenoff	Ville		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
13	Sistonen	Johanna		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
14	Ojanperä	Suvi		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
15	Hedman	Minttu		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
16	Neuvonen	Anu		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
17	Putkonen	Mikko		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
18	Launiainen	Terhi		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
19	Tyrkkö	Elli		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
20	Kolmonen	Marjo		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki
21	Varkkola	Olli		Doctoral candidate	Hjelt Institute, Department of Forensic medicine, University of Helsinki



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RC-SPECIFIC STAGE 2 MATERIAL

BACKGROUND INFORMATION

Name of the RC's responsible person: Sajantila, Antti

E-mail of the RC's responsible person:

Name and acronym of the participating RC: Forensic medicine: from citizen's protection to community welfare, Legal protection and welfare

The RC's research represents the following key focus area of UH: 5. Hyvinvointi ja turvallisuus – Welfare and safety

Comments for selecting/not selecting the key focus area: Forensic medicine has a high societal impact. Multidisciplinary investigations into the cause of death and medico-legal clinical examinations are crucial for individual citizen's legal protection. Due to the exceedingly high rates of medico-legal autopsies in Finland (>20 % of all deaths), medico-legal autopsies are a unique and reliable source of crucial data to investigate natural and injury deaths and, more in general, health and way of life at a population level. The information obtained from post-mortem investigations, when properly archived and analyzed, can reveal patterns and trends which, ultimately, can be used by decision-makers to implement preventive actions and to develop social and health policies. More sophisticated information can be obtained from molecular autopsies, post-mortem pharmacogenetics, drug interaction studies and population genetics. Forensic laboratories have thus unique possibilities and a leading role in performing research and developing methods which can be utilized also in other fields of science and society.

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).**

The Hjelt Institute, Department of Forensic Medicine, performs internationally recognized scientific research within the fields of forensic pathology, toxicology and genetics. Each of these fields has different focal points, described below. Despite the apparent autonomy of the subfields, in many cases the fundamental causative factors can be investigated using methods common to all subfields.

Forensic pathology research has focused on:

- 1) Diagnostics and epidemiology of drowning. Research projects on drowning have developed under two different pathways. Firstly, the large autopsy material of the Department of Forensic Medicine, coupled to experimental studies, are used to investigate, prospectively and retrospectively, selected and controversial issues concerning the diagnosis of cause of death in bodies found in water and the reliability of the diatom test for the diagnosis of drowning. Secondly, medico-legal expertise and post-mortem data are utilized in the field of drowning epidemiology and prevention, in both a national and international context.
- 2) Sudden infant death syndrome (SIDS). Research project on SIDS has been developed to study the epidemiological trends, the validation of cause-of-death investigation standards and the diagnostics of SIDS, particularly using the new genetic diagnostics. As a side product the material collected has been used to provide control material to a study other causes of death or to study mechanisms of diseases (e.g. cellular changes in asthmatic children).
- 3) Post mortem biochemical diagnostic markers. This project focuses on developing methods for analyzing blood glucose levels post mortem and differentiating alcoholic and hyperglycemic ketoacidosis for investigation of cause-of-death. Additionally, diagnostic markers for acute inflammation are



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RC-SPECIFIC STAGE 2 MATERIAL

developed. In general, the aim is to increase the number markers relevant for cause of death investigations, and to better understand the post-mortem decay of these indicator molecules.

During the period of 2005 to 2010 there were three post graduate students in the unit, two of them have finished their PhDs

Forensic toxicology research has been focused on:

1) Development of quality-assured analytical toxicology laboratory methods

The focus has been on methods that allow drug identification and quantification without necessarily possessing the reference standards. Identification was based on accurate mass measurement by liquid chromatography – time-of-flight mass spectrometry (LC-TOFMS) and quantification by chemiluminescence nitrogen detection with equimolar response to nitrogen containing compounds. In both techniques, the RC has made recognized pioneering work.

2) Epidemiology of drug abuse and poisoning. The post-mortem toxicology statistics are the most reliable source of fatal poisoning and drug abuse information in the country. There is a great demand for these statistics among researchers and policymakers.

3) Post-mortem toxicology database research revealed trends in drug interactions and pharmacogenetics that are hard to obtain from clinical studies. Especially with young adults, almost population-based toxicology data is available. The RC is among the few groups in the world that have access to this type of comprehensive database.

During the period of 2005 to 2010 there were five post graduate students in the laboratory, two of which have finished their PhDs.

Forensic Biology research has focused on:

1) Characterizing DNA marker diversity among Finns. A solid, population-specific understanding of the different markers is a prerequisite for reliable forensic genetic casework with an accentuated significance in Finland. The accumulated data has also been successfully used to study the population history of Finns.

2) Factors affecting DNA analyses from degraded human tissue, especially bone. Our laboratory is the only Finnish laboratory capable of using bone tissue as source of DNA, required in identification of decomposed/burned bodies.

Interdisciplinary projects among forensic pathology, toxicology and genetics is a new direction in the Department's research. These have focused on:

1) Molecular autopsy, defined here as an assessment of genetic factors directly involved in determining the cause of death. Post-mortem genetic testing (molecular autopsy) have focused on the investigation of known gene mutations responsible for fatal arrhythmias, e.g. LQTS in sudden unexpected deaths. Another types of genetic mutations are those, which may contribute to the mechanism of death by modifying, for instance, the process of thrombogenesis.

2) Post mortem pharmacogenetics, the genetic determinants affecting the ability to metabolize drugs and other compounds. This rather new field of research can help in finding the cause and manner of deaths and setting safety limits for drug administration. In this topic, academic basic research has been conducted using the relevant especially in the field of population genetics. These projects are planned so that a) the data mustered in the applied research can utilized, and b) the results can promote know-how in the forensic casework.



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3) Suicide-connected gene expression in brain tissue. This recently started international project involves the department's forensic pathology unit, as well as the laboratories of genetics and toxicology. The aim is to study gene expression and epigenetic effects on the selected parts in the brain in cases of carefully evaluated suicides. The study is part of basic research from post mortem tissues.

During the period of 2005 to 2010 there were six post graduate students in the laboratory, three of which have finished their PhDs.

• **Ways to strengthen the focus and improve the quality of the RC's research.**

The focus can be strengthened by continuous self-evaluation of the common efforts in the projects the RC groups have. Information flow among the PIs is of utmost importance to reveal common interests and provide synergy. The quality of the RC's research is improved by "head-hunting" highly qualified post-docs and promising PhD students. This, however, can only be attained by active application of external funding in which the PIs have a crucial role. Another important aspect is a careful selection of external collaborators, preferably better funded and equipped groups with similar interests. Active co-operation and information exchange between these groups and the RC is vital. The inclusion of leading international "non-forensic" scientists as collaborators in selected projects further guarantees the high quality of studies requiring multidisciplinary expertise.

Most researchers of the RC are involved in forensic casework. As this is extremely time-consuming, continuous streamlining and effective allocation of tasks is an important, consequential way to strengthen the RC's research.

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

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

Some of the PhD students have been recruited from resident medical doctors specializing in forensic medicine and offering them a theme of an interest in classical forensic pathology (such as drowning) or recruiting medical doctors who want to do research on a more general medical interest area (such as atherosclerosis), but where post mortem samples are of utmost importance.

A more successful way of recruiting PhD students has been experienced in the RC by recruiting PhD students among students working in the laboratory for their master's graduate thesis or whose skills are otherwise known. As laboratory investigations are emphasized, this plan of action has guaranteed the choice of suitable skillful individuals. Another important prerequisite is the ability to apply statistical methods. Apart from basic laboratory skills, actual participation in the laboratory routines is vital for the understanding of the special requirements of forensics. This has been effectively applied to all doctoral students. Although this at times can be a limiting factor, it gives deeper insight and teaches the students to see the potential pitfalls of current practices and the theoretical fundaments it's based on. This develops the thinking and helps to identify interesting - and useful - research questions.

The practices and quality assurance in doctoral training include hands-on instruction, weekly meetings with the supervisors dedicated to scientific matters, participation in domestic and international courses



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and congresses and annual performance appraisals. The department has supported this by e.g. funding congress trips even for relatively young students. In forensic genetics and associated population genetic research, combining the theoretical understanding of population genetics and historical/ archaeological work on Finnish population history is seen as a fruitful approach. This is supported involvement into Finnish Graduate School in Population Genetics: PhD-students (past and present) have been funded by this graduate school, and they have actively participated in the courses and other activities organized in this framework. The students are also from early on encouraged to participate in active dialogue with scientists from other fields (esp. archaeology and mathematics), and several different collaborative projects have been maintained for years (e.g. FA funded ArGeoPop-project). Within doctoral training in forensic toxicology and forensic pathology, there is also collaboration with other departments and institutes (see chapter 4).

In this framework supervision of students is relatively straightforward. Students, post-docs and the group leaders are also actively involved both in casework and in several scientific endeavors and interaction is rather immediate in the small groups.

