

# **National Current Research Information Systems**

**Experiences with their Use for Monitoring, Evaluation, Funding, and Studies of Research in Scandinavia** 

NIFU

Gunnar Sivertsen

Nordic Institute for Studies in Innovation, Research and Education, Oslo, Norway

### CRIS systems in Scandinavia

- An integrated national system: Norway
- Integrating local systems: Denmark and Finland
- Integrating all systems: Sweden?
- Nordic collaboration

Examples of the use of CRIS systems for four purposes

- Monitoring
- Evaluation
- Funding
- Studies of research

## CRIS systems in Scandinavia

- An integrated national system: Norway
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- Nordic collaboraton
- Examples of the use of CRIS systems for four purposes
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  - Evaluation
  - Funding
  - Studies of research

### The CRIS can itself be nationally integrated – Norway's solution



#### **Research documentation in Norway**

Cristin is the new joint research documentation system in Norway. The system will be us Cristin system will be implemented in 2011 in all sectors.

Cristin is both the name of the computer system and an agency for research administratio universities and university colleges with its own board. The Board has the professional resp university assists with administrative services.

Cristin research will provide increased value for society by facilitating that the research in s on the principle of open access for all. Cristin will also document, present, and make public financing systems in the higher education sector, research institutes and the regional heat

Cooperation Cristin is also given other tasks:

#### Licensing and consortium agreements

Cristin will have national responsibility for negotiating licensing and consortium agreements

#### Institutional repositories and open access

Norwegian Open Research Archives (NORA) has worked to promote open access to Norw will have the responsibility for the work of open access to the Norwegian research.

#### Acquisition of indexed data

Cristin will, among other things, have the national responsibility for the procurement and

One shared national Current Research Information System for 160 institutions in

- The higher education sector
  - The independent research institutes

#### The hospitals

- Publications and other outputs are listed only once
- Institutional and international collaboration can be traced in the data



#### eful links

wegian Scientific Index - ( oCRIS lication channels in seminar

#### ntact information

in secretariat: d email cal adress: c box 1059, Blindern 6 Oslo

#### ard

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: Rice, UiT (chairman) st Omenaas, Haukeland Ur nd Singsaas, NTNU nd Smeland, Oslo Universi e Fløisand, NIKU enne Sundnes, NIFU STEF unn Haavardsholm, NFR n Henrichsen, NSD

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ars Oftedal, UiO

### **Principles behind a shared national CRIS**



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- **Completeness:** All scholarly publications and other results from research are included
- **Transparency:** Every institution can see and check all other institutions' data. The national database is also online and open to society at large.
- Multiple use of the data: CV's, applications, evaluations, annual reports, internal administration, bibliography for Open Archives, links to full text, etc.



#### eful links

wegian Scientific Index oCRIS lication channels in seminar

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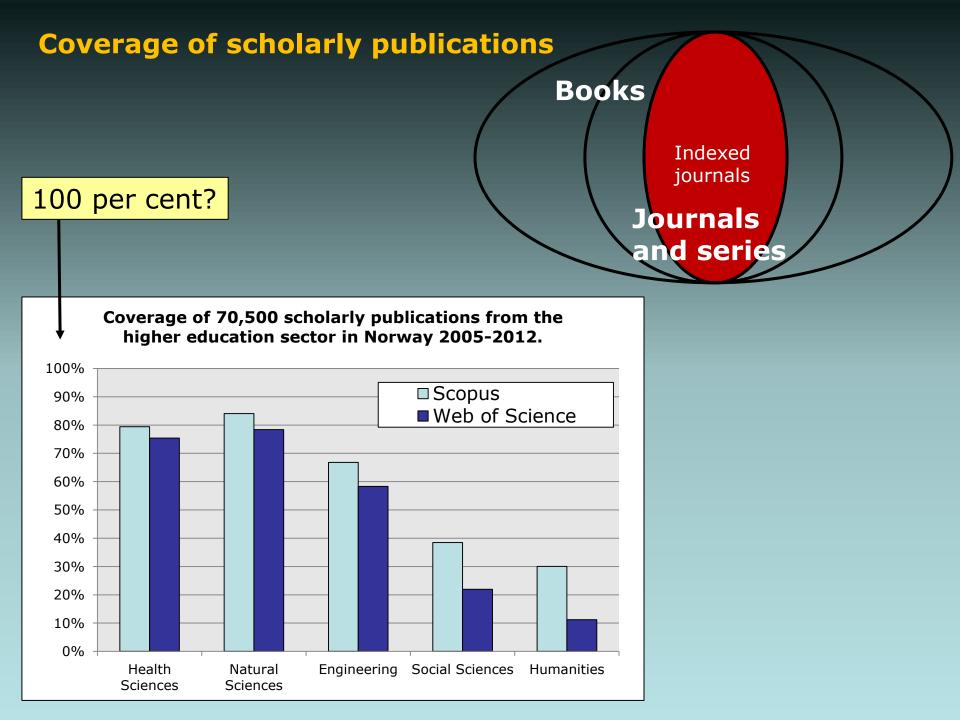
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# **Registration of research outputs and activities**

