

Nordic research training:

# Common objectives for international quality





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**Nordic research training:**

**Common objectives  
for international quality**

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# Table of contents

Postgraduate research training in the Nordic countries: Towards common objectives and common means .....	5
Appendix: Working group mandate .....	16
Nordic Research Training – International Quality.....	19
Appendix 1: Conference programme .....	26
Appendix 2: List of measures suggested by the sessions’ chairpersons.....	28
Appendix 3: About HØGUT, FPR and NorFA .....	30

Part 1

**Postgraduate research training  
in the Nordic countries:  
Towards common objectives and common means**

Report from a NorFA working group

# Foreword

In the year 2000, a working group was appointed and charged with the assignment of preparing a proposal for initiatives and measures at Nordic level with a view to introducing internationally competitive postgraduate research training programmes in the Nordic countries. In its report, "Research training in the Nordic countries" (*Forskeruddannelse [...] 2001*), the working group argued that the Nordic countries should certainly be able to agree on the objectives of postgraduate research training. Moreover, the working group found that it would be of great value to have such common objectives, some of the reasons being international recognition of Nordic research training and recruitment of foreign students for Nordic research training.

Following the consideration of the report by the Nordic Council of Ministers of Education and Research and on the recommendation of FPR (Nordic Science Policy Council), NorFA (Nordic Academy for Advanced Study) was commissioned to appoint a new working group. This group was to prepare proposals for common Nordic objectives of postgraduate research training with a view to facilitating co-operation between the Nordic countries and marketing of Nordic postgraduate research training in as well as outside the Nordic region.

NorFA took the initiative to co-operate with NUS (Nordic University Association) on the assignment. NUS responded positively, and nominated three members to the group. NorFA consequently appointed the group consisting of eight members, three nominated by NUS, three members of the NorFA board, and an additional member from Iceland and NorFA's rector. Hence, all the Nordic countries were represented. NorFA provided a secretary to the group and assisted with secretariat services. The working group's mandate and are given in the appendix at the end of this document.

As a region, the Nordic countries are an important negotiating partner and much stronger than the sum of the individual Nordic countries. Closer regional co-operation on research training will help the Nordic countries in a European and international context to be perceived as one postgraduate research training region with one common Nordic identity. Such an identity already exists to a large degree – and to a much larger degree than does a common European identity. This identity may be strengthened by stepping up co-operation between researchers, universi-

ties, research-funding institutions and political decision-makers within research and training – as has been the case in other areas of society.

In this report, the working group outlines a number of measures designed to make Nordic research training environments attractive to postgraduate research students within the Nordic countries as well as from other countries. The working group points out that Nordic co-operation must be outreaching and strengthen Nordic postgraduate research training's international position. The aim is to make the Nordic countries stronger in the international research area through increased co-operation.

The report was one the main topics for discussion at the conference "Nordic Research Training – International Quality!" organised by the Nordic Council of Ministers (HØGUT, FPR and NorFA) in Oslo 18-19 November 2002. A report from the conference makes up the second part of this publication. Overall, the report of the working group received positive feedback at the conference, although some critical comments were expressed about some of its parts. Based on such comments from participants at the conference, minor clarifications and revisions to the preliminary text have been made. We hope that the report and the recommendations will be fruitful not only to politicians and policy-makers, but that the report will inspire action from the universities themselves. Many of the recommendations can easily be addressed by Nordic universities individually or jointly and do not require any initiatives on a ministerial level.

We would like to take this opportunity to thank the working group members for their interesting and productive discussions about Nordic co-operation on research training. We would also like to thank the individual persons and institutions having contributed to the group's work during the process.

Oslo, 30 January 2003

*Hans Kr. Guðmundsson*  
Rector, NorFA

*Hans Siggaard Jensen*  
Chairman of the working group

## Conclusions and recommendations

- 1) To avoid marginalisation, Nordic postgraduate research training must be recognised internationally on a par with the best postgraduate research training programmes in other countries. The principal responsibility for developments rests with the national authorities. The working group argues that the national authorities must ensure fulfilment of fundamental framework conditions. The Nordic co-operation should mainly consist in removing obstacles for collaboration between Nordic universities.
- 2) Today, no significant differences in the various Nordic countries exist that make their objectives of postgraduate research training appear different. The objectives should be formulated and implemented at national level. Formulation of the objectives at Nordic level should be limited to objectives that may encourage Nordic co-operation.
- 3) The working group recommends that the following principles serve as the foundation for postgraduate research training in the Nordic countries:
  - a) All institutions to be entitled to award a doctoral degree must be publicly approved.
  - b) The level of a doctoral degree must be common and at a good international level of the PhD degree.
  - c) The dissertation must be defended publicly to ensure quality.
  - d) The dissertation must be available to the public and must be published.
  - e) The government is to ensure full funding of research training.
  - f) Research training must take place in active research environments.
  - g) Research training must take place in a research environment with several established researchers at, or in special cases in close connection with, a university.<sup>1</sup>
  - h) The quality of research training is to be ensured through the establishment of a common Nordic quality assurance system guaranteeing a certain standard of training.
  - i) Research training must be managed by the universities, which should therefore be supported by national research councils and Nordic institutions.
- 4) A common Nordic platform should be established for the continued development of quality assurance systems in postgraduate research training at each university. The working group recommends that the Nordic platform for quality assurance could be related to an independent body possessing great prestige and clout in terms of research and that it should consist of peers auditing the quality assurance system in research training at universities.
- 5) A system should be implemented, granting postgraduate research students in the Nordic countries more or less the same opportunities of attending research training courses irrespective of which Nordic country they live in or take their doctoral degree. Course places must be reserved for participants from other Nordic countries free of charge. The introduction of a system should be considered where 20% of all the places of a research course organised by a Nordic country are reserved for participants from other universities, including universities in other Nordic countries. Funding must be available to ensure that such a system also includes participation by research students from the Baltic States and Northwest Russia.
- 6) Training, exams and qualification requirements should be co-ordinated in so far as this is necessary to overcome practical barriers to mobility between the Nordic countries in research training.
- 7) The English language is recommended as the standard language in Nordic postgraduate research training.
- 8) Postgraduate research training should take place in active research environments of a certain size and breadth. The working group recommends that an assessment be made of the possibilities of establishing Nordic networks of postgraduate schools and research training programmes. In addition, the working group supports initiatives taken at Nordic level in the context of developing Nordic postgraduate schools. Closer ties should be established between the so-called centres of excellence in strategic disciplines where mutual benefit is identified. The scheme of Marie Curie Training Sites and Training Networks should be used more systematically with a view to Nordic co-operation on postgraduate research training.
- 9) Joint Nordic marketing of postgraduate research training should increase the competitiveness of Nordic research training. The working group recommends focusing on marketing of research training in fields where the Nordic countries are strong by international standards and where co-ordination will increase visibility.

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<sup>1</sup> The working group does not make a decision on whether it is expedient to establish post-graduate research training in individual disciplines at institutions without university status, but assumes that this will only be the case if such an institution has a reasonably extensive research environment in disciplines that can support such a measure. The working group admits that high-quality research post-graduate training is offered in a number of fields at institutions covering a narrow discipline.

- 10) A Nordic reference group should be established to assume responsibility for collecting comparable statistics in a permanent Nordic database.
- 11) Nordic contact points and co-ordinating institutions for Nordic co-operation on postgraduate research training should be appointed. Annual meetings about research training in the Nordic countries should be arranged with participation by national and Nordic players like the boards of



NUS, NOS (Nordic Co-operation Committee), FPR and NorFA to discuss policy-relevant questions associated with the Nordic re-

search training co-operation. Through its academy, NorFA should play a co-ordinating role for co-operation on research training in the Nordic countries.

This report outlines the conditions of and explains in more detail these recommendations and conclusions.

