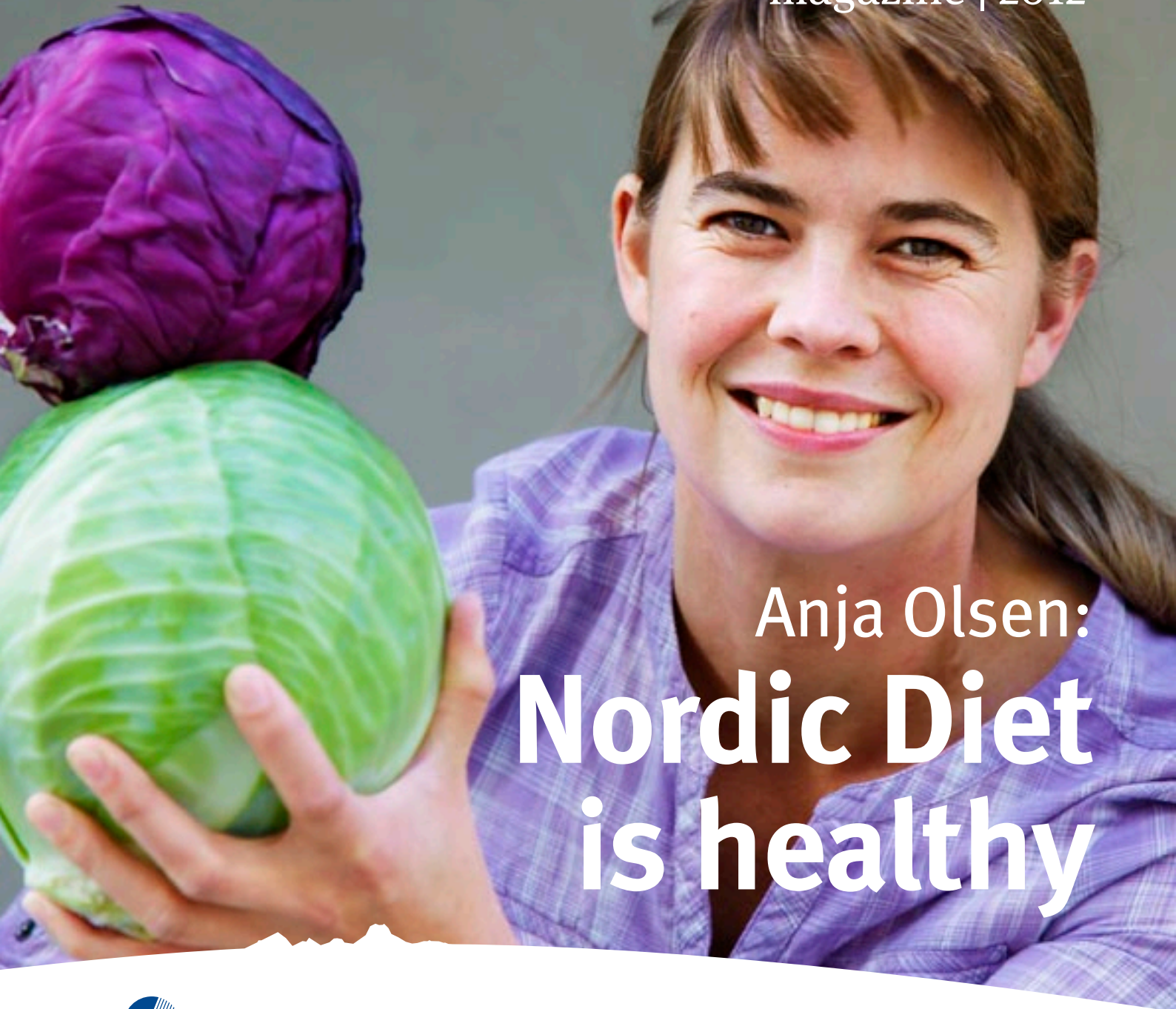


NordForsk

magazine | 2012



Anja Olsen:
**Nordic Diet
is healthy**



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NordForsk

Gudmund Høst: Together on infrastructure
Peter Svenonius: Dialects or separate languages?
Bjørn Hvinden: Can the Nordic welfare model survive?
Máire Geoghegan-Quinn: NordForsk a building block for the ERA

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N-0170 Oslo
www.nordforsk.org
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Editor: Head of Communications Anne Riiser
Editorial staff: Dag Inge Danielsen,
Siw Ellen Jakobsen, Bård Amundsen,
Norunn Torheim and Marius Hagen
Translation team: Carol B. Eckmann,
Victoria Coleman, Connie J. Stultz,
Darren McKellep, Glenn Wells and Ulla Kusnitzoff.
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The Swan ecolabel was
established in 1989 by the
consumer sector of the
Nordic Council of Ministers.

Gunnel Gustafsson, Director of NordForsk

More Nordic research collaboration of high quality and relevance

NordForsk and Nordic research collaboration have undergone major development in recent years.

Investments have increased, not least because the research councils in the Nordic countries have contributed more than previously. This is a sign that cooperation across borders and sectors adds value to what is being done nationally. The policy dialogue has been strengthened and improved and NordForsk is currently helping to generate new, high-quality knowledge of relevance to policymakers and other users. The organisation has matured and expanded its scope of activity with research infrastructure collaboration as a fundamental component. More ambitious efforts to contribute to a stronger Nordic voice in Europe are also being made.

Research infrastructure in focus

Investment in research infrastructure is now at the core of Nordic research collaboration. This is due to increased convergence between funding of research and research infrastructure at both the national and the international levels. Superior research infrastructure is essential to the ability to conduct competitive research of high international standard, and research infrastructures are a topic of common interest for the Nordic countries.

In an exciting new development, NordForsk has become the host for the Nordic eInfrastructure Collaboration (NeIC). The NeIC is a collaboration between the Nordic countries to facilitate the development of eInfrastructure solutions. The aim is to support researchers with the best possible information and communication technology.

Another important activity is the preparatory work carried out to link together biological and social registries into Nordic databases as a means of enhancing the quality of research based on such data. These efforts encompass analyses of ethical, legal and technical obstacles to cross-national cooperation as well as suggestions regarding how these may be overcome. This type of infrastructure is a unique Nordic asset and a pilot project on colon cancer has already been launched. A study of the causes of and biomarkers for cancer is being conducted in this context. Infrastructure collaboration also includes activities on the European

Roadmap for Infrastructure and runs parallel to the ongoing legal framework processes (ERIC) at the European level. The support from NordForsk has made it possible for the Nordics to act in a faster and more coordinated way than would otherwise have been the case.

A Memorandum of Understanding between NordForsk and the European Commission

In July 2012, NordForsk and the Nordic Council of Ministers along with other stakeholders signed an agreement with the European Commission. The aim is to strengthen and support the European Research Area. Main policy areas of common interest include researcher career opportunities and mobility, gender equality, research infrastructures, eScience as well as open access to data and publications.

Political will is of crucial importance!

Experience from the Nordic Top-level Research Initiative (TRI) shows that political commitment to Nordic research collaboration is essential. It was the five Nordic prime ministers who decided to start the TRI to generate new insights to respond to climate, energy and environmental challenges within the Nordic region and beyond. Without political will, this very successful programme would not have been jump-started.

NordForsk has also launched several other research programmes that have their origin with the Nordic Council of Ministers. These include the programmes for eScience, Education for Tomorrow and Welfare and Health, which revolve around innovation potential, education and the welfare society of tomorrow. The aim is to provide policymakers, businesses, students and other users with the knowledge they need today and in the future.

*Gunnel Gustafsson, Professor
Director of NordForsk*



Building block for the ERA

In July 2012 in Brussels, NordForsk and four other key European research stakeholders signed a Joint Statement with the European Commission on working in partnership to realise the European Research Area (ERA) by 2014.

Signing partners were Máire Geoghegan-Quinn, European Commissioner for Research, Innovation and Science and representatives from the key stakeholder organisations: the European Association of Research and Technology Organisations (EARTO), the European University Association (EUA), the League of European Research Universities (LERU), Science Europe and NordForsk. Each partner will specify its commitment in more detail in individual agreements, and NordForsk and the Commission have signed a Memorandum of Understanding to this effect.

NordForsk in reinforced partnership

The MoU states that NordForsk will carry out actions within the fields of cross-border collaboration. Researcher mobility and work conditions, gender issues, access to publications and data, eScience and infrastructure are important components in the work that lies ahead. NordForsk plans to implement these measures by the end of 2013.

–I am optimistic that we will now make progress towards the realisation of the ERA, says Commissioner Máire Geoghegan-Quinn, who believes that the reinforced partnership with the stakeholders, including NordForsk, will further accelerate the process. She feels it is essential that the stakeholders launch their efforts immediately in order to meet the 2014 deadline, and hopes that they will grasp the opportunity they have been given.

Máire Geoghegan-Quinn also stressed the importance of monitoring, and aims to review progress by the summer of 2013.

Nordic contribution in a global reality

The Commissioner views many lines of development within the research field in a global perspective. Research and innovation, and how to transform results into increased competitiveness and societal benefits for Europe are essential in Horizon 2020.

– We need to ensure access to knowledge outside the EU as well, and to market Europe as an attractive workplace for researchers from other parts of the world. We need to get rid of obstacles to mobility, so as to become a magnet for the very best researchers, she states.

Regional research collaborations are on the rise, both within and outside Europe. The need to achieve a critical mass of scientific knowledge and research capacity, common regional interests play a key role in this context.

– The Nordic countries have always been close culturally, and their regional research collaboration today constitutes an important building block for the ERA, says Ms Geoghegan-Quinn.

– Their research cooperation is an example of how such collaboration could be structured in the EU and serves as a model and a best practice.

– Publication and citation rates are high in all of the Nordic countries, and they win grants in many fields, such as food, health, ICT, Marie Curie and the ERC, the commissioner points out. She also points to the Nordic efforts within energy, climate and the environment, where the Top-level Research Initiative has served as inspiration for Joint Programming at the European level.

– NordForsk makes an enormous contribution to common Nordic-European research initiatives and brings the cooperation up several notches. I look very much forward to formalising the Joint Statement and the MoU in December when the final signing by Secretary General for the Nordic Council of Ministers, Halldór Ásgrímsson, takes place, Commissioner Geoghegan-Quinn concludes.

Máire Geoghegan-Quinn is the European Commissioner for Research, Innovation and Science. Born in Ireland, she has had a wide-ranging political career. She has served as the Irish Minister for Justice, Minister for Tourism, Transport and Communications, and Minister for European affairs. She was a member of the Irish Government team that negotiated the Joint Declaration on Peace and Reconciliation in Ireland.



NordForsk Director Gunnel Gustafsson, EU Commissioner for Research, Innovation and Science Máire Geoghegan-Quinn and Chair of the NordForsk Board Guðrún Nordal, in Brussels. Photo: Terje Heiestad

Together on eInfrastructure

Increasingly, European researchers are working together to achieve more efficient use of computing resources. The Nordic countries are planning to take this one step further. Gudmund Høst has been appointed the new Director of the Nordic eInfrastructure Collaboration (NeIC).

The Nordic countries are among the most advanced in the world when it comes to ICT. Inhabitants in these countries use the Internet and advanced software more effectively than just about anywhere else in the world. At the same time, the Nordic region, too, must deal with the challenges posed by a more knowledge-based, globalised economy. And each of the Nordic countries must cope with research challenges that cannot be solved by a single nation on its own.

The typical PC today is as powerful as the supercomputer of a few years ago. And the supercomputers of today are far more powerful still. Much activity within modern research involves storing and processing vast amounts of data. For many researchers collaborating on ICT equipment and software across national borders is now a key part of their tasks. This is clearly exemplified in the cooperation between physicists, computer experts and other scientists in analysing data from the experiments carried out at the European Organization for Nuclear Research (CERN).

Technology and politics

Gudmund Høst is head of the eInfrastructure Reflection Group (e-IRG), the advisory body on eInfrastructure for EU research. He already has years of experience in coordinating Norway's eInfrastructure activities. And now he has been appointed to direct eInfrastructure collaboration within the Nordic region.

Dr Høst explains,

– Many of the technical solutions for comprehensive ICT collaboration among nations already exist. As such, the obstacles to such cooperation often come from the lack of political will. The view from the Nordic region – through NordForsk – is crystal clear on this: there is a very strong Nordic political willingness to cooperate across national borders.

Gudmund Høst has worked as Chief Research Scientist at the Norwegian Computing Centre and as Special Adviser on eScience at the Research Council of Norway. He played a pivotal role in the planning of the Nordic eScience globalisation initiative. And, as stated, he is also the Director of e-IRG – the advisory body for eInfrastructure in the EU.

Effective ICT

– The Nordic eInfrastructure Collaboration will promote the development of new solutions for Nordic research communities, says Dr Høst.

Life sciences, climate research and health research based on the large Nordic health registries are examples of areas where expert research groups in the Nordic region have a great need for new computer resources. The Nordic eInfrastructure Collaboration will also support activities that can enhance cooperation and task-sharing between the national eInfrastructure initiatives so that the Nordic region can work together to provide the best possible resources to researchers.

