



NordForsk Expert Seminar
Oslo 9 April 2014

Research Integrity in the Nordic countries – national systems and procedures

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NordForsk

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Preface

The Nordic countries share a set of values and notions of responsible conduct of research. However, national guidelines and procedures differ considerably. Against this background, NordForsk invited experts to a seminar on Research Integrity procedures and professional research ethics review processes in the Nordic countries. The aim of the seminar was firstly to obtain a comprehensive picture of the ethical procedures and practices, as well as of the legal frameworks. Secondly, the purpose was to use the input received as a first frame of reference for a NordForsk policy regarding ethical perspectives on research programmes supported by at least three Nordic countries.

This report includes a summary of the presentations at the expert seminar which took place in Oslo, 9 April 2014, and gives an overview of the situation in each of the five Nordic countries.

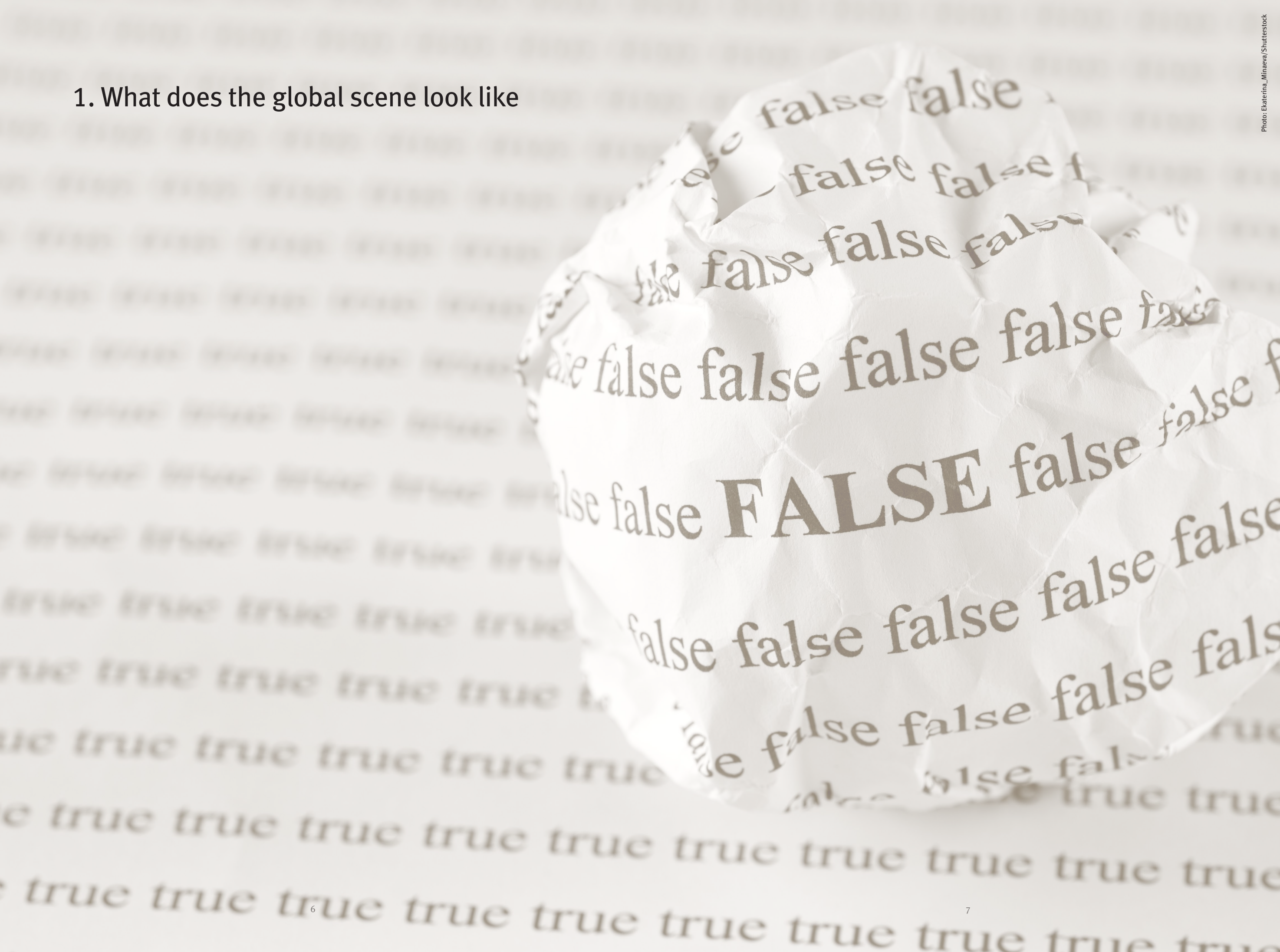
I would like to thank Dr. Sanna Kaisa Spoof, Prof. Ragnvald Kalleberg, Prof. Vilhjálmur Árnason, Dr. Nils Axelsen, Prof. Göran Hermerén and Dr. Reetta Kettunen for their valuable contributions, and Bjarne Røsjø for writing the report. Last but not least my sincere thanks goes to Krista Varantola, Chancellor Emerita of the University of Tampere and member of the NordForsk Board 2006-2013, for her reflections and suggestions in the concluding remarks as to how NordForsk could follow up this seminar.

According to NordForsk's strategy for 2015-2018, the organisation is a platform for Nordic research and research infrastructure cooperation with the mandate to facilitate cooperation when this creates Nordic added value. In this context, research integrity is an important principle. This report is the first in a series of reports on this important theme, which are now being planned by NordForsk.

Oslo, December 2014


Gunnel Gustafsson
Director of NordForsk

1. What does the global scene look like



1. What does the global scene look like

Presentation by Krista Varantola

Chair, Finnish Advisory Board on Research Integrity (TENK)

Chancellor at the University of Tampere, Finland

International conferences on research integrity

During the past few years, there have been three international conferences on research integrity. The First World Conference on Research Integrity in 2007 was the first occasion for national leaders to meet to discuss integrity issues. The conference was initiated by the European Science Foundation (ESF) and the US Office of Research Integrity (ORI).

The Second World Conference on Research Integrity took place in Singapore in 2010, and the Third World Conference was arranged in Montreal in 2013. The next international conference will take place in Rio de Janeiro in 2015.

The conferences in Singapore and Montreal produced statements with recommendations about responsible research conduct. The statements are short and focused, and can be seen as checklists that all researchers and doctoral students should keep in mind.

The Singapore Statement on Research Integrity¹ is the first attempt to create internationally recognised guidelines for research integrity. The statement promotes universal principles for research integrity: the principles of honesty in all aspects of research, accountability in the conduct of research, professional courtesy and fairness in working with others, and good stewardship of research on behalf of others.

The Montreal Statement² is a follow up of the Singapore Statement. Whereas the Singapore Statement addresses research in general, the Montreal Statement focuses on cross-boundary research cooperation.

In addition to this, the InterAcademy Council Panel, which is a global network of science academies, has produced a policy report³ that gives a good overview of the principles of responsible conduct in global research.

Another internationally important organisation that should be mentioned is the Committee on Publication Ethics (COPE).⁴ COPE was established in 1997 by a small group of editors of medical journals from the United Kingdom. The organisation is a forum for editors and publishers of peer reviewed journals, where they can discuss all aspects of publication ethics. It also advises editors on how to handle cases of research and publication misconduct.

1 <http://www.singaporestatement.org/statement.html>
2 <http://www.cehd.umn.edu/olpd/MontrealStatement.pdf>
3 <http://www.interacademies.net/File.aspx?id=19789>
4 <http://publicationethics.org/>

The European scene

The European Science Foundation⁵ and the European Federation of Academies of Sciences and Humanities⁶ (ALLEA) have produced a joint work group report on the European Code of Conduct for Research Integrity.⁷ ALLEA also has a permanent working group on Ethics Education in Science.

The situation in Europe is monitored by the European Network of Research Integrity Offices⁸ (ENRIO), which is an informal network of secretaries general of the national ethics committees for research misconduct. The members represent 21 European countries. ENRIO is an important platform for sharing knowledge and experience regarding the handling of alleged misconduct.

Self-regulation or food for lawyers?

The conference in Singapore exposed a major dividing line between the European approach based on the principle that science should regulate itself, and a more legalistic, American approach.

The principle of self-regulation depends on the ability of institutions to implement sanctions themselves without involving the judicial system except in the most serious cases. Krista Varantola raised the important question: Does self-regulation work? Her answer was that it works if there is a well-functioning system at the national level.

However, mistakes can still happen, and there have been cases where people who should know the procedures have deviated from them. The responsibility of supervisors and seniors to educate young researchers and avoid spreading bad practices must be emphasised. Competition has led to new irresponsible practices, e.g. adding authors who have made no real contribution or adding references that have not been used.

This should be seen in the context of how research performance is measured in academia today. The pressure to publish has often made the impact factor of the scientific journals more important than the contents. It is also a problem that the publishers can influence the impact factor of their journals in ways that have nothing to do with scientific quality.

An issue that deserves more attention is the problem that arises when researchers publish in English instead of their mother tongue. This raises questions about whether it is plagiarism when researchers feel tempted to copy structures or phrases from former publications. In this digital age it is probably necessary to rethink our definition of plagiarism.

There have also been cases where institutional self-regulation did not work. The recent Stapel case in the Netherlands is a well-known and important example of this.

The Stapel case

Diederik Alexander Stapel is a former professor of social psychology at Tilburg University, and before that he held a similar position at the University of Groningen in the Netherlands. Tilburg University suspended Stapel in 2011, pending further investigation, on suspicion of fabricating and manipulating data for his research publications.