Cristin									
	Back to list Back to search Short format Full format								
Gunnar Sivertsen NIFU	Search criteria: Surname: Sivertsen First name: Gunnar From: 2017 To: 2017 All publishing channels								
	Showing results 1-1 of 1	Showing results 1-1 of 1							
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⊖ Research	Category:	Conference lecture and academic presentation - Scientific lecture							
results/NVI	Person(s):	Author,							
Register result Import publications Quick reference list		Sivertsen, Gunnar NIFU Nordic Institute for Studies in Innovation, Research and Education - NIFU Nordic Institute for Studies in Innovation, Research and Education							
of persons Quick reference list	Original title:	National Current Research Information Systems. Experiences with the Use for Monitoring, Evaluation, Funding, and Studies of Research							
of journals	Original language:	English							
My authorname	Event:	7.KSWD : Forschung. Daten. Infrastruktur.							
Search in results	Type of event:	Conference							
Help with results	Area of distribution:	International							
Help with quick reference list	Organisor:	Rat für Sozial- und Wirtschaftsdaten							
Researchers	City/town: Time:	Berlin 08.02.17 - 09.02.17							
Projects	Invited:	Yes							
Research units	External peer review	No							
Annual reporting	scheme:								
O About Cristin	Status:	Published/Presented.							
	Entry no.:	1447252							
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Cristin							
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In order to register data in Cristin, you must be an academic or administrative employee.	Search criteria: Surname: sivertsen First name: gunnar From: 2010 To: 2011 Main category: Journal publication Main category: Book I						
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<ul> <li>Researchers</li> <li>Projects</li> <li>Research units</li> <li>Logon</li> <li>About Cristin</li> </ul>	<ol> <li>Gilhus, Nils Erik; Sivertsen, Gunnar. Publishing affects funding in neurology. <i>European Journal of Neurology</i> 2010 ;Volume 17.(1) p. 147-151 HAUKELAND NIFU UiB</li> </ol>						
	2. Aksnes, Dag Westreng; Rørstad, Kristoffer; Piro, Fredrik Niclas; Sivertsen, Gunnar.						

Are Female Researchers Less Cited? A Large-Scale Study of Norwegian Scientists. Journal of The American Society For Information NIFU

Main categ

#### 3. Sivertsen, Gunnar.

Kilden til Jeppe paa Bierget. Aarhus Universitetsforlag 2010 (ISBN 9788779346284) 294 p. NIFU

#### 4. Sivertsen, Gunnar.

Ludvig Holbergs essay om likestilling. I: Sakprosa i skolen. Fagbokforlaget 2010 ISBN 978-82-450-0921-7. NIFU

Cristinv1.0.5, 23.08.2011 [drift@cristin.no]