## Definition of terms

The use of terms for various types of university degrees differs in all Nordic countries, and this may cause problems. However, Bertel Ståhle's report on Nordic co-operation on postgraduate research training and centres of excellence (Ståhle, 2000) provides a good description of the differences. The use of the term doctoral degree in this report corresponds typically to doctoral exam in Sweden and Finland and to PhD in Denmark and Iceland. In Denmark, the doctoral degree is usually used for the classic doctoral degree, which is based on free postgraduate research studies and independent dissertation work. We also use the term institution in the Norwegian and Danish sense to designate an entire university, while Sweden and Finland usually understand it as a specialised division. These are called departments in Norway and Denmark, and this is the way the terms are used here.

Moreover, differences in the funding of studies affect the use of terms. In some countries (Denmark and Sweden), doctoral students are mainly wage earners and thus cannot be described as scholars. In other Nordic countries, (Norway, Finland and Iceland), doctoral students receive grants during training. When we used the term grants in this report, we primarily mean wages in the case of Denmark and Sweden.

## 1. Introduction

The Nordic countries have long-standing, strong traditions of research co-operation and co-operation on postgraduate research training. Even though there are differences between the research training systems in the Nordic countries, e.g. in terms of the requirements of previous university degree and the structure of studies, the level of the doctoral degree – or the PhD degree – is virtually the same.

The development of research training will become increasingly important in the years ahead as the demand for researchers is great and on the rise. At the European Council Meeting in Barcelona on 15-16 March 2002, the Council decided that total expenditure on R&D and innovation in the EU should be raised to 3% of GDP before 2010. While Finland and Sweden are already above this target, the other three Nordic countries are well below. Although two thirds of new investments should come from the private sector, there will be a need in most of the Nordic countries to increase government grants to research and innovation.

In this context, not only the grants for research are significant. Sufficiently qualified research staff must also be found. If the target of the Barcelona resolution is to be met before 2010, most countries will have to raise the number of researchers. This has wide implications for research training. Denmark is mentioned as one example with some 27,000 researchers. If the 3% target is to be met, Denmark will need 45,000 researchers before 2010. In the light of the natural wastage among senior researchers, a large number of junior researchers need to be trained.

Many of the established researchers lack formal research training. Given the stricter qualification requirements, future researchers should receive such training before they are employed as researchers. In many cases, a need will also exist to increase the qualifications of some of the present researchers who are not qualified through research training.

Recruiting qualified research students will therefore be one of the coming years' major challenges. Choosing research training instead of other professions must become even more attractive. The recruitment basis differs from country to country and from discipline to discipline. In many cases, there may also be discord between disciplines with recruitment needs and disciplines where the demand for new graduates with doctoral degrees is lower.

In tandem with the intention of increasing the number of researchers, research and postgraduate research training are being internationalised. As a result of this internationalisation, research training in the majority of western countries in the 1980s and 1990s approached the US PhD model with more structured studies

and organised training than has previously been the case. Furthermore, human resources have become more mobile. This means, for instance, that a large and increasing proportion of Nordic students turn to other countries to complete their entire research training, or part thereof. However, young research students are more likely to turn to the USA or other English-speaking countries than to other Nordic countries when they leave their native countries to complete their training in another country. The increasingly international world of researchers means that research training has to live up to internationally recognised standards. To avoid marginalisation, Nordic postgraduate research training must be recognised internationally on an equal footing with the best training in other countries. Only in that way can the Nordic countries attract competent researchers from non-Nordic countries and ensure that postgraduate research students having studied abroad more or less all return to their native countries upon completion of their training. Generally, it is fair to say that today an international market for postgraduate research training is in existence and that targeted efforts are needed to make the Nordic countries stand out in this market.

Over the past two years, the European Research Area (ERA) has become a significant concept in discussions about and reforms of European science and research. In this connection, the Nordic Council discussed an extension of the Nordic research area as a regional contribution to the strengthening and extension of the European research area. The development of the European area for higher education – the Bologna process – also has implications for research training. This process comprises areas such as exam structure, mobility, quality assurance, co-operation between institutions and the relationship between independent institutions and the authorities. At European meetings, participants now also discuss research training as part of the Bologna process. In such discussions, the Nordic countries should co-ordinate their views as this would be natural to be stronger and increase impact. Hence, regional co-operation may still be important to European co-operation.

Thanks to their common Nordic values and their relatively comparable structures of society, the Nordic countries stand a particularly good chance of co-operating on postgraduate research training. But many aspects point to an unexploited potential for more co-operation, however. For instance, researchers and groups of researchers are co-operating extensively, and this co-operation is not seen to the same extent in research training. Through targeted measures, the Nordic countries may, to a greater extent, be seen by the world as one common research training region that can make it more attractive for postgraduate research students also from outside the Nordic countries to receive their training in the region.

## 2. Assignment in more detail

In the eyes of the working group, no significant differences in the various Nordic countries exist that make their objectives of postgraduate research training appear different. The internationalisation of postgraduate research training also makes it less likely for research training objectives to be formulated highly differently in the Nordic countries or in the leading countries in terms of research and research training. We consider it fair to recommend that the research training objectives contain the elements included in the report “Research training in the Nordic countries” (see box), but they should be formulated and implemented at national levels.

### Elements to be included in the objectives of postgraduate research training in the Nordic countries (from “Research training in the Nordic countries” (2001))

- The research training should give qualifications both for research and other duties in society where scientific insight is needed.
- The research training programme should give the students confidence within their chosen subject and deal with fundamental issues, research methodology and theory and historical developments. Emphasis should be placed on both breadth and depth and the subject should be placed in a broader context.
- The research training should enable students to keep up with developments within their fields.
- The research training should provide students with an independent and critical approach to using methods of scientific research and discovering new knowledge.
- Students should carry out independent research in defined areas and produce a scientific dissertation demonstrating a high level of skill.
- The research training programme should give opportunities to exchange knowledge within the scientific community and to disseminate results to parties outside that community.
- Students must have a basic university degree or similar qualifications when entering a research training programme.
- The length of a research training programme, the course content, including course participation, and studies abroad or at other research institutions need to be well defined.
- Research training must take place in a research environment at an internationally recognised level with international contacts.
- The necessary funding must be made available for both these environments and research students.
- The research training programme should conclude with a public defence of the dissertation. External established researchers and university professors from other institutions, including some from other countries, should make the final assessment.

The working group saw it as its most important job to formulate objectives of research training that can stimulate Nordic co-operation; in other words to formulate objectives capable of contributing to promoting at Nordic level the existing objectives that are, and, in the opinion of the working group, should continue to be formulated at national levels.

In many areas, the Nordic countries could benefit from reviewing systematically what can be done to make postgraduate research training in the Nordic countries more attractive and competitive. Below, the working group sets out its contributions for how to co-ordinate research training between the Nordic countries.

## 3. Common Nordic challenges

In addition to the need to train a large number of new researchers by increasing the number of doctoral degrees, the Nordic countries are also faced with other common challenges as regards postgraduate research training. Bertel Ståhle lists a number of such challenges in his report on Nordic research training (Ståhle 2000: 20). Even though the quality of dissertations in the Nordic countries is generally excellent by international standards, there is still room for improved quality and efficiency of postgraduate research training, greater regularity, clearer counselling responsibility, shorter periods of study and lower graduation age, better funding of studies, improved recruitment, greater internationalisation and mobility, higher annual numbers of graduating research students, and more importance attached to training of researchers for the labour market outside the universities. The Nordic countries agree greatly on these factors, but there may be an inherent conflict between some of them. Different regard to and goals of training must be balanced. It is thus impossible to set up uniform requirements for either quality, efficiency, relevance or other research training goals.

When it comes to perhaps the two biggest challenges facing Nordic postgraduate research training – too few graduating research students and too long periods of study – the working group wants to point out that these challenges cannot be met without enhanced efforts at *national levels*. Significant reforms of the postgraduate research training systems are being implemented in the Nordic countries. The national authorities are responsible for pursuing a policy that ensures a solid foundation by allowing universities access to sufficient resources and reforms of research training to ensure a higher turnover and a lower graduation age.

The working group therefore argues that the national authorities must ensure that such fundamental framework conditions are met. The Nordic co-operation can only be a superstructure on an otherwise national solid foundation.

