



# Rector Lauri Lajunen



# Research Assessment Exercise 2013 of the University of Oulu

September 20, 2012



## RAE2013



# RAE2013 planning

- Planning group appointed by the Rector
  - Taina Pihlajaniemi, Vice Rector (chair)
  - Olli Silven, Vice Rector (vice chair)
  - Sinikka Eskelinen, Director of Research Services (secretary)
  - Raimo Kaasila, Professor
  - Päivi Kytömäki, Chief Librarian
  - Elina Pernu, Doctoral student
  - Jari Oksanen, Professor
  - Petteri Pietikäinen, Professor
- Guidance from the University Board, the Rector and the Research Council
- Information and discussion sessions with the research community
  - September 20, 2012, for the whole university
  - Visits to the Faculties and other organisations
- *Final guidelines will be modified based on the feed-back*



## RAE2013 aims

- to raise the profile of UO as an internationally recognized high-level science university by recognizing its strong areas of research and possibilities for significant new research openings,
- to be a constructive, supportive and future-oriented process for strengthening the Research Communities (RCs) at the university,
- to offer an opportunity for the RCs to plan how to achieve excellence in their international research fields,
- to use the results of the evaluation to strengthen the university's international research co-operation with the most recognized institutes in the field of UO's focus areas,
- to stimulate the use of multidisciplinary and interdisciplinary research approaches for building innovative and internationally significant RCs at UO, and
- to improve the research possibilities of researchers at an early stage of their independent career.



## RAE2013: Participation of research communities

- The evaluation is targeted to *research communities* (consortium of 15-120 persons, consisting of several research teams) which are formed on the basis of collaboration in research and doctoral training
- Participation is voluntary – but highly recommended
- The participating research community may include researchers across department and faculty boundaries
- The participating research communities do not need the approval of their faculty or independent institute, even though it is recommended that faculties and independent institutes encourage their researchers to participate



## RAE2013 outcomes for research communities (RC)

- The evaluation report will strongly influence the scientific profile of UO
- Research focus areas and future developmental directions will be identified from the report
- Impact on use of strategic funding (recruitments, infrastructures, doctoral programs and others)
- The RCs can improve their success in applications for competitive external funding, including Academy of Finland Centre of Excellence funding
- 2-4 of the best RCs from each of the three participation categories Veni-Vidi-Vici will receive an extra annual funding





# Vice rector Taina Pihlajaniemi



# RAE2013: Veni – Vidi – Vici - Participation & evaluation categories

## Veni –New research vistas / openings

The research of the participating RC represents an innovative opening. This can be a new combination of research fields, a new competitive line of research at UO, or it has a special social, national or international demand. Even if the RC in its present form has yet to obtain the proof of international success, its members should show convincing evidence of high scientific level in their previous research. Examples: Young independent researchers proposing new openings after a successful postdoc period (typically abroad); experienced researchers with significant new vistas / openings.

## Vidi – On the threshold of international breakthrough / recognition

The research of the participating RC is of high quality, but the community has yet to achieve a strong international recognition and scientific break-throughs in their field. The RC has strong potential and clear plans how to improve its international scientific level and impact. This includes determined and systematic methodological development of their research aim and high possibilities to successfully compete for national and international external funding.

## Vici –World class research

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





# RAE2013: Research Community (RC) and Principal Investigator (PI)

## Research Community (RC):

The size of the RC is 15 – 120 persons including the Head of the RC, the other PIs (research team leaders), the doctoral students, the postdoctoral and senior researchers, and the technical staff, all currently employed by UO or affiliated with UO for example by having a personal grant, research grant or other external research funding

Each RC can be registered only in one category (Veni / Vidi / Vici).

## Principal Investigator (PI):

- o is currently employed by the University of Oulu (UO)
- o or is a current active member of the University's research community and affiliated with the university by having an external funding administered by UO during 2007-2012 (exceptions handled case by case)

In addition, the PI carries out her/his own independent research project and has doctoral students / postdoctoral researchers and/or external funding.

## Number of PIs in different categories:

- Veni category RC: a minimum of two PIs.
- Vidi / Vici category RC: a minimum of three PIs.