– The task of the NeIC is to provide researchers with the tools they need. This involves ICT solutions that make it possible to carry out research more quickly and effectively. For the Nordic countries, cooperation here is intrinsic to our way of thinking, Gudmund Høst states.

The NeIC will also promote more effective utilisation of existing resources in terms of data networks, storage capacity and grid-computing data processing. The latter requires utilising the resources of many supercomputers connected together in order to solve particularly large tasks.

– Distributed solutions is a key concept. Often, present-day eInfrastructure is not located in a specific place; instead, it consists of a number of databases and computers joined together through a high-speed fibre-optic network.

A united international effort

When European countries joined forces on the CERN physics collaboration adequate budgets were never drawn up for a large, centralised data storage centre. Instead, these countries all agreed to meet that need through a joint international effort. The enormous capacity necessary for data processing at CERN is provided through 11 complexes, referred to as Tier 1 data centres, spread around the globe. One of these centres has been established by the Nordic countries in concert, and is the only one involving collaboration by a group of countries.

Gudmund Høst is director of NeIC (Nordic eInfrastructure Collaboration). He formerly held the position as special advisor for Science - Infrastructure, Theory and Applications (eVITA) in the Research Council of Norway and is also Dr. Scientist from the University of Oslo. In 2012 he held the position as chairman of the e-Infrastructure Reflection Group (e-IRG), which is an advisory board for eInfrastructure in the EU.



Gudmund Høst's call for action: it is essential for scientists in different subject areas to collaborate on finding common solutions for the use and storage of research data to make it possible to use these solutions across different subject fields. If we can achieve collaboration in the standardisation of data – on everything from social science to climate research – it will unleash enormous potential for knowledge development. Nordic collaboration on eInfrastructure can help bring this standardisation to life. The Nordic «eCollaboration» can help to establish a dynamic eInfrastructure – a structure that would better enable us to transform data into more valuable knowledge-based products. Photo: Terje Heiestad.

– We developed a separate solution for our centre, based on nodes distributed throughout the Nordic countries. The NeIC has developed special expertise in operating this type of complex data system. This could prove useful in a variety of Nordic scientific fields, Dr Høst says.

The NeIC will be developing activities within many areas. The role of the Nordic eInfrastructure Collaboration will be that of a facilitator, primarily providing partial funding to existing and new groups for the development of new eInfrastructure solutions. The NeIC may at some point take on operational tasks within eInfrastructure if the national stakeholders so choose.

In addition to the NeIC infrastructure collaboration, NordForsk also has its own research programme on eScience – the Nordic eScience Globalisation Initiative (NeGI). This initiative could be an important user of the NeIC.

Generic solutions

– The NeIC is to provide solutions targeted towards specific applications and subject areas. In addition, however, we also wish to offer more generic solutions that can be used in a

broad array of subject areas. Such solutions may be relevant in high-performance computing, the use of cloud computing or systems for processing research data.

Gudmund Høst believes that Nordic collaboration of this type opens many doors, such as the ability to specialise as a result of Nordic task-sharing.

– Different supercomputers and data storage systems are often best suited to somewhat different sets of tasks. For example, climate modelling needs a different type of supercomputer than that needed to run genome analyses. Perhaps we could, for example, create solutions in which a specially adapted supercomputer can serve all Nordic climate modellers instead of each country needing to operate its own machine separately, speculates the new NeIC director.

NeIC (Nordic eInfrastructure Collaboration) is a collaboration between the Nordic countries to facilitate the development of eInfrastructure solutions for Nordic research communities.

Peter Svenonius and Øystein Vangsnes

More like dialects than separate languages

Increasingly, when Swedes, Danes and Norwegians meet at conferences they use English in order to avoid misunderstandings. However, language researchers contend that the three Scandinavian languages are so similar to one another that it is more a matter of dialect variants, and not separate languages.

In the heart of Swedish-speaking Sweden, there is a small group of people whose speech is incomprehensible to most Swedes. Known as Övdalian, it has been officially considered a Swedish dialect, but a comparison with standard Swedish reveals that the differences are greater between Övdalian and Swedish than between Swedish and Norwegian, for example.

This goes to show that the perceived difference between language and dialect is more a function of policy than linguistics.

– From a linguistic point of view, we can say that Norwegian, Swedish and Danish are one language, state the two linguists, Peter Svenonius and Øystein Vangsnes. Övdalian, which is spoken today by some 3 000 people, is a separate language.

– Three thousand may seem like a small number, but the population of Övdalian speakers is larger than the total number of people who speak Lule Sámi, Southern Sámi, Skolt Sámi, Inari Sámi, Pite Sámi and Ume Sámi combined, i.e., all the Sámi languages except for Northern Sámi.

Seven research groups

At the Nordic Centre of Excellence (NCoE) in Microcomparative Syntax (NORMS), several dozen language researchers, recruited from a network extending across the entire Nordic region, have carried out detailed studies of Nordic dialects from Iceland to the Swedish-speaking areas of Finland, and from the northernmost reaches of Norway to the southern tip of Denmark.

Hosted at the University of Tromsø, the project has involved seven different Nordic research groups. The focus of the research has been on syntax – i.e. the study of the system of grammar for how elements are combined to form sentences

and phrases – a subject that has received very little attention in previous research on dialects.

– We have met a lot of nice people – young and old – during our excursions throughout the Nordic region, explains Øystein Vangsnes, who has co-headed the Nordic Centre of Excellence together with Professor Svenonius. In many places where traditional dialects are losing ground, the researchers are particularly interested in the older speakers, as their language system is more divergent from standard language. Still, younger individuals have also been interviewed in order to provide empirical evidence for various purposes, such as studying changes in Nordic dialects.

The weather report's effect on language

Languages and dialects change. However, it is not necessarily easy to predict where these changes are headed. On the map created by the NORMS researchers to chart similarities and differences among the Nordic languages, the linguistic boundaries crisscross one another. It is no surprise to find that northern Norwegian, northern Swedish and Finland-Swedish share many similarities. It is much more of an eye-opener when researchers discover a range of common features shared among the languages of the Faroe Islands, Western Norway and Älvdalen in the middle of a Swedish forest.

Old Norse was the basic language spoken both in Norway and in Iceland from the year 900 until roughly 1350. Thus, at that time, the language used in Norway and Iceland was essentially the same. Modern Norwegian has moved further away from Old Norse and Norwegians can understand little of what the Icelanders say.

– Icelandic is a very conservative language; many of the grammatical features from Old Norse remain intact.

In spite of the island's large size, there is surprisingly little dialectal variation among the population. At the other end of the scale is the diminutive Faroe Islands, a chain of many small islands close together, where there is a relatively large degree of variation in dialects. Faroese is gradually moving away from Icelandic in the same way Norwegian did long ago.

– You would expect changes in Faroese to reflect a move towards Danish since the Faroe Islands have been under Danish rule since the Middle Ages, remaining so even after the Treaty of Kiel in 1814. But what we have actually found is that Faroese – in many ways – is moving in the direction of dialects in Western Norway, Dr Vangsnes explains. It's unexpected, yet it's important to remember that there has always been a lot of contact between the Faroe Islands and Western Norway – not in the least in connection with fisheries.

– We know, for example, that Faroese fishermen have listened to lots of Norwegian radio or «Norðmaðurin» («The Norwegian») as they refer to it. They told us that is where they get the best weather reports.

Small differences in dialect

A common feature of the language situation in the Nordic region, and particularly in Norway, is that there is a great diversity of dialects. This may be the reigning belief, but is it really true?

– No. When we compare the Nordic dialect project with dialect projects in the Netherlands and Italy, we see that the Nordic region shows no evidence of a particularly wide-ranging dialectal variation, Peter Svenonius responds.

When it comes to dialects in the Nordic region, Norway is the outsider. But this is not because Norway has greater dialectal variation than Denmark and Sweden. The differen-

Peter Svenonius is a professor in English linguistics and researcher at CASTL (Centre for Advanced Study in Theoretical Linguistics) at Tromsø University. He has been leader for NORMS (Nordic Centre of Excellence in Microcomparative Syntax).
Øystein Vangsnes is a researcher at CASTL (Centre for Advanced Study in Theoretical Linguistics). He has also been coordinator of the Nordic Centre of Excellence, NORMS (Nordic Centre of Excellence in Microcomparative Syntax).

ces in both Denmark and Sweden are more extreme than in Norway.

– What sets Norway apart is that the dialects are used to a greater extent than in the other Nordic countries.

– In Denmark, dialect assimilation has come far and Sweden is heading in the same direction. This has not been the case in Norway, however. One likely factor is that speaking a dialect is more acceptable in Norway. The majority of Norwegians use their dialect all the time. In Sweden, Denmark and the Swedish-speaking region of Finland, on the other hand, it is much more common for individuals to switch between the national standard and their dialect. In Älvdalen there are even distinct verbs for the phenomenon: to swenska is to speak standard Swedish while to dalska is to speak Övdalian.

– The fact that it is less common in Norway to switch over to standard Norwegian is also an indication that dialects in Norway are not as distinct from one another as they may be in Denmark and Sweden, the researchers claim.

Language is innovation

Several language researchers have predicted the death of the dialect in Sweden, Denmark, Norway and Finland Swedish region of Finland. Researchers who have been part of the NORMS centre dialect project have found nothing to indicate that this will happen anytime soon.

–The dialects are undergoing change, but they are not disappearing. We long believed that dialects were moving more and more in the direction of their respective standard language. We now see, however, that the opposite may actually be the case. Dialects appear to be the place where language is constantly innovating, the two linguists maintain.

A language on the precipice

Övdalian, spoken in Älvdalen in Sweden, is a variant of Scandinavian cherished by language researchers. The future of the language, however, is highly uncertain.



Photo: Terje Heiestad

Linguistic variety is to language researchers what genetic diversity is to biologists.

– It gives us a much greater insight into the structure and development of the Nordic languages, says language researcher Øystein Vangsnes.

– The special role of Övdalian in relation to other Nordic language variants led 20 language researchers from the Nordic Centre of Excellence in Microcomparative Syntax (NORMS) to spend a week of fieldwork in Älvdalen studying its grammar. Conversations with speakers of Övdalian have been recorded, transcribed and entered into the Nordic Dialect Corpus, the electronic corpus of Nordic dialects compiled at the Text Laboratory at the University of Oslo.

Övdalian has retained a number of historical Nordic language characteristics. Examples include distinctive nasal vowels, the voiced fricative ð (or eth), pronunciation of w,

verb conjugation according to subject and case inflection of pronouns and nouns.

– Certain characteristics such as nasal vowels, for instance, don't even exist in Icelandic or Faroese – otherwise considered the most archaic of the Nordic languages, Dr Vangsnes explains.

Approximately 3,000 people speak Övdalian today, but Swedish is carving big inroads into its use. An official count carried out a few years ago determined that only 45 children under the age of 15 actively spoke Övdalian. As soon as children start attending day care they switch to Swedish. Many parents feel that teaching their children Övdalian will not be beneficial in the long run.

Linguists are not the only ones troubled by this trend. The Övdalian language association Ulum Dalska is working to preserve the language. It has published a book on Övdalian grammar and offers writing courses in the hope that Övdalian will become more of a viable written language than is the case at present.

– The forest owners' association in Älvdalen has gone so far as to offer a grant of SEK 6 000 to all local pupils actively using Övdalian after the ninth grade, explains Dr Vangsnes.

NORMS – A unique research tool

The Nordic Centre of Excellence (NCoE) in Microcomparative Syntax (NORMS) was funded by the NOS-HS (Joint Committee for Nordic Research Councils for the Humanities and the Social Sciences) and NordForsk in the period of 2005-10. The centre consists of seven research groups from the Universities of Iceland, Helsinki, Oslo, Tromsø, Aarhus University, Lund University and the Norwegian University of Science and Technology (NTNU) in Trondheim. The centre was administered from the University of Tromsø.

The NORMS centre has assisted in collecting audio samples of Nordic dialects. These have been transcribed and are therefore searchable in the archive. This dialect

corpus is a unique and advanced research tool which can also be of use to other researchers today and in the future. In addition, the project has compiled a database of test sentences. These are special sentences which informants – two younger and two elderly – have been instructed to say. The database contains a dynamic map application showing the distribution of various phenomena. This material can be used to create new mappings of dialectal characteristics – including syntactic characteristics that have not been the focus of much study previously – and to examine how Nordic dialects change over time.

Christmas gospel in Övdalian

Swedish traditional music artist Lena Willemark (above) comes from Evertsberg – or Ävesbjerre as it is called in Övdalian, a rural district in Sweden. A few years ago, she collaborated with some of the leading folk musicians in Sweden to record the album, *Jul i Folkton* a collection of traditional songs evoking Christmas past and present.

During the concert series that has evolved, Lena Willemark recites the Christmas gospel in her native Övdalian. The gospel is transcribed beside using the current official orthography of the language.