#### 4. Common Nordic principles for postgraduate research training

The working group recommends all Nordic countries to observe some fundamental principles when organising and implementing postgraduate research training. Such principles should form a common standard that must be complied with if the Nordic countries are to be seen as one attractive research training region. Even though the universities cannot, in the opinion of the working group, be burdened with unity or a common framework for all research training on national or Nordic level, it should be possible to outline, at Nordic level, some principles and guidelines in the form of recommendations that institutions and national authorities may choose to follow.

The working group thus recommends that the following principles underlie postgraduate research training in the Nordic countries:

- All institutions to be entitled to award a doctoral degree must be publicly approved
- The level of a doctoral degree must be common and at a good international level of the PhD
- The dissertation must be defended publicly to ensure quality
- The dissertation must be available to the public and must be published
- Nordic research students must be guaranteed full funding of research training by the government, and schemes should be established, allowing students to bring with them the funding to other Nordic countries
- Research training must take place in active research environments
- Research training must take place in a research environment with several established researchers at, or in special cases in close connection with, a university<sup>2</sup>
- The quality of research training is to be ensured through the establishment of a common platform for Nordic quality assurance guaranteeing a certain standard of training
- Research training must be managed by the universities, which should therefore be supported by national research councils and Nordic institutions.

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<sup>2</sup> The working group does not make a decision on whether it is expedient to establish post-graduate research training in individual disciplines at institutions without university status, but assumes that this will only be the case if such an institution has a reasonably extensive research environment in disciplines that can support such a measure. The working group admits that high-quality research post-graduate training is offered in a number of fields at institutions covering a narrow discipline.

#### 5. Means

What means are available for generating Nordic synergy benefits in postgraduate research training?

The working group recommends a number of measures, which, in its opinion, will contribute positively to creating Nordic value added from national efforts. It is important to concentrate on the problems and challenges that best can be solved and met through Nordic co-operation.

##### i) Common Nordic platform for quality assurance

Quality development and quality assurance are as important at the Nordic as at other European universities. Evaluation and accreditation of institutions and study programmes are being introduced in most countries, including the Nordic countries. The quality of research training programmes is closely linked to the outcome of the programmes and the following three factors are the most important:

1. the quality of the dissertation
2. the competence of the PhD candidate / doctoral student
3. the number of PhD candidates / doctoral students and the duration of the research training from the start to the defence of the dissertation

In the Nordic countries today, the quality of doctoral dissertations is generally excellent, and they should be measured by their originality, trustworthiness and subject relevance (Kim, 2000). In the eyes of the working group, it would be useful to come up with a range of quality criteria applicable to the *training process* in research training, and this could apply both to methodological and scientific training and requirements of counselling and international exchange of experience. It could also comprise aspects of the research environment, organisational structure as well as the actual organisation of postgraduate research training (including funding of studies). Openness as regards access from external environments is important in this context. Obviously, the disciplines and environments will differ, and there will also be certain differences between the same disciplines in the various Nordic countries.

The working group believes it would be possible to establish a common Nordic platform for further development of the present quality assurance systems in research training at Nordic universities. The group specifically recommends that such a platform should be related to an independent body possessing great prestige and clout in terms of research.

Such a body could be a scientific academy or an internationally renowned institution like the Nobel Foundation, whose committees are responsible for awarding probably the most prestigious scientific prizes in the world. The Nordic platform for quality assurance should consist of peer peers auditing the quality assurance system in research training at universities.

### ii) Open market for postgraduate research training

The working group finds that a system should be established, granting postgraduate research students in the Nordic countries more or less equal opportunities of attending research training courses irrespective of which Nordic country they live in or take their doctoral degrees. Such a system has, for instance, been successfully introduced in Denmark. The system means that course places must be reserved for participants from other Nordic countries free of charge. The system could allow 20% of all the places of a research course organised by a Nordic country to be reserved for participants from other universities, including universities in other Nordic countries. These courses must award points to students who will be completing the course, and participation should require confirmation by a counsellor that the course has been approved as part of the research training programme in a student's native country.

The working group also recommends that funding be made available so that such a system also includes participation by postgraduate research students from the Nordic countries' adjacent areas, i.e. the Baltic States and Northwest Russia, for which the Nordic countries feel special responsibility and would like to co-operate with on research and research training.

The introduction of an open market for postgraduate research training courses in the Nordic countries will require an efficient system for communicating information about current courses. We will return to this matter later.

### iii) Overcoming practical barriers to mobility in the Nordic countries

Barriers need to be dismantled to improve mobility in the Nordic countries as regards completing the entire postgraduate research training in another Nordic country, or part thereof. This must be done at several levels.

In his report *Nordbornas Rättigheter* (2002) (The rights of the Nordic citizen), Ole Norrback outlines some difficulties encountered by people in the Nordic countries when they are moving to another Nordic country. Those not directly related to training, e.g. pension rights and tax rules, will not be commented on in this report although they are undoubtedly of significance to research students' mobility in the Nordic countries.

As regards training, we urge ministers to comply with Ole Norrback's request to co-ordinate training, exams and qualification requirements when this is necessary to overcome practical barriers to mobility. In areas where co-ordination is not possible, the individual countries should formulate clearly the additional qualification requirements they want applicants from other countries to satisfy. Funding of studies

should be co-ordinated by introducing common rules and in this way make sure that no one is left behind. A scheme should be introduced, making it possible for students to bring with them grants from their own countries to another Nordic country for part of the research training period.

The working group believes that a need exists for further identification of barriers to mobility among postgraduate research students. NorFA recently commissioned an investigation by NIFU (Norwegian Institute for Studies in Research and Higher Education) into this aspect that may produce targeted knowledge of such barriers. To be completed by the end of 2002, the report aims at explaining different dimensions of problems and incentives associated with research training mobility. For instance, we should consider at which rung on the career ladder mobility is seen as a problem and at the significance of the length of stays in another Nordic country. Financial, social (e.g. family), cultural and language barriers will be discussed. The report should, in the opinion of the working group, be used actively to prepare measures that can as far as possible dismantle barriers to mobility in the Nordic countries.

In a Nordic context, the linguistic relationship often paves the way for co-operation. It is also important for the development of the Nordic languages that scientific matters can be discussed in national languages. Then again, co-operation may often be hampered when communication breaks down because people do not understand each other. The working group finds that language barriers can be sharply reduced if *English* was recommended as the *standard language* in Nordic postgraduate research training. The working group also believes that this would have a positive impact on the competitiveness of the Nordic countries in terms of attracting competent research students from other countries and regions.

### iv) Postgraduate schools, research training programmes, centres of excellence, Marie Curie Training Sites and Training Networks

Research training should take place in active research environments of a certain size and breadth. All the Nordic countries work on developing postgraduate schools although there are some differences as to what the concept means (see *Forskeruddannelse i Norden* (Research training in the Nordic countries), p. 9). A postgraduate school may be established at a university or in co-operation between several universities, perhaps in concert with other research institutions. A postgraduate school is more than a network in that it entails more binding co-operation, that it has a clear identity and that it may be given responsibility for research training at the institution(s). Even though not all research training needs to take place at postgraduate schools, such schools are essential to the development of research training in the Nordic countries.

More extensive co-operation between postgraduate schools in the Nordic countries holds a vast potential. Such co-operation may take place at various levels. The working group recommends that an assessment be made of the possibilities of maintaining Nordic *networks of postgraduate schools and research training programmes*. They do not have to be postgraduate schools in exactly the same disciplines as long as the co-operation creates synergy benefits and added value. In some cases, the possibilities of interesting multidisciplinary cross-border networks should be cultivated. Assessments should determine whether it is feasible to develop a model for this type of co-operation, which includes funding of mobility, workshop co-operation and creation of evaluation and accreditation systems.