#### 3. Sivertsen, Gunnar.

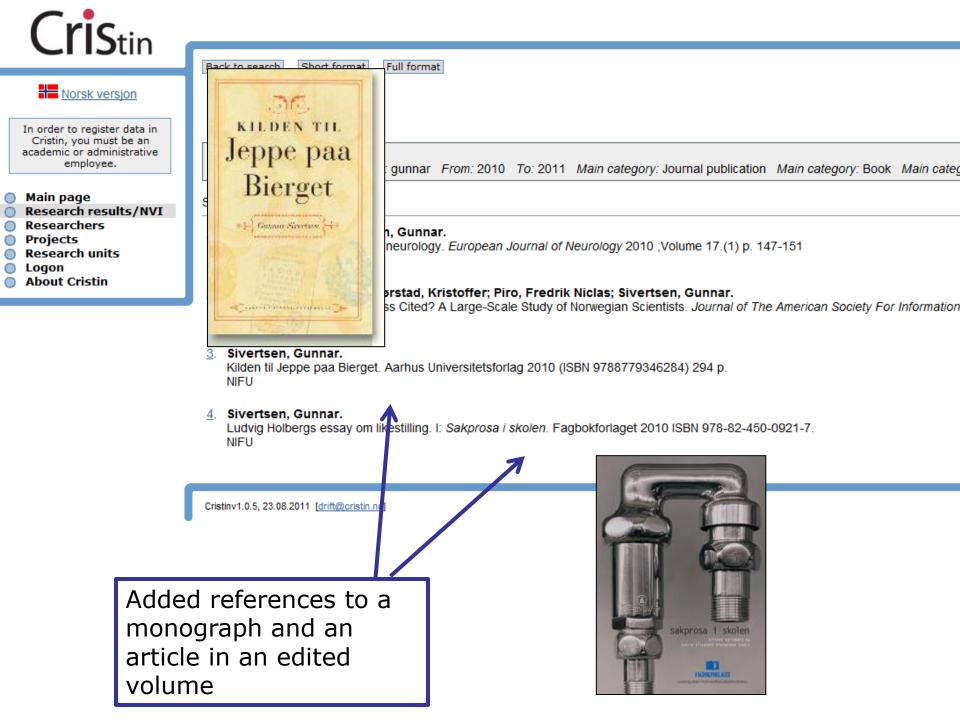
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## CRIS systems in Scandinavia

An integrated national system: Norway

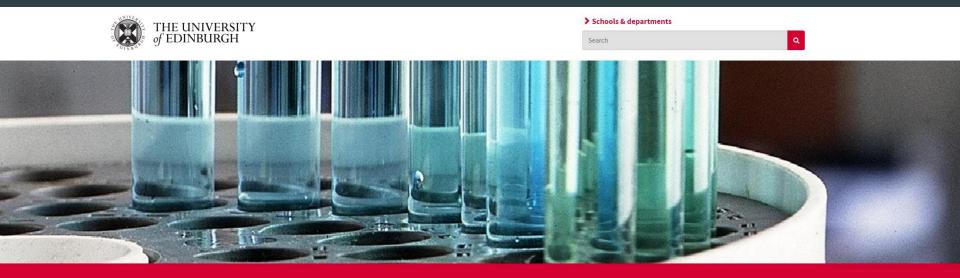
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## Examples of the use of CRIS systems for four purposes

- Monitoring
- Evaluation
- Funding
- Studies of research

#### **Commercial CRIS-solutions for institutional purposes have become widespread**



#### PURE

**PURE** home Home > Governance & Strategic Planning > Research > PURE Contact us Access PURE PURE news What is PURE? PURE for Administrators PURE is the University's Current Research Information System (CRIS). Information held in PURE relates to research-active staff and their projects and collates research activity information (mainly publications but also other types of output such as professional activities, impacts and press clippings). PURE allows for relationships and associations to be created between research inputs and outputs, thus providing a broad picture of research activity **PURE for Academics** at the individual, research unit, School, College, and University levels. **RCUK outcomes collection guidance** In addition to providing many of the University's current research management and reporting needs, data from PURE is also used to populate the Edinburgh Research Explorer (http://www.research.ed.ac.uk) which provides a public view on the University's research activity. Units are also able to PURE: latest news access data held in PURE to feed information into their own local web presence, such as publication lists and staff profiles. PURE is also used to aid delivery of the University's submissions to external exercises such as the Research Excellence Framework (REF). Through the **PURE Training** Research Explorer, PURE also acts as the University's Open Access repository.



## National integration of data - the Danish solution

Each university has a local Pure system.