1 On tiðe kam eð iett buað frå tjäjseram Augustus at iel wärde uld skattskriewas. 2 Ittað war fuost skattskriewindse og on add dier mes Kwirinius war an so war öspin i Syrien. 3 Då fuor oller umstað og ulld lat skattskriew sig, wer og ienn daiti senn stað. 4 So gard Juoseff og, og etesros an war undo diem so ärd Davið til, fuor an frå Nasaret i Galileen upi Judeen og upi Daviðes stad, Bettleiem og 5 ulld lat skattskriew sig i lag min Maria. Dier war festfuok og å war å sytn.

6 Etersos å war rieð i rå, wart eð so å ulld få krippin me dier war dar. 7 O fikk ien sun og eð war fuost krippin. Å linded an og laggd an i ien krubbu, etersos int eð fanns noð inwärn að diem noger eller.

– Transkription to Övdalian by Piotr Garbacz

1 Vid den tiden utfärdade kejsar Augustus en förordning om att hela världen skulle skattskrivnas. 2 Det var den första skattskrivningen, och den hölls när Quirinius var ståthållare i Syrien. 3 Alla gick då för att skattskrivna sig, var och en till sin stad. 4 Och Josef, som genom sin härkomst hörde till Davids hus, begav sig från Nasaret i Galileen upp till Judeen, till Davids stad Betlehem, 5 för att skattskrivna sig tillsammans med Maria, sin trolövade, som väntade sitt barn.

6 Medan de befann sig där var tiden inne för henne att föda, 7 och hon födde sin son, den förstfödde. Hon lindade honom och lade honom i en krubba, eftersom det inte fanns plats för dem inne i härbärgat.

– The Swedish Bible Society

Guðrún Nordal

New NORIA-net to focus on language research

How can language researchers in the Nordic countries benefit from more cooperation? This is one of the main questions to be addressed by a new NORIA-net that will submit its conclusions and recommendations in 2014.

– We want to investigate where there is added value in more cooperation and consolidation of research efforts, says Guðrún Nordal, who will be chairing the new NORIA-net on behalf of the NordForsk board.

Five representatives nominated by the research funding agencies of the Nordic countries will join her in the steering group. The group will also include representatives nominated by the autonomous areas Faroe Islands, Greenland and Åland Islands, and one representative of the university sector nominated by NUS (Nordic University Association).

– The group will be quite large, but I believe it is important to include all countries and areas, states Guðrún Nordal.

– In addition, we will call on the advice of a broader reference group consisting of experts from relevant research areas and industries, and – when applicable – representatives of policymakers in the Nordic Council of Ministers.

The current NordForsk strategy points out the need to «create critical mass in small or scattered research fields that are judged to have considerable importance and future potential.» One of those areas is research in the languages of the five Nordic countries as well as the autonomous areas.

As Guðrún Nordal explains:

– We set up this NORIA-net to map strong research areas within the field of Nordic languages and communication as well as language and communication culture in each of the Nordic countries. We will not just be focusing on the

main languages in each of the five countries and the state of research within each language area. It is equally important to include the Sami languages, Faroese and Eskimo-Aleut of Greenland. The NORIA-net will be forward-looking and include mapping of existing and needed research infrastructures and components of language technology, education and knowledge circulation viewed in an international context.

When do you expect to come up with recommendations?

The NORIA-net will be active for a maximum of two years, says Guðrún Nordal, who expects it to describe and analyse strengths in the field of Nordic languages and communication, as well as language and communication culture. Dialogue with relevant research environments will be essential.

– Our goal is that our final report will provide NordForsk with specific recommendations on how NordForsk can support Nordic cooperation on these topics.



Guðrún Nordal is Professor in Icelandic and director at The Árni Magnússon Institute for Icelandic Studies (Stofnun Árna Magnússonar í íslenskum fræðum) at the University of Iceland (Háskóli Íslands). She is chair of the NordForsk board and leader of the NORIA-net on Nordic Languages, Language culture and Communication.

Photo: Terje Heiestad

SPRÖG
tungumál
langtali
kieli
language

NORIA-net shall enhance coordination and cooperation between national research funding agencies and policy makers in the Nordic region. NORIA-net allows identification of areas of national priority that can be strengthened through Nordic cooperation. The results of a NORIA-net will either be directed towards the development of a common research policy for a given area - with possible joint Nordic initiatives in research policy and research funding - or the preparation of specific programmes and calls for proposals.

Nordic countries may be a dynamic hub for registry-based research

Improved utilisation of Nordic registries can generate new knowledge for disease prevention and treatment. A joint Nordic initiative hinges on the individual countries' putting into place effective systems for research on sensitive personal information.

The Nordic countries have a wide range of registries that are a goldmine for research in a variety of contexts. The NordForsk-funded NORIA-net on registry-based research is identifying challenges and discussing solutions with the aim of establishing a joint Nordic infrastructure for registry-based research.

– The Nordic countries have many administrative registries, comprising statistics-based population registries and more local registries, but these were not established explicitly for research purposes. Much of the data is on health and social services, health information and socio-economic conditions, explains Professor Erland Hjelmquist.

– There are, for example, registries on the use of social services. These contain personally identifiable information. While this makes the Nordic registries unique, it also raises relevant ethical and personal integrity issues.

Erland Hjelmquist is Secretary-General at the Swedish Council for Working Life and Social Research and professor at the Department of Psychology, Göteborg University. He is a member of the Swedish Council for Research Infrastructure, and leads the new Noria-net on registry-based research. **Mikael Fogelholm** is a professor in Nutrition at the University of Helsinki. He was the project manager of the Noria-net Nordic evaluation of Sports Sciences. He leads the new Noria-net on registry-based research together with Erland Hjelmquist.



Can link registries

The Nordic countries are also home to research registries and biobanks containing biological material that can be used in health research. Data collected for different purposes can be linked together.

– The Nordic countries have the potential to become a dynamic hub for registry-based research, provided that we make better use of our registries. We have to identify the areas in which we can excel, says Professor Hjelmquist.

– We have the ability, for instance, to follow individuals from childhood to adulthood and examine the relationships between health, life expectancy, education and financial situation to identify the factors that determine our well-being. Preventing health problems is the best medicine. Anything that can contribute to this is a bonus both to the individual and to society, not least from an economic perspective.

Professor Hjelmquist is the Secretary-General of the Swedish Council for Working Life and Social Research and a member of Sweden's Council for Research Infrastructures. He heads the NORIA-net together with Mikael Fogelholm, a professor of nutrition at the University of Helsinki.

– In health research, there is a trend towards larger, more international research groups. A Nordic system with



the capacity to utilise registry data from several Nordic countries simultaneously will strengthen our position in the competition for research funding and scientific advances, adds Professor Fogelholm.

Many health researchers are compiling population-level data on lifestyle factors, including dietary habits, physical activity and sleep habits, and risk factors for chronic disease, including cholesterol and blood glucose values.

– By creating linkages between such data and registry data on medication use, medical care or mortality we can learn much more about the links between lifestyle and health. This will be of tremendous economic significance to society, says Professor Fogelholm.

Have mapped the challenges

The NORIA-net has looked at the economic, legal, ethical, organisational, technical and political challenges relating to Nordic cooperation. The conclusion: the most pressing challenges are related to legal issues and – more importantly – ethical issues, and more work needs to be done in these areas.

– If we can solve the ethical challenges, we will be able to solve the others in time. The legal issues mainly pertain to

divergent legislation and practice in the individual countries. These must be solved at the political level. We also have to keep abreast of developments relating to the EU's Data Storage Directive, which is currently being reviewed, but thus far it looks like this will not pose an obstacle to Nordic efforts, says Professor Hjelmquist.

The next step is to map the differences in the Nordic countries.

– Each country has some type of data inspectorate and committees on research ethics that determine whether researchers will be given access to registries, but these function quite differently. We must figure out how to develop a common practice for ethical assessments in relation to research projects,

explains Professor Hjelmquist. He points to the importance of establishing a flexible joint organisation. There should be a single place where researchers submit applications for registry access.

Must have people's trust

Dealing with ethical questions in a professional manner that inspires confidence among the population is another key factor to success.

– A general problem is that fewer people are willing to participate in the studies; thus the research loses its value. We must become better at explaining the value of the research in a way that reassures the public. The Nordic countries must be second to none in handling ethical questions associated with research on sensitive personal information, emphasises the professor.

According to the NORIA-net, it is time to bring efforts into the political arena.

– We hope that the politicians can grasp the wide-ranging potential after having read the NORIA-net reports and recommendations so we can move forward. We will also provide input to NordForsk regarding areas in which efforts should be continued, concludes Professor Hjelmquist.

Sven Stafström

How to understand and adapt to climate change in the Arctic?

A new NORIA-net on Arctic issues has been launched this year. Its main task is to propose a joint Nordic initiative on Arctic research by June 2013.

–Climate change is the main dimension we will be looking at, and reasons why Nordic scientists are so keen to coordinate research efforts, explains Sven Stafström, who chairs the NORIA-net and is Secretary General of Natural and engineering sciences, at Vetenskapsrådet, the Swedish Research Council.

The purpose of the NORIA-net is to assess the potential for joint research actions within the Nordic countries in response to the challenges and opportunities relating to climate change. We will take a multi-disciplinary approach. And it is our goal to present a memorandum and a proposal to the NordForsk board during the spring of 2013.

Three expert groups will identify research needs within their respective fields in addition to inter-disciplinary topics. The group for health and medicine is headed by Professor Birgitta Evengård from the University of Umeå, the group for social sciences and humanities by Senior Scientist Joan Nymand Larsen from the University of Akureyri, and the group for science and technology by Dr. Øyvind Paasche from Bergen Marine Research Cluster.

The mandate of the three expert groups is to provide the NORIA-net with information regarding knowledge gaps as well as needs for cross-national cooperation. Professor Sverker Sörlin has been asked to monitor the NORIA-net with a special responsibility for ensuring synergy between the three working groups.

Coordinating Arctic research within the Nordic region may lead to a wider global effort in the future, with potential initiatives that include other countries:

– We are still at a very early stage in the process, but we will certainly aim to facilitate further international research cooperation in the Arctic, says Sven Stafström.



Sven Stafström is the Secretary-General of Natural and engineering sciences at the Swedish Research Council. He is a member of the NordForsk board. Photo: Vetenskapsrådet.





Elisabet Nihlfors

New large-scale initiative on education

A more knowledge-based debate about schools in the Nordic region is sorely needed. According to Elisabet Nihlfors, chair of the steering committee for NordForsk's new programme Education for Tomorrow, the programme will provide exactly this.

Six Nordic research groups have been awarded project funding under the programme. The announcement came at the end of September. The overall budget for the programme is NOK 75 million.

– These projects, along with a Nordic Centre of Excellence (NCoE) in educational research, will build a new platform for the field in the Nordic region. A platform of this kind is also essential for establishing a dialogue on research with Europe and the international community, says Professor Nihlfors.

– Quite simply, it is fantastic that we have been able to launch this programme, says Professor Nihlfors, who chairs the programme's steering committee and is Secretary General of the Swedish Research Council's Committee for Educational Sciences.

Took the pulse of the field

Professor Nihlfors found it interesting to take the pulse of the field of educational research in the Nordic region through this call for proposals. NordForsk received more than 60 grant applications from Nordic research groups. She says that most of the projects were of high international quality and scientific merit.

– I was pleased to see that there are so many high-quality research groups in the Nordic countries, even though resources for educational research have been meagre for many years.

The six research groups that rose to the top have been awarded funding for projects on a broad range of topics.

– This reflects the nature of the field. The education area is wide-ranging. Learning takes place from childhood to late in life, and in many areas of society.

Research and policy

The Nordic research groups in the field are generally small and fragmented, and their efforts have not been well coordinated. The Nordic Council of Ministers and NordForsk therefore believe that stronger Nordic research cooperation will enhance the totality of Nordic educational research and produce results that are relevant for politicians, researchers, research funders, the public administration, schools, teachers, pre-schools and universities.

– There is currently a gap between what researchers know and what is communicated to policymakers. We have a great deal of knowledge, but we need to consolidate it more. And the knowledge must be more accessible in the policy arena so that politicians have a better basis for decision-making, says Professor Nihlfors.

Differences as well as similarities

When viewed from abroad, the Nordic countries appear to be very similar. But Professor Nihlfors believes that the countries are also quite different, including in the field of educational research.

– What we have in common is that we all have viewed the educational system as a vital factor in our nation-building. We have always believed that education is the path to happiness and democracy.

Since Nordic educational researchers will now be cooperating as part of this programme, many new networks will be formed and the similarities and differences, as well as the strengths and weaknesses, of the Nordic countries will probably become more noticeable, according to Professor Nihlfors. The countries will likely learn something from each other as well.

More than measurable data

In recent years there has been too much stock placed in quantitative studies, such as the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS). These have raised concerns about performance in some Nordic countries. Professor Nihlfors believes that measurable data do not give a clear enough picture of the educational system.

– There are also many values that these studies don't measure. Values that perhaps we in the Nordic region must protect. We need research to illuminate these to bring a broader picture to the table in the debate on schools than is the case today, says Professor Nihlfors.

– The Nordic region is part of the world at large. One danger is that we can become too complacent about our own solutions, but another is that we become so concerned with competing with others, such as countries in Asia, that we forget to appreciate the value of our own way of being.