The Head of the RC is one of the RC's PIs and can be a member only in the RC she/he heads.



# RAE2013: Research Community (RC) and Principal Investigator

## Postdoctoral and senior researchers

- o are currently employed by UO
- o or are current active members of the University's research community

Doctoral students are current members of UniOGS

The Head of RC, senior researchers, postdocs and doctoral students can participate only in one RC.

The other PIs from the Vidi / Vici category can in addition act as PIs in one RC of the Veni category, provided that they are proven to have a key role in that RC.





# Sinikka Eskelinen, Head of Research Services



## RAE2013: Three - step participation of Research Communities (RCs)

TIME	STEPS
December 1 – 21, 2012	1A. Registration of RC to RAE2013 evaluation and 1B. Update of SoleCris for publications in 1.1.2007 – 31.12.2011
February 1 - 28, 2013	2. Submission of RC's evaluation materials
March 1 – 31, 2013	3. Submission of RC's action plan for next 5 years, 2014-2018



# RAE2013: TIMETABLE OF THE EVALUATION AND DIVISION OF LABOR

Month, Year	Evaluation Office	Participating research community (RC)
<b>September 2012</b>	<p>RAE2013 opening by the Rector (20.9.2012 at 10:00) Briefing sessions at Faculties begin</p> <p>Opening of RAE2013 www pages</p> <p>Publication of the guidelines for participation in the evaluation</p>	
<b>October 2012</b>	Material added to RAE2013 public www pages	
<b>December 2012</b>		<p><u>Registration for the evaluation by 21 December 2012</u></p> <p><u>RC's data (1.1.2007 – 31.12.2011) updated to SoleCris database by 21 December, 2012</u></p>
<b>January 2013</b>	Notifications sent to researcher communities confirming whether they fulfill the requirements for participation	
<b>February 2013</b>	Search of panelists begins	<u>Submission of the CVs and lists of publications to steering committee by February 28</u>
<b>March 2013</b>	University level analysis of data from the SoleCris	<u>Submission of the research plans to steering committee by March 31</u>
<b>May 2013</b>	Nomination of panelists	
<b>June 2013</b>	Evaluation materials to the panelists	
<b>July-September 2013</b>	Panels at work	
<b>October 2013</b>	Panel meetings in Oulu	
<b>December 2013</b>	Written feedback from the panels	
<b>February 2014</b>	Researcher community-specific reposts to the research communities	
<b>April/May 2014</b>	Publication of the research community-specific and University Level reports	

# RAE2013 – Instructions for the submission of the 1<sup>st</sup> step forms by December 21, 2012

- The two forms will be added on <http://www.oulu.fi/english/RAE2013> [HERE](#)
- The RAE2013 www page also opens from the **main page of Research** (Finnish and English)
- The registration forms should be sent as two pdf files to the Registration office (kirjaamo@oulu.fi) by e-mail
- Deadline for registration is December 21, 2012 at 3:00 pm local time
- After the deadline **NO** additions / changes on the forms are accepted



# RAE2013 *Step 1 information*: Registration by December 21, 2012

1. Head of the Research Community
  1. last name, first name
  2. e-mail
  3. phone
  4. affiliation
  5. street address
2. Description of the participating Research Community (RC)
  1. name of the participating RC
  2. acronym of the participating RC
  3. description of the practical motivation ('operational basis') for forming the RC (e.g. research collaboration, joint doctoral training...). MAX 2200 characters with spaces)
3. Excel *attachment* to provide information on the RC ;  
Research groups and staff



# Rae2013 Step 1 forms: Registration by December 21, 2012

4. Scientific fields of the RC (based on the classification of the Academy of Finland )
5. RC's participation category and justification for the selected participation category (max. 2200 characters with spaces)
6. Public description of the RC's research (max. 2200 characters with spaces)
7. Description of the *present* (2007-2012) *and future* significance of the RC for the University of Oulu including international aspects, collaboration and researcher training (max. 2200 characters with spaces including keywords)
8. RC's suggestions for eight experts to be invited to the evaluation panels (four national and four international)