Annually, data from the local systems are exported to, and integrated in, a national database owned by the Government

Den Bibliometriske Forskningsindikator

Høstresultater

#### Den Bibliometriske Forskningsindikator

Den Bibliometriske Forskningsindikator (BFI) har til formål at fremme publicering og spredning af viden om dansk forskning. Indikatoren bruges til at beregne point for videnskabelige publikationer (f.eks. artikler i tidsskrifter, bøger eller kapitler i bøger), som konverteres til ekstra penge til universiteterne. Jo mere et universitet producerer af videnskabelige publikationer, desto flere penge får de gennem denne indikator. Der er ikke tale om en indikator, som måler kvalitet. Dansk forskning ligger generelt i top 3 på verdensplan målt på antal videnskabelige publikationer pr. indbygger og på gennemslagskraft (se f.eks. Forskningsbarometeret (åbner i et nyt vindue)).

Den Bibliometriske Forskningsindikator belønner publicering i de mest prestigefyldte og anerkendte tidsskrifter og forlag. Indikatoren er opbygget omkring et IT-system, som består af et lokalt og et centralt niveau. På det lokale niveau indberetter universiteterne deres forskningspublikationer, og på det centrale niveau beregnes pointene. Til gavn for den brede offentlighed kan man via dette system få et samlet overblik over al dansk forskning på nationalt niveau, på universitetsniveau og for hvert fagområde.

Læs mere om Den Bibliometriske Forskningsindikator (åbner i et nyt vindue)







Adgange

I BFI-systemet kan du blandt andet stille forslag om nye publiceringskanaler, der skal give BFI-point. Læs mere om mulighederne i systemet og log på.

Log ind »

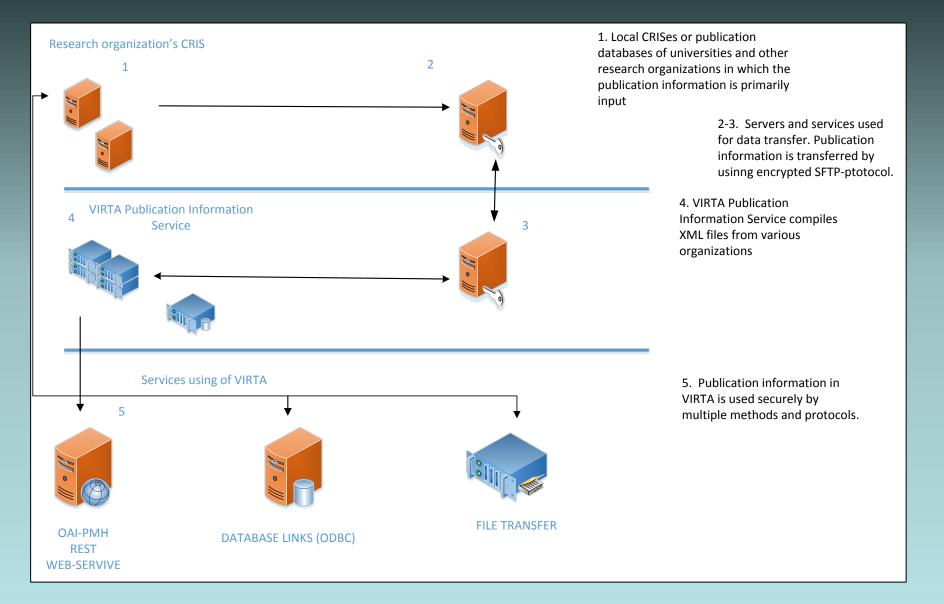


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Hvis du har spørgsmål ti support, er du velkommen t for Forskning og Innov

Kontakt E

# National integration of data - the Finnish solution (VIRTA)



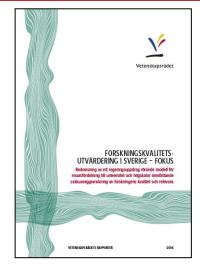
# National integration of data - the Finnish solution (VIRTA)

Data sources	Local CRISes or publication databases of HEIs, university hospitals, state research institutes					
Updates	Automatically and real time (statistics compiled once a year)					
Data format	XML					
Corrections, supplementations	Possible any time					
Temporal coverage	All data from previous years to present can be transferred					
Identification of authors	Name, ORCID					
Identification of duplicates, faults and Publication Forum channels etc.	Identified automatically and real time					