Elisabet Nihlfors is Secretary-General of Educational Sciences at the Swedish Research Council and leader of the steering committee in NordForsk of the research programme «Education for Tomorrow», and Adjunct Professor at Umeå University.



Agneta Hörnell

Are school meals important?

How significant is the school lunch – and the mealtime environment around it – for learning and performance at school? – There are a lot of strong opinions on this subject, but very little factual knowledge exists, says Agneta Hörnell.

Agneta Hörnell, Professor of Food and Nutrition at Umeå University in Sweden, is heading a project allocated funding under the NordForsk thematic programme Education for Tomorrow.

Her team, consisting of Swedish, Icelandic, Norwegian and Finnish researchers, will be utilising a number of different methods to study school meals. The researchers will investigate the level of nutritional knowledge, eating habits, the meal environment at school, the learning environment in the classroom, and pupils' experience with and attitudes towards school meals.

– Previous studies indicate a correlation between healthy school meals and academic performance. Other studies indicate that the right school meals may balance out social differences. Our gut reaction tells us school meals are significant for learning, but there is not much scientific knowledge about the relationship between school meals and learning, Professor Hörnell explains.

A review of the literature carried out by SINTEF in Norway for the Nordic Council of Ministers states that the knowledge base for long-term effects is too sparse to draw any clear conclusions.

Professor Hörnell hopes this project will address the gaps in knowledge in a field characterised by many passionate views but where hard data is lacking.

Wide variation

The school meal programmes available in the Nordic countries vary widely.

In Sweden and Finland, pupils are provided with a warm meal from their first year in primary school through upper secondary education. Iceland introduced school meals fairly recently, with partial parental payment, and Denmark is now introducing a similar programme.

The custom in Norway is completely different; the school meal is a sack lunch which the children bring with them from home, presumably made with some guidance from their parents. But with longer school days and an increasing proportion of immigrants who do not share this sack-lunch tradition, the debate about the lack of school meal pro-

grammes in Norway is more heated than ever before. One campaign advocates the introduction of free school lunches throughout the 10 years of compulsory school education, reasoning that this would promote healthier eating habits, prevent overweight, improve concentration and learning, and equalise socioeconomic differences in health. Many Norwegians point to the success of neighbouring Sweden's meal programmes.

But Professor Hörnell explains that even in Sweden there is concern over the large differences in school meal quality between municipalities, and concern that pupils may not actually be eating the food. One reason for the latter may be that too little time is set aside for meals.

Healthy food is not the only issue

As early as the 1880s, Stockholm began serving school meals to the most underprivileged children. In 1946 the Riksdag (Swedish parliament) decided to give schools state support to provide school meals, but the scheme did not extend to all Swedish pupils until the 1970s. In 2011 a law was passed requiring school meals to be nutritionally balanced. Professor Hörnell, however, cautions Swedes not to get complacent just yet.

– It is not enough to simply serve children and adolescents a nutritious school meal. There is no benefit if they do not eat the food they receive, and they need guidance to make the right choices. She cites a small study done by teacher's college students in Sweden in which they photographed what the children chose to put on their lunch plates.

– The results were discouraging. It's not much help to offer a complete, nutritionally balanced meal if the children only choose to take a portion of meat with lots of gravy over it. This is why the researchers in our project will not only be studying the nutritional composition of the food, but will also focus on the actual mealtime conditions.

– Eating one's school meal has to be a pleasant experience, and there has to be enough time to eat it, she stresses.

The researchers plan to employ creative methods such as photos and film to document how the school meals are presented, what the pupils do with the food, and the impact on their learning environment.

Agneta Hörnell is a professor in the Department of Food and Nutrition at the University of Umeå. She is the project leader for the project that is granted in the sideprogram Nutrition, learning and health in the «Education for Tomorrow» - program.

How much does it cost?

What is the actual price of a school meal? When responsibility for school meals is decentralised to the municipal level, how much will the meal programmes of individual schools diverge from one another?

– These questions will also be highlighted in our research project, says Professor Hörnell.

– In Finland it has been calculated that roughly eight per cent of the total school budget is spent on providing school meals. And Sweden keeps statistics on how much each municipality spends on school meals.

The researchers are interested in finding out whether the differences in spending have an impact, since some municipalities spend more than three times as much per meal as other municipalities.

– We know that many schools in Sweden purposely do not serve food that is popular among pupils – so that not too many will come to eat lunch! In order to save money on the public budget, they use calculations based on only a certain percentage of children participating in school mealtime.

Much to learn from Nordic neighbours

While parents in Norway may envy their Nordic neighbours for their school meal programmes, Professor Hörnell points out there are many complex questions relating to school meals in those countries as well.

– But the difference between Norway and the others is that Norwegian politicians place school lunch responsibility on the parents. In the other Nordic countries, the responsibility for what children eat at school lies with the public authorities.

– I hope and believe that the Nordic comparison we will be carrying out will be useful in the discussion about school meals throughout the Nordic countries. I also hope the study will have a political impact, says the project manager.

– This project will also lead to new collaboration between researchers in this field in the Nordic region, which may prove fruitful in the future as well, she concludes.

Education for Tomorrow

The programme Education for Tomorrow is a large-scale initiative administered by NordForsk, with an overall budget of NOK 75 million. The programme focuses on educational research and will provide input for the development of the schools of the future. The programme receives funding from all of the Nordic countries in addition to



Hanna Ragnarsdóttir

School of Education, University of Iceland. Will study success stories from immigrant students and school communities.

The main objective of the project is to extrapolate knowledge from the success stories of individual immigrant students and entire school communities that have succeeded in developing learning contexts that are equitable and socially just. Mapping the current situations in the participating countries will provide a better basis for designing a roadmap for schooling in the Nordic societies in the 21st century. Success stories and practices will serve as strategies and new guidelines for teaching and school reform.

The research project will provide a broad, innovative knowledge base on the implementation of social justice in diverse Nordic school contexts, as well as providing a case for comparison in an international context.



Mikael Börjesson

Department of Education, Uppsala University, Sweden. Will study the differences in higher education and higher education institutions between the Nordic countries.

The project will primarily investigate how student recruitment to higher education is changing. Have the differences in higher education and higher education institutions between Denmark, Finland, Norway and Sweden grown larger? What do the differences between the countries comprise? What does this tell us? What is the correlation between the design of the higher education system and student recruitment patterns?

In addition to generating new, concrete research results, the project seeks to build know-how in the analysis of large-scale statistical material and enhance competence in comparative studies of Nordic higher education.



Eva Johansson

Department of Early Childhood Education, University of Stavanger, Norway. Will study Nordic preschools.

The project focuses on values education in preschools and on adults' work with values-related issues in their everyday dealings with preschool children. Who are the future citizens that are being fostered at Nordic preschools? And how does the transmission of values take place? The study builds on close cooperation between researchers and practitioners and takes as its point of departure the ways of working developed by the adults themselves at the preschools.

The project will generate vital knowledge about how teachers in Nordic preschools perceive their work with values education, the dilemmas they encounter, the ways in which they work and important processes of change in their work. This knowledge may make an important contribution to the development of the preschools of the future as well as to teacher education and pedagogical practice.

NordForsk and the Nordic Council of Ministers. The programme has a broad thematic scope and promotes interdisciplinary approaches. NordForsk is funding six projects on topics ranging from dissemination of values in preschools to a systematic effects analysis of vocational education. Additional funding has been awarded to a project studying the significance of school meals under the sub-programme Nutrition, Learning and Health.



Christian Helms Jørgensen

Department of Psychology and Educational Studies, Roskilde University, Denmark. Will study vocational education programmes in the Nordic countries.

Vocational education programmes are facing a number of major challenges. Such programmes are supposed to provide young people with access to the labour market and to upper secondary/higher education. They are also supposed to ensure that vocational education maintains high status and provides an arena for less academic young people. The project will conduct a systematic comparison of solutions in the individual countries in order to identify potential areas of improvement.

The project will promote improved vocational education programmes in the Nordic countries by showing the individual countries how they can learn from one another.

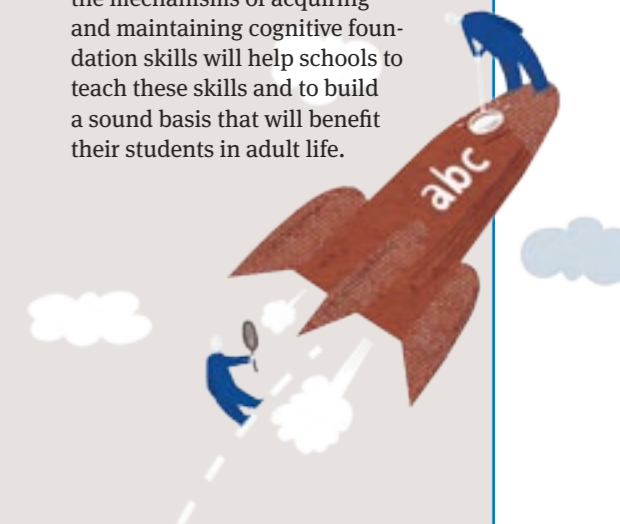


Antero Malin

Finnish Institute for Educational Research, University of Jyväskylä, Finland. Will study cognitive foundation skills.

The project will study the factors that promote skill acquisition and prevent skill depreciation in the segment of the population between the ages of 16 and 65.

Schools play an important role in basic skill formation. I believe that a better understanding of the mechanisms of acquiring and maintaining cognitive foundation skills will help schools to teach these skills and to build a sound basis that will benefit their students in adult life.





Anja Olsen on Nordic diet:

Back to the roots

Dieticians have been saying for years that the Mediterranean diet is the healthiest. But here is some good news for the many Nordic residents who cannot bring themselves to eat lots of green salad and tomatoes: traditional Nordic food can be just as healthy. Perhaps even healthier.

People in the Nordic countries have eagerly adopted a more Mediterranean-style diet as well as foods from other parts of the world. Much of this food is indeed healthy. The most diet-conscious Nordic residents have put away not only vast amounts of tomatoes and olives, but have also sampled their way through flavourings such as chili and wasabi. A majority, however, have only imported the less healthful elements of a Mediterranean diet: baguette sandwiches, pizza and lasagne have become common foods in the Nordic countries.

In the last few years, however, a completely new trend has emerged. Interest is on the rise for traditional Nordic fare: root vegetables, whole-grain cereals, herring, rhubarb and ramsons (wild garlic). From Stockholm to Reykjavik, bookshops are full of tantalising new cookbooks by local authors promoting this trend.

New, Nordic food has become a catchword on the restaurant scene as well, with the Copenhagen restaurant Noma acting as a trailblazer for Nordic cuisine. The term «Nordic food» is becoming increasingly widespread, and not only among foodie enthusiasts.

Now that food researchers are taking a closer look at these «new» foods, they are finding some surprises. What most people consider Nordic food is actually quite similar to the old-style diet of the Mediterranean countries.

When it comes to diet, Nordic residents are going back to their roots: carrots, rutabagas (also known as Swedes) and Jerusalem artichokes.

Findings with impact

The joint Nordic food research centre Nordic Health - Whole grain food (HELGA) in Copenhagen receives funding from NordForsk. Under the leadership of Professor Anne Tjønneland, researchers at HELGA have been studying Nordic food from a nutritional standpoint for the past five years. Now the centre's time as a Nordic Centre of Excellence (NCoE) is concluding, but not before some exciting research results are being publicised.

In Iceland this June, Professor Wulf Becker of Sweden's National Food Agency in Uppsala submitted new Nordic-wide dietary recommendations. Professor Becker headed the effort to draw up the fifth edition of the Nordic Nutrition Recommendations.



Photo: Terje Heiestad

– We nutritional researchers have long believed that Nordic food is healthy, he explains, -but there wasn't enough scientific basis to back up the claim. Now we have enough evidence-based research to assert that a traditional Nordic diet is just as good for public health as a Mediterranean diet.

Findings from the latest Nordic food research are making an impact; they are partly behind the decision of the World Cancer Research Fund (WCRF) to change its recommendations on whole-grain foods. Among its many activities, the WCRF gathers findings from around the world that show

clear correlations between diet and cancer. (Researchers are loathe to say they are «absolutely certain» of anything.)

How important are whole-grain cereals?

Researchers at HELGA began their research five years ago by studying the health effects of whole-grain cereals.

Scientists in the Nordic countries have a unique opportunity to study precisely this topic, because so many in the population eat whole-grain foods regularly. Yet there are also many Nordic residents who eat little or no whole-grain products, so researchers are able to compare the effects of diets with and without whole grains.

– When we realised the importance of whole grains from a health perspective, we were very curious to study other traditional Nordic foods, says Anja Olsen, Senior Researcher at the Danish Cancer Society and participant in HELGA. She and her colleagues proceeded to study root vegetables, apples, pears, fish and cabbage. They avoided the currently controversial topic of potatoes.

– We wanted to examine food items that have been with us for many years here in the Nordic countries – food that has been significant for us. Food that Nordic families, particularly those with children, actually eat for dinner. We are already aware that too much red meat, too much animal fat and too much sugar is being consumed. So we chose not to study the Nordic diet as such, but rather the part of it we suspected was healthy.