# RAE2013 *Step 2 information: Evaluation material by February 28, 2013*

- 1) Name of the research community (RC) and the Head of the RC as in the registration Step 1.
- 2) Curriculum vitae (CV, maximum 2 pages) of the Principal Investigators (PIs; research teams leaders)
- 3) List of publications of the Head of RC and PIs (max. 20 publications / person with an open time frame)
- 4) Top 20 scientific publications of the RC (consortium level, not just the publications of PIs')
- 5) Max. five most significant competitive external grants (in total) received by RC members between 1 January 2007 and 31 December 2012 (the Academy of Finland, the Finnish Funding Agency for Technology and Innovation TEKES, the EU, foundations, other national funding, other international funding)



# RAE2013 *Step 3 information: Action plan by March 31, 2013*

The 5-year action (research) plan for 2014 – 2018 of the RC shall be no more than six pages, covering the items 1–4 presented below (spacing 1, Times New Roman 12 pt or equivalent). It should be submitted by March 31, 2013.

1. Scientific quality and innovativeness
2. Scientific merits of researchers
3. Research environment
4. Position of the RC in respect to the world leaders in the field and the RC's international collaborators/networks



# RAE2013 Step 3 Action plan details (by March 31, 2013 with max. 6 pages) 1:

## 1. Scientific goals and innovativeness

- Background to research, any previous research related to the topic, research objectives
- Expected results and scientific impact
- Scientific added value expected from the RC activity (justifications for why the implementation of the research plan requires a RC instead of normal research collaboration).
- Expected social impact
- Possible risks on implementation of the research

## 2. Scientific merits of researchers

- Describe the merits and scientific expertise of the RC Head insofar as these benefit the RC leadership.
- Describe the merits and scientific expertise and supplementary expertise the PIs add to the RC
- Describe the expertise of the research teams that they add to the RC



# RAE2013 Step 3 Action plan details (by March 31, 2013 with max. 6 pages) 2 :

## 3 Research environment

- Describe the infrastructure (incl. research communities) provided by the research environments.
- Describe how the research project will promote creative research environments (e.g. strengthening framework conditions for multidisciplinary, interdisciplinary or transdisciplinary research, promoting national and/or international cooperation and researcher training, proposed structural changes, etc.).

## 4 Position of the RC in respect to the world leaders in the field

- Pinpoint the position of the RC in respect to the world leaders in your field/s. Name 2–3 research units or teams whose research programme and research questions are close to your own and that you consider your major scientific competitors. Justify your view.
- Name the most important international collaborators / networks of the RC and describe the nature of the co-operation (common funding , consortium /research team, infrastructure, research visits, doctoral education etc.)



# RAE2013 Evaluation



# RAE2013 Panels and evaluation

Three panels for evaluation:

A. Health and Life Sciences

B. Human Sciences

C. Technology and Natural Sciences

*Panels members are selected on the basis of the RCs' suggestions and nominated in May 2013. Their written feedback is ready in December 2013.*



# RAE2013 Panels

<i>Health &amp; Biosciences</i>	<i>Human Sciences</i>	<i>Technology &amp; Natural Sciences</i>
Biochemistry	Accounting	Architecture
Biology	Anthropology	Astronomy
Biomedical sciences	Archeology	Chemistry
Biophysics	Culture	Computer sciences
Bioprocesses	Education sciences	Engineering
Biotechnology	Finance	Geography
Clinical medicine	History	Geology
Dental sciences	Information research	Geophysics
Diagnostics	Languages	Mathematics
Health sciences	Literature	Physics
	Logopedics	Statistics
	Management &	Technology
	International business	Telecommunications
	Marketing & Logistics	
	Philology	
	Political economics	
	Science communication	



# Material to be sent to the panelists

1. Material submitted by the RC at stage 1, 2 & 3 of the evaluation
2. Analysis of the RC's publications data 1.1.2007-31.12.2011
  - basic statistics, number of citations, most highly cited papers, journal and field impact scores, and/or other relevant parameters. *NOTE: based on data stored in SoleCris*
3. Background information, such as:
  - University-level analysis of publications 1.1.2007-31.12.2011 (based on data stored in SoleCris)
  - Guidelines for the participating RCs
  - General information about the University of Oulu
  - Summary report of the previous evaluation RAE2007