Career perspectives have been guaranteed with good contacts in other international research groups for academic future, and by having good contacts with the officials in Finland (such as National Institute for Health and Welfare, and Police)

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

Despite of small no of PIs with relatively heavy demands in the routine casework, the RC has been able to actively publish scientific papers and supervise PhD studies. This indicates not only the dedication of the PIs and students but also the wealth of relevant research topics forensic investigations provide. Maintaining the activity level is a challenge requiring constant effort.

Forensics currently enjoys large public appeal. The PIs have responsibility to utilize this to recruit skilled students, to gain publicity and external funding. However, recruitment of doctoral candidates with medical background is not easy. As the forensic medicine comes late in faculty's curriculum, most research-oriented individuals have been caught at earlier stages. Moreover most post-graduate students in forensic medicine are not sufficiently attracted by research at doctoral level as opposed to routine work. The differences in career opportunities and the economical gap between research and routine careers should be opportunely addressed and fulfilled in order to make research more attractive.

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

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

The fundamental contribution consists of the various routine services the department provides for the society, i.e. medico-legal autopsies, toxicological screening and genetic analyses e.g. in paternity cases. The research community "Forensic medicine: from citizen's protection to community welfare" has a leading academic role in the Finnish forensic community, contributing significantly to the scientific basis of this field. RC's research results are applied in the forensic casework not only in Finland, but also internationally. The RC's data and expertise in interpreting the data is often delivered at national level to external non-academic institutions involved at different level in promoting safety, health, community welfare, and legal protection (e.g. Statistics Finland, National Institute for Health and Welfare, Accident Investigation Board of Finland, Police). Knowledge and advancements yielded by RC's activities have also



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been concretely employed by the Finnish Forensic Expert Team on its international missions in countries like former Yugoslavia, Peru, Thailand, Colombia and Nepal.

Academic research is intimately linked with these national and international tasks, and the topics of doctoral theses and research activities provide both practical knowledge and background data, vital for experts in all subfields of forensic science. Doctoral training educates students with academic background to later work in non-university organizations, such as Criminal Police laboratory or National Institute of Health and Welfare. Owing to this, the research group is an important factor in fulfilling University's "third task", the societal interaction (one of the focal areas in the UH 2010-2012 strategy plan). Furthermore, the research conducted adds to the diversity of science in the University of Helsinki.

- Ways to strengthen the societal impact of the RC's research and doctoral training.
As described above, the RC's societal impact is high for an academic unit, (and as such requires little attention). Nevertheless, the RC groups have an important task to clarify the significance of basic forensic research in performing and improving the 'practical', i.e. forensic casework in different subfields. This can be achieved by maintaining active discussion with the various entities ordering the investigations, as well as with the general public. In the latter, popular science articles and presentations should be emphasized. The dissemination of information related to high quality RC's researches must not be limited to publications in peer-reviewed scientific journals. A broad variety of means has to be planned to communicate the topics and results of the RC's activities to a wider audience, including policy-makers and other professionals working in the public health sector. The RC should aim in this way to be involved in multidisciplinary projects and to translate the results of current researches into more effective policies and practice. There is a clear and present danger

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

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

Forensic pathology:

Domestic

Kai Valonen, Accident Investigation Board, Finland: The National Drowning Research Project. General survey of drowning deaths occurring in Finland, analysis of their background and identification of risk factors in order to recommend new preventive actions.

Arto Miettinen, Department of Geology, University of Helsinki. The reliability of the diatom test for drowning, control studies on non-drowning bodies

International

Gordon Smith, Department of Epidemiology & Public Health, University of Maryland School of Medicine, National Study Center for Trauma and EMS, Baltimore, MD, USA. Epidemiology of drowning, international comparisons, reliability of multiple data-sources, methodological issues, undetermined drowning

Robert Lu, NCKU Research Center of Health Data and Institute of Public Health, College of Medicine, National Cheng Kung University, Taiwan. Epidemiology of drowning, international comparisons, reliability of the WHO data-base on drowning



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Jerome H. Modell Department of Anesthesiology, University of Florida, Gainesville, USA. Investigation of drowning accidents and correlation between physiopathology of drowning and post-mortem findings
Forensic toxicology:

Domestic:

- Faculty of Pharmacy (Prof. Risto Kostianen): Desorption MS methods for drug analysis
- Department of Psychiatry (Dr. Pertti Heikman): Incidental drug use among opioid addicts in treatment (joint doctoral training)
- HUS Children's Hospital (Dr. Irmeli Nupponen): The role of meconium drug testing in treatment and child welfare
- United Medix Laboratories (Dr. Antti Leinonen): Doping analysis (joint doctoral training)

International:

- Bruker Daltonics, Germany: Development of accurate mass and high-resolution LC-TOFMS methods
- University of Santiago de Compostela, Spain (Dr. Ana de Castro Rios): Use of qualifier ions in LC-TOFMS drug screening
- University Medical Center Freiburg, Saksa (Dr. Volker Auwärter): EU-project: Spice and synthetic cannabinoids (joint doctoral training)
- Intramural Research Program, NIDA, NIH, USA (Dr. Marilyn Huestis): Drug biomarkers in meconium

Forensic biology:

Domestic:

- ArGeoPop project, researches from UH departments of Archaeology, Biosciences, Mathematics and Statistics, and National Institute for Health and Welfare: Finnish prehistory reconstructed in the light of archaeological and population genetic data.

- RajaPaja project, researchers from (among others) UH departments of Geosciences and Geography, Agricultural Sciences, Finnish Museum of Natural History, Helsinki University of Technology Department of Information and Computer Science: the role biological factors determining the distribution of political borders in Europe and in Finland.

- Crime Laboratory, National Bureau of Investigation: collaboration in determining Finnish genetic diversity in forensically related markers, in statistical interpretation of the DNA results as well in disaster victim identification.

- Paternity Laboratory, National Institute of Health and Welfare: joint research activities in population genetics.

International:

- Prof. Bruce Budowle, University of North Texas Health Science Center, Texas, USA: long-term collaboration focusing on forensic DNA markers, popu

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

An obvious strength in collaboration is the rather limited number of players in the academic forensic research. This allows close and informal ties and promotes information exchange. Many of the researchers performing the cutting-edge forensic research can be considered as personal friends of the PIs. This is an informal but at the same time highly effective way to gain insight on research trends and



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also to coordinate future activities. This is further strengthened by the role of some PIs as a Editor-in-Chief or in the editorial and/or advisory boards of forensic journal series (e.g. International Journal of Legal Medicine, Forensic Science Medicien and Pathology, Forensic Science International, Investigative Genetics) and in scientific societies (e.g. International Society for Applied Biological Sciences, international Society for Forensic Genetics)).

Despite the good connections, there is a major challenge: the mobility of researchers and students is restricted not only by funding, but also by forensic casework demanding continuous presence and posing strict deadlines.

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 RC belongs to the Meilahti-Ruskeasuo campus, with all its practicalities in Ruskeasuo. For research the Department has three main infrastructural areas: Forensic Pathology Unit, Laboratory of Forensic Toxicology and Laboratory of Forensic Biology. The daily activities are time-wise largely concentrated on societal service work (forensic autopsies, forensic toxicology analysis, and DNA level identification of individuals/paternity testing). The laboratories are extremely well-equipped and many of the research costs can be covered by revenues from casework. The stringent quality demands posed by the accreditation standards ensure quality of the results and also allow tracking of samples and analyses. At the same time, however, it means that the procedures for performing laboratory work are somewhat rigidly regulated.

As a part of Medical Faculty the Department takes part in the basic teaching of the medical students, and is also at one time having 2-3 resident medical doctors specializing in forensic medicine. The undergraduate teaching is organized as a 3.5-week intensive period in fall semester. The specialization of the residents takes 5 years, of which the 3.5 years is spent in the Department. Compared to the other staff in the Department, the number of researchers is relatively low, less than 1/3 of the employees are involved in the research at all.

- RC's strengths and challenges related to operational conditions, and the actions planned for their development.
The research in the field is much case-driven with the aim to have a practical application. One of the strengths of the RC is the access to interesting cases and case-work samples. Since some of the RC research focuses aim to understand the basic phenomenon in forensic pathology/toxicology/biology, the heavy service workload is also a great opportunity for the researchers, who are all involved also in the daily routines. The casework analyses naturally bring researchers material which should otherwise be collected with money from external funding or which would not be available at all.

The weaknesses stem from the fact that the RC in general is small, time for research is fragmented, and senior PIs and post-docs are few. Casework, and quality control procedures associated to it are also devouring the majority of available time. In addition, the forensic work is relatively ad hoc type of work, which must be handled without delays. This causes fragmentation which can markedly hinder writing and other academic activities requiring longer periods of concentration. This accentuates the r



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

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

The RC is a small RC, with 22 researchers of which four have moved to other research groups in Finland or abroad. All of these were PhD students and have been replaced by two PhD students. In 2010 the RC consisted of 17 researches.

The RC's research groups are further divided by the focus of the research in forensic pathology, toxicology and genetics. Due to this, the leadership is to be seen as a close and continuous mentor-student relationship with a good possibility for daily change of ideas, analysis of results and scientific discussion with the group members.

A backbone of the interaction is formed by the weekly meetings of each group. These bring together the PhD students, their supervisors, post-docs and group leaders, and are dedicated solely to scientific matters.