The researchers at HELGA examined the amounts of whole grain foods – along with five other typically Nordic food items – eaten by 57 000 Danes. Each person in the study was scored on a Nordic food index of 0 to 6 points, with 6 representing the highest consumption of Nordic food and 0 virtually none.

– Those who scored highest, from 4 to 6 on the index, were at a significantly lower risk of dying during a 12-year period, says Dr Olsen.

– We discovered this when we correlated the scores with data from health registries. The correlation was particularly clear for men. The mortality rate in men who score high on the index is a full 36 per cent lower than men scoring 0 or 1.

Biomarkers yield reliable answers

At regular intervals the media call attention to a study suggesting that a certain food will either help to cause or prevent cancer. Researchers, however, know they must gather data from many different studies before stating anything definitive about such connections.

But researching the health effects of foods is no simple matter. When asked, people generally tend to exaggerate the healthiness of their diet. So, since simply surveying people is too unreliable, researchers have devised a way to find out what people really eat – by measuring their biomarkers.

Biomarkers are substances in tissue, blood or urine which, when analysed together, indicate what a person has ingested and determine the body's levels of various nutrients. Rather than asking subjects what they consume, researchers can now analyse their blood. Researchers at Sweden's Uppsala University, a participant in the HELGA centre, have developed a new biomarker to indicate how much whole-grain cereal people eat.

Colorectal cancer

The Nordic countries have the world's best cancer registries for the population at large. By correlating data from these databases, researchers can obtain many interesting findings.

It is particularly telling to examine the mortality and disease rates of different cancers – and correlate them with lifestyle data. It is now known that colorectal cancer is among the types of cancer most related to lifestyle.

– We now have evidence of the highest reliability that high-fibre foods reduce the risk of developing colorectal cancer, asserts Dr Olsen.

– One theory holds that when we ingest a food item that is rich in fibre, all the food passes more quickly through the digestive system. This can in effect 'wrap up' the carcinogenic substances in the food.

Results from the Nordic study are considered so unambiguous that the World Cancer Research Fund has raised its level of evidence concerning whole-grain cereals. No other food item has been shown so clearly to lower the risk of colorectal cancer.

Breast cancer and prostate cancer

The HELGA researchers have also studied breast cancer and prostate cancer.

– Whole-grain cereals have an effect on breast cancer, but a more indirect one, continues Dr Olsen. «One important reason for the correlation here is that whole-grain foods reduce the risk of becoming overweight, one of the highest risk factors for breast cancer.

The incidence of prostate cancer is rising sharply in the Western world, but researchers know little about why. There are indications, however, that whole-grain foods, particularly whole-grain rye, may have positive effects in men who have already developed prostate cancer. Rye may slow the progression of this cancer.

– It is well known that hunger prevents cancer best; people who do not get enough to eat seldom develop cancer. Eating whole-grain rye makes the body behave a little like it does during fasting, and it is highly probable that this is where the positive effect lies, believes Dr Olsen.

Easier-to-follow dietary advice

Most people know very well what a healthy diet consists of, but there are still a great many who cannot manage to follow the health authorities' recommendations.

– Perhaps it is simplest to tell a middle-aged Nordic man that he should eat one extra slice of whole-grain bread with herring and some creamed cabbage like his mother used to make, rather than recommending some green salad with olive oil, suggests the Dane, who would like to study this approach more closely in collaboration with social scientists. For although the NCoE funding period is drawing to a close for the HELGA researchers, their research has only just begun.

– We currently have two studies underway, says Dr Olsen. – One is on colorectal cancer, funded by the World Cancer Research Fund. In the other study, funded by the Swedish Research Council Formas, we will be studying the relationship between whole-grain foods and diabetes.



Bjørn Hvinden

Can the Nordic welfare model survive?

Can the Nordic welfare states survive the pressures of globalisation, an ageing population, and immigration? Yes, believes a group of Nordic social science researchers.

Mainstream economic theory holds that in times of crisis, such as now, the expansive and costly welfare states of the Nordic countries should have collapsed under the strain of public expenditures. But the Nordic welfare states appear to weather crises better than almost all other countries.

– Yes, all in all the Nordic countries have managed well, says Bjørn Hvinden, who for the past five years has headed the collaborative research effort «Reassessing the Nordic Welfare Model» (REASSESS), a Nordic Centre of Excellence (NCoE) under NordForsk. Hvinden is a professor at the University of Tromsø and Head of Research at the research institute NOVA - Norwegian Social Research in Oslo.

– Some other countries are also faring well economically, such as South Korea and China. But the price they are paying for growth is a widening gap between rich and poor. Income disparity has now become so dramatically high in China that the state statistical office no longer publishes figures for it.

Mobile workforce

It is often said that there is little workforce mobility in the Nordic countries – that laws to protect workers often impede them from moving to places where demand is greatest.

– This is largely a myth. Even with the Nordic labour protection acts, these countries have a dynamic workforce. Finland and Sweden recovered quickly after the profound economic crises of the 1990s, faster than, for example, the US with its very liberal workforce has managed after the recent financial crisis.

Social equality vs. individual freedom

Perhaps the most important feature of the Nordic welfare model is its ability to combine equality and efficiency. Social equality is valued highly in the Nordic countries. Virtually every political party professes support for social equality. An assortment of public schemes is intended to take care of the weakest members of society. But many of the generous public benefits are also universal, i.e. they encompass everyone, including the middle class taxpayers who finance much of the welfare state.

Both education and health services in the Nordic countries are by and large free. This is not the case in many

other parts of the world, and there are many who would in fact prefer to forego these benefits if it means paying Nordic-level taxes. In many countries individual freedom is more highly prioritised than the social equity in economic security and access to services of the Nordic countries.

A research group at the REASSESS centre carried out a study on economic inequality and found that in recent decades, economic disparity in the Nordic countries has increased, but less so than in comparable countries. The Nordic countries and the Netherlands have the world's lowest poverty rates.

– Relatively small differences in income are perhaps what set the Nordic region apart most of all, explains Professor Hvinden. «It is true that, here too, the rich have become richer. But the number of people who earn very little has not increased substantially. Many immigrants have moved to the Nordic countries, but so far this growing demographic group has not become a low-income proletariat class.

Other researchers at the REASSESS centre have studied health differences, concluding that despite comprehensive public health services, the Nordic countries have had difficulty reducing socioeconomic class differences related to health. The differences persist even though the overall household economic situation has improved and everyone has a right to the same, nearly free health services.

It is not clear why these differences continue to prevail. While some Nordic residents spend a lot on exercise clubs and sports equipment, others prefer a more comfortable life with good food and drink. Perhaps this is what accounts for the increasing lifestyle-related differences in health in the Nordic region, speculates Professor Hvinden.

– More public spending on the health care system does not in itself help to reduce these health differences.

Not so similar, actually

From the perspective of countries far away, the Nordic countries appear to be remarkably alike. The similarity between the Nordic welfare states causes many to wonder why the region consists of five separate countries.

The NordForsk welfare research programme has studied the historical development of the Nordic welfare model and its ability to adapt to changing external circumstances. Two Nordic Centres of Excellence (NCoE) have worked with these topics respectively.

But the deeper meaning of terms such as «Nordic welfare state» and «Nordic model» is often unclear.

Researchers at the REASSESS centre point to a number of differences between the various Nordic models. Historically, Sweden and Denmark were the pioneers in forming the modern welfare states. Finland, for a variety of reasons, was the slowest to adopt the model. Iceland stands out in other ways. Norway is somewhere in the middle. The remnants of these historical differences are still apparent in the various social insurance schemes, differing day care systems, and levels of participation of women in the workforce. In Norway and Finland, for instance, parents of young children receive payments for not using public day care, a practice which has never been of political importance in Denmark or Sweden.

– In Norway, the scheme of cash-for-care at home creates a vicious circle for low-income immigrant and ethnic Norwegian families, continues Professor Hvinden.

– Their children do not attend day care; the immigrant children do not adequately develop their Norwegian language skills and are less well equipped to succeed than others in a modern society that puts a growing premium on education and expertise. This serves to uphold social inequality.

Another marked difference among Nordic countries is found in their care services sectors. Sweden, for example, has moved much towards privatising care for the elderly, while Norway continues to support public institutions for elderly care.

– Sweden, considered by many to be the very flagship of the Nordic model, has been moving away from public services and towards private services, and modifying the schemes designed to protect individuals against loss of personal income, says Professor Hvinden. The findings published by the REASSESS researchers in this area have triggered wide-ranging debate in Sweden.

The myth of globalisation

Globalisation poses a threat to the Nordic welfare model, warn experts from a variety of fields over the past decade.

– We can now state with certainty that this is a myth, says Professor Hvinden.

– The Nordic region is not doing less well in a globalised world, perhaps just the opposite. In general the Nordic countries have succeeded in adapting to globalisation and maintaining competitiveness. As small, open economies, the Nordic countries have needed collective, tax revenue-funded types of protection against loss of personal income. These schemes have led to a restructuring capability that is lacking in many countries such as in continental Europe.

– Globalisation nevertheless presents certain challenges to us. The high dropout rate in secondary education is clearly one such challenge. If we can manage to reduce dropout rates, and we have schemes in place to assist those who are at risk of becoming marginalised in the labour market due to inadequate education, we will also be better prepared as a society to compete globally.

Discriminating against the disabled

Bjørn Hvinden says there is much that indicates that the Nordic countries' labour markets discriminate against disabled persons. In Norway, fully 10 per cent of the adult population is currently out of the workforce, categorised as unable to work due to disability. A rising number of young

people are shifting straight from school to social insurance schemes.

– It is a fact that in Norway and Denmark, the proportion of persons with disabilities in the workforce is dropping. The same may be true of the other Nordic countries as well. This is paradoxical because, for one thing, the governments of the Nordic countries espouse policies of inclusiveness.

– Keeping disabled persons out of the workforce is also unprofitable, as has been repeatedly demonstrated by official figures. This is where employers' and employees' organisations have a great responsibility, encourages the professor, as do the media, which should do more to illuminate this as a Nordic social problem.

Another clear-cut finding from research at the REASSESS centre is that for persons with disabilities, education paves the way into the Nordic workforce. This finding holds true even when other quantifiable factors are taken into account.

– If we make sure that all young people with disabilities receive a good education, doors will open for them to participate as working adults. This factor is more important than creating specially targeted jobs. We cannot stress enough how important this finding is.

Nordic colleagues

Bjørn Hvinden says it has been a privilege to collaborate with outstanding Nordic colleagues under the NordForsk-funded REASSESS project.

– Being from small countries with small research communities, we Nordic researchers can accomplish much more by combining our efforts, says the project manager.

– We achieve the critical mass needed to carry out outstanding research, and it makes us more interesting as collaborators for international researchers.

Another key advantage, he says, is the opportunity the two Nordic centres for welfare research have had to train the generation of welfare researchers, across the Nordic borders. Professor Hvinden believes these researchers will have a clearer Nordic perspective on welfare as well as a more extensive Nordic-wide network than their predecessors.

One problem Professor Hvinden mentions in closing is the continued difficulty in comparing relevant statistics and registry data across Nordic borders, due to lack of standardisation in statistical entry and categorisation. This limits the potential for reliable comparative studies. This is an area where NordForsk could help to coordinate and utilise data.

Research at the Nordic Centre of Excellence REASSESS has produced many books and scientific papers (see www.reassess.no).



Bjørn Hvinden is Head of Research at NOVA (Research institute in adolescence, welfare and aging) and is also a Professor of sociology. He is the leader of the Nordic Centre of Excellence in Welfare Research: Reassessing the Nordic Welfare Model.

Photo: Terje Heiestad

Pauli Kettunen

The history of the welfare state

Researchers at the Nordic Centre of Excellence: The Nordic Welfare State – Historical Foundations and Future Challenges (NordWel), – coordinated in Helsinki – have been studying the history of the Nordic welfare model and the challenges it will face in the future. They have found that the historical origins live actively on in present-day models of the Nordic welfare state.

The welfare state is based not only on institutions and organisations, but consists of people as well.

Pauli Kettunen, Professor of Political History at the University of Helsinki, is director of NordWel. He thinks that uncovering the many actors involved in the history of the welfare state is among the centre's greatest accomplishments. The researchers have tracked down politicians, bureaucrats, trade union employees, representatives of employers' organisations, representatives of organisational life and individuals from all walks of life.

– A great number of individuals are responsible for the development of what we today call the Nordic welfare state. In order to understand the history of the welfare state and how it has come to be as it is today, it is important to examine the wide range of people who have had a hand in creating it, states Professor Kettunen.

Comparisons

Activities at NordWel have been carried out by historians, social scientists, philosophers, media experts and representatives of other academic areas. Much of the research activity has consisted of drawing comparisons – searching for similarities, differences and connections. But the researchers have also studied the significance of the process of conducting a comparison itself – within the Nordic region and internationally – in the development of the welfare state in areas such as finance and culture.

For example, the researchers have now established that the creation of the Finnish pension system in the 1950s and 60s was influenced by Sweden and its development of a similar, income-based pension system. The Finns compared themselves with the Swedes on an ongoing basis. Nor did the influence stop there; Swedish employers contacted Finnish employers to warn them of emerging trends in Sweden. In other words, not only social models but also attitudes and points of view were being shared across borders as these welfare states were being formed.