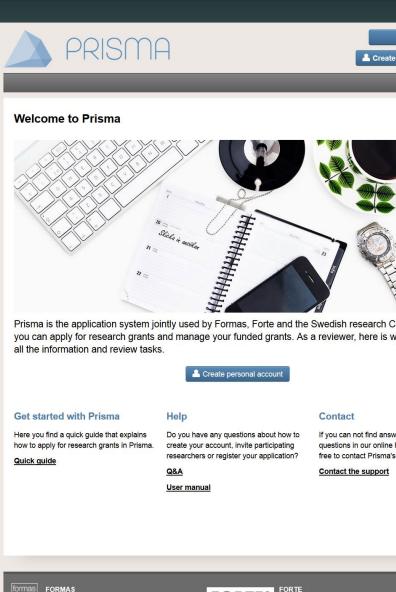
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#### The special case of Sweden



- 2014-2016: Proposal (rejected) for a new performance-based model based on peer review, and with
  - "a more indirect data collection method in which data is almost exclusively collected from existing sources".
- Which calls for further development of "PRISMA" – a **fully integrated research information system** in Sweden





Kungsbron 21, Box 1206, 111 82 Stockholm Telephone: +46-8 775 40 00.



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Nordic collaboration on system development, including online dynamic registers of scholarly publication channels



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#### **Statistics since 2011**



#### Publikasjonsform og kvalitetsnivå - velg institusjon

O Publikasjonspoeng

	Monografi		Antologiartikk	el	Artikkel		Total	
Sektor	Nivå 1	Nivå 2	Nivå 1 Nivå 2		Nivå 1 Nivå 2		Total	
Universiteter og	823,84	452,70	1 789,43	756,66	10 072,67	8 535,87	22 431,17	
Helsesektoren	7,50		37,60	7,51	2 305,20	1 601,30	3 959,10	
Instituttsektoren	60,81	81,91	341,31	166,41	2 126,86	1 806,45	4 583,75	
Grand Total	892,15	534,61	2 168,34	930,58	14 504,73	11 943,62	30 974,02	

# Possible to drill down to the institutional and departmental level

#### Vitenskapelig publisering

Rapport Dokumentasjon

Dublikasionsform

Dublicoringering

Institusjonene rapporterer antall publikasjoner og forfattere til DBH. Denne rapporten kan vise enten publikasjonspoeng og forfatterandeler, eller antall publikasjoner for et gitt år.

Publikasjonspoeng er et vektet uttrykk for publiseringsaktivitet og nivå, og benyttes i finansieringsmodellen for universiteter og høgskoler. Ved å klikke på verdiene i denne kolonnen kan du vise beregningsgrunnlaget. Forfatterandeler blir summert opp på de ulike institusjonsnivåer. For en publikasjon blir hver enhet kreditert ut fra andelen av publikasjonens forfattere som er tilknyttet enheten.

Årstall: 2015 🔻 🖲 Publikasjonspoeng og forfatterandeler 🔵 Antall publikasjoner [Tilbakestill]

#### Publikasjonspoeng og forfatterandeler 2015

Merk: Fra og med 2015 benyttes ny beregningsmåte for publikasjonspoeng.