In addition, the working group supports initiatives taken at Nordic level as regards the development of Nordic postgraduate schools. In a few disciplines, co-operation on *Nordic postgraduate schools* appears particularly relevant, and this should provide the foundation for assessing whether to maintain such schools. First, this applies to fields where the individual Nordic country is too small to offer sufficient breadth in the research environment, but where co-operation may pave the way. Second, in some cases, there may be financial reasons for co-operation, ensuring more efficient use of an expensive infrastructure. Third, many facts suggest focusing on Nordic postgraduate schools in fields where the Nordic countries enjoy particular strength or possess special qualifications for co-operation. This may apply to "Nordic" disciplines such as Nordic linguistics or Nordic cultural studies. It may also apply to fields where co-operation may create or maintain an environment at the forefront of research, ensuring Nordic countries' international competitiveness, e.g. within natural science and medicine.

In the same way as attempts are made to step up co-operation between postgraduate schools and Nordic postgraduate schools are established, closer ties can be established between *centres of excellence* in strategic disciplines where mutual benefit can be identified. Part of postgraduate research training in the Nordic countries takes place in connection with such centres, but the intended strategy should focus on using such centres for research training even more than is the case today. Therefore, the working group welcomes NorFA's initiative in making funds available to research activities in connection with establishing Nordic centres of excellence in natural science. Co-operation between Nordic centres of excellence may contribute to increasing mobility among junior researchers and research students in particular. Focus on Nordic co-operation at such centres may also pave the way for targeted division of labour and specialisation between the Nordic countries in fields where benefits would be obvious.

Another means to Nordic co-operation on postgraduate research training would be to make more systematic use of the scheme of Marie Curie Training Sites and Training Networks. Nordic postgraduate research students have been able to use these EU grants for mobility from three months to one academic year during the training period, and the introduction of the EU's sixth framework programme will make it possible to fund the entire research training in another country through this funding scheme. Many Nordic universities participate actively in the scheme, but a higher number of Nordic university environments should be encouraged to participate both as contributors and receivers of postgraduate research students – students that would help market their own, and, more specifically, Nordic, research training.

#### **v) Common Nordic marketing of Nordic postgraduate research training**

A high level of postgraduate research training marketing should be undertaken at Nordic level to boost the competitiveness of Nordic research training. Various measures could be useful in this respect. The working group recommends that the activities aimed at creating a common portal for research training courses in the Nordic countries be continued. To begin with, the recommendations made by the working group appointed by NorFA to create such a common portal should be systematically reviewed.<sup>3</sup>

The working group also recommends focus on marketing research training in fields where the Nordic countries are strong internationally and where co-ordination would increase visibility. Below follows a non-exhaustive list of examples of disciplines where it would be beneficial to develop strategies for marketing Nordic postgraduate research training:

- Genome research
- Nordic model, welfare state research
- Nordic studies (language, culture, history, politics, economics)
- Information and communication technology
- Energy research
- Nano-technology
- Environmental research
- Development research
- Training and education research

A huge potential also exists for greater co-operation and mobility between academies and trade as regards research training within energy, pharmaceutical products, IT and telecommunications. Common Nordic marketing should be in the spotlight. This type of

<sup>3</sup> The working group appointed to look into the possibilities of establishing a joint Nordic Internet portal submitted its report to the Nordic Council of Ministers on 20 September 2002, and our working group has thus not yet had the time to discuss its recommendations

co-operation may be an important contribution to creating multidisciplinary by bridging traditional research-discipline gaps.

#### **vi) Collection of statistics and data, analyses of statistics collected**

Today, we lack updated *comparable statistics on doctoral degrees* and statistics on mobility of researchers and postgraduate research students in the Nordic countries. Such statistics would be useful for systematically shedding light on the trend in the number of degrees, including mobility between the Nordic countries, and between the Nordic countries and other countries. Such statistics would also make it easier to analyse the effects of reforms and measures.

This being the case, the working group recommends that a Nordic reference group be established to assume responsibility for collecting comparable statistics in a permanent Nordic database. Nordic training research environments should be invited to make contributions to the analysis of collected data and statistics. The working group is aware that NorFA has already taken an initiative in updating the existing database and recommends that this work be continued.

#### **vii) Co-ordination of Nordic initiatives and national priorities**

We will still need Nordic contact points and co-ordinating institutions to achieve the intended co-ordination with national priorities and synergy with national reforms. An important part of co-ordination is also to promote the Nordic dimension of devising national research training strategies. Nordic university environments and the parties responsible for postgraduate research training in the Nordic countries therefore require meeting points for exchanging information and discussing Nordic research training.

It would be a good idea to review the organisation of co-operation in Nordic postgraduate research training. Today, there are a large number of players – at Nordic and international levels alike. Often, these players do not co-ordinate. The working group calls for a more visible structure of this co-operation and a flexible scheme for co-ordination of pan-Nordic initiatives.

Seminars, meetings and conferences at Nordic level should be held regularly to discuss the formulation of Nordic postgraduate research training policy. The working group proposes annual meetings about research training in the Nordic countries to be held with participation by national and Nordic players such as the boards of NUS, NOS, FPR and NorFA to discuss policy-relevant questions associated with the Nordic postgraduate research training co-operation.

The working group believes that NorFA can play a key co-ordinating role in Nordic research training. Through its academy, NorFA already plays an impor-

tant role in identifying common problems and challenges to research training and research in the Nordic countries, and this role can be extended. NorFA should receive a regular list of reforms in the Nordic countries and pass on information about them to relevant Nordic and international players.

At present, insufficient information about postgraduate research training opportunities in the Nordic countries is channelled to potential research students both in and outside the Nordic region. Hence, tools need to be developed, capable of searching for information about Nordic research training, vacant positions, open research training courses, funding, addresses and other relevant information for candidates looking for information about opportunities of research training in the Nordic countries. In this respect too, the report for the working group mentioned above, which looks at the possibilities of a common Nordic Internet portal for research training, should be used as basis. To us, it is obvious that NorFA should hold the responsibility for the assignment.

## **6. Final comments**

As a region, the Nordic countries are an important negotiating partner and much stronger than the sum of the individual Nordic countries. Closer regional co-operation on postgraduate research training will help the Nordic countries in a European and international context to be perceived as one research training region with one common Nordic identity. Such an identity already exists to a large degree – and to a much larger degree than does a common European identity. This identity may be strengthened by stepping up co-operation between researchers, universities and political decision makers within research and training – as has been the case in other areas of society.

In this report, we have outlined a number of measures designed to make Nordic research training environments attractive to postgraduate research students from the Nordic as well as other countries. Our aim is that a student must find it just as easy to complete research training in a Nordic country as to complete it in the student's native country.

In conclusion, we would like to point out that the Nordic level should not be seen as yet another incident of bureaucracy, but as a source of creativity and opportunities. Nordic co-operation must be out-reaching and strengthen Nordic postgraduate research training's international position. Extending and developing Nordic co-operation on research training are by no means motivated by a wish to isolate the Nordic countries. Quite the contrary, the aim is to strengthen the Nordic countries in the international research area through increased co-operation. Such strengthening may occur if we make use of and develop the existing regional identity.

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# Appendix: Working group mandate

## Assignment from the Nordic Council of Ministers

In a letter dated 8 November 2001, the Nordic Council of Ministers gave NorFA was given the following assignment:

A working group is to be appointed to prepare a proposal for common Nordic objectives of postgraduate research training with a view to facilitating co-operation between the Nordic countries and making it easier to market Nordic research training in the Nordic countries as well as other countries.

The assignment was given the following comment:

At present, the objectives of postgraduate research training in the Nordic countries are more or less similar, but they are nevertheless formulated differently. A proposal for common objectives of research training in the Nordic countries should contain rules for management and counselling, objectives of international mobility and recruitment as well as funding policy. The members of the working group must be appointed by the authorities responsible for postgraduate research training in each country. The work is to result in a proposal for a common text that can be implemented in national regulations on postgraduate research training.

## Background

In the report "Research training in the Nordic countries"<sup>4</sup>, which was prepared by a working group given the assignment of listing proposals for initiatives/measures at Nordic level with a view to creating internationally competitive research training in the Nordic countries, the working group argued that it should be widely possible for the Nordic countries to agree on the objectives of postgraduate research training. The working group also found that it would be very valuable to have such common objectives, some of the reasons being international recognition of Nordic research training and recruitment of foreign students for Nordic research training.