The Hjelt Institute Director, together with the directors of the institute's two departments, is responsible for the infrastructure and flow of general information. They keep the PI's and thesis supervisors updated of the strategic plans and scientific decisions made in the Faculty and particularly in the Scientific Advisory Board of the Faculty (led by the Dean of Research). As a lateral element in the Institute's administration, research coordinator is responsible for efficient coordination and information exchange between the research groups in the Institute (not all part of the current RC).

An official format for information exchange is a bi-annually organized Institute meeting. Institute meeting is an official platform to inform the employees of important changes and opportunities, such as new academic positions, grants, and infrastructural changes. The platform allows open discussion on the presented issues before they are to be decided by the Institute Director with the advice from the Institute Board. In addition to the Institute Board, the Institute Director has an administrative secretary to help in the Institute management. Administrative secretary, together with the university services, offers also management services for each research group.

Department has regular weekly scientific seminars. One of the PI's is responsible for the organization of the seminars, and invitations for the outside speakers, after consulting the other PI's.

Daily information is based on hierarchical and targeted Institute, Department, and laboratory E-mail lists. The laboratories also have intranet pages for sharing and storing information.

For international collaborators the Department has University's internet connections, and also teleconferences are used. To ensure full functionality, the Institute hosts an IT expert whose office is at the same building as the RC. However, as explained above, a lot is gained through informal personal messages.



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The key issues in the RC's management related responsibilities are reviewed in the Departments annual strategic meeting in January, where also Department's accreditation related issues are discussed. Active and direct communication between the members of the RC is the key factor. Although the different groups in the RC work using different methods and their work appears as distinct, in many cases the core question can be the same and thus can be targeted using the various methods mastered by different groups. Knowing and understa

- RC's strengths and challenges related to leadership and management, and the actions planned for developing the processes.
Since 1.1.2010 the Institute has had a Director's whose main responsibility is organizing the infrastructure of the two Departments and their administration. This change has helped the professors, docents, and PI's to focus on their research, teaching and societal service work. The change is recent and its effect in a long run remains to be seen, time is also needed before all systems are streamlined. The challenge for the RC is that two of the senior PI's are retiring immediately after the period in focus (3/2011 and 4/2011). Therefore, there are actual organizational changes in the RC and younger scientist will be upgraded to PI status. These are accentuated by the change in forensic medicine on a national level. The decision-making in this currently ongoing process has taken resources also from the PIs in the RC, and presently the future directions, e.g. the future role of National Institute of Health and Welfare and the annual numbers of autopsies conducted at our department, are still to some extent unresolved. The decisions involved are done mostly outside our Institute, but th

7 EXTERNAL COMPETITIVE FUNDING OF THE RC

- 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: 2005-2008 190000 Academy of Finland (Jukka Palo)
- 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: 2005 71000 € EU Grant Qlg2-Ct2001-00916 (Antti Sajantila)
- 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:
 - total amount of funding (in euros) from the above-mentioned foundations:



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- Other international funding - names of other international funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
 - names of the funding organizations:
 - total amount of funding (in euros) from the above-mentioned funding organizations:
- Other national funding (incl. EVO funding and Ministry of Education and Culture funded doctoral programme positions) - names of other national funding organizations which have decided to allocate funding to the RC members during 1.1.2005-31.12.2010, and the amount of their funding (in euros).
 - names of the funding organizations: 2005 25000 € Finnish Population Genetic Graduate School (Antti Sajantila)
 - 2006 25000 € Finnish Population Genetic Graduate School (Antti Sajantila)
 - 2007 41000 € Finnish Population Genetic Graduate School (Antti Sajantila)
 - 2008 27500 € Finnish Population Genetic Graduate School) (Antti Sajantila)
 - 2010 27500 € Finnish Population Genetic Graduate School) (Antti Sajantila)
 - total amount of funding (in euros) from the above-mentioned funding organizations: 410000

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.

Forensic pathology

The drowning research projects will be further developed following the two pathways described in chapter 1. Post-mortem diagnostic issues will be addressed by means of new control series involving non-drowning cases and by intensifying the collaboration with international leading experts on physiopathology of drowning in order to establish adequate correlations between mechanisms of drowning and post-mortem findings. The aim of these studies will be to provide to the forensic community reliable data and concrete tools for the diagnosis of cause of death in water. The epidemiological stream will aim, especially at national level, to develop collaboration and contacts with other researchers and policy-makers involved in drowning-related issues. At international level, i collaborations with leading experts on drowning epidemiology from high income countries will focus on international comparisons and methodological issues and will aim to promote and develop drowning data collection and analysis in developing countries.

Forensic toxicology

The three main scientific areas (see chapter 1) will keep their important position. The good balance between research and toxicology service should be maintained. More effort should be put in obtaining external competitive funding. International collaboration should have a more permanent position in research. The significance of clinical forensic toxicology will increase without doubt, judging from the emerging projects in meconium drug testing, opioid addiction, synthetic cannabinoids and drug-facilitated crime. Two doctoral candidates will have their thesis ready in 2011 while five more are continuing their studies. The aim is to have 3-4 doctoral candidates within this field regularly. The recruitment of doctoral students with medical background should be strengthened.

Forensic Biology

Forensic genetics has recently expanded its topics (and laboratory facilities) into analyzing DNA from archaeological human remains and this is going to be one of the core areas in the near future. This work is challenging, but has shown promising results and holds a potential for major achievements and



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represent a first opening of ancient human DNA analyses in Finland. As the laboratory processes are streamlined by the current personnel, the aim is to broaden this activity by hiring more students and preferably a post-doc. This project will remain closely linked to a multidisciplinary collaboration in the context of the Argeopop-project (see above). Know-how accumulated in this project will benefit also the casework.

One PhD-student graduating in spring 2011 will continue working at the group, and will be concentrating on designing and performing research on new marker systems and scientific principles of forensic genetic casework. These projects are linked to the PhD-studies of one student focusing on analyzing the accumulated data in a population genetic framework aiming at describing the history of Finns. The aim is to broaden this field as the number of relevant questions already formulated exceeds the capacity of the current personnel. The available resources, in particular time (of the supervisors), must however be realistically evaluated before recruitment of new students.

During the evaluation period, the group has successfully contributed to pharmacogenetic research, but currently has no researcher dedicated to this. Filling this void with one active post-doc would benefit not only the group but also all the research conducted in the RC. As described above, pharmacogenetic research is an excellent way to bridge the different subfields of forensics.

The biochemistry section of the Forensic Biology investigates the post-mortem biochemical markers. Apart from service work, including markers for blood sugar levels, inflammation and kidney function, research in this subfield has recently been activated. The aim is to increase the number markers relevant for cause of death investigations, as well as to understand the post-mortem behavior of these indicator molecules better. This is going to be one of the focal areas in the near future as well.

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 for stage 2 of the evaluation has been solely produced by three PIs and one researcher in the RC. These four RC members have had face to face meetings to plan the main issues. The responsible PI then wrote the first draft of the text, which was then edited by the other PI's according to their focus in the main areas (forensic pathology, biology and toxicology). These edits have been then circulated among the four PIs and finally sent for comments with other PIs and selected members for the RC. Final, submitted version is sent to all the RC members.



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RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Legal protection and welfare/Sajantila

1 Analysis of publications

- Associated person is one of Antti Sajantila , Erkki Vuori , Helena Ranta , Ilkka Ojanperä , Philippe Lunetta , Jukka Palo , Katarina Mercedes Vaahtera , Anna Pelander , Ilo J Rasanen , Merja Sylvia Ranta , Hanna Katarina Vauhkonen , Ville Nikolai Pimenoff, Johanna Maria Sistonen , Suvi Ojanperä , Minttu Helena Hedman , Anu Neuvonen , Mikko Tapani Putkonen , Terhi Maria Launiainen , Elli Tyrkkö , Marjo Kolmonen , Olli Yrjö Varkkola ,

Publication type	Publication year						Total Count 2005 - 2010
	2005	2006	2007	2008	2009	2010	
A1 Refereed journal article	10	17	20	12	16	15	90
A3 Contribution to book/other compilations (refereed)		2		2	3		7
A4 Article in conference publication (refereed)	1	1					2
B1 Unrefereed journal article	1	1	1		2		5
B3 Unrefereed article in conference proceedings			1				1
D1 Article in professional journal						1	1
D4 Published development or research report						1	1



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Legal protection and welfare/Sajantila

2 Listing of publications

A1 Refereed journal article

2005

Koski, A, Vuori, E, Ojanperä, I **2005**, 'Newer antidepressants: evaluation of fatal toxicity index and interaction with alcohol based on Finnish postmortem data', **International Journal of Legal Medicine**, vol 119, pp. 344-348.

Koski, A, Vuori, E, Ojanperä, I **2005**, 'Relation of postmortem blood alcohol and drug concentrations in fatal poisonings involving amitriptyline, propoxyphene and promazine', **Human & Experimental Toxicology**, vol 24, pp. 389-396.

Lunetta, P, Tiirikainen, K, Smith, G, Penttilä, A, Sajantila, A **2005**, 'How well does a national newspaper reporting system profile drowning', **International Journal of Injury Control and Safety Promotion**, vol 13, pp. 35-41.