						Publiseringsnivå		Publikasjonsform		
Enhet	Publikasjons- poeng	Poeng kvinner	Endring poeng	Andel poeng	Forfatter- andeler	Nivå 1	Nivå 2	Periodika artikler	Antologi- artikler	Mono- grafier
Totalt:	21 971,9	7 358,2	43,8 %	100,0 %	11 632,8	78,8 %	21,2 %	74,1 %	24,2 %	1,7 %
Universiteter	17 704,7	5 678,1	47,9 %	80,6 %	8832,6	76,2 %	23,8 %	76,6 %	21,9 %	1,5 %
Norges miljø- og biovitenskapelige universitet	948,1	329,2	42,2 %	4,3 %	473,4	83,4 %	16,6 %	87,2 %	11,7 %	1,1 %
Norges teknisk- naturvitenskapelige universitet	4380,6	1154,3	44,7 %	19,9 %	2269,5	76,8 %	23,2 %	79,6 %	19,6 %	0,8 %
Universitetet i Agder	683,0	206,5	22,6 %	3,1 %	436,5	83,7 %	16,3 %	62,4 %	35,1 %	2,5 %
Universitetet i Bergen	3058,4	999,2	56,3 %	13,9 %	1413,5	74,7 %	25,3 %	80,6 %	17,8 %	1,6 %
Universitetet i Nordland	284,0	106,5	75,5 %	1,3 %	180,6	73,7 %	26,3 %	52,5 %	43,8 %	3,7 %
Universitetet i Oslo	5826,9	1928,5	51,1 %	26,5 %	2663,8	72,5 %	27,5 %	75,1 %	22,9 %	2,0 %
Universitetet i Stavanger	739,1	219,6	48,0 %	3,4 %	429,0	80,6 %	19,4 %	72,8 %	25,6 %	1,6 %
Universitetet i Tromsø - Norges arktiske universitet	1784,4	734,2	42,9 %	8,1 %	966,3	78,5 %	21,5 %	74,9 %	23,9 %	1,2 %
Statlige vitenskapelige høyskoler	606,5	149,3	68,9 %	2,8 %	331,7	69,8 %	30,2 %	77,4 %	20,8 %	1,8 %
Arkitektur- og designhøgskolen i Oslo	0,0	0,0	0,0 %	0,0 %	32,6	41,7 %	58,3 %	71,6 %	25,4 %	3,1 %
Høgskolen i Molde, Vitenskapelig høgskole i logistikk	98,0	32,2	94,5 %	0,4 %	62,4	93,1 %	6,9 %	75,1 %	24,9 %	0,0 %
Norges handelshøyskole	246,2	45,0	69,6 %	1,1 %	114,7	70,2 %	29,8 %	82,6 %	13,9 %	3,5 %
Norges idrettshøgskole	262,3	72,1	60,5 %	1,2 %	105,1	65,5 %	34,5 %	77,0 %	22,0 %	1,0 %
Norges musikkhøgskole	0,0	0,0	0,0 %	0,0 %	16,9	61,6 %	38,4 %	63,5 %	36,5 %	0,0 %
Statlige høyskoler	2 878,0	1 292,7	28,6 %	13,1 %	1968,8	90,4 %	9,6 %	64,5 %	33,6 %	1,9 %
Høgskolen i Bergen	246,5	116,5	59,2 %	1,1 %	139,5	89,3 %	10,7 %	66,3 %	31,7 %	2,0 %
Høgskolen i Buskerud og Vestfold	353,8	149,7	36,6 %	1,6 %	217,7	90,3 %	9,7 %	65,9 %	32,4 %	1,7 %
Høgskolen i Gjøvik	217,1	49,3	87,6 %	1,0 %	154,3	92,9 %	7,1 %	58,0 %	41,1 %	1,0 %
Høgskolen i Harstad	21,9	11,2	4,3 %	0,1 %	20,0	100,0 %	0,0 %	62,6 %	37,4 %	0,0 %
Høgskolen i Hedmark	180,1	88,0	24,1 %	0,8 %	125,3	91,8 %	8,2 %	55,5 %	42,5 %	2,0 %
Høgskolen i Lillehammer	115,3	23,2	26,4 %	0,5 %	80,4	90,6 %	9,4 %	64,9 %	31,5 %	3,6 %
Høgskolen i Narvik	59,9	11,6	-4,4 %	0,3 %	38,2	93,2 %	6,8 %	94,4 %	5,6 %	0,0 %
Høgskolen i Nesna	41.8	16.4	136.5 %	0.2 %	44.8	98.8 %	1.2 %	30.5 %	69.5 %	0.0 %

### **Used in official statistics**



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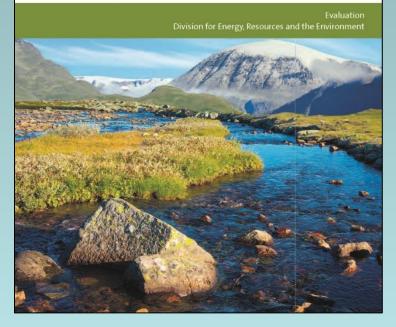
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# Informing peer review panels in national research assessments



#### Norwegian climate research

An evaluation





Interplay between research and teaching activities Research in the humanities is an important basis for providing high-guality

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"The dual funding system" (Public sources)

# Government

# Research Councils

Projects and Programmes Competition Research Evaluation

# Direct grants

Historical, Political Strategic Performance based

# **Research institutions**

## «The Norwegian model» (Denmark, Finland, Norway)

The model has three components:

- A. A complete representation in a national database of structured, verifiable and validated bibliographical records of the peer-reviewed scholarly literature in all areas of research;
- B. A publication indicator with a system of weights that makes field-specific publishing traditions comparable across fields in the measurement of "Publication points" at the level of institutions;
- C. A **performance-based funding model** which reallocates a small proportion of the annual direct institutional funding according the institutions' shares in the total of Publication points.