Following the consideration of the report by the Nordic Council of Ministers of education and research and on the recommendation by FPR, NorFA was given the assignment outlined above.

At NorFA's board meeting on 28 November, a decision was made for NorFA to initiate co-operation with NUS on the assignment. As regards the NUS half-yearly conferences focusing on the Bologna process, plans have been laid to prepare a common Nordic statement on the work in the Bologna process. The

next conference will be held in Tromsø on 16-17 August 2002. NUS has shown an interest in co-operating with NorFA on the research training element of the process. Moreover, NUS is an apparent partner in the work of preparing the common objectives of the assignment given by the Nordic Council of Ministers.

At NorFA's board meeting on 7 February 2002, a decision was thus made to appoint a high-level working group by inviting NUS to nominate three representatives and by nominating three representatives from NorFA's board. In addition, Iceland's board member suggested that an Iceland representative be nominated for the working group. All the Nordic countries are represented in the working group. NorFA's rector is a member of the group, and NorFA assists with secretariat services.

## Working group tasks

The working group is to prepare a proposal for common Nordic objectives of postgraduate research training with a view to facilitating co-operation between the Nordic countries and making it easier to market Nordic research training in the Nordic countries as well as other countries. The proposal will be submitted to NorFA, which will then, in concert with NUS, pass it on with any comments and recommendations to the Nordic ministers for education and research. In its work, the working group must consider the proposals presented by NorFA's working group in the report *Research training in the Nordic countries: challenges and opportunities for collaboration* as regards the proposal for common objectives of postgraduate research training.

The group's final proposal and report should contain rules for or recommendations of management and counselling, objectives of international mobility and recruitment as well as funding policy.

The working group must, to the greatest extent possible, associate its work and proposals with the Bologna process in areas related to postgraduate research training while also contributing to the ongoing Nordic dialogue about the process.

## Timetable

The working group must submit its report to NorFA by 1 October 2002. NorFA will consider the report at its board meeting on 8 October 2002 and, in concert with NUS, subsequently pass it on to the Nordic Council of Ministers with any recommendations.

<sup>4</sup> Research training in the Nordic countries: challenges and opportunities for collaboration, Oslo: NorFA, 2001.

The working group expects to hold three or four meetings during its term, of which one should preferably take place in connection with the NUS conference in Tromsø in August. The group's work will be completed with a seminar in September where invited key players in national research training from authorities and ministries will discuss the ideas and possibilities presented by the working group for implementing the proposals. The first meeting is scheduled for the latter half of April 2002 when the rest of the meetings will be arranged.

### **About the working group**

The working group has eight members.

#### **Appointed by NorFA:**

Chairman of the group

Professor Hans Siggaard Jensen, Research Director,  
Learning Lab Denmark, Chairman of the Danish  
Research Training Council

Professor Riitta Keiski, Academy of Finland and  
University of Uleåborg

Professor Harald Høiland, University of Bergen

Professor Guðmundur Hálfðanarson, University of  
Iceland

#### **Appointed by NUS:**

Professor Kirsti Koch Christensen, Rector, University  
of Bergen

Professor Henrik Toft Jensen, Rector, Roskilde  
University

Professor Arne Ardeberg, Pro-rector, Lund  
University

Dr. Hans Kr. Guðmundsson, Rector, NorFA

The working group should adopt an open method of working and seek contact with relevant environments and institutions not directly represented in the working group.

### **Working group secretariat**

Group secretary is Dr. Aadne Aasland,

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## Part 2

### **Nordic Research Training – International Quality**

A report from a conference at the SAS Radisson Plaza Hotel Oslo  
18-19 November 2002

By Svein Kyvik and Stig Slipersæter, NIFU

## 1. The conference and its purpose

A conference on postgraduate research training in the Nordic countries was organised jointly by HØGUT (Nordic Advisory Committee on Higher Education), FPR (Nordic Science Policy Council) and NorFA (Nordic Academy for Advanced Study). The aim of this conference was to bring Nordic co-operation further in this field in order to strengthen the quality of training and make Nordic research training competitive on the international scene.

A conference planning committee was set up consisting of Torstein Pedersen (Research Council of Norway, representing FPR), Finn-Hugo Markussen (Norwegian Ministry of Education and Research, representing HØGUT), Alf Rasmussen and Niels Petersen (Nordic Council of Ministers, representing HØGUT and FPR respectively), and Marika Muhonen Nilsen and Aadne Aasland (representing NorFA). Assistance with the practical arrangements was provided by Congress Conference A/S.

The conference took place 18-19 November 2002, and was attended by around 110 invited participants from universities, policy-making and financing institutions, as well as other relevant Nordic institutions. Representatives from universities in the Baltic countries were also present. In addition to speakers from the above-mentioned institutions, speakers were also invited from the United States, Germany and the EU to add international perspectives to the conference. The conference programme can be found at an appendix to this document.

The conference was partly based on the report *Postgraduate research training in the Nordic countries: Towards common objectives and common means*, prepared by a working group appointed by NorFA. A preliminary version of this report was distributed as a discussion document to the participants (the revised version is presented as Part 1 of this publication). The report by the working group and the discussion at the conference will be an input for the work on a 'white book' on the Nordic countries as a joint region for higher education and research under the auspices of the Nordic Science Policy Council, to be completed in 2003.

In their report, the working group takes as a starting point that 'as a region, the Nordic countries are an important negotiating partner and much stronger than the sum of the individual Nordic countries. Closer regional co-operation on research training will help the Nordic countries in a European and international context to be perceived as one postgraduate research training region with one common Nordic identity. Such an identity already exists to a large degree – and to a much larger degree than does a common European identity. This identity may be strengthened by stepping up co-operation between researchers, uni-

versities, research-funding institutions and political decision makers within research and training – as has been the case in other areas of society.'

Under the following headings, the working group outlines a number of suggestions and measures to make Nordic research training environments attractive to postgraduate research students from the Nordic countries as well as other countries:

- Common quality assurance system
- Open market for postgraduate research training
- Overcoming practical barriers to mobility in the Nordic countries
- Postgraduate schools, research training programmes, centres of excellence, Marie Curie Training Sites and Training Networks
- Common Nordic marketing of Nordic postgraduate research training
- Collection of statistics and data, analyses of statistics collected
- Co-ordination of Nordic initiatives and national priorities

In this report, the proposed measures by the working group and the debate at the conference are summarised under each heading.

## 2. The reception of the report by the conference attendants

The Norwegian State Secretary of the Ministry of Education and Research opened the conference and stated that the Ministry supported the building of a stronger joint Nordic region for postgraduate research training. He shared the views of the working group that the Nordic countries stand a particularly good chance of co-operating successfully in research training. The work to turn the Nordic area into an internationally leading region for research and knowledge-based industry would be of great importance. An increase in Nordic mobility and collaboration would also strengthen the ability to take advantage of the possibilities outside the Nordic countries, such as the sixth framework programme of the EU.



Mr Haugstad took the opportunity to praise the initiative of NorFA and the Nordic Centres of Excellence for launching two Nordic postgraduate research schools. These schools have recently been established in conjunction with two of the new Nordic centres of excellent research. He stressed the importance of offering research training in environments constituted by active research groups with several collaborating researchers maintaining international contacts. The research groups should be sufficiently diverse and have enough breadth in their field of research to expose students to several aspects of theory and methods. Especially in fields with small numbers of postgraduate students on a national level, joint Nordic programmes should be developed to offer students training of sufficient quality and breadth.

The report of the working group was then presented by its chairman, professor Hans Siggaard Jensen, and further commented on by a panel with the following members: Ingvild Broch, Research Director, University of Tromsø, Anneli Pauli, Research Director, Academy of Finland, Marianne Sommarin, Professor, Lund University, Helga M. Ögmundsdóttir, University of Iceland, and Henrik Toft Jensen, Rector, Roskilde University.