# Aspects in RAE2013 evaluation

- Action (research) plan for 2014-2018
- Scientific merits
- Research environment
- International competitiveness

All the aspects are separately rated and commented



# Evaluation questions and aspects in RAE2013

(Panellists are asked to concentrate on aspects listed after each evaluation question)

## 1. Focus and quality of the RC's research; research plan rating

- ❖ Scientific quality, scientific significance, Innovativeness , Feasibility, Scientific breakthrough possibility
- ❖ Scientific added value of working as a CoE

## 2. Scientific merits rating

- ❖ Are the merits and scientific expertise of the RC Head appropriate and sufficient for the proposed project?
- ❖ Estimate overall quality of the publication records<sup>1</sup> of the RC Head and the other PIs (in addition to asked lists of publications includes analyses based on SoleCriss).
- ❖ Do the RC PIs bring appropriate and required complementary expertise to the RC?



### 3. Research environment rating

- ❖ Does the research environment support this RC, including appropriate infrastructures, and offer a wide base for successful research? Assess the planned promotion of creative research environment\*.

\*Creative research environment can translate as e.g. promotion of multi-/inter-/transdisciplinary research, national and/or international collaboration, researcher training, leadership skills, communication, structural changes etc.

See for example The state and quality of scientific research in Finland 2009, chapter 2.4 'Research environments and cooperation' (Publications of the Academy of Finland 10/09), available in pdf at [www.aka.fi/publications](http://www.aka.fi/publications)



Panellists are asked to consentrate 3...

## 4 International competitiveness rating

- ❖ Assess how the RC as a whole rates in relation to top international research in its field. The RC as a whole belongs to the

RC belongs to internationally	Rating
best 1%	6
best 5%	5
best 10%	4
not among the best 10%	3

## 5 Overall assessment rating

- ❖ Overall rating with number (not required to be mathematical average of the ratings given above)
- ❖ Strengths, weaknesses, added value working as a RC, other comments



# Scaling of the RCs by categories

Rating with a number	Description
6	<b>Outstanding</b> , stands out for exceptional novelty, innovativeness and renewal of science at global level
5	<b>Excellent</b> , extremely good in international comparison – no significant elements to be improved
4	<b>Very good</b> , contains some elements that could be improved
3	<b>Good</b> , contains elements that could be improved
2	<b>Unsatisfactory</b> , in need of substantial modification or improvement
1	<b>Weak</b> , severe flaws that are intrinsic to the proposed project or the plan



# Scaling of the RCs by categories

**Example of *outstanding* VENI / VIDI / VICI fit:**

**The RC's representation and argumentation for the chosen category are convincing.**

**The RC recognises its real capacity and apparent outcomes in a wider context to the research communities.**

**The specific character of the RC is well-recognised and well stated in the responses.**

**The RC fits optimally for the category.**



# RAE2013: Timetable



# RAE2013: TIMETABLE OF THE EVALUATION AND DIVISION OF LABOR

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# RAE2013: Additional detailed information



# RAE2013 documents: Publications

## 1. Publications of the RC (2007 – 2011) to SoleCris

- University of Oulu (UO) required in author affiliation
- The Head of the RC should confirm that each RC member has updated their list of publications in SoleCris database for the bibliometric analyses run by UO library and University of Leiden
- Should be updated for the 1<sup>st</sup> step by December 21, 2012

## 2. Selected maximum 20 scientific publications of each PI (open time frame)

- The place of work can be other than OU for those who recently joined the staff of UO
- Submitted in the 2<sup>nd</sup> step by February 28, 2013

## 3. Top 20 scientific publications of the RC (2007 – 2012)

- Should be the publications of current RC members
- The place of work in the publication can be other than UO but the RC member's current place of work should be UO / member should be currently affiliated with UO.
- Submitted in the 2<sup>nd</sup> step by February 28, 2013