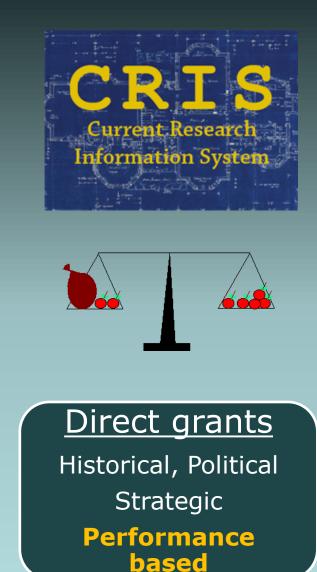
Performance based

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Necessary for getting complete, quality-assured data



STI Conference 2016 · València Peripheries, frontiers and beyond

València, 14 · 16 September 2016

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#### A bibliometric indicator with a balanced representation of all fields

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#### Abstract

STI

2016 VLC

As research in progress, we present two studies aimed at redesigning the bibliometric indicator of the "Norwegian Model" as response to an evaluation in 2013. The indicator is supposed to give a balanced representation of all fields, also those that are constructed as "peripheral" in traditional bibliometrics because of limited coverage in databases. The first study deals with balancing between different field-dependent co-authorship practices in the indicator, the other with the possible addition of a measurement of citation impact that could be applicable across all fields.

#### Keywords

Bibliometric indicators; productivity; citation impact; co-authorship; fractionalization; publication patterns; evaluation; the Norwegian model.

**Submission type:** Research in progress paper. **Relevant track:** Data infrastructure for research metrics.

#### Introduction

The so-called "Norwegian Model" (Schneider 2009; Sivertsen 2010; Ahlgren et al. 2012), which so far has been adopted at the national level by Denmark, Finland and Norway, partly

### CRIS systems in Scandinavia

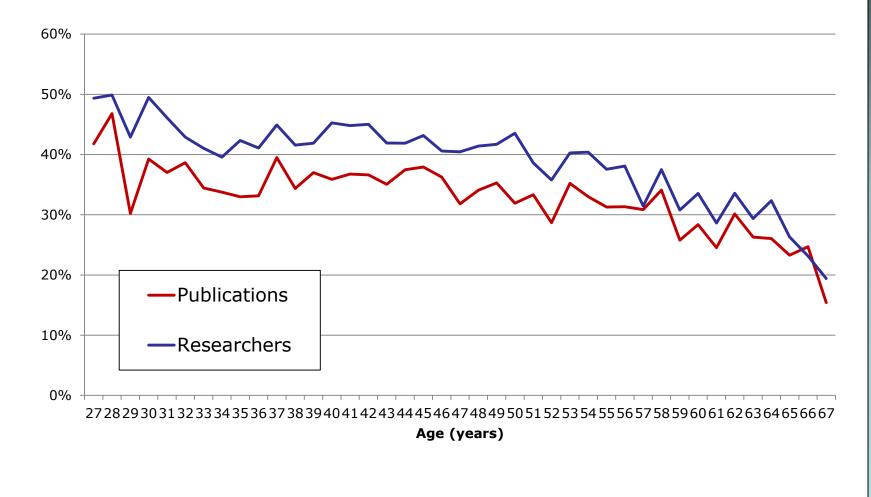
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#### Based on 13,630 publications from 17,314 researchers in 2011

Figure 1. Age and women's share of Norway's researchers and their total scientific publication output in 2011



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### Advantages, limitations, challenges

#### Advantages

- Completeness, a balanced representation of all fields
- Publicly available shared information
- Multiple use of data for several purposes on different levels in the research system
- Limitations
  - International benchmarking not possible so far
- Challenges
  - Costly if not running for multiple purposes
  - Responsible use and interpretation of data
  - Commercialization of tools and of data?
  - Making performing and funding organizations share and use the same data