In general, the members of the panel as well as the audience shared the visions outlined in the background paper of building a stronger Nordic region of research and research training that could be internationally competitive. The establishment of a common Nordic system of quality assurance was the only proposed measure that was opposed by several of the conference attendants.

In the following, a brief summary of the various measures proposed by the working group for a further development of Nordic co-operation in research training, as well as a summary of the discussion at the conference is presented.

### 3. Common quality assurance system

The report recommends:

- All institutions to be entitled to award a doctoral degree must be publicly approved.
- The level of a doctoral degree must be common and at the international level of the PhD degree.
- The dissertation must be defended publicly to ensure quality.
- The dissertation must be available to the public and must be published.
- The government is to ensure full funding of research training.
- Research training must take place in active research environments.
- Research training must take place in a research environment with several established researchers at, or in special cases in close connection with, a university.
- The quality of research training is to be ensured through the establishment of a common Nordic quality assurance system guaranteeing a minimum standard of training.

- Research training must be managed by the universities, which should therefore be supported by national research councils and Nordic institutions.
- A common Nordic platform should be established for the continued development of national quality assurance systems in postgraduate research training. The working group recommends that the Nordic quality assurance systems be checked and certified by an independent body possessing great prestige and clout in terms of research.



In his speech, Bjørn Haugstad emphasised the ability to complete a research project on time is an important criterion of quality. To shorten the time spent, adequate supervision and inclusion of PhD students in active research groups maintaining international contact is essential. Anneli Pauli saw inclusion of PhD students into the newly established Nordic centres of excellence as one way of enhancing quality. Hans Siggaard Jensen also stressed the necessity of including PhD students in research groups in his presentation of the report. Another important factor of quality assurance mentioned by Mr Jensen was public approval of PhD-awarding institutions. Awarding of PhDs should not be privatised. It was also emphasised that theses should be publicly available and the theses should also be defended in public. Marianne Sommarin furthermore stressed that adequate financial measures was another important and intrinsic part of quality assurance. Otherwise severe problems could occur due to lack of continuity in the research training period.

Professor Udo Zander, Stockholm School of Economics, in a prepared presentation of the quality assurance system at his institution, gave a detailed overview of the complexity of the concept of quality in postgraduate education, and the many aspects of the training situation that had to be dealt with to improve and sustain quality in research training.

There was overall agreement among the conference participants that high quality was most important to make Nordic research training attractive both for students within and outside of the Nordic countries.

The research training of the Nordic countries is already on a high level, and this makes a solid foundation for further quality enhancement. Conference participants saw systematic co-operation across national borders as important to bring training on to an even higher level, especially with respect to the course part of the programmes. Furthermore, the role of the supervisor was regarded as crucial in this process.

When it came to measures suitable for enhancing quality, there were some differences in opinion. On a general level it was argued that it was important to be aware of disciplinary differences. Hence, measures should be selected carefully according to the needs of the specific disciplines.

It was stated that the national and institutional levels have to be responsible for quality assurance of the training itself, but the Nordic level can play a part in setting the standards for the national quality assurance systems. Benchmarking and initiatives to help the institutions selecting best practice was mentioned as a task for the Nordic level. Several speakers were sceptical to the establishment of a new and joint Nordic institutionalised system for quality assurance. Among them, Ingvild Broch held forth that the already functioning alliance of Nordic universities was appropriate to take care of this. Instead of establishing new systems, Helga M. Ögmundsdóttir suggested to have a closer look at the initiatives made by the EU to establish educational quality assurance systems, standards and guidelines. Within this system institutional quality was evaluated on a continual basis.

#### **4. Open market for postgraduate research training**

The report recommends:

A system should be implemented, granting postgraduate research students in the Nordic countries more or less the same opportunities of attending research training courses irrespective of which Nordic country they live in or take their doctoral degree. Course places must be reserved for participants from other Nordic countries free of charge. The introduction of a system should be considered where 20% of all the places of a research course organised by a Nordic country are reserved for participants from other universities, including universities in other Nordic countries. Funding must be available to ensure that such a system also includes participation by research students from the Baltic States and Northwest Russia.

Kirsti Koch Kristensen, Rector of University of Bergen and also a member of the working group, in a prepared comment to the background paper defended the proposal that research training courses in the various Nordic countries should be open to students

in all these countries. In addition, she emphasised that it is just as important that we manage to attract non-Nordic as Nordic research students:

‘It is important that we find ways of co-operating that make us more attractive to the outside world than we are on an individual basis. And in that connection, let me relate what I will call the NIAS experience. I am referring to the Nordic Institute of Asian Studies, one of the institutions under the Nordic Council of Ministers, which specialises in social studies related to South, South East and East Asia. Some years ago, the institute initiated a (and very successful) Ph.D. program in co-operation with the International Institute of Asian Studies in Leiden, one of Europe’s leading institutions in the field. The lesson is that, together, the Nordic countries are often academically strong enough to be attractive to top institutions in the field. We are ahead of most other European countries when it comes to having a common research area. And it is imperative that we use the momentum that we have.’

The conference attendants supported the argument that the establishment of an open market for research training in the Nordic countries was an urgent matter. The establishment of such a market was considered as one of the most important measures for the establishment of a common Nordic research training system. The existing co-operation between the countries within many areas, the work of NorFA, and the newly established Nordic centres of excellence were mentioned as factors enhancing the possibilities for further integration.

When it came to the implementation of the open market, most speakers agreed on reservation of course places as essential. The establishment of Nordic networks of research training programmes and of Nordic graduate schools (both virtual and physical) were also mentioned as possibilities. Some held forth that in this matter it should be distinguished between two geographical areas: The Nordic countries and the market outside of these countries. Some pointed to the importance of thinking of a larger area as the market. Such an area could consist of the Nordic countries, the north-western parts of Russia, the Baltic countries, Poland and northern Germany. Others commented that the construction of a larger region implies some political questions to be debated.

Several speakers pointed to adequate financial resources for mobility as essential for extending the present rate of participation in Nordic research training courses. There were some questions raised to who should pay for the participation. Even if courses were free of charge, there will be costs for travel and subsistence. Without financial means at disposal it would be difficult to participate in courses held in other Nordic countries. Use of videoconferences and other means

of electronic learning were mentioned as possible cost-reducing measures.

Furthermore, there was consensus on the fact that the success of an open market would depend on the availability of information on mobility opportunities and removal of practical barriers. (See below for more on these topics.)

## 5. Overcoming practical barriers to mobility in the Nordic countries

The report recommends:

- Training, exams and qualification requirements should be co-ordinated as much as possible to overcome practical barriers to mobility between the Nordic countries in research training.
- The English language is recommended as the standard language in Nordic postgraduate research training.

Agnete Vabø, a staff member at the Norwegian Institute for Studies in Research and Higher Education (NIFU), presented a preliminary report initiated by NorFA on barriers to mobility in research training in the Nordic countries. She argued that there are considerable national differences concerning the extent to which the goals of international mobility in practice are followed up in research training programmes. Denmark and Sweden are the opposite cases: In Denmark, a long-term stay at another research institution preferably abroad, as well as funding to support such stays, have been formalised as a part of the PhD programme. In Sweden, it is rather unusual to have a sojourn at a foreign university during the research training period.

Vabø pointed at a number of barriers for mobility among postgraduate students:

- Lack of motivation with the doctoral students
- Lack of support from supervisors and the department
- Nationally oriented theses
- Language barriers
- Lack of time and funding
- Family obligations

These barriers are relevant not only to mobility between the Nordic countries, but to international mobility in general. In addition, the Nordic area faces another problem: A wider range of institutions with good scientific reputation are to be found in the large and leading scientific nations; such as USA, Great Britain, and Germany. These countries also have long-standing traditions for receiving foreign postgraduate students. It is therefore not surprising that geographical mobility patterns of doctoral students to a large extent reflects the dominant patterns of international networks, collaboration and communication among professors and supervisors at the Nordic universities. Given such limitations, Vabø on the one hand

emphasised that aiming at increasing mobility in research training within the Nordic region seems rather challenging. On the other hand, she argued that recent developments might make such an objective easier to achieve in the years to come. There is an increased focus on international mobility as a means to improve quality in research training, in the future more postgraduate students shall have experience from sojourns abroad at an undergraduate level, and doctoral candidates shall hopefully graduate at a lower age. Individual motivations as well as lack of family obligations will therefore play a less significant role as a barrier for international mobility.