# RAE2013 documents: Curriculum vitae (CV)

## CVs of the Principal Investigators (PIs)

- From every PI of the RC (including the Head of the RC)
- Maximum 2 pages (spacing 1, Times New Roman 12 pt or equivalent) – format (*according to Academy of Finland*) will be provided
- Submitted in the 2nd step by February 28, 2013



# RAE2013 contact persons

## General questions:

- Vice Rector Taina Pihlajaniemi  
([taina.pihlajaniemi@oulu.fi](mailto:taina.pihlajaniemi@oulu.fi))
- Director of Research Services Sinikka Eskelinen  
([sinikka.eskelinen@oulu.fi](mailto:sinikka.eskelinen@oulu.fi))
- Research Coordinator Aija Ryyppö ([aija.ryyppo@oulu.fi](mailto:aija.ryyppo@oulu.fi))

## SoleCris & bibliometric analysis:

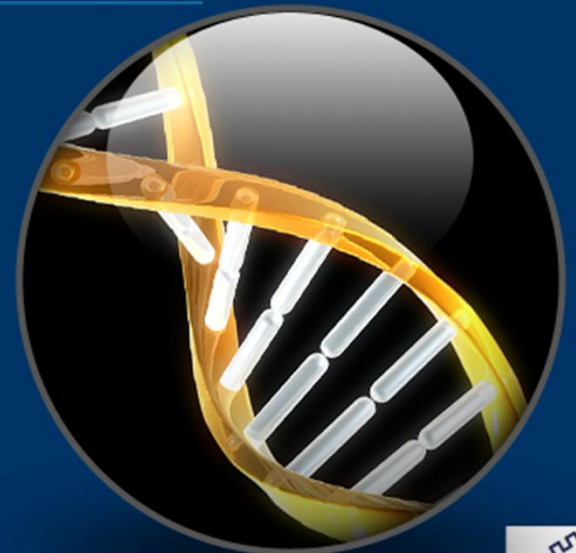
- Chief Librarian Päivi Kytömäki, ([paivi.kytomaki@oulu.fi](mailto:paivi.kytomaki@oulu.fi))



# RAE2013 Further detailed information available soon:

- Presentations given in the Faculties
- On RAE2013 public www pages  
<http://www oulu.fi/english/RAE2013>

**Thank you !**



# RAE2013: Towards multidisciplinary and interdisciplinary research

- **In Multidisciplinary research** a common research area or problem is studied on the basis of research questions at the different fields of science, methodology and theoretical approaches. The integration of the different parts of the study usually occurs at the level of the final report. Multidisciplinary research can be seen as a problem-oriented "group work" to solve a major research question or to explain the phenomenon (eg. global warming, globalization, or the Nordic welfare state research). In this kind of approach the same research area, problem or phenomenon is described from the perspectives of different disciplines, but the real interaction between different sciences is not necessarily created and these will remain and operate as separate paradigms, or as "traditional sciences".
- In addition to multidisciplinary, **transdisciplinary research** requires conceptual and methodological unity, and also a process that uses theoretical framework to combine the separate sub-analyses. The research problem and the research process itself are as if transported through the different disciplines. The traditional and often artificial separation of the different fields of science is consciously forgotten in the layout of interdisciplinary research questions. This creates new kinds of solutions and paradigms, which sometimes even lead to the emergence of new disciplines. For example, cultural or historical environmental research, that carries the research problem through many fields of science and research methods, comes close to transdisciplinary. An interdisciplinary research approach requires an experienced researcher (or group of researchers), who has a good basic knowledge in a sufficient number of traditional study subjects and who is capable of in-depth discussion with experts from several fields of science.
- From: Jussi Pakkasvirta 2003: Monitiede vai monta tiedettä? Näkökulmia poikkitieteiseen kulttuuri-, yhteiskunta- ja aluetutkimukseen. Verkkokirja, Renvall-instituutti, Helsingin yliopisto, [www.helsinki.fi/aluejakulttuurintutkimus/tutkimus/monitieteisyys/03maaritelmaa.html](http://www.helsinki.fi/aluejakulttuurintutkimus/tutkimus/monitieteisyys/03maaritelmaa.html)