Nevas, M, Lindström, M, Virtanen, A, Hielm, S, Kuusi, M, Aron, SS, Vuori, E, Korkeala, H **2005**, 'Infant botulism acquired from household dust presenting as sudden infant death syndrome', **Journal of Clinical Microbiology**, vol 43, no. 1, pp. 511-513.

Ojanperä, S, Ojanperä, I **2005**, 'Forensic drug screening by LC-MS using accurate mass measurement', **LC GC Europe**, vol 18, pp. 607-611.

Ojanperä, I, Pelander, A, Laks, S, Gergov, M, Vuori, E, Witt, M **2005**, 'Application of accurate mass measurement to urine drug screening', **Journal of Analytical Toxicology**, vol 29, no. 1, pp. 34-40.

Pagano, S, Sans, M, Pimenoff, V, Cantera, AM, Alvarez, JC, Lorente, JA, Peco, JM, Mones, P, Sajantila, A **2005**, 'Assessment of HV1 and HV2 mtDNA variation for forensic purposes in an Uruguayan population sample', **Journal of Forensic Sciences**, vol 50, no. 5, pp. 1239-1242.

Rainio, J, Sajantila, A **2005**, 'Fatal gunshot wounds between 1995 and 2001 in a highly populated region in Finland', **American Journal of Forensic Medicine and Pathology**, vol 26, pp. 70-77.

Sistonen, J, Fuselli, S, Levo, A, Sajantila, A **2005**, 'CYP2D6 genotyping by a multiplex primer extension reaction', **Clinical Chemistry (Washington, DC)**, vol 51, no. 7, pp. 1291-1295.

Vauhkonen, M, Vauhkonen, H, Sajantila, A, Sipponen, P **2005**, 'Differences in genomic instability between intestinal- and diffuse-type gastric cancer', **Gastric Cancer**, vol 8, pp. 238-244.

2006

Boyd, J, Kuisma, M, Alaspää, A, Vuori, E, Repo, J, Randell, T **2006**, 'Outcome after heroin overdose and cardiopulmonary resuscitation', **Acta Anaesthesiologica Scandinavica**, vol 50, no. 9, pp. 1120-1124.

Boyd, J, Kuisma, M, Alaspää, A, Vuori, E, Repo, J, Randell, T **2006**, 'Recurrent opioid toxicity after pre-hospital care of presumed heroin overdose patients', **Acta Anaesthesiologica Scandinavica**, vol 50, no. 10, pp. 1266-1270.

Camps, J, Armengol, G, del Rey, J, Lozano, JJ, Vauhkonen, H, Prat, E, Egozcue, J, Sumoy, L, Knuutila, S, Miró, R **2006**, 'Genome-wide differences between microsatellite stable and unstable colorectal tumors', **Carcinogenesis**, vol 27, no. 3, pp. 419-428.

Kaur, S, Larramendy, ML, Gentile, M, Svarvar, C, Koivisto-Korander, R, Vauhkonen, H, Scheinin, I, Leminen, A, Butzow, R, Böhling, T, Knuutila, S **2006**, 'New Insights into the Cellular Pathways Affected in Primary Uterine Leiomyosarcoma', **Cancer Genomics & Proteomics**, vol 3, no. 6, pp. 347-354.

Kaur, S, Vauhkonen, H, Böhling, T, Mertens, F, Mandahl, M, Knuutila, S **2006**, 'Gene copy number changes in dermatofibrosarcoma protuberans - a fine-resolution study using array comparative genomic hybridization', **Cytogenetic and Genome Research**, vol 115, pp. 283-288.

Kokki, H, Rasanen, I, Lasalmi, M, Lehtola, S, Ranta, V, Vanamo, K, Ojanperä, I **2006**, 'Comparison of oxycodone pharmacokinetics after buccal and sublingual administration in children', **Clinical Pharmacokinetics**, vol 45, no. 7, pp. 745-754.

Koski, A, Sistonen, J, Ojanperä, I, Gergov, M, Vuori, E, Sajantila, A **2006**, 'CYP2D6 and CYP2C19 genotypes and amitriptyline metabolite ratios in a series of medicolegal autopsies', **Forensic Science International**, vol 158, pp. 177-183.

Ojanperä, S, Pelander, A, Pelzing, M, Krebs, I, Vuori, E, Ojanperä, I **2006**, 'Isotopic pattern and accurate mass determination in urine drug screening by liquid chromatography/time-of-flight mass spectrometry', **Rapid Communications in Mass Spectrometry**, vol 20, pp. 1161-1167.

Ojanperä, I, Gergov, M, Rasanen, I, Lunetta, P, Toivonen, S, Tiainen, E, Vuori, E **2006**, 'Blood levels of 3-methylfentanyl in 3 fatal poisoning cases', **American Journal of Forensic Medicine and Pathology**, vol 27, pp. 328-331.

Palo, JU, Väinölä, R **2006**, 'The enigma of the landlocked Baikal and Caspian seals addressed through phylogeny of phocine mitochondrial sequences', **Biological Journal of the Linnean Society**, vol 88, pp. 61-72.



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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Legal protection and welfare/Sajantila

Patin, E, Barreiro, LB, Sabeti, PC, Austerlitz, F, Luca, F, Sajantila, A, Behar, DM, Semino, O, Sakuntabhai, A, Guiso, N, Gicquel, B, McElreavey, K, Harding, RM, Heyer, E, Quintana-Murci, L 2006, 'Deciphering the ancient and complex evolutionary history of human arylamine N-acetyltransferase genes', **American Journal of Human Genetics**, vol 78, pp. 423-436.

Sigurðsson, S, Hedman, M, Sistonen, P, Sajantila, A, Syvänen, A 2006, 'A microarray system for genotyping 150 single nucleotide polymorphisms in the coding region of human mitochondrial DNA', **Genomics**, vol 87, pp. 534-542.

Steenfot, A, Teige, B, Holmgren, P, Vuori, E, Kristinsson, J, Hansen, AC, Ceder, G, Wethe, G, Rollmann, D 2006, 'Fatal poisoning in Nordic drug addicts in 2002', **Forensic Science International**, vol 160, pp. 148-156.

Vauhkonen, M, Vauhkonen, H, Sipponen, P 2006, 'Pathology and molecular biology of gastric cancer', **Best Practice & Research: Clinical Gastroenterology**, vol 20, no. 4, pp. 651-674.

Vauhkonen, H, Vauhkonen, M, Sajantila, A, Sipponen, P, Knuutila, S 2006, 'Characterizing genetically stable and unstable gastric cancers by microsatellites and array comparative genomic hybridization', **Cancer Genetics and Cytogenetics**, vol 170, no. 2, pp. 133-139.

Vauhkonen, H, Vauhkonen, M, Sajantila, A, Sipponen, P, Knuutila, S 2006, 'DNA copy number aberrations in intestinal-type gastric cancer revealed by array comparative genomic hybridization', **Cancer Genetics and Cytogenetics**, vol 167, no. 2, pp. 150-154.

Vuori, E, Ojanperä, I, Nokua, J, Ojansivu, R 2006, 'Oikeuskemiallisesti todetut myrkytyskuolemat Suomessa vuosina 2002-2004', **Suomen lääkärelehti**, vol 61, no. 21-22, pp. 2339-2344.

2007

Alho, H, Sinclair, D, Vuori, E, Holopainen, A 2007, 'Abuse liability of buprenorphine-naloxone tablets in untreated IV drug users', **Drug and Alcohol Dependence**, vol 88, no. 1, pp. 75-78.

Enattah, NS, Trudeau, A, Pimenoff, V, Maiuri, L, Auricchio, S, Greco, L, Rossi, M, Lentze, M, Seo, JK, Rahgozar, S, Khalil, I, Alifrangis, M, Natah, S, Groop, L, Shaat, N, Kozlov, A, Verschubskaya, G, Comas, D, Bulayeva, K, Mehdi, SQ, Terwilliger, JD, Sahi, T, Savilahti, E, Perola, M, Sajantila, A, Järvelä, I, Peltonen, L 2007, 'Evidence of still-ongoing convergence evolution of the lactase persistence T-13910 alleles in humans', **American Journal of Human Genetics**, vol 81, no. 3, pp. 615-625.

Fuselli, S, Gilman, RH, Chanock, SJ, Bonatto, SL, Stefano, G, Evans, CA, Labuda, D, Luiselli, D, Salzano, FM, Soto, G, Vallejo, G, Sajantila, A, Pettener, D, Tarazona-Santos, E 2007, 'Analysis of nucleotide diversity of NAT2 coding region reveals homogeneity across Native American populations and high intra-population diversity', **Pharmacogenomics Journal**, vol 7, pp. 144-152.

Hedman, M, Brandstätter, A, Pimenoff, V, Sistonen, P, Palo, J, Parson, W, Sajantila, A 2007, 'Finnish mitochondrial DNA HVS-I and HVS-II population data', **Forensic Science International**, vol 172, pp. 171-178.