To this topic Karsten Vandrup, Nokia Denmark, spoke on the importance mobility had for business. In his view the highly educated workforce needed in high-tech business should have experiences not only with geographical mobility, but also with what he labelled as “multicultural mobility”. Mobility enhances behavioural skills: The ability to handle interpersonal matters, communication, and co-operation are important in a situation where work processes and job content are rapidly changing.

Jocelyne Gaudin, Directorate-General for Research, the European Commission informed the conference on research training in the 6th framework programme. Within the European Research Area mobility is seen as necessary to get the human capital needed, and the mobility scheme was heavily expanded. The Commission currently worked on reducing the practical barriers to mobility and for the establishment of a Researchers Mobility Portal on the Internet.

The conference agreed on the importance of establishing better mobility schemes within the Nordic context. The use of already established research networks and contacts was said to be essential for mobility to work. Supervisors should play an important role for finding adequate milieus for students to visit and for establishing contact with these. Several speakers referred to the EU mobility programme and the need to see Nordic and European actions together. Marie Curie Training Sites and Training Networks were pointed to as a scheme to be utilised in a Nordic context.

Some of the speakers posed some questions as to what the definition of mobility should be and what was the desired level. “Is it mobility when a student moves from Copenhagen to Lund?” it was asked. Should all students spend some time at another institution or in another country (like in Denmark where this is more or less a requirement in the PhD programmes), or should only a portion of the students be mobile? To these questions no conclusive answers were given.

There was some discussion on the point of using English as language for Nordic courses. Most speakers agreed to use English, but it was mentioned that

within some disciplines it was regarded as crucial to use and develop the mother tongue for teaching and research. Thus it was foreseen that some controversies could develop on this matter.

## **6. Graduate schools, research training programmes, centres of excellence, Marie Curie Training Sites and Training Networks**

The report recommends:

Postgraduate research training should take place in active research environments of a certain size and breadth. The working group recommends that an assessment be made of the possibilities of establishing Nordic networks of postgraduate schools and research training programmes. In addition, the working group supports initiatives taken at Nordic level in the context of developing Nordic postgraduate schools. Closer ties should be established between the so-called centres of excellence in strategic disciplines where mutual benefit is identified. The scheme of Marie Curie Training Sites and Training Networks should be used more systematically with a view to Nordic co-operation on postgraduate research training.

Sakari Karjalainen, Director, Ministry of Education in Finland, presented the Finnish experiences with graduate schools and on the Nordic challenges in this field. In Finland the graduate school system will be expanded as the main track to a doctorate. A system of fixed-term graduate schools based on competitive selection and co-operation and working on a national scale will be established on a permanent basis. The graduate school system will be strengthened with a view to securing sufficiently broad and varied expertise for high-standard research and for the construction of the information society. Mr Karjalainen emphasised the common Nordic goals in postgraduate training, and in his view joint training courses and joint graduates schools were measures suitable to reach these goals. So far, the experiences indicate that international co-operation has increased.

Joan Lorden, Associate Provost for Research and Dean, The Graduate School, University of Alabama at Birmingham, talked about American research training and informed the audience about the differences between the American graduate school concept and the various forms of European research schools. She emphasised that the Nordic countries are more or less faced with the same problems in doctoral training as American universities; too long time-to-degree, too many drop outs, and limited funding.

The developments in this area are rather different between the Nordic countries. Some countries already have an established structure of graduate schools (e.g. Finland), while others are about to start such establishing (e.g. Norway). The discussion on graduate schools centred on the possibilities of establishing institutionalised Nordic schools vs. concentrating on

building networks between already existing national schools. Despite different opinions, the conference participants were in general favourable to the possibilities of closer co-operation.

The initiative to establish graduate schools in conjunction with two of the Nordic centres of excellence was pointed out as a good initiative. Similar schools could be established by other Nordic centres, or through closer links between national centres of excellence in the Nordic countries.

From those who were not so favourable of Nordic graduate schools it was argued that it was more important to open up the systems and make it possible to take part in courses in other Nordic countries than to establish new schools on the Nordic level. Some argued that networks would be the best mean to strengthen universities and research environments. These could also help support groups that are too small to offer full research training programmes on their own.

## **7. Common Nordic marketing of Nordic postgraduate research training**

The report recommends:

A high level of postgraduate research training marketing should be undertaken at a Nordic level to boost the competitiveness of Nordic research training. The working group recommends focusing on marketing of research training in fields where the Nordic countries are strong by international standards and where co-ordination will increase visibility.

To this topic the rector of NorFA, Hans Kr. Gudmundsson, informed the audience that NorFA is presently working on an Internet portal for mobility opportunities in the Nordic region during the research training period. Jocelyne Gaudin from the EU Commission presented the main structure of a similar information portal for the EU countries. The conference maintained that these initiatives must be used for the mutual benefit of each other, and found cross-linking between the portals as a way to do this.

A well functioning information system for courses, regulations etc was said to be of utter importance for establishing an open Nordic market for research training and for a well functioning network of graduate schools. It was also said to be important for the recruitment of students, both in the Nordic countries and from the rest of the world. Some argued that an information system could be even more important for opening doors in the rest of the world than for recruiting students to the Nordic countries. Qualified information on Nordic research training was important when researcher in other regions should make decisions on co-operative measures with Nordic countries, it was argued.

## 8. Collection of statistics and data, analyses of statistics collected

The report recommends:

A Nordic reference group should be established to assume responsibility for collecting comparable statistics in a permanent Nordic database.

Bertel Ståhle, senior researcher at UNI-C, Copenhagen, gave a statistical overview of recruitment to research training, the flow of postgraduate students through the training system, and post doctoral career patterns in the Nordic countries.

Most of the statistics were based on information from one single country, indicating the problems of comparative analyses. There is obviously a need for a permanent Nordic database that can provide users with comparable statistical data on selective indicators. Such a database will most certainly prove to be useful in the future co-operation process, and the proposal of the working group for the establishment of a Nordic statistical reference group to bring this work further was not objected by the conference attendants.

## 9. Co-ordination of Nordic initiatives and national priorities

The report recommends:

- Nordic contact points and co-ordinating institutions for Nordic co-operation on postgraduate research training should be developed. Annual meetings about research training in the Nordic countries should be arranged with participation by national and Nordic players like the boards of NUS, NOS (Nordic Co-operation Committees), FPR and NorFA to discuss policy-relevant questions associated with the Nordic research training co-operation. Through its academy, NorFA should play a co-ordinating role for co-operation on research training in the Nordic countries.
- Training, exams and qualification requirements should be co-ordinated as much as possible.
- In areas where co-ordination is not possible, the individual countries should formulate clearly the additional qualification requirements they want applicants from other countries to satisfy.

The proposals put forward in the background document were not objected by the conference participants.

## 10. Conclusion

Jan S. Levy, the Ministry of Education and Research in Norway, and the chairman of HØGUT, in his conclusion of the conference commended the working group for an excellent background report, and the speakers and participants for valuable comments to the report. Levy furthermore emphasised that in order to bring this work further, concrete and operational recommendations would have to be directed to the different stakeholders; the universities and their Nordic co-operative institutions (NUS and NUAS), the ministries of education and research in each country as well as the research councils and accreditation agencies, and the joint Nordic institutions; NorFA, HØGUT and FPR.