The researchers involved in NordWel have also attached importance to examining the Nordic welfare states in the context of the world outside the Nordic region. For instance, the fact that the Nordic welfare states were created during the Cold War was not insignificant.

– NordWel represents a novel approach to social research. Without the centre, we would not have been in a position to achieve the research cooperation or to establish the Nordic researcher training presently in place. NordWel has also made possible broader-based cooperation between Nordic and international researchers, Professor Kettunen explains.

The centre has attracted prominent social-science researchers from the US, EU and Australia. NordWel has also established valuable cooperation with Chinese universities on welfare policy.

– We have achieved more than I thought possible when we launched our activities, adds the centre's director, Professor Pauli Kettunen.

Immigration norms

Saara Pellander is one of the youngest researchers to participate in NordWel. She has looked at immigration in Finland from the 1990s to the present, turning her work into a Ph.D. degree. Dr. Pellander has worked closely with other Nordic welfare researchers.

– We have a variety of established norms in Nordic society that are affiliated with our legislation on immigration. These norms manifest themselves in the form of «a moral gatekeeper» based on what we consider «normal». These norms often determine whether or not immigrants will be allowed into Nordic countries, states Dr. Pellander.

One of the typical social mores in Nordic society is the idea that a family should consist of two breadwinners – that is, that both parents should work. But this creates an obvious problem for many immigrants because due to Nordic legisla-



Pauli Kettunen is a Professor of Political History in the Social Science Faculty of University of Helsinki. He is leader of the Nordic Centre of Excellence NCoE NordWel: The Nordic Welfare State - historical foundations and future challenges

Photo: Terje Heiestad

tion on immigration, the exact opposite often becomes the case. The rules for family reunification tend to make one of the partners in a relationship (usually, the woman) highly dependent on the other in both financial and legal terms. This is completely counter to Nordic norms on gender equality. Approximately one-third of all Nordic immigration occurs in connection with family reunification, which means this affects many people. Another one of the norms Dr. Pellander has uncovered is significant mistrust towards married couples in which there is a large age difference.

– Throughout the world, the factors behind the decision to marry are varied and in many places they deviate greatly from Nordic norms, Dr. Pellander says. She has studied both parliamentary debates and newspaper articles and has interviewed immigration and police officers. She finds that

these same attitudes recur among politicians and common citizens. At the same time, Dr. Pellander has found instances of explicit differences among Nordic countries; for example, whereas forced marriage has been high on the political agenda in Denmark and Norway, it has not been subject to much discussion in Finland. And on the subject of multiculturalism, the attitudes in Sweden and Denmark differ widely from one another.

– NordForsk and NordWel have provided me with a tremendous opportunity to work together with other Nordic welfare researchers in these areas. I was introduced to several Nordic colleagues at NordWel's Summer School. This paved the way for a network of young, Nordic welfare researchers to start collaborating. For instance, there is a book project to be completed soon.

Klaus Petersen: Language and politics

How we talk about politics has a significant impact on our understanding of politics, claims Klaus Petersen. The Danish professor of political history at the University of Southern Denmark is also a researcher associated with the Nordic Centre of Excellence: The Nordic Welfare State – Historical Foundations and Future Challenges (NordWel).

– Discussions on politics often revolve around concepts such as «welfare» and «social rights». But what do these concepts really mean? And in this context what were the ramifications in the 1980s and 90s when the Nordic countries switched their terminology from «clients» to «users» in relation to social services? Language is of great importance in realising policy. The way various issues are discussed and the intended meaning behind the terms we employ is thus clearly important, says Professor Petersen.

Professor Petersen's research has focused on the fact that welfare states outside the Nordic region also exist.

– It is important to examine what lies beyond the Nordic region as well, he stresses.

– If we ignore that, it's easy to become smug. There is great interest in the Nordic welfare model globally. However, many countries also hold a variety of stereotyped and idealised notions about what the Nordic welfare model actually comprises. Nordic welfare researchers need to avoid simply reiterating such notions even though doing so may provide an easy path to international attention. We need to be open in how we meet this interest, allowing room for nuance and information about problems with the model, and with the understanding that the Nordic region has something to learn from – and is dependent on – the world around it.

Politics in the cabin

Professor Petersen and several others at NordWel have studied the significance of Nordic cooperation to the development of the Nordic welfare model.

– Nordic cooperation has been of great importance for the development of the welfare state in the individual

Nordic countries, he says. «Of course, part of it has to do with the formation of a shared identity, but it also involves something entirely concrete: that Nordic politicians and bureaucrats have had a great deal more interaction with – as well as influence on and learning from – each other than most people realise.

Professor Petersen explains that tight-knit collaboration between Nordic countries has existed since the period between the two world wars. The collaboration is unique throughout the world.

– There is much more to it than just the Nordic Council and the Nordic Council of Ministers. There has been close collaboration between the Nordic countries for several decades - at the sectoral level, on the professional level and via conferences and seminars. Many of these meetings have been between individuals who share friendship and other close personal ties.

– Most important of all, perhaps, was the cooperation during the 1950s and 60s when the Nordic welfare states were established. Senior officials and experts came together on countless occasions in order to exchange views and experience. Professor Petersen and his colleagues have learned this from their study of many historical sources. Nordic civil servants and politicians visited each other in their homes and cottages. There were strong personal ties, for instance, between Nordic prime ministers following the Second World War. Other evidence comes from the meetings of the influential Danish social political union where the agendas show that up to half of the lecturers came from Sweden, Norway or Finland.

NordWel historians have uncovered a great deal of evidence attesting to contacts between individuals in the Nordic region. Much of what we today consider to be the Nordic welfare model may well have its roots in trips to cottages or cabins in the great Nordic outdoors.

Klaus Petersen is professor in political history and head of center at The Centre for Welfare State Research at University of southern Denmark. He is the vice-director of the Nordic Centre of Excellence NordWel.

Celebrating Nordic cooperation

Much to gain from closer Nordic cooperation



Jan-Erik Enestam, Secretary General of the Nordic Council Secretariat and long-time member of parliament and former government minister in Finland; Silvia Modig, Vice Chairman of the Nordic Council Presidium and member of parliament in Finland; and Sören Holmberg, Professor Emeritus of political science at the University of Gothenburg and election commentator, engaged in a panel discussion about the anniversary edition of the Nordic Statistical Yearbook at the Göteborg Book Festival.

Photo: Dag Inge Danielsen

2012 marks 60 years of formalised Nordic cooperation as well as the 50th anniversary of the Nordic Statistical Yearbook. The yearbook provides information on many aspects of trends in living conditions in the Nordic countries. Here are some samples relating to science and technology:

The greatest advances in science and technology in the Nordic countries in the past 50 years took place in the 1990s, when new information and communication technologies (ICT) entered the scene: «Mobile phones, computers and the Internet opened up new channels of communication. Several studies have shown that the Nordic countries have been at the forefront of ICT penetration and use. Almost everybody now has access to the Internet – both enterprises and households.»

Iceland has the highest penetration and use of Internet in the home. Nine of 10 persons have Internet access in their

homes, and over 90 per cent of the Icelandic population uses the Internet regularly.

The Nordic countries invest more resources in R&D than the rest of Western Europe, in relative terms. While the EU-15 countries on average spend 2.1 per cent of their gross domestic product (GDP) on R&D, Finland spends 3.9 per cent, Sweden 4.6 per cent, and Iceland and Denmark 3 per cent. Only Norway is below the average, with 1.8 per cent of GDP. However, Norway's GDP is extraordinarily high due to the country's oil and gas revenues. If R&D expenditure is calculated per capita in euros, Norway's R&D expenditure is higher than the EU-15 average per capita.

In 1960 there were 90 000 students at Nordic universities. In the past 50 years this number has expanded to 500 000. At the same time, «there has been a shift in the type of studies the students are pursuing, from the arts, humanities and religion to social science, business and law».

While the majority of university students in 1960 were men, in 2010 women comprised 58 per cent of the student population. Up-to-date Nordic statistics may be found at: www.norden.org/fakta



NordForsk sekretariat (from left): Anne Riiser, Michael Andersson, Maria Nilsson, Erlendur Helgason, Harald Botha, Harry Zilliacus, Siv H. Strand Larsen, Hanne Silje Hauge, Leif Eriksson, Gunnel Gustafsson, Sóley Morthens, Susanna Sepponen, Gudmund Høst, Pål Pettersen, Fredrik Melander, Tina Lindström, Ewa Preston, Marius Hagen, Mikael Heimonen, Sverker Holmgren, Christian B. Lorentzen, Marianne Røgeberg.

Janina Lassila, Anne Indahl, Lotta Strandberg og Lisa H. Ekli were not present. Photo: Terje Heiestad

NordForsk



Anders Geertsen

Nordic cooperation will grow in significance

EU cooperation is starting to unravel and the sea-ice in the Arctic is melting. These are two reasons why the enthusiasm for Nordic cooperation will increase in the years to come, according to Anders Geertsen.

Anders Geertsen is Head of the Department of Knowledge and Welfare in the Nordic Council of Ministers' Secretariat. Anders Geertsen previously was the deputy director at The Danish Agency for Universities and Internationalisation, Ministry of Science, Innovation and Higher Education.

The new Head of the Department for Knowledge and Welfare under the Nordic Council of Ministers believes a new Nordic awareness will emerge.

– Certain areas of EU cooperation are showing signs of 'strain', and the deep-lying differences between Northern and Southern Europe are becoming increasingly apparent. The EU is comprised of a large number of very diverse countries. This makes cooperation a demanding task. The Nordic countries are much more homogenous. I think this will strengthen the willingness to engage in Nordic-level cooperation.

Moreover, the sea-ice in the Arctic is melting so rapidly that the Northeast Passage will soon become a significant trade route, as ships will be able to travel more quickly between Europe and Asia.

– This will bring the Nordic countries together in connection with a new sea area, along with Russia, Canada and the US. The northern hemisphere will gain greater international significance. I think this will strengthen our Nordic identity, says Mr Geertsen.

Diverse background

The new department head at the Nordic Council of Ministers has a diverse background. A Master's degree in French Literature from the University of Copenhagen and further studies in economics have given him a wide-ranging career path. He first worked at IBM, and then spent many years in publishing and several years in the film industry before turning his hand to the internationalisation of Danish education at the Danish Ministry of Science, Innovation and Higher Education. Now he has landed at the Nordic Council of Ministers.

Is there a common denominator in your career?

– Yes, I would say there is. I have always kept one foot in humanities and culture and one foot in business and administration. This has given me certain advantages.

He goes on to explain:

– My job at the publishing house Munksgaard Denmark was to do business based on the findings of researchers. My task was to get their articles and books published, so I had to learn about their ways of thinking and culture while at the same time figure out how to turn their findings into profits. Likewise, during my tenure at the Danish Film Institute, I had to deal with anarchistic directors and diva actors, while at the same time administering public funding.

– In both of these jobs it was vital to understand the cultures at play while handling the business side of things. I think this will still be an important part of my job at the Nordic Council of Ministers.

Internationally oriented

Mr Geertsen has also always sought out jobs where he can work internationally. At the Nordic Council of Ministers he can expect to meet not only Nordic-level cooperation but also a rising degree of European-level cooperation. The scope of your area of responsibility is huge. What is your take on this?

– Yes, my activities will touch on everything from primary education and research to health and welfare. They will span a wide range. I will have an enormous number of balls in the air. I expect it will take a bit of time for me to learn how to catch them all. There are many new challenges to face when one changes jobs, and one must be aware that it will take time to learn everything one needs to know. But this is precisely the challenge I have sought.

Not always so alike

Mr Geertsen has learned the value of Nordic cooperation through real life experiences. In his position as a department head at the Danish Film Institute, Nordic cooperation was vital to promoting films from the various Nordic countries.

– Participating at the film festival in Cannes or Berlin is so incredibly expensive that a single Nordic country cannot cover the expense on its own. We therefore established the organisation Scandinavian Films, funded by the Nordic Council of Ministers, to pool our resources for international activities. This has generally worked well, although sometimes there were problems.

– An absolute beginner when it comes to Nordic cooperation might think that the Nordic countries are very similar to one another. But as one learns more about the individual countries, one sees that there are fairly large differences in culture, tradition and history.

– This understanding is vital to achieving productive cooperation, he asserts. – One has to understand that it is not possible to reach agreement on everything every time. That is because each country is unique.

– One has to know when the Nordic umbrella will generate meaning and add value, and when the individual countries wish to take centre stage. We at the Nordic Council of Ministers have to be good listeners, he says.

Trust

According to Mr Geertsen, education and research are some of the best examples of areas in which the Nordic «brand» generates the greatest value added.

– When it comes to education – from primary school through university – we have a special Nordic model that is attracting international attention. This is also true for research.

In his opinion, the keyword is trust.

– To be innovative, one has to experiment, play, ask questions and make mistakes. But this has to be done in an atmosphere of trust. There must be room for individuals to dare to share their ideas. This kind of trust exists in the Nordic countries. I believe it is one of the main reasons why the quality of Nordic research is so high and the capacity for restructuring is so good.