Kaur, S, Larramendy, ML, Vauhkonen, H, Böhling, T, Knuutila, S 2007, 'Loss of TP53 in sarcomas with 17p12 to approximately p11 gain. A fine-resolution oligonucleotide array comparative genomic hybridization study', **Cytogenetic and Genome Research**, vol 116, no. 3, pp. 153-157.

Kolmonen, M, Leinonen, A, Pelander, A, Ojanperä, I 2007, 'A general screening method for doping agents in human urine by solid phase extraction and liquid chromatography/time-of-flight mass spectrometry', **Analytica Chimica Acta**, vol 585, pp. 94-102.

Koski, A, Ojanperä, I, Sistonen, J, Vuori, E, Sajantila, A 2007, 'A fatal doxepin poisoning associated with a defective CYP2D6 genotype', **American Journal of Forensic Medicine and Pathology**, vol 28, pp. 259-261.

Koski, A, Siren, R, Vuori, E, Poikolainen, K 2007, 'Alcohol tax cuts and increase in alcohol-positive sudden deaths: a time-series intervention analysis', **Addiction**, vol 102, pp. 362-368.

Lunetta, P, Lounamaa, A, Sihvonen, S 2007, 'Surveillance of injury-related deaths: medicolegal autopsy rates and trends in Finland', **Injury Prevention**, vol 13, pp. 282-284.

Lunetta, P, Ojanperä, I, Sajantila, A 2007, 'Fatal iatrogenic BaSO₄ embolism: morphological and ultrastructural findings confirmed by X-ray microanalysis and ICP-AES', **Forensic Science International**, vol 172, pp. 203-207.

Matsuba, C, Palo, J, Kuzmin, SL, Merilä, J 2007, 'Evidence for multiple retroposition events and gene evolution in the ADP/ATP translocase gene family in ranid frogs', **Journal of Heredity**, vol 98, no. 4, pp. 300-310.

Ojanperä, S, Tuominen, S, Ojanperä, I 2007, 'Single-calibrant quantification of drugs in plasma and whole blood by liquid chromatography-chemiluminescence nitrogen detection', **Journal of Chromatography. B**, vol 856, pp. 239-244.

Ojanperä, S, Rasanen, I, Sistonen, J, Pelander, A, Vuori, E, Ojanperä, I 2007, 'Quantification of drugs in plasma without primary reference standards by liquid chromatography-chemiluminescence nitrogen detection: application to tramadol metabolite ratios', **Therapeutic Drug Monitoring**, vol 29, pp. 423-428.

Palo, JU, Hedman, M, Ulmanen, I, Lukka, M, Sajantila, A 2007, 'High degree of Y-chromosomal divergence within Finland--forensic aspects', **Forensic Science International: Genetics**, vol 1, pp. 120-124.

Palo, J, Hedman, M, Söderholm, N, Sajantila, A, Hedman, M 2007, 'Repatriation and identification of the Finnish World War II soldiers', **Croatian Medical Journal**, vol 48, pp. 528-535.



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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Legal protection and welfare/Sajantila

- Pelander, A, Backström, D, Ojanperä, I 2007, 'Qualitative screening for basic drugs in autopsy liver samples by dual-plate overpressured layer chromatography', **Journal of Chromatography. B**, vol 857, pp. 337-340.
- Sistonen, J, Sajantila, A, Lao, O, Corander, J, Barbujani, G, Fuselli, S 2007, 'CYP2D6 worldwide genetic variation shows high frequency of altered activity variants and no continental structure', **Pharmacogenetics and Genomics**, vol 17, no. 2, pp. 93-101.
- Valtola, A, Kokki, H, Gergov, M, Ojanperä, I, Ranta, V, Hakala, T 2007, 'Does coronary artery bypass surgery affect metoprolol bioavailability', **European Journal of Clinical Pharmacology**, vol 63, pp. 471-478.
- Vauhkonen, H, Heino, S, Myllykangas, S, Lindholm, PM, Savola, S, Knuutila, S 2007, 'Etiology of specific molecular alterations in human malignancies', **Cytogenetic and Genome Research**, vol 118, no. 2/4, pp. 277-283.
- Vauhkonen, H, Böhlting, T, Eissa, S, Shoman, S, Knuutila, S 2007, 'Can bladder adenocarcinomas be distinguished from schistosomiasis-associated bladder cancers by using array comparative genomic hybridization analysis?', **Cancer Genetics and Cytogenetics**, vol 177, no. 2, pp. 153-157.

2008

- Fellman, V, Lemmelä, S, Sajantila, A, Pihko, H, Järvelä, I 2008, 'Screening of BCS1L mutations in severe neonatal disorders suspicious for mitochondrial cause', **Journal of Human Genetics**, vol 53, pp. 554-558 s.
- Hakonen, AH, Goffart, S, Marjavaara, S, Paetau, A, Cooper, H, Mattila, K, Lampinen, M, Sajantila, A, Lönnqvist, T, Spelbrink, JN, Suomalainen, AE 2008, 'Infantile-onset spinocerebellar ataxia and mitochondrial recessive ataxia syndrome are associated with neuronal complex I defect and mtDNA depletion', **Human Molecular Genetics**, vol 17, pp. 3822-3835.
- Kanerva, K, Mäkitie, L, Pelander, A, Heiskala, M, Andersson, LC 2008, 'Human ornithine decarboxylase paralogue (ODCP) is an antizyme inhibitor but not an arginine decarboxylase', **Biochemical Journal**, vol 409, no. 1, pp. 187-192.
- Lao, O, Lu, TT, Nothnagel, M, Junge, O, Freitag-Wolf, S, Caliebe, A, Balascakova, M, Bertranpetit, J, Bindoff, LA, Comas, D, Holmlund, G, Kouvatzi, A, Macek, M, Mollet, I, Parson, W, Palo, J, Ploski, R, Sajantila, A, Tagliabracci, A, Gether, U, Werge, T, Rivadeneira, F, Hofman, A, Uitterlinden, AG, Gieger, C, Wichmann, HE, Ruther, A, Schreiber, S, Becker, C, Nurnberg, P, Nelson, MR, Krawczak, M, Kayser, M 2008, 'Correlation between genetic and geographic structure in Europe', **Current Biology**, vol 18, pp. 1241-1248.
- Lunetta, P, Impinen, A, Lounamaa, A 2008, 'Underreporting of external cause codes in the Finnish Hospital Discharge Register', **Scandinavian Journal of Public Health**, vol 36, pp. 870-874.
- Ojanperä, I, Gergov, M, Liiv, M, Riikola, A, Vuori, E 2008, 'An epidemic of fatal 3-methylfentanyl poisoning in Estonia', **International Journal of Legal Medicine**, vol 122, pp. 395-400.
- Palo, J, Pirttimaa, M, Bengs, A, Johnsson, V, Ulmanen, I, Lukka, M, Udd, B, Sajantila, A 2008, 'The effect of number of loci on geographical structuring and forensic applicability of Y-STR data in Finland', **International Journal of Legal Medicine**, vol 122, pp. 449-456.
- Pelander, A, Rasanen, I, Ristimaa, J, Vuori, E, Ojanperä, I 2008, 'Screening for Basic Drugs in Hair of Drug Addicts by Liquid Chromatography/Time-of-Flight Mass Spectrometry', **Therapeutic Drug Monitoring**, vol 30, pp. 717-724.
- Pimenof, V, Comas, D, Palo, J, Vershubsky, G, Kozlov, A, Sajantila, A, Pimenoff, V 2008, 'Northwest Siberian Khanty and Mansi in the junction of West and East Eurasian gene pools as revealed by uniparental markers', **European Journal of Human Genetics**, vol 16, pp. 1254-1264.
- Schmeller, DS, Palo, JU, Merilä, J 2008, 'A contact zone between two distinct *Rana temporaria* lineages in northern Germany', **Alytes**, vol 25, no. 3/4, pp. 93-98.
- Tyybäkinoja, A, Elonen, E, Vauhkonen, H, Saarela, J, Knuutila, S 2008, 'Single nucleotide polymorphism microarray analysis of karyotypically normal acute myeloid leukemia reveals frequent copy number neutral loss of heterozygosity: letters to the editor', **Haematologica**, vol 93, no. 4, pp. 631-632.
- Virkkunen, I, Paasio, L, Rynänen, S, Vuori, A, Sajantila, A, Yli-Hankala, A, Silfvast, T 2008, 'Pulseless electrical activity and unsuccessful out-of-hospital resuscitation: what is the cause of death', **Resuscitation**, vol 77, no. 2, pp. 207-210.

2009

- Gergov, M, Nokua, P, Vuori, E, Ojanperä, I 2009, 'Simultaneous screening and quantification of 25 opioid drugs in post-mortem blood and urine by liquid chromatography-tandem mass spectrometry', **Forensic Science International**, vol 186, pp. 36-43.
- Hedman, M, Palo, JU, Sajantila, A 2009, 'X-STR diversity patterns in the Finnish and the Somali population', **Forensic Science International: Genetics**, vol 3 (2009), pp. 173-178.
- Heikman, P, Ojanperä, I 2009, 'Inadequate dose of opioid-agonist medication is related to misuse of benzodiazepines', **Addictive Disorders & Their Treatment**, vol 8, no. 3, pp. 145-153.
- Heiskanen, T, Mätzke, S, Haakana, S, Gergov, M, Vuori, E, Kalso, E 2009, 'Transdermal fentanyl in cachectic cancer patients', **Pain : the journal of the International association for the study of pain**, vol 144, no. 1-2, pp. 218-222.



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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Legal protection and welfare/Sajantila

Kolmonen, M, Leinonen, A, Kuuranne, T, Pelander, A, Ojanperä, I 2009, 'Generic sample preparation and dual polarity liquid chromatography: time-of-flight mass spectrometry for high-throughput screening in doping analysis', **Drug Testing and Analysis**, vol 1, no. 6, pp. 250-266.

Lahti, R, Korpi, H, Vuori, E 2009, 'Blood-positive illicit-drug findings: implications for cause-of-death certification, classification and coding', **Forensic Science International**, vol 187, pp. 14-18.

Launiainen, T, Vuori, E, Ojanperä, I 2009, 'Prevalence of adverse drug combinations in a large post-mortem toxicology database', **International Journal of Legal Medicine**, vol 123, pp. 109-115.

Lu, TT, Lao, O, Nothnagel, M, Junge, O, Freitag-Wolf, S, Caliebe, A, Balascakova, M, Bertranpetit, J, Bindoff, LA, Comas, D, Holmlund, G, Kouvatzi, A, Macek, M, Mollet, I, Nielsen, F, Parson, W, Palo, J, Ploski, R, Sajantila, A, Tagliabracci, A, Gether, U, Werge, T, Rivadeneira, F, Hofman, A, Uitterlinden, AG, Gieger, C, Wichmann, HE, Ruether, A, Schreiber, S, Becker, C, Nürnberg, P, Nelson, MR, Kayser, M, Krawczak, M 2009, 'An evaluation of the genetic-matched pair study design using genome-wide SNP data from the European population', **European Journal of Human Genetics**, vol 17 (2009), pp. 967-975.

Lunetta, P, Sippel, H 2009, 'Positive prostate-specific antigen (PSA) reaction in post-mortem rectal swabs: a cautionary note', **Journal of forensic and legal medicine**, vol 16, pp. 397-399.

Paakkanen, R, Palikhe, A, Seppänen, M, Nieminen, MS, Vauhkonen, H, Saikku, P, Lokki, M, Sinisalo, J 2009, 'Beneficial effect of clarithromycin in patients with acute coronary syndrome and complement C4 deficiencies', **Scandinavian Cardiovascular Journal**, vol 43, no. 6, pp. 395-401.

Palo, J, Ulmanen, I, Lukka, M, Ellonen, P, Sajantila, A 2009, 'Genetic markers and population history: Finland revisited', **European Journal of Human Genetics**, vol 17, no. 10, pp. 1336-1346.

Pelander, A, Tyrkkö, E, Ojanperä, I 2009, 'In silico methods for predicting metabolism and mass fragmentation applied to quetiapine in liquid chromatography/time-of-flight mass spectrometry urine drug screening', **Rapid Communications in Mass Spectrometry**, vol 23, no. 4, pp. 506-514.

Sistonen, J, Fuselli, S, Palo, J, Chauhan, N, Padh, H, Sajantila, A 2009, 'Pharmacogenetic variation at CYP2C9, CYP2C19, and CYP2D6 at global and microgeographic scales', **Pharmacogenetics and Genomics**, vol 19, no. 2, pp. 170-179.

Sääksjärvi, IE, Pohjoismäki, J, Mäkinen, HS, Palo, JU, Saukko, P, Kahanpää, J, Karhunen, P, Kaartinen, R, Sajantila, A 2009, 'Hyönteiset oikeuslääkärin apuna', **Suomen lääkärilehti**, vol 64, pp. 769-174.

Uibu, T, Vanhala, E, Sajantila, A, Lunetta, P, Mäkelä-Bengs, P, Goebeler, S, Jääntti, M, Tossavainen, A 2009, 'Asbestos fibers in para-aortic and mesenteric lymph nodes', **American Journal of Industrial Medicine**, vol 52, pp. 464-470.

Vuori, E, Ojanperä, I, Nokua, J, Ojansivu, R 2009, 'Oikeuskemiallisesti todetut myrkytyskuolemat Suomessa vuosina 2005-2007', **Suomen lääkärilehti**, vol 64, no. 39, pp. 3187-3195.

2010

Fuselli, S, de Filippo, C, Mona, S, Sistonen, J, Fariselli, P, Destro-Bisol, G, Barbujani, G, Bertorelle, G, Sajantila, A 2010, 'Evolution of detoxifying systems: the role of environment and population history in shaping genetic diversity at human CYP2D6 locus', **Pharmacogenetics and Genomics**, vol 20, pp. 485-499.

Herzig, K-, Juvonen, KR, Karhunen, LJ, Vuori, E, Lille, M, Karhu, T, Acosta, AJ, Laaksonen, D, Mykkanen, H, Niskanen, LK, Poutanen, K 2010, 'Cross-linked dairy protein attenuates postprandial glucose and insulin levels and increases fullness in healthy young men', **Diabetologia**, vol 53, pp. -.

Kantojärvi, K, Onkamo, P, Vanhala, R, Alen, R, Hedman, M, Sajantila, A, Nieminen-von Wendt, T, Järvelä, I 2010, 'Analysis of 9p24 and 11p12-13 regions in autism spectrum disorders: rs1340513 in the JMJD2C gene is associated with ASDs in Finnish sample', **Psychiatric Genetics**, vol 20, no. 3, pp. 102-108.

Kolmonen, M, Leinonen, A, Kuuranne, T, Pelander, A, Ojanpera, I 2010, 'Hydrophilic interaction liquid chromatography and accurate mass measurement for quantification and confirmation of morphine, codeine and their glucuronide conjugates in human urine', **Journal of Chromatography. B**, vol 878, pp. 2959-2966.

Launiainen, TM, Rasanen, IJ, Vuori, E, Ojanperä, I 2010, 'Fatal venlafaxine poisonings are associated with a high prevalence of drug interactions.', **International Journal of Legal Medicine**.

Launiainen, T, Sajantila, A, Rasanen, I, Vuori, E, Ojanpera, I 2010, 'Adverse interaction of warfarin and paracetamol: evidence from a post-mortem study', **European Journal of Clinical Pharmacology**, vol 66, pp. 97-103.

Lu, T, Lunetta, P, Walker, S 2010, 'Quality of cause-of-death reporting using ICD-10 drowning codes: a descriptive study of 69 countries', **BMC Medical Research Methodology**, vol 10.

Lunetta, P 2010, 'Injury deaths among Finnish residents travelling abroad', **International Journal of Injury Control and Safety Promotion**, vol 17, pp. 161-168.

Pelander, A, Ristimaa, J, Ojanpera, I 2010, 'Vitreous Humor as an Alternative Matrix for Comprehensive Drug Screening in Postmortem Toxicology by Liquid Chromatography-Time-of-Flight Mass Spectrometry', **Journal of Analytical Toxicology**, vol 34, pp. 312-318.



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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Legal protection and welfare/Sajantila

- Putkonen, MT, Palo, JU, Cano, JM, Hedman, MH, Sajantila, A **2010**, 'Factors affecting the STR amplification success in poorly preserved bone samples', **Investigative genetics**, vol 1, pp. 9.
- Rasanen, I, Viinamäki, J, Vuori, E, Ojanpera, I **2010**, 'Headspace In-Tube Extraction Gas Chromatography-Mass Spectrometry for the Analysis of Hydroxylic Methyl-Derivatized and Volatile Organic Compounds in Blood and Urine', **Journal of Analytical Toxicology**, vol 34, pp. 113-121.
- Ristimaa, J, Ranta, MS, Pelander, A, Halmesmaki, E, Ojanperä, I **2010**, 'Broad-spectrum drug screening of meconium by liquid chromatography with tandem mass spectrometry and time-of-flight mass spectrometry', **Analytical and Bioanalytical Chemistry**, vol 398, no. 2, pp. 925-935.
- Sajantila, A, Palo, JU, Ojanpera, I, Davis, C, Budowle, B **2010**, 'Pharmacogenetics in medico-legal context', **Forensic Science International**, vol 203, pp. 44-52.
- Tyrkko, E, Pelander, A, Ojanpera, I **2010**, 'Differentiation of structural isomers in a target drug database by LC/Q-TOFMS using fragmentation prediction', **Drug Testing and Analysis**, vol 2, pp. 259-270.
- Vaahtera, K, Lunetta, P **2010**, 'Death associated with an unruptured giant intracranial aneurysm', **Legal Medicine**, vol 12, pp. 200-202.

A3 Contribution to book/other compilations (refereed)

2006

- Sajantila, A, Lunetta, P, Ojanperä, I **2006**, 'Postmortem pharmacogenetics: toward molecular autopsies', **Pharmacogenomics and proteomics**, **Aacc Press, Washington**, pp. 301-309.
- Vauhkonen, H, Savola, S, Kaur, S, Larramendy, ML, Knuutila, S **2006**, 'Molecular karyotyping in sarcoma diagnostics and research', **New trends in cancer for the 21st century**, **Springer Science+Business Media**, New York, NY, pp. 53.