# Appendix 1: Conference programme

Nordic research training – international quality!  
Hotell Radisson SAS Plaza, Oslo, 18–19 November 2002

## Monday 18 November

11.00–13.00	Registration at Hotell Radisson SAS Plaza
11.30–13.00	Lunch at Hotell Radisson SAS Plaza
<b>13.00 – 13.30</b>	<b>Opening</b>
13.00–13.10	Welcome speech by Hans Kr. Guðmundsson, rector, NorFA
13.10–13.30	Challenges for the research training, Bjørn Haugstad, State Secretary, Ministry of Education and Research, Norway
Chair: Gunnar Öquist, Chairman of the Board, NorFA.	
<b>13.30 – 15.00</b>	<b>Common objectives for Nordic research training: The report of the working group</b>
13.30–14.00	Presentation of the report: Hans Siggaard Jensen, Chair of the working group, Chairman of the Danish Research Training Council and Research Director of Learning Lab Denmark
14.00–14.30	Prepared comments for the report: Ingvild Broch, Research Director, University of Tromsø Anneli Pauli, Research Director, Academy of Finland Marianne Sommarin, Professor, Lund University Helga M. Ögmundsdóttir, Professor, Faculty of Medicine, University of Iceland Henrik Toft Jensen, Rector, Roskilde University
14.30–15.00	Discussions
15.00–15.30	Coffee
<b>15.30 – 17.45</b>	<b>Research training, recruitment and barriers</b>
15.30 – 16.15	On graduate schools: Finnish experiences and Nordic challenges, Sakari Karjalainen, Director, Ministry of Education, Finland
16.15 – 16.45	Recruitment to research training and research careers, Bertel Ståhle, Senior Researcher, UNI-C, Denmark
16.45 – 17.00	Break
17.00 – 17.45	Barriers to mobility in research training, Agnete Vabø, researcher, NIFU, Norway
<b>19.30</b>	<b>Dinner at Kunsternes Hus, Wergelandsveien 17</b>

## Tuesday 19 November

Chair: Kari Balke Øiseth, Chair of FPR

<b>09.00–10.30</b>	<b>Nordic co-operation concepts in research training</b>
09.00–09.30	Open market for research training in the Nordic countries. Kirsti Koch Christensen, Rector, University of Bergen
09.30–10.00	Quality and quality assurance in doctoral programmes, Udo Zander, professor, Institute of International Business, Stockholm School of Economics
10.00–10.30	Workforce skills in the knowledge based society, Karsten Vandrup, Global R&D Co-operation Manager, Research and Education Policy, Nokia Danmark
10.30–11.00	Coffee

Chair: Jan S. Levy, HØGUT

<b>11.00–11.45</b>	<b>The Nordic region and the international research training market</b>
11.00–11.20	Research training of the 6th frame programme of the EU, Jocelyne Gaudin, Head of Unit, EU Commission – Directorate-General for Research
11.20–11.45	Development of research training in an international perspective, Joan Lorden, Associate Provost for Research and Dean, The Graduate School, University of Alabama at Birmingham
<b>11.45–12.35</b>	<b>Panel debate</b> Participants: Priya Bondre-Beil, Programmdirektorin, Deutsche Forschungs-gemeinschaft Kirsti Koch Christensen Hans Siggaard Jensen Sakari Karjalainen Joan Lorden Karsten Vandrup  Chair: Jan S. Levy
<b>12.35–12.45</b>	<b>Conclusions: Jan S. Levy</b>
<b>12.45–14.00</b>	<b>Lunch</b>

## Appendix 2: List of measures suggested by the sessions' chairpersons

This list is provided by the chairpersons of the conference: Jan S. Levy, Chair HØGUT (2002), Kari Balke Øiseth, Chair FPR (2002), both from the Norwegian Ministry of Education and Research, and Gunnar Öquist, Chair, NorFA (2002).

Based on the recommendations outlined in the report from the working group and the discussions at the conference, it is recommended that the following measures now be considered for the development of Nordic research training co-operation:

### **Universities and their joint associations should:**

- Increase their efforts to improve efficiency in research training (in order to reduce the number of drop-outs, lower the age of earning – and the time of reaching – the doctoral degree). Efficiency in research training should be included as a part of the total evaluation of quality.
- Develop more systematic quality criteria within institutions for their different postgraduate training programmes. Institutions could take inspiration from the Stockholm School of Economics, which for one of its doctoral programmes has established sets of success indicators across dimensions such as input, throughput, and output.
- Assure that research training is relevant not only for academic positions, but also for a career outside academia, and emphasise skills such as collaboration and team work.
- Stimulate an increased mobility of doctoral students between universities and industry and vice versa.
- Reduce barriers to mobility by opening doctoral programmes for students from other countries.
- Increase efforts on making the country-specific objectives for research training and postgraduate programmes more similar across the Nordic borders.
- Develop better information systems on research training, doctoral programmes, and funding to promote increased mobility across countries.
- Build networks of research schools and doctoral programmes.
- Secure sufficient recruitment into research training by presenting attractive doctoral programmes, ensuring that research training takes place within an active research environment and, when appropriate, by promoting research training as an integral part of higher education.
- Include representatives of doctoral students in work groups, projects and seminars that are established to shape future postgraduate research training of the Nordic countries.

### **Ministries of education and research, and their underlying bodies such as research councils and agencies of quality assurance should:**

- Secure adequate funding of doctoral training and postgraduate students.
- Develop a Nordic co-operation on quality assurance in research training on the basis of the existing agencies of accreditation and quality assurance in each country. These agencies should maintain a dialogue on their development of common standards and regulations for quality assurance of doctoral training, doctoral programmes, and research schools.
- Increase and improve information on opportunities for joining doctoral programmes and research schools in the Nordic countries.
- Increase the career opportunities for PhD's with new alternatives to today's rather few permanent research positions at post. doc. level.
- Reduce barriers for mobility between the Nordic countries that originate from laws and regulations.
- Commission research and studies to strengthen the knowledge base for policy design and implementation in research training.
- Secure high quality of research training environments in each country.

### **NorFA, HØGUT and FPR should**

- Stimulate the development and introduction of quality assurance systems within postgraduate research training and inform about best practice.

- Stimulate co-operation among Nordic universities on doctoral programmes and graduate schools and the establishment of such joint ventures.
- Advise and assist the development of the Nordic countries as a joint research training region.
- Initiate research and studies to strengthen the knowledge base for policy design and implementation in research training.
- Stimulate the establishment of a permanent Nordic database on research training and the development selective indicators
- Encourage the development of Nordic Centres of Excellence, Nordic graduate schools, networks of research schools and research training programmes, and the co-operation between them.
- Develop their mutual collaboration within the Nordic Council of Ministers in order to strengthen Nordic co-operation in research training.

## Appendix 3: About HØGUT, FPR and NorFA

**Nordic Advisory Committee on Higher Education (HØGUT)** was established in 1988 as an advisory organ appointed by and responsible to Nordic Council of Ministers (NCM). HØGUT's assignment is to promote Nordic co-operation on higher education and develop and strengthen the Nordic educational space. To achieve this the committee compiles reports and collects material in order to contribute to the educational policy debate, monitors joint Nordic agreement. In addition HØGUT is a forum for discussion and mutual exchange of information. HØGUT has the superior responsibility for the Nordic Programme of Mobility of University Students (NORDPLUS).

**Nordic Science Policy Council (FPR in Scandinavian)** was established 1982 as an advisory body to the Nordic Council of Ministers (NCM). The Role of FPR is to promote Nordic co-operation in research and training of researchers and to give advice to NCM on overall science policy matters. The main objective is to give added value to national investments in research and to promote Nordic collaboration in an international context. Nordic Council of Ministers supports training of researchers through Nordic Academy for advanced studies (NorFA), research programmes, Nordic Centres of excellence and Nordic research institutions.

Established in 1991, the **Nordic Academy for Advanced Study (NorFA)** is an institution within the Nordic Council of Ministers that strengthens the quality of Nordic research training through international co-operation and exchange. We facilitate the common use of research resources in the Nordic countries and its adjacent areas. NorFA also develops ideas and analysis and facilitates interaction between research training and authorities.

More information at [www.norfa.no](http://www.norfa.no).





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