Knowledge triangle

We live in a knowledge-based society in which a growing number of young people are pursuing a higher academic education.

– Genuine knowledge is a blend of research, higher education and production. If the Nordic countries are to be innovative and become even better at designing products ranging from offshore facilities to bicycles, they have to incorporate all of these aspects. You have to be hands-on with the processes. If the Nordic countries outsource all of the practical work, we will have a problem. We have been too unaware of this for many years, but I think the situation is about to change.

– There is much talk about the knowledge triangle. I consider it crucial to link research even more closely to education in the Nordic countries. If we are serious about achieving innovation, we have to have the 'workshops' in which it can take place, concludes Mr Geertsen.

The future is green

There are great challenges facing the world today. The steadily rising global demand for energy is mostly met by sources of energy that are polluting. Climate change has led to drought, extreme weather and higher sea levels, with dramatic consequences for many people.

Exponential population growth will necessitate better distribution of the earth's food resources. Does our modern society need to convert to a bio-based energy system in order to solve these challenges? Wide-reaching questions such as these form the backdrop for the Nordic Bio-economy Initiative, launched by the Nordic Joint Committee for Agricultural and Food Research (NKJ).

New industrial revolution?

The European Commission has high ambitions for the bio-economy. By 2020, a target of 20 per cent of all energy consumed is to be derived from renewable energy sources; the current figure is 6.7 per cent. Much of the needed increase will come from utilising bio-energy. The bio-economy revolves around sustainable production and processing of biological resources not only for energy but also for food and industrial products.

Across much of the political landscape in both the Nordic region and Europe, there is consensus on working towards a bio-economy. A more bio-based society will help to curb the negative effects of climate change and address the world's major demographic challenges. Achieving a bio-economy also entails large-scale economic advantages. In the EU Framework Programme Horizon 2020 it is estimated that funding for research and innovation in this sector could create some 130 000 jobs as well as EUR 45 billion in added value across Europe. There should thus be a strong foundation for developing bio-based industry in the Nordic countries. So what is it that continues to make this a major challenge?

The answer to that is a lack of knowledge, believes Niels Gøtke, who heads the Nordic Bio-economy Initiative and is Chairman of the NKJ, which is part of NordForsk. He also holds a variety of other positions relevant to bio-economy in Denmark and the EU.

– Much more research is needed, particularly in the fields of agriculture and biotechnology, says Gøtke.

– At the same time there is a need to develop 'smart policy' in this area. What should we work towards? What should be prioritised? This is a big job involving many institutions. It is demanding at both the political and the operative levels.

Nordic forests a unique resource

The main objective of the Nordic Bio-economy Initiative is to determine how to enhance the position of the Nordic agriculture, forestry, fisheries and food sectors within the bio-economy, and to facilitate and strengthen research in this context.

Niels Gøtke believes that the Nordic region can play a vital role by leading the way towards the bio-economy. The Nordic countries are rich in both marine and land-based resources, have a longstanding tradition of cooperation, and have strong communities in agriculture and the marine sector. In particular, Gøtke emphasises forest-based biomass as an area with great potential – an area where the Nordic countries have unique opportunities extending well into the future.

– Although each Nordic country has its own perspective, they all share a common attitude towards the environment and sustainability. But the initiative requires research, smart policies, and a positive attitude among consumers about buying new green products.

Green future

Niels Gøtke believes the coordinating role of the Nordic Bio-economy Initiative will provide a boost towards achieving a Nordic bio-economy.

– The objective is to design an integrated initiative that encompasses all relevant sectors (agriculture, fisheries, forestry and energy) and a cohesive, supportive economic policy. The initiative can integrate various Nordic initiatives and add a new dimension to green growth and Nordic cooperation.

There is no question that there is political will to support further research relating to the bio-economy. Many see that there are clear commercial and social advantages of converting to a more bio-based society. Gøtke believes wholeheartedly that the initiative will help to enhance and strengthen the Nordic bio-economy.

– I think we will see more green products based on biomass, and new growth in this sector in the Nordic countries. At the same time we must hope for a fundamental change in attitude, that we in the Nordic countries have gained a greater understanding of the connection between economic growth and the environment.

The Nordic Bio-economy Initiative. On 28 June 2012, the meeting of the Nordic Council of Ministers for Fisheries, Agriculture, Food and Forestry (MR-FJLS) pointed to the Nordic Bio-economy Initiative as a highly relevant activity in research and innovation on «green solutions» and a bio-based society. The initiative was also regarded as an activity which may link the Nordic Green Growth initiative with the ongoing work on the bio-based society in the EU. An objective of the MR-FJLS is to strengthen cross-sectoral ties and cooperation within agriculture, food production, forestry and fisheries in order to solve current societal challenges. The Nordic Bioeconomy Initiative is an example of such cross-sectoral cooperation.

Niels Gøtke is the Head of Division at the Danish Agency for Science, Technology and Innovation. He is the chair of Nordic Joint Committee for Agricultural and Food Research (NKJ)

NKJ The primary objective of the Nordic Joint Committee for Agricultural and Food Research (NKJ) is to contribute to promoting and coordinating a knowledge-based agriculture and food sector in the Nordic countries. To this end, the NKJ encourages and provides support to joint Nordic cooperation within research on agriculture and food, including forestry and fisheries. The NKJ secretariat is situated at NordForsk in Oslo, Norway.



EuroScience Open Forum 2012, Europe's largest general science conference, was held in Dublin in July. NordForsk was there, and had a large stand in the exhibition hall. Many leading Nordic and international researchers took part in NordForsk's six sessions on eScience, brain research, education research, aging, diet, Open Innovation and the Top-level Research Initiative, and the challenges of communicating about climate change. ESOF 2012 gathered together a larger number of European researchers than has previously been achieved. The main goal of ESOF is to present the best of public and private research and innovation and to reach out to the public at large. The conference brought together participants from more than 70 countries. ESOF 2014 will be held in Copenhagen.



1. ESOF2012 was officially opened by Michael D. Higgins, president of Ireland and a renowned poet.
2. Professor Laura Fratiglioni concluded that healthier ageing is possible.
3. Professor Lars Börjesson engages in the eScience discussions.
4. Professor Maria Slowey, Dublin City University.
5. «You are never too old to learn a new language,» says Dr Bruno della Chiesa of Harvard University.
6. Convention Centre Dublin.
7. General-Director, Rannis, Hallgrímur Jónásson was one of many ESOF visitors taking part in the round table discussions.
8. Cynthia McIntyre of the Council of Competitiveness, Washington DC, was invited to discuss Open Innovation.
9. Heidi Haggren of Helsinki University.
10. Professor Mikael Fogelholm wants older people to focus on a healthier lifestyle.
11. Dr David Nutt, Imperial College, London, discusses how we can improve an ageing brain.
12. «Nordic scientists generally seem to be above average in terms of being socially engaged and outward looking,» says Quentin Cooper, the BBC journalist who moderated the NordForsk seminar.
13. Professor Anne Tjønneland lecture: Many wanted to learn about the healthiness of rye bread and whole grain.
14. Professor Anne Tjønneland: A traditional Nordic diet can prevent cancer.
15. The NordForsk stand at this year's EuroScience Open Forum in Dublin.
16. Dr Catherine Odora Hoppers, University of South Africa, talks about neuro-science and educational policy.
17. Education for Tomorrow is one of NordForsk's largest initiatives.
18. The Greenland ice is melting – soft ice cream was served at the NordForsk stand.

Foto: Terje Heiestad

Nordic scientists according to the BBC's Quentin Cooper:

Socially engaged and outward looking

Quentin Cooper, renowned science journalist on BBC Radio 4 and host of the BBC's Material World TV programme, facilitated six events organised by NordForsk at last summer's Euroscience Open Forum (ESOF) in Dublin.

After the events, he agreed to talk to NordForsk Magazine about his experiences. Here are some excerpts:

How would you summarise your experiences at ESOF2012?

It's important at events like this that the exhibitors are thorough and determined to do something different. It's equally important they don't take themselves too seriously and do make participants feel welcome. The NordForsk team was friendly, flexible and fun, good on both the big ideas and the little details. They were also good at setting things up so that those who came along not only felt they were watching a lively and useful debate about something of significance, but that they could contribute if they had something to say.

How were the NordForsk stand and seminars received by the visitors, as you see it?

There always seemed to be a crowd at the NordForsk stand, and an even bigger one when there was a reception of some kind. I talked to a lot of people there, adding an extra dimension after the seminars. As to the seminars themselves, I thought there were some excellent speakers, some fascinating ideas and some really strong debates. I also heard a lot of positive feedback and good word of mouth from other people around ESOF.

What first springs to mind when you hear the words Nordic and science?

Today, I think of NordForsk and what I've recently learned about cooperation between countries, commitments to sharing through open innovation and support for new ways of working together through the Nordic eScience globalisation initiative. It seems to me – perhaps naively – that although not perfect, it is a good example of the kind of cross-border cooperation which the EU is meant to encourage. Before ESOF2012, I had a lot of dealings with individual scientific organisations and governments in Nordic countries, and also chaired several events which went across Nordic borders – including the conference which led to the Lund Declaration, this year's Science in Dialogue gathering in

Odense to mark the Danish presidency of the EU, and a meeting of NORDERA....so I'm aware there is a lot going on!

Is there anything that can be described as typically Nordic when it comes to science and research?

I'm very resistant to making sweeping statements. Not all scientists are the same in any part of the world. But, if pushed, I'd say in my limited experience that Nordic scientists generally seem to be above average in terms of being socially engaged and outward looking – interested in how their work fits into the wider world.

In which research field or discipline can Nordic science be said to be at the forefront, today and in the past?

On top of being at the forefront in terms of cross border cooperation and embracing the possibilities of eScience, I'd say that I'm aware of important contributions in medicine and life sciences, especially understanding of the brain, technology, especially computer security, and more broadly across biotech and nanotech. So, generally more on the biological/life sciences side than physics, maths and related areas, although obviously there have been major contributions in the past.

As to historical contributions – I don't think someone from the UK should try to answer this, as I'm bound to leave some important people off my list! But off the top of my head, major contributions have come from Ångström, Scheele, Brahe, Abel, Celsius, Linnaeus, Arup, Bohr, Berzelius and Nygaard, not forgetting Nobel!

Do you sometimes cover Nordic science on BBC Material World?

Yes. Although we do some UK-only stories, most of the science we cover has global implications. So, we will interview someone about Nordic science when a discovery or breakthrough is of wider interest, or interview a Nordic scientist because they are the leader or part of a team that has made such an advance. In addition to interviewing people in Nordic countries from the UK, I can recall at least five occasions when I travelled to do interviews face to face. To mention just a couple of them, I went to Helsinki to make a programme about anti-virus technology, and to Copenhagen to talk to researchers looking at the contamination of historic artefacts – specifically Viking longboats! – by museum visitors.



Photo: Terje Heilestad

Quentin Cooper is a recognized science journalist and presenter on BBC. He is also a popular speaker and moderator at scientific seminars.

Beatrix Vierkorn-Rudolph

Indispensable eInfrastructure

Dr Beatrix Vierkorn-Rudolph is currently the chair of the European Strategy Forum on Research Infrastructures (ESFRI), a strategic instrument for promoting scientific integration in Europe and strengthening international outreach.

She is also deputy director general at the Federal Ministry of Education and Research, Germany. At ESOF2012, she sat on the panel that discussed the Nordic eScience Globalisation Initiative. Looking back at the event, she summarises:

– I enjoyed the opportunity to exchange views with people of different backgrounds. The eScience seminar was well-prepared, and it gave us a chance to discuss in-depth the need for eInfrastructures for the development of research infrastructures.

How can eInfrastructure take European research forward, and what are the most important benefits?

– eInfrastructures are indispensable for dealing with the huge amounts of data that research infrastructures produce. They facilitate and broaden the access, also remote access, to facilities. They assist in the training of young scientists, and they help in the dissemination of data.

How does Nordic eInfrastructure fit into the bigger European picture?

– I believe that the Nordic eInfrastructure collaboration helps to involve the Nordic countries even more in the European Research Area. With the help of this initiative, they can play an important role in setting up new research facilities.

Is it correct to talk about an eScience and eInfrastructure revolution, or do new information and communications technologies simply present us with new ways of working together?

– I believe that it is correct to talk about an eScience and eInfrastructure revolution, since we do not really understand at present the challenges that eScience brings to our daily lives. Furthermore, we do not know what possibilities it could hold for the future of research and research facilities.

In which research field – if any – can Nordic science be said to be at the forefront – as seen from Germany?

– Nordic science plays an important role in the environmental sciences and also in biomedical research. Scientists from the Nordic region are at the forefront of research in Europe.

Beatrix Vierkorn-Rudolph has a Ph.D. in Chemistry from the Technical University of Darmstadt. She is the Deputy-Director General for Large Research Infrastructure, Energy and Basic Research of the Federal Ministry of Education and Research, Germany (BMBF). She is chair of ESFRI (European Strategy Forum on Research Infrastructures)



Cherri M. Pancake

Think more globally!