5 <http://www.esf.org/>
6 <http://www.allea.org/Pages/ALL/4/731.bGFuZz1FTkc.html>
7 <http://www.esf.org/coordinating-research/mo-fora/research-integrity.html>
8 <http://www.enrio.eu/>

After a thorough investigation, Tilburg University published a report in November 2012 stating that Stapel was surrounded by a culture permeated by “flawed science”. The report painted an image of a research culture in which some scientists do not understand the essentials of statistics, article reviewers selected by the journals encourage researchers to leave unwelcome data out of their papers, and even the most prestigious journals print results that are obviously too good to be true.⁹

Conclusions

Krista Varantola’s conclusion was that self-regulation at the institutional level does not work properly if there is no extra-institutional control.

Dr Varantola ended her presentation by drawing attention to some practices that need to be changed in order to have a well-functioning system for research integrity. An important problem is that whistle-blowers need better protection. It is especially hard for junior researchers who are totally dependent on their senior colleagues to report suspected misconduct. If junior researchers are not empowered to speak up against research misconduct, it is not likely that they will risk their careers trying to stop it. The whistle-blowers need a system they can trust; otherwise offenders can get away with bad practice if suspicions are not voiced within the community.

It is also a problem that credentials have sometimes been trusted without checking. Trust is important, but so is healthy mistrust.

The focus on open access to publications and on open access to data are important new steps for the accessibility and transparency of research results but also add new types of concerns for research integrity.

The message at the end was that we should try to stop the ongoing measuring frenzy. It can be damaging to science and scholarship because it tries to assess quality through quantity. New types of performance indicators are needed, and social sciences and the humanities should be placed on an equal footing with natural sciences. To sum up, it is important to use common sense when using metrics and to assess fraud risks when measuring performance.

For further reading, Dr Varantola recommended a report from the Royal Netherlands Academy of Arts and Sciences on responsible research data management and the prevention of scientific misconduct.¹⁰

⁹ Report from Tilburg University: The flawed science surrounding Diederik Stapel:
http://uvtapp.uvt.nl/fsw/spits.npc.ShowPressReleaseCM?v_id=5199042271779297

¹⁰ Report from the Royal Netherlands Academy of Arts and Sciences: Responsible Research Data Management and the Prevention of Scientific Misconduct.
<https://www.knaw.nl/en/news/publications/responsible-research-data-management-and-the-prevention-of-scientific-misconduct>

2. Finland



2. Responsible conduct of research and procedures for handling allegations of misconduct in Finland

*Presentation by Ph.D. Sanna Kaisa Spoof
Secretary General, Finnish Advisory Board on Research Integrity (TENK)*

Introduction of TENK

The Finnish Advisory Board on Research Integrity (Tutkimuseettinen neuvottelukunta – TENK – <http://www.tenk.fi>) was founded in 1991 to address ethical questions relating to research and the advancement of research ethics in Finland.

TENK performs five major tasks:

1. Makes proposals and issues statements to governmental authorities on legislative and other matters concerning research ethics;
2. Acts as an expert body working towards the resolution of ethical issues relating to research;
3. Takes the initiative on advancing research ethics and promotes discussion concerning research ethics;
4. Monitors international developments in the field and takes active part in international cooperation;
5. Informs the public about research integrity.

TENK's advisory board has 10 members. All members are nominated by the research community and appointed by the Ministry of Education and Culture. The members are representatives of the research community. The present board is appointed for the period 2013-2015.

Finland also has several other national institutions dealing with ethics:

- Advisory Board on Biotechnology (BTNK) – <http://www.btnk.fi/en/index.html>
- Board for Gene Technology (GTLK) – <http://www.geenitekniiKANlautakunta.fi/en>
- National Committee on Medical Research Ethics (TUKIJA) – <http://www.tukija.fi/en>
- National Advisory Board on Social Welfare and Health Care Ethics (ETENE) – <http://www.etene.fi/en>

The Finnish guidelines

The first national guidelines of Finland for the prevention, handling and investigation of misconduct and fraud in research were published in 1994. They were followed by new guidelines for “Good scientific practice and procedures for handling misconduct and fraud in science” in 2002. In 2012, TENK published new guidelines for the responsible conduct of research and procedures for handling allegations of misconduct in Finland.

In 2012, TENK's advisory board also published a template for researchers' curriculum vitae (CV). The template provides guidelines for compiling a CV that best describes the merits of the researcher in a

comprehensive, truthful and comparable manner. Universities and the main public funding agency, the Academy of Finland, expect applicants to adhere to this template.

TENK has also published guidelines for the ethical principles of research in the humanities and social and behavioural sciences and proposals for ethical review (2009). All of TENK's guidelines are published in Finnish, Swedish and English, and are available at www.tenk.fi.

The Finnish guidelines: Self-regulation and voluntary commitment

The Finnish guidelines have been compiled and published by TENK in the report “Responsible conduct of research and procedures for handling allegations of misconduct in Finland” (2012).¹¹

According to Dr Spoof, the Finnish system works quite well. It is based on self-regulation and the voluntary commitment of researchers and institutions. The guidelines provide researchers with a model for the responsible conduct of research.

The guidelines aim to increase awareness of the principles of research integrity, and their effectiveness is based on a voluntary commitment by the research community to adhere to them. The guidelines apply to all academic disciplines in Finland, and a list of the organisations committed to these guidelines can be found on the TENK website.

The guidelines are divided into three parts: An overview of what constitutes good behaviour and bad behaviour, and what to do when fraud is suspected.

Dr Spoof explained that the responsible conduct of research can be described in nine points:

1. The research should follow the principles endorsed by the research community: Integrity, meticulousness and accuracy in conducting research and in recording, presenting, and evaluating the research results.
2. The methods applied for data acquisition as well as for research and evaluation should conform to scientific criteria and be ethically sustainable. When publishing the research results, the results are communicated in an open and responsible fashion that is intrinsic to the dissemination of scientific knowledge.
3. The researcher takes due account of the work and achievements of other researchers by respecting their work, citing their publications appropriately, and by giving their achievements the credit and weight they deserve in carrying out the researcher's own research and publishing its results.
4. The researcher complies with the standards set for scientific knowledge in planning and conducting the research, in reporting the research results and in recording the data obtained during the research.
5. The necessary research permits have been acquired, and the preliminary ethical review that is required for certain fields of research has been conducted.
6. Before beginning the research or recruiting the researchers, all parties within the research project or team (the employer, the principal investigator, and the team members) agree on the researchers' rights, responsibilities, obligations, principles concerning authorship, and questions concerning archiving and accessing the data.

These agreements may be further specified during the course of the research.

7. Sources of financing, conflicts of interest or other commitments relevant to the conduct of research are announced to all members of the research project and reported when the research results are published.

¹¹ <http://www.tenk.fi/en/responsible-conduct-research-guideline>

8. Researchers refrain from all research-related evaluation and decision-making situations when there is reason to suspect a conflict of interest.
9. The research organisation adheres to good personnel and financial administration practices and takes into account the data protection legislation.

Two categories of violations

The Finnish system describes two principally different ways of violating the responsible conduct of research: Research misconduct and the disregard for the responsible conduct of research.

Research misconduct (fraud) is divided into four categories:

1. Fabrication, which refers to reporting invented observations to the research community. In other words, the fabricated observations have not been made by using the methods as claimed in the research report. Fabrication also means presenting invented results in a research report.
2. Falsification (misrepresentation), which refers to modifying and presenting original observations deliberately so that the results based on those observations are distorted. The falsification of results refers to the unfounded modification or selection of research results. Falsification also refers to the omission of results or information that are essential for the conclusions.
3. Plagiarism or unacknowledged borrowing, which refers to representing another person's material as one's own without appropriate references. This includes research plans, manuscripts, articles, other texts or parts of them, visual materials, or translations. Plagiarism includes direct copying as well as adapted copying.
4. Misappropriation, which refers to the unlawful presentation of another person's result, idea, plan, observation or data as one's own research. This is considered worse than plagiarism, but is also harder to prove.

Disregard for the responsible conduct of research is divided into five categories:

1. Denigrating the role of other researchers in publications, such as neglecting to mention them.
2. Reporting research results and methods in a careless manner.
3. Inadequate record-keeping and storage of results and research data.
4. Self-plagiarism (publishing the same research results multiple times ostensibly as new and novel results).
5. Misleading the research community in other ways.

Other irresponsible practices

The Finnish guidelines also warn against several other kinds of irresponsible practices that may in the worst case lead to an investigation of alleged misconduct or of disregard for the responsible conduct of research:

1. Manipulating authorship, for example, by including persons who have not participated in the research in the list of authors or by taking credit for work produced by what is referred to as ghost authors.
2. Exaggerating one's own scientific and scholarly achievements, for example, in a CV or its translation, in a list of publications or on one's homepage.
3. Expanding the bibliography of a study to artificially increase the number of citations.
4. Delaying the work of another researcher, for example, through refereed peer reviewing.

5. Maliciously accusing a researcher of RCR violations.
6. Inappropriately hampering the work of another researcher.
7. Misleading the general public by publicly presenting deceptive or distorted information concerning one's own research results or the scientific importance or applicability of those results.

The Finnish procedure

The principle for the Finnish procedure when allegations about scientific misconduct are being made is that the allegation should be handled at the organisation where the suspect research has primarily been conducted.

The most relevant issues regarding legal protection in the process are fairness and impartiality, the hearing of all parties concerned, and a speedy process. The investigation procedure involves three steps:

- a written notification
- a preliminary inquiry
- the investigation proper

A problem with this system is that whistle-blowers are not sufficiently protected. TENK is currently considering possible improvements in this regard.

The guidelines describe in detail what should be done when investigating research misconduct. If a suspect or a complainant is dissatisfied with the procedure used, the inquiry, the investigation or the final report, he or she can ask TENK to give its opinion. The most difficult cases are presented to the TENK board.

All of these “pieces of the puzzle” are needed before any investigation according to TENK's guidelines can even be started:

- the person suspected of a violation
- the complainant
- the alleged violation
- the study in question (under way, completed or published)
- the publication channel or how the violation came to light
- the organisation conducting the inquiry
- the Finnish Advisory Board on Research Integrity (TENK)

In 2013, 19 cases were reported to the TENK advisory board. About one-third of them were found to be either misconduct or disregard for the responsible conduct of research. Decisions taken by TENK can be appealed to the chancellor of justice or to the ombudsman and proceed in the legal system. Research misconduct is normally not treated as a criminal case.

The sanctions

The sanctions are decided by the research institutions. Most of the cases are authorship issues. The sanction in such cases is that the institution takes note, issues a reprimand, and requires a correction of the list of authors.

In rare cases, a degree may be revoked. If there is fraud in the research community, probably the worst sanction is the loss of reputation. This is often the worst thing that can happen to a researcher, according to Dr Spoof. Plagiarism and fraud are regarded as critical issues in the Finnish media, which frequently report on them.

3. Norway



3. The situation in Norway

Presentation by Ragnvald Kalleberg

Professor Emeritus of Sociology, University of Oslo; and vice chair of

The National Commission for the Investigation of Scientific Misconduct, Norway

New Act, new commission

The Norwegian Parliament approved a new Act on research ethics in 2006 (entered into force in 2007). Among other things, the Act required the establishment of a new *National Commission for the Investigation of Scientific Misconduct*.¹² This Commission has two main functions: to investigate cases of scientific misconduct and to play an advisory role vis-à-vis the research institutions, supporting them in their local handling of misconduct cases. The Commission only investigates a few especially difficult or important cases.

The Commission deals with all types of research: natural, biomedical and social sciences, the humanities, law and theology. It is oriented towards both the public and private sectors. The Commission has seven members from different disciplines and institutions, and at least one member from another country. According to provisions of the Act, the person who chairs the Commission must have qualifications as a judge.

The Commission is only charged with deciding if a specific case is in fact a case of misconduct. It does not impose sanctions for misconduct, for instance by retracting a Ph.D. Such action must be taken by the employer. Obviously, a statement of misconduct from the Commission is a strong sanction in itself. The decisions taken by the Commission may be appealed, and the final decision will then be taken by a special, *ad hoc* appeal commission. This has occurred once in seven years.

The Commission has investigated only a few cases. It has raised the general awareness of scientific misconduct as a more widespread problem than often assumed, and it has provided support for institutions regarding how to handle misconduct cases.

Decisions taken by the Commission are made public when the investigation is finished. Individual researchers are anonymised, but their institutions are not.

The main focus of the Commission’s work

The main focus of the Commission’s work is “scientific misconduct” in the English translation. The Norwegian language uses the term “uredelighet”, which is best translated as “dishonesty”, “fraudulence” or “deceit”. This indicates that the Commission is to concentrate its activities on a subset of research ethical norms – not on all types of research ethical problems. In addition, the Commission focuses only on serious violations, not on sloppiness or questionable research practices.

The primary focus of the Commission is on internal norms regulating the production and testing of knowledge claims. These are norms that regulate the inner workings of research communities in their search for reliable, valid knowledge. Such norms also include those that safeguard academic freedom, not only of individual researchers, but also of institutions. Research ethics covers much more than norms for individuals.

The focus of the Commission is therefore not on the more external norms, e.g. regulating the relationship between researchers and those researched, such as persons, groups, institutions and animals. Norms about not doing harm and obtaining free and informed consent are important here, but they are not the focus of the Commission. Nor is the focus of the Commission on those norms relevant for the communication of scientific knowledge to those outside of a specialised research field (i.e. norms regulating dissemination, in Norwegian “forskningsformidling”).¹³

The Commission and the general system

The Commission was introduced as a new element into a larger, well-functioning national system for the support of research integrity in Norway. It came in addition to three national committees on research ethics set up in 1990:

- The National Committee for Medical and Health Research Ethics (NEM)
- The National Committee for Research Ethics in the Social Sciences and the Humanities (NESH)
- The National Committee for Research Ethics in Science and Technology (NENT)

The website <https://www.etikkom.no/en/In-English/> provides more information about the committees.

The three Norwegian National Committees for Research Ethics together encompass all academic disciplines and act as independent entities that address questions regarding research ethics within all subject areas. Their primary task is to give advice on research ethics to scholars and institutions and to prevent dishonesty. Like the Commission, the members of the committees are appointed by the Ministry of Education and Research. They are independent of the ministry and of course may not be instructed by politicians or bureaucrats.

NESH was – to my knowledge – the first committee of its kind in the world to develop national guidelines for its fields, in 1993. NEM has always based its work on international guidelines such as the Declaration of Helsinki.¹⁴ NEM is also an advisory and appeal body for seven regional committees for medical research ethics. These seven committees evaluate all concrete medical research projects, while NEM gives its opinion on issues that are a matter of principle.

In accordance with strong national and international traditions, the research institutions in Norway are presumed to have the main responsibility for handling their own misconduct cases. During the past 15 years, the institutions have begun to establish local research ethical committees. The University of Oslo and the University of Bergen, for instance, established their own research ethical committees some 12 to 14 years ago.

The new Act from 2007 has stimulated the establishment of more local ethics committees at the institutions. At present, such local committees are not required by law.

¹³ On national guidelines for dissemination, see NESH (2006), guidelines 42-47. (Note that the english translation is not always adequate). On what we know about such disciplinary activity, see Kalleberg, R. (2014): “The Role of Public Intellectual in the Role-Set of Academics”, pp. 253-274 in C. Fleck & A. Hess, eds.: Knowledge for Whom? Public Sociology in the Making. Surrey: Ashgate Publishing Company.

¹⁴ The World Medical Association (WMA) has developed the Declaration of Helsinki as a statement of ethical principles for medical research involving human subjects, including research on identifiable human material and data. <http://www.wma.net/en/30publications/10policies/b3/>

¹² <https://www.etikkom.no/en/In-English/Scientific-Misconduct/>

The traditional self-regulation of research

In the second part of professor Kalleberg’s presentation, he focused on a tendency in discussions about research integrity (RI) systems to overlook the most important of these systems, namely the traditional self-regulation of research. This has been described and analysed in several contributions during the last century, for instance by the philosopher Karl Popper. The system of self-regulation is often referred to as “the ethos of science”, inspired by several contributions by the US sociologist Robert Merton.¹⁵

Self-regulation and the ethos of science emerged historically as an integral part of the new sciences during the 1600s (during the scientific revolution), not as something extra three centuries later. Consequently, the history of science has also been a history of the norms and values of research ethics, obviously realised to different degrees and sometimes violated.

The ethos of science refers to a set of institutional imperatives (norms) regulating well-functioning scholarly and scientific communities. The ethos of science can be presented as a set of six norms with the acronym CUDOSH:

- Communalism, Universalism, Disinterestedness, Originality, Scepticism, and Humility.¹⁶

According to professor Kalleberg, this system is as old as modern science and perhaps the most successful system of internal behavioral control ever invented in the modern world. Therefore, the most interesting sociological question is why there has been so little dishonesty in research, comparatively spoken. The answer: Because of the internal self-regulation system. Or, alternatively formulated: Because of the degree of internal “rigorous policing”, to use a phrase coined by Merton.

Personal honesty is supported by the public and testable character of science. Because of its high degree of transparency, the relative production of fraud is probably lower in science than in any other social system. The explanation is structural instead of individual: It is not based on an idealistic assumption about researchers as morally superior beings. It is based instead on the general effectiveness of the ethos of science, of the internal self-regulation of science. Overlooking this system is highly problematic.

The historically new norms, naturally, gave rise to new violations. An early example is the bitter conflict lasting for years between Newton and Leibniz over the invention of calculus. This conflict was related to priority struggles and the prohibition of plagiarism. There are several examples of fraud throughout the history of science.

After WWII, the traditional, informal scholarly system of self-regulation was complemented with codes of conduct and committees at the institutional, national and international levels. The Nuremberg Code and the subsequent Declaration of Helsinki for the medical sciences are important milestones in this regard.¹⁷

The essential importance of a complementary system of research integrity

The traditional ethos of science has come under new types of pressure since the 1970s and 1980s due to the enormous growth of the research system and its increased economic and general societal importance. This development has probably increased the prevalence of scientific dishonesty, although this is difficult or impossible to document. According to new studies, the amount of scientific dishonesty in the contemporary world is in the range of 1 in 100 researchers who have committed misconduct at least once during their careers. This is a disturbingly high level.

¹⁵ Merton (1942): “The Normative Structure of Science,” in Merton 1973: 267-278 and Merton (1957): “Priorities in Scientific Discovery”, in Merton 1973: 286-324.

¹⁶ Kalleberg (2007): “A Reconstruction of the Ethos of Science”. Journal of Classical Sociology, no 2: 137-160.

¹⁷ See the overview, chapter 3, in Israel, M. and I. Hay (2006): Research Ethics for Social Scientists. Between ethical conduct and regulatory compliance. London: Sage.

According to professor Kalleberg, perhaps the best summary and overview of the amount of research fraud in the contemporary world is given in an article by Professor Melissa S. Anderson et al.¹⁸

The conclusion is that today the traditional system of self-regulation at the level of individual groups must be complemented by a system at a higher level. The main task of such a system is to complement, safeguard and further develop the traditional system of self-regulation.

A warning against counterproductive measures

The traditional system of self-regulation should not be replaced by legal and administrative measures. The ethos of science can only function optimally at the field-specific level of working scientists, as an integrated element in scientific work. A legal and administrative replacement system would pervert the inner workings of scientific communities and create many more problems than it would solve.

There are some such problematic tendencies in the Norwegian system. Professor Kalleberg has written an article¹⁹ documenting some examples of this. Plagiarism has become a legal violation in Norway. As far as professor Kalleberg knows, this has only happened in two countries (the other is Denmark).

In the article, professor Kalleberg argues that the new Norwegian Act on research ethics from 2006 has created unintended problems. The catchword is *undesirable, inappropriate juridification*. Juridification of science can of course be appropriate, as when explicitly safeguarding academic freedom in the revised (2007) Norwegian law on higher education or when legally safeguarding the existence and tasks of the three national research ethical committees in the new Act on research ethics. Juridification of several basic values and activities is generally desirable in constitutional democracies.

In this article, however, professor Kalleberg focuses on undesirable juridification. The Act on research ethics has stimulated a misguided interpretation of norms of research ethics as legal and administrative norms of sorts. Several factors have contributed to this development, which is connected to the text of the law and what it requires.

One of the dangers in Norway at present is that norms of research ethics are being increasingly misunderstood and treated as legal and administrative norms. When norms of research ethics are treated as national and institutional norms, the scope of the norms becomes unduly restricted in social space and historical time. But basic norms that define scientific dishonesty are not particularistic, only valid for certain nations, industries or institutions at specific points in time. Instead, we are dealing with old, informal cosmopolitan norms.

Today, such norms must be explicated. And it has become important to have institutions at different levels to advise, stimulate and control the self-regulation of research ethics in our multitude of scientific communities.

¹⁸ Anderson, M., M. Shaw, N. Steneck, E. Konkle, T. Kamata (2013): “Research Integrity and Misconduct in the Academic Profession”, pp. 217-261 in Michael Paulsen ed., Higher Education: Handbook of Theory and Research. Dordrecht: Springer.

¹⁹ Kalleberg, R. (2015): Plagiarism as Violation of Law in Norway. On Inappropriate Juridification of Research Ethics. (Pp.129-144). Forthcoming in a collection of articles from the Third World Conference on Research Integrity (Montreal, May 2013). Edited by M. Anderson, S. Kleinert, N. Steneck, T. Mayer. World Scientific Publishing Company, New Jersey.

4. Iceland



4. Research integrity: Guidelines and procedures in Iceland

*Presentation by Vilhjálmur Árnason
Chair, Centre for Ethics, University of Iceland*

In the midst of change

Vilhjálmur Árnason is a professor of philosophy. He was representing an academic centre and not a national board or committee on research integrity, as no such entity has been established in Iceland at present. Iceland is in the midst of change.

The University of Iceland (UI) introduced an ethical code in 2003. In connection with that effort, discussion began about the need for nationwide general research integrity guidelines.

The code of ethics for UI contains several general clauses about relevant aspects of scientific responsibility, such as:

- the pursuit of truth;
- professional competence and integrity;
- academic honesty and freedom;
- declaration of conflicts of interest.

Later, in 2008, UI also introduced rules that involve provisions about external grants and other potential conflicts of interests. There is no university-wide policy on plagiarism, but some faculties have introduced their own rules.

After the introduction of the ethical code in 2003, the university set up an ethics committee. There were problems starting from the very first case that went before the committee. The case concerned scientific dishonesty and authorship. The researcher accused of dishonesty contacted a lawyer, and the result was that the ethics committee was unable to deal with the case because it was taken to court instead. The court ruled that since alleged violations of UI's ethical code could impose a burden on employees, legal backing was required. The code only had status as moral or ethical guidelines adopted by the University council.

A committee for the rector subsequently advised that legal backing should be sought, that the code should be officially adopted by the professional unions for the UI staff, and that the Icelandic research community should adopt a nationwide integrity policy.

A statement about national guidelines

In November 2006, a statement was issued by the University forum to the effect that the unions of university teachers and professors, in cooperation with the Icelandic Centre for Research,²⁰ should aim to set nationwide ethical guidelines about scientific honesty, conflicts of interest and other moral issues related to academic teaching and research. The forum referred to examples from the Finnish National Advisory Board on Research Ethics and the Association of American Universities.

All institutions at the university level have now established ethical codes and provisions regarding scientific integrity similar to those adopted by UI. Ethical committees have also been set up to deal with issues that arise in relation to breaches of these rules. This has been occurring gradually in recent years, and very few cases have been brought to the committees so far. No information or statistics are available about the practices of these committees. The new codes and committees have nevertheless raised awareness about ethics in science in Iceland and have thus improved the general situation.

After the financial collapse in 2008

In the wake of the financial collapse in 2008, the Icelandic parliament set up a Special Investigation Commission and a Working Group on Ethics (WGE) to explain the causes of the fall of the banks and related financial setbacks. In 2010, the WGE published a report that placed the findings about the business practices in a wider societal context.²¹

The Icelandic media were heavily criticised for being “soft” or uncritical at the onset of the crisis. The media complained that academics had often been reluctant to talk to them and help them to interpret the situation. Academics were thus drawn into the discussion in this way. There were also cases in which academics had been hired to write reports that described the banks and the financial system in a more favourable light than was actually warranted. There were accusations of conflicts of interest, and instances where financial companies had awarded research grants and even positions at the university. In the wake of these events, the university has encouraged academics to be more willing to take part in the public debate. As mentioned above, UI also introduced rules in 2008 that involve provisions about external grants and other potential conflicts of interests.

After the publication of the parliamentary report in April 2010, a number of moral improvement programmes were introduced in Icelandic society. In autumn 2010, the Science and Technology Council at the Icelandic Centre for Research initiated a process aimed at setting ethical guidelines for the Icelandic research community. The council looked to the Nordic examples and chose to focus on the example from the Finnish National Advisory Board on Research Ethics (TENK). Krista Varantola was invited to give her input. Ethical guidelines were drafted, introduced at an open meeting, and further developed by a seven-person consulting group.

The guidelines were sent to all stakeholders for comments and then finalised (autumn 2011).

²⁰ Rannis – <http://en.rannis.is>

²¹ http://www.rna.is/media/skjol/WorkingGroupOnEthics_Summary.pdf

The Icelandic guidelines

Several ethical or moral codes regulating the conduct of health workers, lawyers, and other professional groups and institutions already existed in Iceland. The new Icelandic guidelines summarise the “ethos of science” in general and are written in two parts. The first part consists of short descriptions of good scientific practices common to all scientific endeavours. The first part also describes best practices in the documentation of data, presentation of results and evaluation of research.

The second part concerns the conduct of research, the rights and duties of the research team, research funding, and governance:

- Research institutions and companies should set their own ethical guidelines in order to protect their particular subjects (humans, animals, environment).
- Educators in science and research are obligated to educate scientists in the ethics of science and research.
- The scientific community is responsible for compliance with the ethical guidelines.

The spirit of the guidelines is that the scientific institutions should practice self-regulation and that a national commission should play a complementary role.

The guidelines also contain clarifying statements about two main ways in which dishonesty in science appears. The two statements are very much in accordance with the Finnish TENK guidelines:

- 1) Misconduct is defined as “severe recklessness in the conduct of research”.
- 2) Fraud is defined as intentional deception in the form of:
 - fabrication of data;
 - misrepresentation/falsification of data;
 - plagiarism;
 - misappropriation of research ideas.

The Icelandic ethics commission

The consultation group also recommended that a special, independent ethics commission be set up at the national level to oversee good practices in science and research. The working group emphasised that the commission should focus more on guidelines than on rules. The scientific community should see the guidelines as an invitation and an encouragement to strengthen good scientific practices. The commission should not be established as a sanctioning or policing body.

The consultation group recommended that the commission consist of seven members from the various branches of science and be appointed by research institutions and companies. The commission should be overseen and funded by the Ministry of Education.

When its activities begin, the commission will first decide on its own working procedures. However, three main functions are mentioned in the document:

- Advise for government, institutions and individuals on policy as well as on individual cases;
- Provide information and encourage public debate about research integrity;
- Arbitrate in cases where the institutions themselves are not able to make the final determination. This may occur on the commission’s own initiative or through appeal by research institutions. The commission should have the authority to rank the degree of seriousness of the misconduct.

The commission has not yet been set up. The Ministry of Education has not responded to requests from the Icelandic Centre for Research to provide legal backing for it. The reason seems to be financial in nature; there has been no criticism of the ideas presented.

This relates to a major problem facing the ethics of science and research in Iceland. For many years, an Ethical Council of the National Directorate of Health functioned as an ethics review and policy committee. After the National Bioethics Committee (NBC)²² was founded in 1997, the Council focused on public policy issues. The Council ceased its activities in 2000.

The push to establish a national body like the Danish Council of Ethics²³ or the Norwegian Biotechnology Advisory Board²⁴ has not been successful due to a lack of political interest, immature ideas about democratic decision-making, and poor preparation of public policy.

While one of the roles of the National Bioethics Committee (NBC) is to participate in the public debate about matters in its domain of activity, the NBC has limited its role in practice to reviewing research on human subjects in the field of biomedicine (health). In accordance with international guidelines, the NBC evaluates all research proposals that fall outside of the domain of institutional review boards (which are very few). This means that the NBC handles all international research collaboration, clinical trials, and genetic research outside the hospitals.

The University of Iceland has recently set up a science ethics committee that emphasises research integrity in all fields of science. The committee is to cover the neglected area of review of research in the humanities and social sciences. Among its tasks is to contribute to an enlightened dialogue in the academic community about the ethics of research and good scientific practices.

Assessment of the situation in Iceland

Vilhjálmur Árnason’s assessment is that there are both strengths and weaknesses in the Icelandic scene at present. The strength is that the awareness of ethics of science and moral regulation of research has increased considerably in the past few years.

The main weakness is that the system does not work efficiently with regard to scientific integrity. This can be explained by several factors:

- close relations in a small country
- lack of institutional review boards
- lack of a central agency for regulation, advice and support
- negative attitudes towards moral regulation
- legalistic thinking (is there a need for a special legal framework, or should we emphasise the independence of morality?)

Dr Árnason concluded with a quote by Dr Kalleberg:

“To try to regulate the core values of science in a legal-administrative way can actually undermine, marginalise, distort – perhaps even replace – the traditional self-regulation of science” (Kalleberg, “Plagiarism as a Violation of Law in Norway”).

This captures in a nutshell one of the main challenges we are facing in trying to strengthen the ethos of science in Iceland. Iceland must learn from the experience of the other Nordic countries, and Iceland also needs their support to implement its own supervisory body.

²² <http://www.visindasidanefnd.is/Default.aspx?id=114&cmd=submenu>

²³ <http://www.etiskraad.dk/en.aspx>

²⁴ <http://www.bion.no/english/>

5. Denmark



5. Building a framework for research integrity in Denmark at the national, institutional and individual levels

*Presentation by Nils Axelsen
Chief Medical Consultant, MD, DMSc, Research Integrity Adviser (“Ombudsman” and Educator for Research Integrity), Office of Research Integrity, Statens Serum Institut, Copenhagen*

Nils Axelsen has a background in biomedical research and has served in leadership positions at Statens Serum Institut (1978-2008). He also has extensive experience with research funding, e.g. as a member of Lundbeckfonden (1987-2011). He was one of the co-founders of the Danish Committee on Scientific Dishonesty (DCSD) and was a member of the DCSD from 1992 to 2005. Since 2008, he has served as a special adviser on research integrity at Statens Serum Institut, where he has worked to enforce research integrity in Denmark. He participates in international work in this field as well.

Dr Axelsen’s presentation at the NordForsk seminar was based on his presentation at the Third World Conference on Research Integrity in Montreal in 2013.²⁵

Three statements

Dr Axelsen began his presentation with three statements:

- “Research integrity is the coherent and consistent application of values and principles essential to encouraging and achieving excellence in the search for, and dissemination of, knowledge. These values include honesty, fairness, trust, accountability, and openness”.²⁶
- “The value and benefits of research are vitally dependent on the integrity of research”.²⁷
- “The intertwined set of prescriptions, proscriptions, preferences and permissions constituting the internal norms of science, the ethos of science and its truth and honesty commitment, will not function appropriately and effectively if treated as legal norms”.²⁸

An arrow through the heart

Dr Axelsen said that a majority of researchers, even professors, today do not have sufficient knowledge about research integrity, questionable research practices (QRP) and research misconduct. Therefore, cases of research misconduct are experienced by the research community as a completely unexpected

²⁵ N. Axelsen. Impact in Denmark of the Singapore Statement on Research Integrity and the European Code of Conduct for Research Integrity. In press, in a collection of articles based on presentations at the Third World Conference on Research Integrity, Montreal 2013. Edited by M. Anderson, S. Kleinert & N. Steneck.

²⁶ Honesty, Accountability and Trust: Fostering Research Integrity in Canada. The expert Panel on Research on Research Integrity, 2010, Council of Canadian Academies.

²⁷ Singapore Statement on Research Integrity. www.singaporestatement.org

²⁸ Ragnvald Kalleberg. Third World Conference on Research Integrity, Montreal 2013.

“arrow through the heart”, and when confronted with an incident of suspected research misconduct the research community very often displays an internal as well as public picture of embarrassing, irresponsible helplessness.

Therefore, over the past 35 years research misconduct has forced the scientific community to embark on a process of soul-searching in order to answer two seemingly simple questions:

- How can researchers who have engaged in research misconduct be effectively detected and sanctioned in a trustworthy manner?
- How can research misconduct be prevented in a trustworthy manner?

Milestones in Denmark 1992-2010

The Danish measures against research misconduct implemented between 1992 and 2010 include the following milestones:

1992: The Danish Committee on Scientific Dishonesty (DCSD) – only Health Science – was established.

1998: The DCSD published guidelines for good scientific practice (also called responsible conduct of research - RCR).

1999: Three DCSD committees:

- Health Science
- Natural Science, Agricultural and Veterinary Science and Technical Science
- Social Sciences and the Humanities

2003: The DCSD’s decision on the Lomborg case concerning “The Sceptical Environmentalist”. The DCSD found that Bjørn Lomborg had not committed research misconduct, but that he had engaged in questionable research practice (QRP). This created much turmoil, and the result was that the DCSD was no longer allowed to make rulings on QRP. QRP is to be the sole responsibility of the universities. The universities should establish “practice committees” to handle such cases.

2004: The DCSD was incorporated directly into the law about the Research Advisory System

2008: Statens Serum Institut (SSI): Mandatory, advanced RCR education; local “ombudsman” and educator for research integrity.

2009: The DCSD published a revised edition of Guidelines for Good Scientific Practice.

1992-2010:

- Sporadic lectures on research misconduct/RCR for Ph.D. students.
- DCSD Guidelines not authorised by the research institutions (except SSI, 1998-).
- No attention paid by the universities to the accumulating international evidence on the prevalence of researchers who have engaged in RM (1-2%) and QRP (33%).
- Ca. one case of RM revealed per year in DK, no major cases.
- No effective action taken at the universities to establish systematic measures for promoting/safeguarding research integrity.

The Penkowa case

In 2010, the first major case of research misconduct in Denmark came to light quite suddenly. The Penkowa case surfaced in a newspaper four months after the Second World Conference on Research Integrity in Singapore.

Milena Penkowa is a former Danish neuroscientist who was a professor at the Panum Institute²⁹ at the University of Copenhagen from 2009 to 2010. Her prolific research mainly concerned the protein metallothionein. In 2010, she was convicted of fraud and embezzlement of funds from the Danish Society for Neuroscience. In the same year, she was also suspended by the University of Copenhagen, and she consequently resigned her professorship. In 2012, the Danish Committees on Scientific Dishonesty concluded that she had been guilty of scientific misconduct.³⁰

In 2011, the Penkowa case was debated for half a year in an unprecedented media hurricane. During the debate, more or less confidential data and observations on the case and the persons involved were aired, and many ill-informed concepts and misunderstandings about RM and research integrity were circulated. The management of the University of Copenhagen came under heavy external and internal fire for its inability to uncover more than eight years of wrongdoing, in spite of two internal investigations, and for having promoted and used the perpetrator as a role model during that period.

It was a veritable déjà vu for the few in Denmark who had followed the debate in the US and UK in the 1980s. The case is still under investigation and has many ramifications, e.g. for the research minister, who was replaced by a new minister who intensified surveillance of the university for a year.

Lectures on research integrity, questionable research practice (QRP) and research misconduct

In the heated atmosphere in the spring of 2011, many researchers and research managers felt that their knowledge of the field of research integrity was insufficient. Dr Axelsen was invited to give lectures in closed meetings about research integrity and research misconduct. Many topics were discussed:

- The basic principles of research integrity;
- Definitions of research misconduct (RM);
- Evidence on the surprisingly high prevalence of RM and QRP;
- Recent spectacular cases in Europe, including the plagiarism epidemic in central Europe;
- The well-documented, severe and long-lasting direct and collateral damage of RM cases;
- Professional handling of cases, and non-professional handling of cases;
- Lack of training for investigators of misconduct cases;
- Importance of whistle-blowers, and lack of protection of whistle-blowers;
- Is damage control and window dressing still the main goal of top-level management?
- What editors actually do to safeguard the scientific record: e.g. COPE;
- Increase in the number of researchers, journals and publications;
- New ways of publishing;
- The obvious inefficiency of peer review in detecting RM;
- The increasingly popular view that huge investments in research will save the world;

- The new phenomenon of websites such as Retraction Watch,³¹ Abnormal Science, Bad Science, Plagiarism Today,³² Copy Paste and Shake,³³ Vroni plag,³⁴ etc.;

- Plagiarism detection tools;

- Focus on RCR education in the US since the 1990s;

- The DCSD's RCR guidelines, Singapore Statement, European Code of Conduct;

- What happens in other countries;

- Increased focus on sloppiness in research;

- The era of bibliometrics;

- The strong competition for survival in research, stressing the entire research enterprise.

To wake up the audience, Nils Axelsen presented a cartoon series he developed which is in press in a collection of articles from the Third World Conference on Research Integrity, Montreal, May 2013³⁵ (a PowerPoint version can be obtained from Nils Axelsen³⁶). The cartoon shows a black sheep (the perpetrator) surrounded by 100 seemingly white sheep (the faculty), and illustrates their attitudes and ignorance about research misconduct and research integrity, pointing out the many systemic failures that almost always are obvious when a case of RM is analysed in detail.

Nils Axelsen gave his lecture in many closed meetings, and the reactions were striking. The audiences listened intently and were surprised; some were shocked; most people admitted their ignorance of and misconceptions about many of the issues. Most of the more seasoned researchers and research managers admitted that the cartoon was not far from reality, even in Denmark, or at least that we have no evidence at all to the contrary.

There was general agreement about the urgent need to take action, but exactly what and how, and who should be responsible? When posing these questions in the past, people usually concentrated on why it must be a task for somebody other than themselves. But now it was rather easy to change their minds by handing out and discussing the recently published, one-page Singapore Statement on Research Integrity.

Since 2011, more documents on the urgent need to actively safeguard research integrity have appeared:

- InterAcademy Council: Responsible Conduct in the Global Research Enterprise. A Policy Report;
- International Association of Universities: IAU-MCO Guidelines for an Institutional Code of Ethics in Higher Education;
- Global Research Council, European Research Council;
- and many other organisations and institutions are now taking actions as well.

³¹ <http://retractionwatch.com/>

³² <http://www.plagiarismtoday.com/>

³³ <http://copy-shake-paste.blogspot.no/>

³⁴ <http://www.vroni plag.de/>

³⁵ N. Axelsen. Impact in Denmark of the Singapore Statement on Research Integrity and the European Code of Conduct for Research Integrity. In press, in a collection of articles based on presentations at the Third World Conference on Research Integrity, Montreal 2013. Edited by M. Anderson, S. Kleinert & N. Steneck.

³⁶ Email: na@ssi.dk

²⁹ <http://skt.ku.dk/english/schooloforalhealthcare/panum/>

³⁰ http://en.wikipedia.org/wiki/Milena_Penkowa

Developments in 2011-2014

The critically important message is that safeguarding research integrity must be a collective undertaking at each research institution. This requires active and trustworthy leadership.

- The “project” of enforcing research integrity at an institution should start with establishing a policy for research integrity comprised of:
 - Detailed standards for RCR.
- Mandatory RCR education for all researchers and an advisory mechanism. Ensure that senior researchers understand and accept their responsibility for systematic RCR education in their research environments.
- Procedures for handling of allegations for research misconduct and departures from RCR. Protection of whistle-blowers who act in good faith; sanctions against whistle-blowers who act in bad faith.

The health science faculties in Copenhagen and Aarhus were the first to begin working on this. The institutional policies for the health sciences have been completed, and the process of including the other faculties is under way. Both universities have based their efforts on the Singapore Statement and the European Code of Conduct. The universities are upgrading their “praxis committees” to make them more active.

The somewhat steep learning curve for the people involved with formulating the policy is an ideal opportunity to systematically learn from international experience and become familiar with the field. The University of Copenhagen has offered a mandatory introductory course for Ph.D. students since November 2011, and the Faculty of Science has now been included as well. As part of the course, the students must know and learn the Singapore Statement, and they are encouraged to use it as a poster in their research environment. The Faculty of Health at Aarhus University plans to begin offering RCR courses to bachelor, master’s and Ph.D. students in 2014.

Other developments:

- In 2012, the Faculty of Health and Medical Sciences at the University of Copenhagen established a so called “named person” (“ombudsmand”) to give confidential, personal advice to researchers on RCR/QRP/RM. Aarhus University plans to do the same for each faculty.
- The best way to reach senior researchers is being discussed. The Epigeum online course in RCR has been very useful so far.
- On 17 April 2013, the dean of the Faculty of Health at Aarhus University arranged a well-attended symposium on research integrity and RCR with international leaders in the field.
- The Agency for Research and Innovation, which houses the public research councils and the DCSD, is now working with the universities to formulate a Danish National Code of Conduct for Research Integrity. It will be helpful for the remaining universities in Denmark to follow the examples of Copenhagen and Aarhus and to harmonise the work in Denmark, including maintenance of the international perspective.
- The Singapore Statement and the European Code of Conduct have been discussed in Denmark with some 700 Ph.D. students, as well as with many researchers and university staff who are more or less involved with the above-mentioned activities.
- Quite a few Danes attended the Third World Conference on Research Integrity.

The DCSD

Since 2011, the DCSD has had a heavy workload with the Penkowa case and its ramifications.

The information below is from publicly available sources:

- The DCSD is still in the process of finalising the handling of allegations against Penkowa.

Some of the ramifications of the Penkowa case:

- The DCSD is also in the process of finalising the handling of allegations against a high-profile senior researcher who published 12 papers with Penkowa. The DCSD took a draft decision in summer 2013: the senior researcher had committed RM.
- The draft was leaked, and 70 researchers protested in the media against the drafted decision on research misconduct and called for the discontinuation of the DCSD. The alleged perpetrator has filed a court case against the research minister and the DCSD chair for having unlawfully prolonged the terms of the DCSD members who have been handling the case.
- In addition, the DCSD is charged with misinterpreting what RM actually entails and for using an unlawful basis for its decision.
- Some new evidence has emerged and the DCSD is now reconsidering the case. A former lawyer has joined the defence of the accused researcher in the media, and has published a paper in a Danish journal on the administration of justice, calling the draft decision a miscarriage of justice that splits hairs in paragraphs or lacks discussion of what are and are not accepted norms of responsible conduct of research and what constitutes research misconduct. In addition, he has brought 104 researchers to the DCSD, alleging that they have committed the same “crime” as the accused researcher.
- The DCSD’s correspondence with the accused researcher and the whistle-blower is available on the Internet, and has been debated extensively in the media since summer 2013.

Enforcing research integrity in Denmark

One of the lessons of the Penkowa case and its ramifications is that even if Denmark is internationally praised and envied for having established the DCSD, this has clearly been insufficient to guard against a major case of RM, not to mention eradicating/reducing widespread bad habits, QRP, which are regarded as the breeding ground for RM, and which do greater harm to the scientific record than the few RM cases. Denmark, and many other countries as well, needs to strengthen its framework for enforcing research integrity on three levels:

The national level:

- The DCSD has been in place since 1992. In Dr Axelsen’s view, due to the strain on the DCSD caused by the Penkowa case and its ramifications, it is worthwhile to reinforce the DCSD.³⁷
- A National Code for Research Integrity is currently being drawn up.

The institutional level:

- The University of Copenhagen and Aarhus University are well under way with drawing up policies for research integrity that adhere to the Singapore Statement and the European Code of Conduct for Research Integrity.
- Statens Serum Institut has had such a policy since 2009.
- The other universities and research institutions are expected to follow suit when the National Code is published later in 2014.

The individual level:

- Mandatory Ph.D.-level education on this issue is in place at the Faculty of Health and Medical Sciences and the Faculty of Science at the University of Copenhagen, and has been very well received by students and their supervisors.
- Education is planned for all levels at Aarhus University.
- Mandatory education for all researchers, including senior researchers, has been in place at Statens Serum Institut since 2009.
- Training the senior researchers at the universities, a very important point, is being discussed, but will certainly be accomplished – one way or another.

Dr Axelsen ended by emphasising that QRP is harming the scientific record much more than the few cases of RM and that QRP is the breeding ground for RM. Even if the media love RM “scandals” and put unpleasant pressure on institutions, the main focus of the scientific community must shift from RM cases to QRP. In order to enforce research integrity, what is needed most is for each institution to establish a policy for research integrity, specify and provide education on the standards for RCR for all the researchers “on the ground”, and explain to them how not to engage in QRP.

³⁷ OH Nielsen & N Axelsen. Udvalgene Vedrørende Videnskabelig Uredelighed bør styrkes (Leder). Ugeskr.Læger 2013, 175/45, 2475.

6. Sweden



6. Research misconduct in Sweden: The system and the problem

*Presentation by Professor Emeritus Göran Hermerén
Former Chair, Ethics Committee of the Swedish Research Council*

Göran Hermerén agreed with Nils Axelsen and the many other speakers who insisted on the importance of preventing research misconduct; something must be done to reach those researchers working on the ground!

Dr Hermerén himself has been very much involved in writing the ethical guidelines of the Swedish Research Council.³⁸ According to Dr Hermerén, Sweden has not set an example for other countries to follow with regard to how fraud and misconduct should be dealt with.

Soft laws

Guidelines are like “soft laws”. Some are mainly for medical researchers; others are of a more general nature. In addition to the international organisations, conventions and guidelines mentioned earlier in the day, Dr Hermerén pointed to some other guidelines that are also effective in Sweden:

- International conventions (UN, the Council of Europe)
- The Council for International Organizations of Medical Sciences (CIOMS),³⁹ guidelines on epidemiology research
- Uniform requirements
- Ethical guidelines from the Swedish Research Council
- Special regulations concerning animal research

Hard laws

There are also some “hard laws”. EU has directives that concern research which are binding for the member countries, though the member states have a certain liberty in interpreting and implementing the directives, such as:

- The Clinical Trials Directive⁴⁰
- The Biotechnology Directive⁴¹
- The Data Protection Directive⁴²

38 <http://www.vr.se/inenglish>

39 <http://www.cioms.ch/>

40 http://ec.europa.eu/health/human-use/clinical-trials/index_en.htm

41 http://en.wikipedia.org/wiki/Directive_on_the_legal_protection_of_biotechnological_inventions

42 http://en.wikipedia.org/wiki/Data_Protection_Directive

In addition, there are national regulations that define the boundary between legal and illegal practices in Sweden:

- The Personal Data Act (Personuppgiftslagen)⁴³
- The Ethical Review Act (Etikprövningslagen)⁴⁴
- The Principle of Public Access (Offentlighetsprincipen)⁴⁵
- The Public Access to Information and Secrecy Act (Sekretesslagstiftningen)⁴⁶
- The Patient Data Act (Patientdatalagen)⁴⁷

The law on ethical review is special, because Sweden differs from many other countries in that the ethical review system has a legal basis. It was introduced in 2004 and deals with research involving humans. In 2008 the act was amended to require that projects dealing with sensitive personal information should be reviewed even in cases where informed consent is obtained.

In addition, Sweden has:

- The Higher Education Ordinance (Högskoleförordningen),⁴⁸ which defines the obligations especially when it comes to fraud and misconduct;
- Regional ethics review boards – these are not tied to institutions, but to geographical regions.

Decisions from these boards can be appealed to the Central Ethical Review Board in Stockholm.

The Ethical Review Act

The Ethical Review Act regulates experiments or theoretical work designed to generate new knowledge on a scientific basis, although it does not cover work within the framework of higher education outside of the universities.

As from 2008, the law will be applied to research concerning:

1. Sensitive personal information covered by Section 13 of the personal information act (1998:204);
2. Personal information about breaches of law (*personuppgifter om lagöverträdelser*);
3. Studies on traceable biological material taken from a living human being;
4. Studies involving physical intervention on a dead body;
5. Studies on traceable biological material that has been collected for medicinal purposes from a deceased person.

If a researcher does not obtain the necessary permission to conduct a project covered by the Ethical Review Act, he or she could be fined.

The law has been criticised. Databanks are not covered because they only collect data and do not use the data to conduct research. The law also makes it difficult to perform research on elderly people when it is not possible to obtain informed consent.

43 <https://lagen.nu/1998:204>

44 http://www.riksdagen.se/sv/Dokument-Lagar/Lagar/Svenskforfattningssamling/Lag-2003460-om-etikprovning_sfs-2003-460/

45 <http://www.regeringen.se/sb/d/504/a/3029>

46 http://sv.wikipedia.org/wiki/Offentlighets_och_sekretesslagen

47 <http://sv.wikipedia.org/wiki/Patientdatalagen>

48 <http://www.uhr.se/sv/Studier-och-antagning/Antagning-till-hogskolan/Hogskoleforordningen/>

According to the Higher Education Ordinance, any university or institution of higher learning that receives information about suspected misconduct or fraud should perform an investigation. The decision to investigate is made by the rector and cannot be appealed.

The problems and shortcomings of the Swedish system

The expert group for misconduct in research at the Swedish Research Council (VR) has focused for many years on the shortcomings of the system, and has organised many conferences, symposia, publications and so on. Sweden has had its share of cases, some very big. These cases clearly show that the regulatory framework must be improved. It is high time that something is done to improve the system.

VR should – preferably together with other parties – work for the establishment of a government commission to start the process of developing a national system. Sweden should have a national policy and national guidelines instead of each institution having its own solution.

1: The system should be comprehensive

An obvious flaw in the Swedish system is that it is not comprehensive. It does not cover all types of research. The regulations are found in the Higher Education Ordinance, despite the fact that research is also conducted by foundations, industry and county councils (*landsting*).

Like the universities, funding agencies outside the higher education system should have an interest in a functional system for investigating allegations of research misconduct.

2. The framework needs clarifying

The conceptual framework needs to be clarified. It is very important to define the difference between “deviation from good research practices” on the one hand and “fabrication, falsification and plagiarism” done with the intention to deceive on the other. The Ethics Committee should investigate both cases of research misconduct and cases of questionable research practice.

3. The process of the investigation

The Swedish system also needs to establish rules about the investigation process. What should be investigated, who should be the subject of investigation, and who should take part in examinations? These are questions based on actual cases in Sweden:

Should the investigating group only investigate the person and those writings that the rector finds suspicious, or should it expand the scope of the investigation to other writings by that person, or to other persons – even those who have filed a complaint? How should the investigating group behave if the accused person tries to deceive them by lying or fabricating new evidence in the course of the investigation? Is there a time of prescription, at least in cases of low severity? Who is responsible for the investigation if the researcher has moved to another university or another country?

4. The mandate of the investigating committee

The scope of the investigating committee in Sweden is currently very limited by its mandate. For example, the committee cannot evaluate the value of evidence in a case of one person’s word against another’s. This can be interpreted as encouragement for the accused to deny all allegations. A future national commission should be given the task of considering both the pros and cons regarding changes in the mandate of an investigating group.

5. The rectors and their influence

Another important question is who can file a complaint. In the present system, any complaint must in principle go via the rector. This is a questionable practice because we have seen several cases where the

rector had been involved in the accusation. Some of the rectors think that their universities will come out better if they manage to cover up a case of RM. However, the university will benefit in the long run if it deals with these cases properly instead of covering them up and polishing their shields.

6: The system of sanctions

The system of sanctions should be more precise. Today the same kind of misconduct can be treated differently at different institutions.

The expert group has pointed several times to the need for a gradient system of sanctions. The sanction should in some way reflect the severity of the misconduct. Other countries and organisations have such a system, for instance the Wellcome Trust⁴⁹ in the UK and the National Science Foundation⁵⁰ in the US, and Sweden should learn from them.

7: The legal protection

The legal protection must be improved both for the accused and for the whistle-blower. The universities are currently obliged to make accusations available to journalists, according to ‘Offentlighetsprincipen’, even if the accusations are not well founded.

8: Problems in cooperation

Problems concerning national and international cooperation need to be evaluated, not least because of the increasing cross-border collaboration. Problems can also arise in cooperation between different research institutions. In such cases, who is responsible for the investigation? Which initiatives can be taken by EU and NordForsk?

It is easy to imagine the difficulties that can arise when carrying out an investigation of a project that involves researchers in different countries or that is financed by several sources. The Norwegian system has taken a stand on this question, and this is something also Sweden should consider.

A legal question?

Two authors in Sweden, Göran Lambertz and Nils Lynöe, have recently proposed that research misconduct should be made a legal offence.⁵¹ Dr Hermerén commented on this by quoting an email from a former German rector:

“In my opinion the most difficult problem relates to the relationship between academia and the courts. In Germany, at least, every punishment that is imposed by the rector, university, die Deutsche Forschungsgemeinschaft or any other official body can be challenged in the courts. This means that the definitions employed will have to stand up to legal scrutiny.”

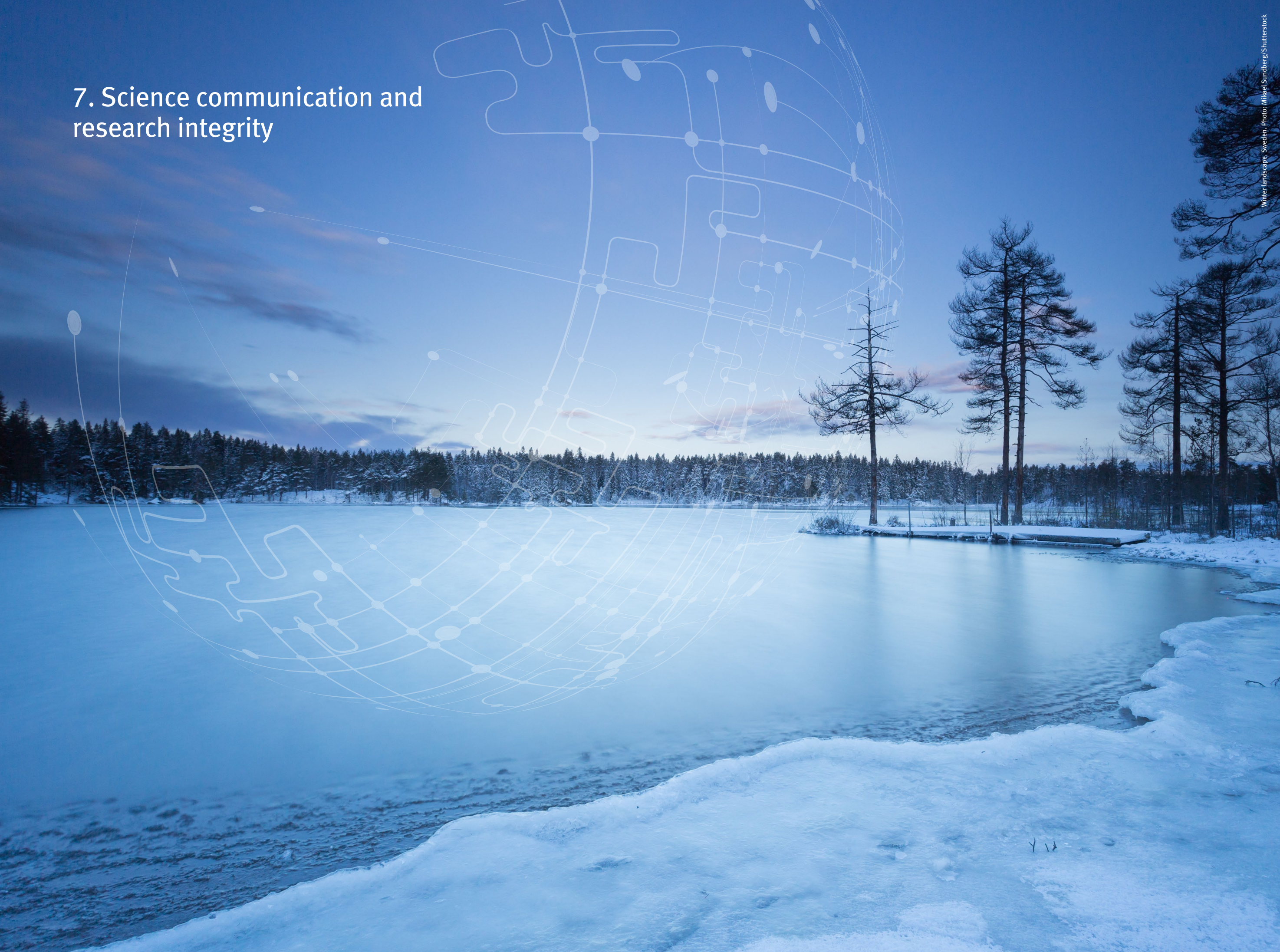
Is it desirable to turn a process concerning the internal ethos of science into a legalistic question? Dr Hermerén pointed to some possible solutions to avoid the legalistic approach to investigations of alleged misconduct. Firstly, it is important to clearly define the deviations from good research practice that should not be covered by the law. Secondly, the guidelines should be precise about the legal reasons for terminating funding from the research council or for firing a researcher. Finally, Dr Hermerén suggested that in many cases ensuring that such cases are brought to the attention of the public might be punishment enough.

49 <http://www.wellcome.ac.uk/>

50 <http://www.nsf.gov/>

51 Lynoe N, Lambertz G. Gör forskningsfusk straffbart! Läkartidningen 2013; 29, 31: 1328-1329

7. Science communication and research integrity



7. Science communication and research integrity

Presentation by Reetta Kettunen

Secretary General, Committee for Public Information in Finland

The Committee for Public Information in Finland (www.tjnk.fi) is an expert body attached to the Ministry of Education and Culture. It follows progress in research, arts and technology and the development of knowledge in Finland and abroad. The members of the committee come both from the media and from academia.

TJNK actions and relevance:

- Promotes publication, dissemination and usage of new knowledge;
- Recognises and rewards outstanding dissemination activities;
 - State awards
 - Grants
- Promotes education of science communication.

Science belongs to everybody

In 2013, TJNK published Finland’s first national action plan in science communication, “Science belongs to everybody!” The plan contains 33 proposals for universities, polytechnics and other research organisations and funding bodies.

The main messages in the TJNK action plan are:

- Communication skills are part of the scientific profession (expertise).
- Society does not evolve without expertise (science advice).
- Science should be visible in the media.
- Non-fiction literature is an integral part of a nation’s culture.
- Science education for all (scientifically literate citizens).
- Incentives should be put to place.

The plan covers science communication with regard to the public understanding of science (politicians, journalists, citizens, you and me), to intra-specific communication between peers in the scientific community, inter-specific communication (with the scientific community at large, experts, decision-makers, companies, industry, etc.), and pedagogical communication with teachers and students.

Responsible research and science communication

How does responsible conduct of research (RCR) relate to science communication? According to Dr Kettunen, it has everything to do with it. One of the reasons is that the public tends to trust researchers. The 2013 Eurobarometer “Responsible Research and Innovation”⁵² shows that 77 per cent of EU citizens agree that science and technology have a positive impact on society, and the majority of respondents in each country thinks this way.

We are now in the midst of two emerging trends: The number of publications is accelerating, and “Public science 2.0” is becoming more important. Both trends make the responsible conduct of research ever more important.

Public Science 2.0 entails a range of activities described by proponents of the term as coalescing into an emerging open science movement. The term suggests the benefit of increased collaboration between scientists, often digitally based, using computer networking and the Internet. Science 2.0 encompasses scientists using collaborative technology such as wikis, blogs, and video journals to share findings, which may include raw data and “nascent theories” online. The sense of the term suggests the benefits of openness and sharing regarding papers, research ideas and partial solutions.⁵³

Responsibility in communication

Scientists should show responsible conduct in all kinds of communication, not only when they are writing scientific papers. Misleading the general public by publicly presenting deceptive or distorted information concerning one’s own research results or the scientific importance or applicability of those results is also to be classified as research misconduct.

Researchers have become more visible to the general public in recent years, and this could lead to their roles being more obscured. Scientists should remember that it is impossible to be an expert on everything. Lousy science results in poor science communication and creates more confusion among the public. It can sometimes be hard to draw the line between science journalism and public relations, and scientists should resist the urge of some politicians to engage in “cherry picking” in order to back up their specific political agenda.

Scientific communication

What should we do? Maybe the time has come for science communication to be more scientific:

*It is high time that scientists apply scientific thinking to determine how to better communicate their science. Science progresses through experimentation and evidence. I would like to think that science communication can as well.*⁵⁴

Reetta Kettunen emphasised the importance of education and training in research ethics. According to a Eurobarometer poll among the general public:

*84 % think there should be mandatory ethics training for researchers, and 83 % think there should be an oath taken by young scientists to respect ethical principles and legislation.*⁵⁵

Finally, Dr Kettunen asked whatever happened to Ethical, Legal and Social Aspects of the Life Sciences and Technologies (ELSA). That was a catch phrase some years ago, and perhaps it should be revived. She also stressed that young researchers should be taught more about how the society works and the place of science policy.

⁵² http://europa.eu/rapid/press-release_MEMO-13-987_en.htm

⁵³ http://en.wikipedia.org/wiki/Science_2.0

⁵⁴ Marcia McNutt, Editor-in-Chief of Science, 2013. DOI: 10.1126/science.1246449

⁵⁵ Special Eurobarometer 401. Responsible Research and Innovation (RRI), Science and Technology. Report published November 2013. http://ec.europa.eu/public_opinion/archives/ebs/ebs_401_en.pdf

8. Concluding remarks and reflections
emerging from the Nordic seminar
on research integrity organised by
NordForsk in Oslo, April 2014



8. Concluding remarks and reflections emerging from the Nordic seminar on research integrity organised by NordForsk in Oslo, April 2014

Krista Varantola

Chair, Finnish Advisory Board on Research Integrity (TENK)

Chancellor at the University of Tampere, Finland

Note: The word “science” is used in this context to refer to all disciplines, (i.e. in the sense of *vetenskap* in the Scandinavian languages and *tiede* in Finnish).

Introduction

These concluding remarks are based on the elaborate summaries by Bjarne Røsjø of the presentations given at the expert seminar. The purpose of these remarks is to analyse and comment on the central issues brought up in the presentations in order highlight how Nordic actors within research integrity (RI) could promote and contribute to the awareness of RI issues in Nordic, European and global contexts.

The analysis focuses on Nordic added value, i.e. on the question of why the Nordic actors in this field should work together and be informed of the developments in the other Nordic countries. The key issues are divided thematically into topics that could be further elaborated through the sharing of information and experiences among the Nordic experts in the field.

In the Nordic countries we tend to think that things are run in a more or less similar fashion until we notice that our conception is wrong. What is usually shared by the Nordic countries, however, is a common set of values and notions of what is acceptable and good scholarly behaviour and what is not. This general principle is also valid when we discuss RI and research ethics in general. We make a distinction between responsible conduct of research (RCR) that applies to all disciplines and norm-based, field-specific practices such as bioethics, medical research and health care ethics, animal welfare, etc.

This common set of values also helps to create a common, constructive basis for joint Nordic efforts in promoting responsible conduct of research. In the true Nordic tradition, the aim is not to impose one’s own system on others. However, it is important and helpful to have a dialogue and discussion forum for RI issues, and as such the aim is to harmonise the conceptual framework and to acknowledge best practices rather than to unify the various systems.

Understanding what responsible conduct of research is entails both:

- preventing bad and irresponsible practices from emerging through training and education and;
- implementing and applying approved and transparent procedures for investigating alleged breaches of RCR.

In this seminar the emphasis was on research integrity and responsible conduct of research and the investigation of allegations of misconduct in the various Nordic countries.

Why is responsible conduct of research an important topic?

RI issues are currently a hot topic at the global and European levels. For example, Horizon 2020 contains a number of calls related to RI. The huge increase in research activities globally, the growing use of metrics used in assessing research performance and linking it to funding formulae have all contributed to the public discussion on what is best for science in general. Can we trust science? Is it for the scientists themselves to decide on the focus of their research considering the increased dependence of our economic welfare on research results and their applications?

In these discussions it has also emerged that issues related to honesty and credibility of scientific endeavours are treated in very different ways around the world, even within the Nordic countries. Some countries have national systems, others rely on the ethical and honest behaviour of individual research institutions and researchers, and a large number of countries still have no established practices of investigating allegations of misconduct but trust that science is self-corrective.

Open access to scientific publications and open access to data are central themes in current research policy discussions. They are new and accessible forms of making research results available and more transparent, but the other side of the coin is that these new means have also caused grave concerns about research ethics and integrity.

Why should we have joint Nordic efforts in RI and what were the key issues at the seminar?

In the following section I have listed the reasons for promoting Nordic cooperation that were brought up at the seminar. After that I have attempted to organise the discussion topics into thematic areas (non-exhaustive) that could provide topics for future Nordic discussions on research integrity issues.

Nordic added value:

- Learning from each other;
- Harmonising Nordic understanding of RI;
- Benchmarking best practices;
- Suggestions of how to deal with alleged misconduct in Nordic projects;
- Contributing to preventive measures; i.e. training and education in research integrity;
- Promoting self-regulation as opposed to juridification of research integrity (keeping in mind that the majority of researchers are honest in their scientific endeavours);
- Promoting openness and transparency of procedures in a Nordic tradition of open and transparent governance;
- Presenting a strong Nordic voice in European and global contexts.

Thematic areas

Central concepts

- Discussion of the definitions of central concepts and the links between them:
 - Self-regulation – autonomy – freedom of science - trust in and credibility of science - transparent systems of investigating alleged breaches of RCR – performance metrics including impact factors and citation indexes – funding formulae – quality versus quantity of research

The effects of current performance indicators on RI

- New public management metrics and their effect on scientific practice
 - measuring quality through quantity
 - lack of understanding for long-term research cycles and scientific work, the results of which can take years to understand
 - the publishing frenzy

Self-regulation

- Autonomy and freedom of science
- Trust in science and credibility of research results
 - Bad science versus misconduct
 - Sloppiness in research (gross negligence)
 - Pseudoscience
 - Public-private partnerships in research and the role of RI
 - Commitment of all the parties to joint procedures for investigating breaches against RCR
 - Ethical reviews for non-invasive research
 - Informed consent (parental rights when interviewing schoolchildren, using data sources in social sciences, studying email correspondence, psychological tests, etc.)
 - Training in research ethics

Whose responsibility?

- Individual responsibility
 - Individual researchers
- Institutional responsibility
 - Collective institutional responsibility (national system and commitment of actors)
 - National-level science-political decision making and funding criteria

National-level systems versus institutional codes of conduct

- National-level systems with commitment of parties (“collective oaths”) versus individual institutional responsibility?
 - Investigation of alleged misconduct as part of quality assurance
 - Sanctions
 - The role of sanctions in self-regulated processes
 - Pre-defined sanctions for different types of misconduct and irresponsible conduct of research versus institution-determined sanctions?
 - Termination of funding and innocent bystanders

Publication ethics

- Journal policies, (COPE)
- Retraction watch
- Peer reviewer responsibilities and practices
- Conflicts of interest
- Copyright versus authorship in science
 - Plagiarism, redundant publication (self-plagiarism), “salami-publishing”, honorary or guest authorship, etc.
- Dissemination policies and informing the public
 - RI and social media
 - Blogger responsibility

Open access and open access to data

- Reliability of digital resources (publications, data sources)
- Ethical issues in open access such as peer-reviewing, predatory publishing
- Dishonest publishers

Education in RI

- Target groups (e.g. doctoral training, doctoral schools or earlier?)
- Mandatory or voluntary?
- Contents of curricula
 - General RI training
 - Subject-field specific training (e.g. medicine, bioethics)
- Available sources for material and cooperation
- European-level sources (ALLEA efforts), national sources, Nordic sources and cooperation?

Investigation of alleged misconduct and irresponsible conduct of research

- Definitions of misconduct and irresponsible conduct of research and procedures for investigation
 - Narrow and broad definitions of irresponsible conduct of research
 - Misconduct (such as fabrication, falsification, plagiarism) versus other irresponsible conduct of research (such as authorship issues) or a continuum of non-acceptable behaviour in research
 - Plagiarism revisited in the digital age – changing concepts
 - Copy-paste issues and general knowledge
 - “Science is not static”

(For central concepts see also a recent article by Göran Hermerén: Definitions of fraud and misconduct revisited (Jahrbuch für Wissenschaft und Ethik 2013, p. 85-121. De Gruyter).)

- Other issues
 - The dominance of English as the global language of scientific research
 - Project leader responsibilities and empowering junior researchers in projects
 - Protection of whistle-blowers

Next steps

- Thematic seminar meetings for Nordic experts – including international contributions – on prioritised themes
 - to enhance Nordic understanding of research integrity in Nordic and international contexts and
 - to influence international developments and guidelines.