2008

- Ojanperä, I, Rasanen, I **2008**, 'Forensic screening by gas chromatography', in M Bogusz (ed.), **Handbook of analytical separations**, vol. 6, **Elsevier, Amsterdam**, pp. 403-424.
- Ojanperä, I **2008**, 'Mushroom toxins', in M Bogusz (ed.), **Handbook of analytical separations**, vol. 6, **Elsevier, Amsterdam**, pp. 391-399.

2009

- Ojanperä, I, Pelander, A, Ojanperä, S **2009**, 'Comprehensive toxicological and forensic drug screening by LC/TOF-MS', **Liquid chromatography time-of-flight mass spectrometry. Chemical analysis vol. 173** : edited by Imma Ferrer, E. Michael Thurman., **Wiley, 009, Hoboken, N.J.**, pp. 173-195.
- Vuori, E, Ojanperä, I **2009**, 'Forensic applications of toxicology', **Wiley encyclopedia of forensic science - Wiley-Blackwel**, **2009**, pp. 2503-2509.
- Vuori, E, Ojanperä, I **2009**, 'Forensic toxicology', **General and applied toxicology**, **Wiley**, **2009**. ISSN, **Chichester**, pp. 2421-2436.

A4 Article in conference publication (refereed)

2005

- Pelzing, M, Laks, S, Pelander, A, Vuori, E, Ojanperä, I **2005**, 'Comprehensive Urine Drug Screening by LC-ESI-MS/MS based on Retention Time, Accurate Mass Determination and Isotopic Pattern Information', in **American Society for Mass Spectrometry, 53rd ASMS Conference (San Antonio, TX, 5.-9.6.2005): Proceedings CD**.

2006

- Kolmonen, M, Leinonen, A, Pelander, A, Ojanperä, I, Kuuranne, T **2006**, 'Screening of Doping Agents Using Liquid-Chromatography/Time-of-Flight Mass Spectrometry', in **Proceedings of the Manfred Donike Workshop: 24th Cologne Workshop on Dope Analysis 4th to 9th June 2006**, pp. 65-70 **Recent Advances in Doping Analysis**, no. 14.

B1 Unrefereed journal article

2005

- Lunetta, P, Laari, M **2005**, 'Strangulation by intravenous tubes: [letter]', **Lancet**, vol 365, pp. 1542.

2006



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

RC-SPECIFIC TUHAT COMPILATIONS OF PUBLICATIONS DATA 2005-2010

Legal protection and welfare/Sajantila

Ojanperä, S, Ojanperä, I **2006**, 'Laaja ympärivuorokautinen toksikologian analyysipalvelu', **Kliin lab : kliinisen laboratorioalan julkaisu : SKKY:n jäsenlehti.**, vol 23, no. 6, pp. 108-113.

2007

Alho, H, Vuori, E, Holopainen, A **2007**, 'Laittomaista opiaattikorvaushoidosta päästävä laillisen hoidon piiriin', **Duodecim**, vol 123 (2007), pp. 757-759.

2009

Ojanperä, I **2009**, 'Editorial', **Journal of Planar Chromatography - Modern TLC**, vol 22, pp. 56.

Ojanperä, I **2009**, 'High-Performance Thin-Layer Chromatography (HPTLC'08) - International symposium held in Helsinki: [Editorial]', **Journal of Planar Chromatography - Modern TLC**.

B3 Unrefereed article in conference proceedings

2007

Paavola, M, Kumpula, H, Lounamaa, A, Lunetta, P, Impinen, A **2007**, *Injuries among Finnish young men: [Poster presentation, abstract, 15th Eupha Conference, The future of public health in United Europe, Helsinki, 11-13th October, 2007]*, European Journal of Public Health 17 supplement 2 OXFORD UNIVERSITY PRESS.

D1 Article in professional journal

2010

Hovatta, I, Tienari, P, Sajantila, A, Wartiovaara, A **2010**, 'Tutkijoiden kouluttajien haasteet', **Duodecim**, vol 126, no. 19, pp. 2301-2303.

D4 Published development or research report

2010

Sundell, T, Putkonen, MT **2010**, *DNA-tutkimuksen huomioiminen arkeologisella kaivauksella ja jälkitöissä*, **Museoviraston rakennushistorian osaston raportteja, no. 22, Museovirasto, Helsinki**.



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

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

Legal protection and welfare/Sajantila

1 Analysis of activities 2005-2010

- Associated person is one of Antti Sajantila , Erkki Vuori , Helena Ranta , Ilkka
Ojanperä , Philippe Lunetta , Jukka Palo ,
Anna Pelander , Ilpo J Rasanen , Katarina Mercedes Vaahtera ,
Hanna Katarina Vauhkonen , Ville Nikolai Pimenoff, Johanna Maria Sistonen , Merja Sylvia Ranta , Suvi Ojanperä ,
Minttu Helena Hedman , Anu Neuvonen , Mikko Tapani Putkonen ,
Terhi Maria Launiainen , Elli Tyrkkö , Marjo Kolmonen ,
Olli Yrjö Varkkola ,

Activity type	Count
Supervisor or co-supervisor of doctoral thesis	5
Prizes and awards	3
Editor of research journal	3
Peer review of manuscripts	25
Editor of special theme number	2
Assessment of candidates for academic posts	2
Membership or other role in national/international committee, council, board	9
Membership or other role in public Finnish or international organization	5
Membership or other role of body in private company/organisation	2
Participation in interview for written media	3
Participation in TV programme	2



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

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

Legal protection and welfare/Sajantila

2 Listing of activities 2005-2010

Supervisor or co-supervisor of doctoral thesis

Ilkka Ojanperä ,

Supervision of doctoral dissertation, Ilkka Ojanperä, 01.01.2001 → 31.12.2005
Supervision of doctoral dissertation, Ilkka Ojanperä, 01.01.2003 → 31.12.2009
Supervision of doctoral dissertation, Ilkka Ojanperä, 01.01.2005 → ...
Supervision of doctoral dissertation, Ilkka Ojanperä, 01.01.2006 → ...
Supervision of doctoral dissertation, Ilkka Ojanperä, 01.01.2008 → ...

Prizes and awards

Ilkka Ojanperä ,

TIAFT Achievement Award, Ilkka Ojanperä, 01.01.2006 → 31.12.2006, United States
Suomen Valkoisen Ruusun ritarimerkki, Ilkka Ojanperä, 01.01.2008 → 31.12.2008
Suomalaisten Kemistien Seuran ansiomitäli, Ilkka Ojanperä, 01.01.2009 → 31.12.2009

Editor of research journal

Antti Sajantila ,

International Journal of Legal Medicine, Antti Sajantila, 01.01.2006 → 31.12.2011

Ilkka Ojanperä ,

International Journal of Legal Medicine; Member of Editorial Board, Ilkka Ojanperä, 01.01.2008 → 31.12.2011, Germany

Ville Nikolai Pimenoff

European Journal of Human Genetics, Ville Nikolai Pimenoff, 01.09.2007 → 31.12.2011, Finland

Peer review of manuscripts

Antti Sajantila ,

Forensic Science International, Antti Sajantila, 01.01.1993 → 31.12.2011
American Journal of Human Genetics, Antti Sajantila, 01.01.1996 → 31.12.2011

Ilkka Ojanperä ,

Forensic Science International, Ilkka Ojanperä, 01.01.2000 → 31.12.2011, Netherlands
Journal of Chromatography B, Ilkka Ojanperä, 01.01.2000 → 31.12.2011, Netherlands
Journal of Planar Chromatography - Modern TLC, Ilkka Ojanperä, 01.01.2000 → 31.12.2011, Hungary
Journal of Chromatography A, Ilkka Ojanperä, 01.01.2006 → 31.12.2006, Netherlands
Journal of Mass Spectrometry, Ilkka Ojanperä, 01.01.2006 → 31.12.2011, United States
Rapid Communications in Mass Spectrometry, Ilkka Ojanperä, 01.01.2006 → 31.12.2011, United States
Analytical Chemistry, Ilkka Ojanperä, 01.01.2007 → 31.12.2007, United States
Analytical and Bioanalytical Chemistry, Ilkka Ojanperä, 01.01.2007 → 31.12.2011, Germany
Human and Experimental Toxicology, Ilkka Ojanperä, 17.02.2007 → 31.12.2011, United Kingdom
Archiv der Pharmazie, Ilkka Ojanperä, 13.10.2008 → 31.12.2100, Germany
Drug Testing and Analysis, Ilkka Ojanperä, 01.01.2009 → 31.12.2011, Germany

Jukka Palo ,

Annales Zoologici Fennici, Jukka Palo, 23.11.2004 → 31.12.2011, Finland



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Molecular Ecology, Jukka Palo, 28.10.2005 → 31.12.2011, United Kingdom
Vertaisarvioinnit, Jukka Palo, 01.01.2005 → 31.12.2010
Molecular Ecology, Jukka Palo, 06.09.2006 → 31.12.2011, United Kingdom
Biological Journal of the Linnean Society, Jukka Palo, 15.07.2007 → 31.12.2011, United Kingdom
Conservation Genetics, Jukka Palo, 12.07.2007 → 31.12.2011, United Kingdom
Conservation Genetics, Jukka Palo, 01.03.2007 → 14.03.2007, United Kingdom
International Journal of Legal Medicine, Jukka Palo, 21.09.2007 → 31.12.2011, Germany
International Journal of Legal Medicine, Jukka Palo, 12.12.2007 → 31.12.2011, Germany
BMC Evolutionary Biology, Jukka Palo, 17.07.2008 → 31.12.2011
Heredity, Jukka Palo, 17.08.2008 → 31.12.2011, United Kingdom
International Journal of Legal Medicine, Jukka Palo, 18.01.2008 → 31.12.2011, Germany

Editor of special theme number

Antti Sajantila ,

Duodecim, Antti Sajantila, 01.01.1999 → 31.12.2011, Finland

Ilkka Ojanperä ,

Journal of Planar Chromatography - Modern TLC: HPTLC '08, Ilkka Ojanperä, 01.01.2009 → 31.12.2009, Hungary

Assessment of candidates for academic posts

Ilkka Ojanperä ,

Dosenttuuri, Ilkka Ojanperä, 01.01.2008 → 31.12.2008

Dosenttuuri, Ilkka Ojanperä, 01.01.2009 → 31.12.2009

Membership or other role in national/international committee, council, board

Antti Sajantila ,

Suomalainen lääkärisseura Duodecim, Antti Sajantila, 01.01.1990 → 31.12.2011

Suomen lääkäriliitto, Antti Sajantila, 01.01.1990 → 31.12.2011

International Society of Forensic Genetics, Antti Sajantila, 01.01.1993 → 31.12.2011

Jukka Palo ,

Societas Genetics Fennica, Jukka Palo, 01.01.1995 → 31.12.2011, Finland

International Society of Forensic Genetics, Jukka Palo, 01.08.2006 → 31.12.2011

Suomen oikeuslääketieteen yhdistys, Jukka Palo, 01.01.2006 → 31.12.2011, Finland

Ville Nikolai Pimenoff

Finnish Forensic Medical Society, Ville Nikolai Pimenoff, 01.01.2003 → 31.12.2011, Finland

Societas biochemica, biophysica et microbiologia Fenniae, Ville Nikolai Pimenoff, 15.09.2005 → 31.12.2011, Finland

Member of the Helsinki University Researchers and Teachers Association, Ville Nikolai Pimenoff, 28.03.2006 → 31.12.2011

Membership or other role in public Finnish or international organization

Ilkka Ojanperä ,

Terveydenhuollon oikeusturvakeskuksen (TEO) pysyvä asiantuntija, Ilkka Ojanperä, 01.01.1996 → 31.12.2008

Sosiaali- ja terveysalan lupa- ja valvontavirasto, Ilkka Ojanperä, 01.01.2009 → 31.12.2011, Finland

Jukka Palo ,

National Bureau of Investigation (KRP) Crime laboratory, Jukka Palo, 15.05.2007 → 31.10.2007, Finland



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Merja Sylvia Ranta ,

FINAS tekninen arvioija, asiantuntija, Merja Sylvia Ranta, 01.01.2005 → 31.12.2005, Finland

FINAS tekninen arvioija, asiantuntija, Merja Sylvia Ranta, 01.01.2006 → 31.12.2006, Finland

Membership or other role of body in private company/organisation

Ilkka Ojanperä ,

Suomen Kemian Seura: Täydennyskoulutuksen johtoryhmän jäsen, Ilkka Ojanperä, 01.01.2002 → 31.12.2007, Finland

Suvi Ojanperä ,

Finnish Society of Chemistry, Division of Chromatography, Suvi Ojanperä, 01.01.2005 → 31.12.2011, Finland

Participation in interview for written media

Jukka Palo ,

Suomen Luonto, pikku-uutinen, Jukka Palo, 01.11.2003 → 31.12.2011, United Kingdom

Kuulutko sukuuni (annual meeting of genealogists in Vantaa), Jukka Palo, 11.10.2008, Finland

Kuusamon historiapäivät, Jukka Palo, 23.02.2008, Finland

Participation in TV programme

Jukka Palo ,

Haastattelu PrismaStudiossa, Jukka Palo, 23.11.2010

Tutkijahaastattelu TV-dokumentissa "Levänluhdan kadonnut kansa", Jukka Palo, 25.11.2010



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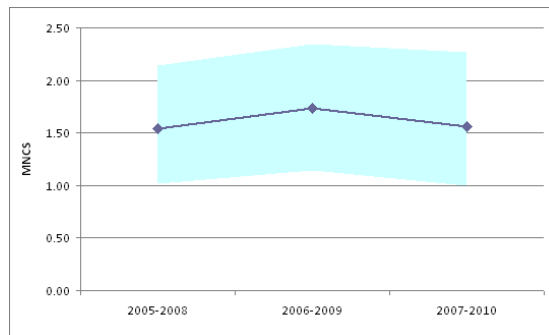
Web of Science(WoS)-based bibliometrics of the RC's publications data 1.1.2005-31.12.2010
by CWTS, Leiden University, the Netherlands

Research Group: Sajantila A

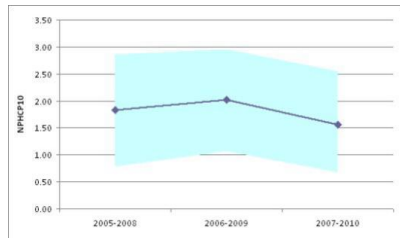
Basic statistics

Number of publications (P)	77
Number of citations (TCS)	630
Number of citations per publication (MCS)	8.34
Percentage of uncited publications	23%
Field-normalized number of citations per publication (MNCS)	1.55
Field-normalized average journal impact (MNJS)	1.00
Field-normalized proportion highly cited publications (top 10%)	1.62
Internal coverage	.84

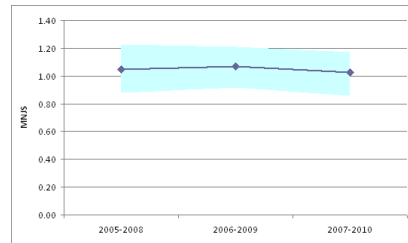
Trend analyses



MNCS

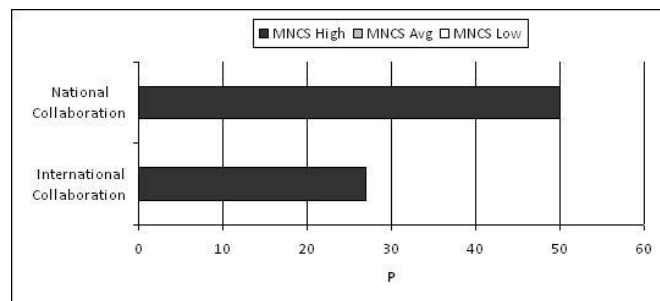


THCP10



MNJS

Collaboration



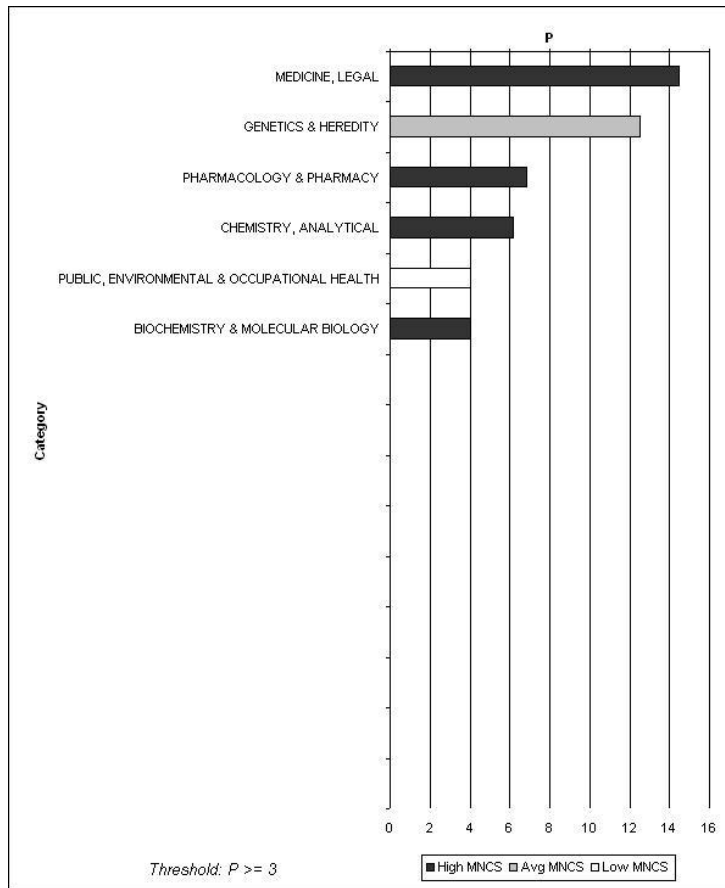
Performance (MNCS) by collaboration type



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Web of Science(WoS)-based bibliometrics of the RC's publications data 1.1.2005-31.12.2010
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Research profile



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