Dr. Cherri M. Pancake is Professor of Electrical Engineering & Computer Science and Intel Faculty Fellow at Oregon State University, USA.

She has applied her ethnographic training to usability engineering. Her research focus is usability engineering, or the study of how we can engineer software to be more usable. Her target audience is practicing scientists and engineers. In Dublin, she was on the panel discussing the Nordic eScience initiative. Looking back at ESOF2012, she summarises:

What first springs to mind is the opportunity to meet with an extremely interesting cross-section of people, and discuss issues related to eScience, especially the problems of sharing data across disciplines. The eScience seminar hosted by NordForsk was an entertaining and thought-provoking discussion.

In which ways can eScience take global research forward – what are the most important aspects and benefits, in your view?

The most important benefit is the ability to span traditional barriers – disciplinary as well as geographic – allowing people to share resources and benefit from each other's research in ways that have never been possible before.

How does the Nordic eScience globalisation initiative fit into other, similar initiative or efforts? Are there parallel projects in the US?

The Nordic initiative seems to be more structured than most efforts in the US (where individual disciplines have developed eInfrastructure, but there hasn't been much serious work that crosses disciplinary boundaries). I hope that means it will be able to achieve results that demonstrate how important it is to think more globally.

Is it correct to talk about an eScience revolution, or do new information and communications technologies merely present us with new ways of working together and communicating?

It's a little early to talk about a «revolution,» although eScience certainly offers the «possibility» for revolutionising the way scientists can benefit from each other's work.

In which research field or discipline – if any - can Nordic science / scientists be said to be in the forefront – as seen from the US?

Health care information – you're years ahead of us in being able to access/share medical information, which has led to some very important analyses and reports. We need to learn from you on that!

Cherri M. Pancake is a professor at the School of Electrical Engineering and Computer Science at Oregon State University, USA. She was appointed as a Special Expert on Cyberinfrastructure to the National Science Foundation, which is a United States government agency that supports fundamental research and education.

Anne Gammelgaard

How to visualise climate change

Anne Gammelgaard investigates how people understand climate change. She wants to find out how, or if, interactive visualisation tools can help people to a better understanding.

Dr Gammelgaard coordinates the NordForsk-funded Nordic Centre of Excellence for Nordic Strategic Adaptation Research (NORD-STAR). The centre focuses on research that can help the Nordic region to adapt to the changing climate and the unintended consequences of climate policy.

Working with NORD-STAR on a daily basis gave Dr Gammelgaard the opportunity to start her Ph.D. studies in climate communication at Linköping University, which is one of the nine NORD-STAR partners.

– For me, it is a fantastic opportunity to become part of the Centre for Climate Science and Policy Research (CSPR) at Linköping University. I find it incredibly educating to work in an interdisciplinary research environment such as CSPR, she states.

– There are many communication challenges in the area of climate change science.

I find it interesting to explore how climate information is perceived and digested by the public, and why many people are sceptics, says Dr Gammelgaard, who has a background in corporate communications. Her focus is on examining how interactive visualisation tools influence people's ideas about and understanding of climate change.

– Research has identified many challenges or barriers to communicating climate science to the general public. Interactive visualisation tools are often said to be very effective in overcoming these barriers – and that's what I'm interested in investigating. Can these tools really help us to overcome communication barriers?

– What we can learn from communication science and practice is that it is extremely important to understand the communicative context if you want your audience to understand and find your message relevant to them. We also need to achieve a better understanding of the target audience. If you want to communicate something to somebody – with the purpose of changing attitudes and behaviour – the target audience must be the starting point of your process.

–It is crucial to identify the main motivational factors and the target audience's information needs. We must al-

ways ask ourselves: Do we communicate in ways that make people think: Oh, this is important! If we manage that, we are more likely to be successful in communicating science, thereby ensuring the societal relevance and value of the research.

Traditionally, many people regard climate change issues as negative and irrelevant. Dr Gammelgaard is convinced that we need to take a more positive approach.

If I build a house...

A practical example of this is a NORD-STAR research project that involves collaboration with a consortium of insurance companies. One of the aims is to develop a web-based tool that will help homeowners to make informed decisions, for example when building a new house.

From a communications perspective, it is important to think about the information needs of the homeowners when developing this tool: If I build my house in a certain location, what do I need to be aware of? What are the probable future scenarios? What should I do to be prepared? Is there a risk that increased rain could lead to landslides?

These are just some of the questions and issues that the NORD-STAR visualisation tool, VisAdapt, aims to address.

– The way the insurance industry is cooperating with researchers in this project is unique. By working together, the various stakeholders can all solve problems and gain something. So it is a win-win situation!

NORD-STAR consists of nine partners in the five Nordic countries, including the universities of Aarhus and Linköping. The director of the centre is Professor Michael Evan Goodsite of Aarhus University. Dr Gammelgaard's supervisors at Linköping University are Associate Professors Victoria Wibeck, Tina Neset and Professor Björn-Ola Linnér, all part of NORD-STAR.

Anne Gammelgaard is Lecturer and PhD. fellow at University of Aarhus. She is the project Coordinator for Nordic Centre of Excellence NORD-STAR.



NORD-STAR is the Nordic Centre of Excellence (NCoE) for Nordic Strategic Adaptation Research related to climate change. NORD-STAR is primarily funded under the Nordic Top-level Research Initiative. Approximately 25 per cent in additional financing comes from the nine core partners of the NORD-STAR consortium. Additional research organisations and non-academic stakeholders also contribute funding and human resources. The insurance project, running from 2011 to 2015, is one of several NORD-STAR sub-programmes.

Halldór Ásgrímsson

Focus and priorities in the Nordic collaboration

Halldór Ásgrímsson has served as Secretary-General of the Nordic Council of Ministers since 2006, and before that he held several ministerial positions in the Icelandic government, including the position of prime minister.

Halldór Ásgrímsson is approaching the end of his term in the NCM, and NordForsk magazine has asked for his views on important developments in the Nordic collaboration during his term of office, and the main lines of development he sees for the road ahead.

It has been very important for us to define clear targets and prioritise our tasks. At the beginning of my term, the increased involvement of the Nordic prime ministers was significant, and the proposals setting out clear priorities that were presented resulted in the Globalisation Initiatives. The Top-level Research Initiative within climate, energy and the environment has led to results of great significance and influence, says Ásgrímsson.

He continues: -One consequence of this enforced focus is that we have worked with larger, cross-sectoral tasks involving multiple Councils of Ministers, institutions and other actors in the Nordic countries and outside. This has been possible because of the engagement of the prime ministers, which we now see continuing into initiatives on green growth and health and welfare. This work procedure has changed the Nordic collaboration, and priorities have become much clearer in the various Councils of Ministers.

The most advanced cooperation in the world

Another trend Ásgrímsson points to is the rising pace of international development and globalisation, which generates a need for more regional collaboration, not just in our part of the world. For instance, there is a new regional collaboration developing in Asia, where China, Japan and South Korea have formed a council with a common secretariat located in Seoul. They are interested in the Nordic collaboration and a dialogue with the Nordic countries.

There is interest in regional collaboration inside Europe as well, many countries, such as Poland, Turkey, Hungary and Slovakia, have expressed interest in the Nordic model, as they see that the Nordic countries cooperate well amongst themselves as well as with the Baltic states.

The Nordic collaboration is the most advanced collaboration in the world – and has been so for a long time, states Ásgrímsson.

The Arctic a new region

The Arctic area has emerged as a «new» region. While there was once little interest in this region, it has now become the

object of great attention and many nations have increased their focus on it, not just those with boundaries adjacent to it.

– The Arctic Council was created as a result of Nordic cooperation. The Nordic Council discussed the issue in the early 90s, and all of the countries wanted to join in. The seed of what was to become the Arctic Council was planted, but there was no interest from other countries, especially not from the USA or Brussels in the early phase. Now, however, this has all changed, and there is practically a queue of nations who wish to take part. This is a very positive development, says Ásgrímsson.

– A large part of the Nordic region is in the Arctic area, so it is natural that we participate actively. The Nordic countries bring both means and capacity into the Arctic collaboration, which is another reason we have such influence in the Council. It is important that these efforts are continued, the USA, Canada and Russia have now expressed an interest in research collaboration with us.

The Top-level Research Initiative most important

To the question of what was the most important development within the Nordic research collaboration during his time as Secretary General, Ásgrímsson has no doubt that the Top-level Research Initiative represents the most important task with the greatest impact:

The result is unique. This initiative has involved more actors than any other and has received wide attention, especially in Europe. The TRI will continue to stand as an example of what the Nordic collaboration can achieve.

The Nordic model under pressure

Halldór Ásgrímsson points out that the Nordic model is facing many challenges as well. He believes there is a strong need to coordinate efforts to meet challenges such as those in the health and welfare sector, given that there are limited resources to solve such tasks.

It is important that we manage to meet the needs of our populations in the future. Research within this area will be of fundamental significance, says Ásgrímsson.

More Nordic cooperation

– Based on my experience in the Nordic Council of Ministers, my recommendation for the future is this: More Nordic cooperation! It should be used more as a tool for alleviating the economic crisis, as it can help reduce costs and boost income, and enhance international collaboration. We should employ our strongest tools and increase our influence. The Nordic countries can do this to a much larger extent than is currently the case. Within the field of research, there is even more to gain from joining forces.

– NordForsk will be a very important actor in the future. For that reason, it is crucial that the national research funding bodies are members of the NordForsk board.



Photo: Bard Gudim

Halldór Ásgrímsson is retiring Secretary General for the Nordic Council of Ministers. He has 32 years experience in politics in Iceland, and was from 2004 – 2006 the prime minister of Iceland.

Dagfinn Høybråten

New Secretary General of the Nordic Council of Ministers

The Nordic Ministers of Co-operation have decided that Dagfinn Høybråten will be the new Secretary General of the Nordic Council of Ministers and will assume his position in March 2013.

Currently one of five vice-presidents of the Storting (Norwegian national assembly), Mr Høybråten has broad-based political and administrative experience from his years as a government minister, Director General of the National Insurance Administration, municipal executive, and Director of the Norwegian Association of Local Authorities. Mr Høybråten will succeed Halldór Ásgrímsson, who is completing a six-year term as Secretary General of the Nordic Council of Ministers.

Dagfinn Høybråten has been actively involved in Nordic cooperation throughout his political career. In his capacity as Minister of Health, and subsequently as Minister of Labour and Social Affairs, Mr Høybråten participated in the Nordic Council of Ministers for a total of more than six years. He has served as Chairman of the Norwegian Delegation to the Nordic Council and the President of the Nordic Council.

Given the range of your political experience and knowledge of Nordic cooperation, what would you say are the key areas for collaboration at the Nordic level today? And in the years to come?

– Perhaps the most dynamic area of Nordic cooperation today revolves around what is taking place in the sphere of defence and security policy. It is not that long ago that we were unable to address these issues in a Nordic context. We can learn from the developments in this sector, in which cooperation has been concrete, pragmatic and effectively targeted towards creating Nordic benefit. I think we can generate more Nordic benefit in almost all sectors. I myself have been actively involved in efforts to dismantle barriers relating to freedom of movement, which is probably the issue that affects the public most directly.

Nordic cooperation is expanding; some would say that it is experiencing a renaissance after years in which European cooperation has topped the agenda in many countries. In the context of globalisation, the Nordic countries are small-scale players on their own. What are your views on the significance of international cooperation and the role of the Nordic countries?

– The regional dimension has gained greater importance in a more globalised world. We see that in Europe and in the rest of the world. In recent years the Nordic countries have demonstrated that their varying forms of association to the EU and NATO have not posed any obstacle to practical cooperation that utilises the competitive advantages of the individual countries. In a time of financial crisis in Europe, many are looking to the Nordic situation. I think we have an excellent opportunity to build the Nordic model into an international brand.

The knowledge triangle (focusing on education, research and innovation) plays a key role in efforts to promote new economic growth. What is the potential role of Nordic research in this context?

– The Nordic countries are an important region for geographic cooperation on research policy, research programmes and institutional cooperation. The impact of the region will depend on how well we can exploit the relevance and benefit of our similarities in culture, geography and forms of work.

What are your expectations for your new role as Secretary General of the Nordic Council of Ministers?

– I am looking forward to working with issues I have been concerned with in my capacity as senior official, government minister and member of parliament. I am also looking forward to engaging in productive dialogue with the governments that have tasked me with further developing, targeting and boosting the efficiency of Nordic cooperation. I am looking forward to getting started.

Dagfinn Høybråten will assume the office of Secretary General of the Nordic Council of Ministers in 2013. He has served as the Norwegian Minister of Health and Care Services and Minister of Labour and Social Affairs, and was also the leader of the Christian Democratic Party. Dagfinn Høybråten has also been the director of the National Insurance Administration. He was President of the Nordic Council in 2007.



NordForsk Policy Papers 2012

One of NordForsk's key tasks as a strategic adviser on research is to conduct analyses and studies on Nordic research and research policy. These analyses serve as input for decisions on the development and implementation of joint Nordic initiatives. The publication series Policy Papers is an important tool in this context. In 2012, NordForsk published the following four policy papers:

