

## Abstracts

### **Session 1: Research Integrity principles and their implementation**

#### **Research Integrity Approaches in European countries – an overview**

*By John Marks, ESF*

In 2008, ESF published an overview of research integrity structures in European countries. The report “Stewards of Integrity: Institutional Approaches to Promote and Safeguard Good Research Practice in Europe” is based on a survey conducted in 32 European countries.

This presentation – which will update the results of the survey - will show the diversity and commonalities of mechanisms to promote and safeguard research integrity in the countries surveyed.

#### **The National Advisory Board on Research Ethics, Finland**

*By Eero Vurio, Chancellor, University of Turku, Finland*

The National Advisory Board on Research Ethics (TENK) was founded in 1991 to foster research ethics in Finland (Decree 1347 of 15 November 1991). It was the first advisory board to be founded in research ethics, and initially the scope of its duties was very broad. Subsequently, when specialist advisory boards in these areas were founded in e.g. biotechnology and medicine, issues related to these areas have been delegated to the appropriate bodies. However, all matters related to research integrity (e.g. responsible conduct of research and prevention and handling of fraud and misconduct in science) are handled by the National Advisory Board on Research Ethics. Hence, the members of the board represent a wide variety of disciplines and the major public funding agencies.

The most important task of the Board has been to devise the guidelines for Good scientific practice and procedures for handling misconduct and fraud in science (<http://www.tenk.fi/ENG/Publicationsguidelines/htkeng.pdf>). The Board promotes research integrity by:

- disseminating information and arranging seminars on the principles of good scientific practice;
- assisting research institutes in providing education on research ethics;
- developing and monitoring the investigation of misconduct and fraud in research;
- developing a distinct profile in disseminating public information about research ethics; and
- contributing actively to Finnish and international debate on research ethics.

The Guidelines have been endorsed by all the Universities and Polytechnics in Finland, most Research Institutes, many learned societies and the Public Funding Agency (Academy of Finland). The investigation of alleged misconduct or fraud are the responsibility of the Rector or the Director of the institution where the research was conducted. The Advisory Board plays an advisory role and also serves as a body where any party discontent with the decision of the Rector/Director can ask for an opinion. If the Advisory Board feels that the case has not been handled properly they can return the case to the University/institution in question.

Currently, the Board’s activity is focused on ethical issues relating to the humanities and social sciences. This includes evaluating the role of ethical guidelines and possible introduction of a systematic model for ethical review of research protocols also for non-medical research on humans, and strengthening the structures for an ethically sound research community in general.

#### **Code of Conduct and Policy on the Governance of Good Research Conduct in UK**

*By Glyn Davies, Research Councils UK*

In July 2008, the Research Councils UK, in collaboration with other partners such as Bio-Medical Sciences Research Integrity Office and the Wellcome Trust, launched a consultation on a Code of Conduct and Policy on the Governance of Good Research Conduct in UK.

The key issues of this consultation are:

- A code of conduct covering duty of care, appropriate representation, and management and preservation of data and records, as well as plagiarism, falsification and fabrication
- A positive focus on research organisations having mechanisms to promote and ensure good research conduct, rather than just investigating misconduct
- The consideration of the need for a national advisory body to ensure that good practice is widely promoted, and that misconduct is not hidden away
- The classification of different levels of poor research conduct and use this base for further training and development

The presentation will focus on the draft policies and the input of the UK scientific community in this consultation exercise.

### **Three statements for Research Integrity**

*By Sebastião J Formosinho, Chemistry Department, University of Coimbra, Portugal*

The philosopher Jean Petitot states that science should seek independence and become a power again, a power similar to medical power and on those grounds needs to confront the problem of responsibility<sup>i</sup>. Chemist Michael Dewar presents two lessons from his career: with the present prevalence of operators one needs to publicize strongly one's work and the disastrous effect of the growing urge for conformity in chemistry<sup>ii</sup>.

The first statement addresses the issue ethical standards. Scientific tradition has an unarticulated part that has to do with the ethos of the scientific community, the pursuit for scientific truth. The fact that ethical rules are observed in research teams remains to the responsibility of the senior scientists through a conviviality practice between the master and the apprentices like in the medieval corporations<sup>iii</sup>.

The second topic deals with the visibility of scientific heterodoxy facing the growing pressure for conformity in science and under the sociological changes operating in science. When progress in science was constrained by the limits of imagination and creativity of the participants (an age of purely intellectual competition), peer review was well suited to identify valid science. However, in the present times, science is in an age of competition for scarce resources; peer review, notably by experts, creates a conflict of interest. In a case study of the peer review system under controversy in chemistry analyses of the reports' contents were carried out in terms of four categories of conceptual change (satisfaction, fertility, plausibility and comprehensibility). The behavior referees was not symmetric with respect to acceptance and rejection. Acceptance is dominated by satisfaction (80%) and, in much lesser extent, by fertility (15%), whereas for rejection there is almost an equipartition of all the categories. Facing a conflict with a current paradigm several of the reports recommending rejection present a significant (>37%) amount of noncognitive comments and internal inconsistencies which represent a lack of cognitive and epistemological cohesion of such reports<sup>iv</sup>.

Science is financed with public money, so it could be appropriate to reconsider the way we apply peer review on what is considered "heterodox science", bearing in mind that each field perceive differently the "world" and that heterodoxy can add news sources and pathways of rationality to see such world. So new rules could be more appropriate for science operation under heterodoxy: i) is the subject a scientific matter? ; ii) does the work contains logical inconsistencies? iii) if the authors were proved to be corrected, does that have consequences in the field or scientific interest?

<sup>i</sup> Jean Petitot, "End of rationality?", in "Which Values for our Time", Daniel S. Hamilton, ed., Fundação Calouste Gulbenkian, Lisboa, 2007, pp. 24-35; p. 35.

<sup>ii</sup> M. J. S. Dewar, "A Semiempirical Life", Profiles Pathways, and Dreams, J. L. Seeman series ed., American Chemical Society, Washington, 1992, p. 180.

<sup>iii</sup> M. Polanyi, "Personal Knowledge. Towards a Post-critical Philosophy", Routledge & Kegan Paul, Londres, 1958, ed. 1969.

<sup>iv</sup> S. J. Formosinho, "Nos Bastidores da Ciência. Resistência dos Cientistas à Inovação Científica", Gradiva, Lisboa, 1988; "O Imprimatur da Ciência. Das Razões dos Homens e da Natureza na Controvérsia Científica", Coimbra Editora, Coimbra, 1994; "Nos Bastidores da Ciência. Vinte Anos Depois", Imprensa da Universidade de Coimbra, Coimbra, 2007.

### **Ethics of authorship in reporting results**

*By Pavel Kratochví, Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic*

The Commission for Scientific Integrity of the Academy of Sciences of the Czech Republic mostly deals with authorship problems. Often the crux of the matter is the question of definition of "significant contribution" to a result and, consequently, justification of claim for co-authorship. The difficulty of answering that question is

demonstrated by an example of co-operation between a synthetic chemist and operator of a unique and extremely expensive apparatus. Another frequent and delicate issue is the problem of responsibility and proper conduct of mentors in publishing results obtained by their junior colleagues. Experience shows that many overly busy supervisors do not co-operate duly with their disciples in carrying out research and publishing the results.

**A State preoccupation in France : improving integrity in science : establishing principles, guidelines and procedures with fairness and at a low cost in cooperation with scientific institutions**

*By Jean Pierre Alix, CNRS*

A high level of integrity is a guarantee at different levels : for scientists themselves, in between scientists and towards society.

Integrity has been a growing preoccupation of scientific institutions and States since 2000. France has decided in 2007 to launch a specific study with the collaboration of scientific institutions.

The situation cannot be described as a “zero level” one. Some Universities and research institutions have adopted rules or established ethics committees, but a very few directly about integrity.

The French Ministry of research has launched a dialogue process about integrity. It will happen in four steps :

- comparison with other countries
- survey of all universities and research institutions practices
- report and possible recommendations
- national conference to adopt principles, guidelines for prevention and case treatment.

Possible outcomes of the process are law, chart, guidelines, and the establishment of structures in charge of the integrity.

Both prevention and sanction will be studied and lead to proposals. The cost of the integrity system will be taken into consideration in proposals. Perspectives should be established for international cooperations.

The dialogue process should reach its end by a governmental decision in 2009. It is expected to enhance integrity as a main component of scientific activity, and as a guarantee to public.

**Investigating Allegations of Research Misconduct: a Perspective from the US National Science Foundation with Case Studies**

*By Peggy Fischer, Associate Inspector General for Investigations of the National Science Foundation Office of Inspector General, NSF*

In 1987, the National Science Foundation (NSF) issued a proposed rule establishing a definition and procedure for handling of allegations of research misconduct (RM). Since that time, the research communities (international and national), private entities and governments have debated both the definition and the procedures for handling such allegations. In 2000, the Office of Science and Technology Policy within the White House, issued a Federal Policy on Research Misconduct that articulated a definition and process.

NSF processes are consistent with the Federal Policy, and have changed little over time. They adhere to the hallmarks of fairness, objectivity, confidentiality, community based evaluation, fact and evidence based conclusions, and the separation of investigation from adjudication.

At NSF, all allegations of research misconduct are evaluated by the Office of Inspector General (OIG). OIG is an independent office that provides oversight on NSF programs and operations, principally through its audit and investigation efforts. Allegations are evaluated in two separate phases: inquiry and investigation. An inquiry assesses the substance of the allegation and determines whether it is appropriately classified as research misconduct (or other administrative or civil / criminal wrongdoing). Those RM allegations are supported by substantial evidence are formally investigated.

Typically, OIG immediately refers RM investigations to institutions. OIG referral is possible because institutions have, as required by federal policy, policies that are consistent with the OSTP policy. Institution investigations assess whether the preponderance of the evidence supports the conclusion that the act meets the definition with a sufficient level of intent. Because the central theme is that research misconduct is a violation of community standards, institution committees are composed of peer disciplinary experts.

Institution investigation reports and the resultant actions are provided to OIG which then assesses the need for further investigation to support any necessary action to protect the federal interest. OIG reports are transmitted to NSF's deputy director. Organizationally, OIG does not report to agency management, making the deputy director's adjudication and subsequent actions completely independent of OIG's efforts.

OIG ensures that it coordinates its investigations with other US and international entities appropriate. The OECD and GSF efforts to ensure scientific integrity and the harmonization of RM investigations ensure that NSF OIG will be able to coordinate effectively with international partners. These coordination efforts are important in ensuring the fair and equitable treatment of the subjects because of the increasingly international dimension of research, and research collaborations, and scientific integrity.

## ***Session 2: International collaborations in research integrity***

### **Investigating Research Misconduct in International Collaborations: Report on the Global Science Forum (OECD) Working Group Recommendations**

*By Christine Boesz, Inspector General of the NSF and co-chair of the GSF Committee*

The increasingly global nature of research has created a need for more harmonizing among individual nations for conducting and supporting research. Further, increasing multi-national and cross-disciplinary research presents unique challenges for investigating research misconduct. Recognizing this situation in 2007 the Global Science Forum of OECD (GSF) completed a project of Best Practices for Ensuring Scientific Integrity and Preventing Misconduct that set the framework for multi-national discussions. This effort defined research misconduct as plagiarism, including theft of idea, falsification and fabrication of data. Then the GSF approved a new Co-coordinating Committee for facilitating International Misconduct Investigations to focus on identifying principles and practices for handling allegations of research misconduct in international research collaborations. The Committee, Co-chaired by Dr. Christine Boesz (USA) and Mr. Nigel Lloyd (Canada), has conducted its inquiry and analysis over the past twelve months and is making its recommendations to the GSF in October 2008.

The work of this Committee will be presented during this session. One of the outcomes is a statement of overarching principles for investigating allegations which include fairness, confidentiality, integrity, balance and no detriment. Another outcome identifies the contractual elements that should be included in collaborative agreements, such as compliance with national laws, promoting good practices, and standard procedures for handling investigations. The Committee recommends that a communication strategy be in place for disseminating the policies and procedures that ensure a fair investigation so that all stakeholders know the expectations and rules. Model templates and steps on how to investigate are also addressed.

### **Report of the first World Conference on Research Integrity and plans for the second conference – a joint initiative by ESF and the US Office of Research Integrity**

*By Tony Mayer, Co – Chair of the World Conference on Research Integrity, Senior Science Officer Senior Science Officer and Associate Registrar, Nanyang Technological University, Singapore*

ESF has been involved in research integrity policy in Europe for the past decade or so. In the last 1990s, in the wake of several incidents of breaches of integrity, ESF conducted a desk study of international best practice which was published as an ESF Science Policy Briefing Paper. In 2006, the US Office of Research Integrity approached ESF to develop a joint conference on the topic of research integrity. This rapidly evolved into what became the first World Conference, with very substantial support from the European Commission, and which was held in Lisbon in September 2007, under the auspices of the Portuguese EU Presidency. The development of ESF's involvement in research integrity will be presented together with details of the first Conference and its outcomes. Some subsequent actions will be described including plans for a second World Conference for which the preliminary planning is already underway for a meeting to be held in Singapore in June 2010. The aim of the Conference will be to provide a platform for debate of research integrity, especially to involve decision-takers and senior leaders from the research World, especially heads of funding agencies, major research performing organisations and universities. This preliminary planning will be outlined, including the need for preparatory work to feed in to the Conference.

### **Report on Efforts to Develop a Global Clearinghouse for Research Integrity (GC4RI)**

*By Nicholas H. Steneck, University of Michigan & Office of Research Integrity*

With the growing globalization of research, researchers, policy makers, and the public have an increasing need to know how the integrity of research is fostered and protected in other countries. Researchers today routinely work with colleagues from other countries, in their own multi-national laboratories, through travel to meetings, and in real or virtual collaborations. While the principles and standards for responsible research in these settings should be consistent—the need to be truthful, honest, objective, or careful in pursuing research is not a local option—the way in which the basic principles and standards for responsible research are applied to daily practice varies greatly from country to country. The Global Clearinghouse for Research Integrity (GC4RI) is an effort to provide easily accessible information on national and international policies that guide and/or regulate professional behavior in research. The need for more accessible information will be illustrated with case studies followed by a report on efforts to develop GC4RI. The goal of the presentation is to initiate a discussion of how ESF and its member organizations can best be engaged in this effort.

### **Session 3: International collaborations in research integrity**

#### **Scientific Red Cards An initiative to establish an inventory of scientific publications for which research misconduct has been assessed**

*By Claire Ribaut, ENS, Scientific Red Cards Team*

While laws and procedures have been developed to detect, investigate and assess scientific misconduct, concern about this issue among the scientific community is limited by the poor visibility of these assessments.

As an effort towards easier access to information, "Scientific Red Cards" is a website dedicated to taking inventory of scientific publications for which misconduct has been assessed by legitimate institutions. The first aim of this initiative is to facilitate the identification of fraudulent papers in the literature. This website is collaborative in the sense that anyone can submit a fraudulent paper with the corresponding assessment of misconduct. It is hoped this initiative will contribute to a climate of scientific integrity where the issue of misconduct can be openly debated.

The website can be accessed under: [www.scientificredcards.org](http://www.scientificredcards.org)

#### **Promotion of scientific integrity: the role of Academies of Sciences**

*By Pieter Drenth, ALLEA*

For many national Academies the furtherance of scientific integrity in their country is the subject of constant concern. The same goes for ALLEA (All European Academies) with regard to international collaborative research in Europe. However, their role in the prevention of misconduct, and in dealing with allegations of misconduct, can vary considerably: educational, advisory, active investigator, Court of Appeal, a.o. Positions and points of view of European Academies on the matter at hand will be discussed.

#### **Coordinated Approaches to Research Integrity - The perspectives of research funding organisations and research performing organizations**

*By Alexis-Michel Mugabushaka, ESF*

Based on the ESF Survey of institutional approaches to promote research integrity, this presentation will focus on how research funding organisations and research performing organisations see their roles and responsibilities.

It will discuss the concept of "horizontal coordination" (between key actors within one country) and "vertical coordination" (between different types of organisations at European level).

It is argued that "horizontal coordination" is best achieved through national conventions on research integrity. It will present three initiatives which were identified as being promising in fostering "vertical coordination".

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