

The Wageningen Code of Conduct for Scientific Practice

Principles of good scientific teaching and research

Containing the Netherlands Code of Conduct for Scientific Practice

Colophon

This text of the *Netherlands Code of Conduct for Scientific Practice* was written by a VSNU-working group consisting of the following persons:

Prof. P.F. van der Heijden, Rector Magnificus Universiteit van Amsterdam (chairman)
Prof. J. Fokkema, Rector Magnificus, Delft University of Technology
Prof. S.W.J. Lamberts, Rector Magnificus, Erasmus University Rotterdam
Prof. G.P.M.F. Mols, Rector Magnificus, Maastricht University
Prof. G.A. den Hartogh, professor of Ethics and its history, Faculty of Humanities, Universiteit van Amsterdam
Dr. M.E.A. Stouthard, research manager Amsterdam Centre for Health and Health Care Research, Universiteit van Amsterdam
Dr. A.A. Post, senior research policy advisor, Universiteit van Amsterdam (secretary)

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The supplementation and qualification in the Wageningen Code of Conduct for Scientific Practice are written by the Ethical Commission of Wageningen UR, consisting of:

Prof. dr. H.J.P. Eijsackers (chairman)
Prof. dr. F.W.A. Brom
Dr. D. van Zaane
Ir. G.A.L.M. Dohmen (secretary)

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(with additions and qualifications for Wageningen UR)

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N.B.: to enhance the readability, this Code uses 'he' to refer to the third person singular; in all instances the reader is requested to interpret this as 'he/ she'.

Chapter 1 Introduction

This Wageningen Code of Conduct for Scientific Practice is based on *the Netherlands Code of Conduct for Scientific Practice (Code of Conduct)*, which was approved by the General Board of the Association of Universities in the Netherlands (Vereniging van Universiteiten - VSNU) on 17 December 2004 and which went into force on 1 January 2005. The Executive Board of Wageningen UR has declared this Code of Conduct to be applicable to all of Wageningen UR. At that time, Wageningen UR already had ethical guidelines for research and education in place. These guidelines also concerned the non-university research institutes that are part of Wageningen UR, while the Code of Conduct focuses on universities. Therefore, the Ethical Guidelines of Wageningen UR and the Code of Conduct of the Association of Universities in the Netherlands were compared and combined. This process led to the conclusion that the Code of Conduct can be declared as being applicable to Wageningen UR, but that supplementation or qualification was necessary regarding several points in the Code. The following pages contain the complete text of the Netherlands Code of Conduct for Scientific Practice, with the additions and qualifications from the Wageningen UR Ethical Guidelines inserted in shaded text blocks. It replaces the Wageningen UR Ethical Guidelines, which become void. The entire document applies to Wageningen UR (as yet except Van Hall Larenstein) and will from now on be named the Wageningen Code of Conduct for Scientific Practice. The reference to “the university”/ “universities” that appears in the preamble should be understood to mean “Wageningen UR”.

Preamble

- This *Netherlands Code of Conduct for Scientific Practice* was drawn up at the request of the Association of Universities in the Netherlands (Vereniging van Universiteiten, VSNU). The wish for a Code of Conduct stems from the generally shared conviction that (employees of) institutes that fulfil a societal role are held to a proper exercise of their duties. Rules that establish correct practice should be entrusted to paper to provide common ground and, if necessary, ground for admonishment.
- The Code applies to scientific practice, which is understood to include scientific teaching and research at all universities in the Netherlands. More precisely, the Code is intended for the individual scientific practitioner. This Code does not aim to provide guidelines for university administration.
- The Code presumes the administratively autonomous university that safeguards the academic liberty of the scientific practitioners engaged there. It is the university's responsibility to let this liberty fit into the frameworks of the established education and research programmes.

For Wageningen University, academic freedom means especially that a professor/researcher can freely develop the education and research in his or her discipline as long as this takes place within the teaching and research mandate and the demands of scientific quality are satisfied.

Due to the method with which they are financed – largely through research programmes and contracts approved by the Ministry of Agriculture, Nature and food Quality – and the research management that results from this financing method, the research institutes (DLO) are less autonomous. Nevertheless, their research must also meet national and international standards of high-quality and responsible scientific research, and the results and conclusions of the research must not be influenced by the interests and desires of the funding parties.

- At the same time, the Code presumes that the university is a collaborative venture of diverse stakeholders in the university. Stakeholders are the staff and the students, but also the government, community entities and the corporate world. The integrity of each scientific practitioner is an essential condition for maintaining stakeholders' faith in science. Integrity is the cornerstone of good scientific practice.
- The Code contains principles that all scientific practitioners allied with a university (teachers and researchers) should observe individually, among each other and towards society. The principles can be read as general notions of good scientific practice; they are not intended as supplementary judicial rules. The overarching principle is that every scientific

practitioner is bound to the frameworks established by Dutch and international legislation. These legal frameworks are not discussed in this Code of Conduct. A second overarching principle is transparency; every scientific practitioner must (be able to) demonstrate how he puts these principles into practice.

- The Code describes *desirable* conduct and is, in this regard, complementary to the regulations established by the universities and the National Committee for Scientific Integrity Regulations (Landelijk Orgaan Wetenschappelijke Integriteit, LOWI) on how to deal with undesirable conduct. Therefore, this Code does not contain sanction rules or complaints procedures.
- The principles defined in this Code are detailed further in 'best practices'. These best practices, which provide a certain set of norms for the conduct of teachers and researchers, reflect the national and international understanding of good scientific teaching and research. Under particular circumstances, deviation may be justified. The applicability of the provisions depends on the concrete circumstances under which the scientific practitioner operates. Moreover, the circumstances under which the university operates are also regularly subject to change. Nonetheless, every practitioner must, if required, be able to explain and motivate if -and if so, to what extent and why -he is at variance with the best practices of the Code of Conduct (the rule 'apply or explain').
- The Code consists of this preamble, the principles and the best practices. the Code is divided into five parts:
 1. Scrupulousness
 2. Reliability
 3. Verifiability
 4. Impartiality
 5. Independence

The Code is followed by a commentary on the principles. Finally, a number of dilemmas have been added to encourage reflection and discussion.

- All universities and their scientific staff will make the necessary effort to familiarise themselves with the content of this Code without delay. In addition, the universities will ensure that the Code is discussed by the academic community, particularly by incorporating the Code of Conduct into the teaching of aspiring scientists (in the graduate and post-graduate courses). This will enhance the awareness of what good scientific teaching and research entails.
- The Netherlands Code of Conduct for Scientific Practice was established by the General Board of the Association of Universities (Algemeen Bestuur van de Vereniging van Universiteiten) on 17 December 2004, and came into force as from 1 January 2005.

This Wageningen Code of Conduct for Scientific Practice was approved by the Executive Board of Wageningen UR on 15 September 2008 and went into force on that date.

Chapter 2 Principles and best practices

2.1. Scrupulousness

Principle

Scientific activities are performed scrupulously, unaffected by mounting pressure to achieve.

Best Practice

1. Scrupulousness is expressed through precision and nuance in providing scientific instruction and conducting scientific research and the publishing of results thereof.
2. Every scientific practitioner demonstrates respect for the people and animals involved in scientific teaching and research.

In addition, Wageningen UR believes it is important to respect nature, natural resources and to be aware of the necessity to protect life and cultural values. Moreover, scientific practitioners are expected to be aware of the possible effects of the application of their research results at a higher level of aggregation than the system being studied. For every educational element for which students have a conscientious objection, an alternative must be possible.

Research on human subjects is only permitted upon their freely given informed consent and if there are no or just the slightest of risks. The privacy of subjects involved is sufficiently protected.

Based on respect for human beings, all scientific research involving people must clearly state – in the description that precedes the research and the report of the research afterwards – how both the anonymity and the ownership of the research results have been discussed with the population groups and individuals involved in the research or the organizations that represent them.

If research on humans or animals poses any kind of risk, the significance of the research must justify taking that risk.

3. Accurate source references serve to ensure that credit is awarded where credit is deserved. This also applies to information gathered via the Internet.
4. Authorship is acknowledged. Rules common to the scientific discipline are observed.
5. Scrupulousness is not restricted to the transfer of information, but also applies to relations among scientific practitioners and with students.
6. Good mentorship is essential: a student and junior staff member are in a position of dependency. The responsibilities of persons involved in teaching and research are clearly defined and observed at all times.

Wageningen UR expects students and their teachers to respect each other's opinions. Differences of opinion will be clarified, but will not lead to feuds. There is also a place for minority points of view.

7. A scientific practitioner avoids personal relationships that may give rise to reasonable doubt concerning the objectivity of his decisions, or that may result in any form of coercion or exploitation of a hierarchically subordinate person.
8. The assessment of study performance is based on explicit criteria that have been announced in advance. Teachers are prepared to explain every assessment, while students are sufficiently aware of the matter on which they will be assessed.
9. A scientific practitioner ensures that he maintains the level of expertise required to exercise his duties. He does not accept duties for which he lacks the necessary expertise. If necessary, he actively indicates the limits of his

competence.

10. Damages as a result of errors or negligence are repaired to the best of one's ability.
11. A scientific practitioner is coresponsible for the quality of the educational programme in which he provides instruction, and for the scientific and societal value of the research programmes in which he participates. He acts according to his own preferences only insofar as this is reconcilable with this responsibility.

Wageningen UR sees an active role for itself in ascertaining topical societal issues and bringing them to the attention of students and educators. In addition, Wageningen UR promotes an open attitude and opinion formation process with students with respect to other forms of knowledge, other cultures and different values and norms. It does this by focusing explicitly upon these aspects in the educational programme. Moreover, students are encouraged to look critically at their own research and scientific discipline, and to view their research and discipline within the context of society.

Individual practitioners of science and other employees and parts of Wageningen UR who want to become involved with organizations in a country where there is a suspected or verified violation of human rights must always report this choice to the "next higher" organizational level. Individual practitioners of science have an obligation to report to their superiors, students to their supervisors, etc. Every employee of Wageningen UR has the option of refusing to participate in a project in that country or to enter into contact with individuals in that country. This decision must not have any consequences for his or her career at Wageningen UR. By the same token, Wageningen UR can prohibit its employees from entering into contact with such countries or from following up on such contact made previously.

2.2. Reliability

Principle

Science's reputation of reliability is confirmed and enhanced through the conduct of every scientific practitioner. A scientific practitioner is reliable in the performance of his research and in the reporting, and equally in the transfer of knowledge through teaching and publication.

Best Practice

1. The selective omission of research results is reported and justified. The data has indeed been collected. The statistical methods employed are pertinent to the acquired data.
2. Speculation spurred by results of scientific research is recognizably presented as such. This does not include conclusions on the basis of the presented results. Suggestions for follow-up research may rest on speculation, in the form of an interpretation of the acquired results.
3. The system of peer review can only function on the assumption that intellectual property is recognized and respected.
4. A scientific practitioner provides a complete and honest overview of his skills whenever a decision concerning his career or duties is pending.
5. In transferring information in education, a selective representation of available knowledge is either avoided or justified. A clear distinction is made between transferred knowledge and personal opinion or related speculation.

There must be room for discussion in the classrooms. To set an example of an expert and honest academic, a lecturer must not present his or her opinion about something as a fact, with the intention of forcing this opinion upon the students. If a lecturer is involved with societal interest groups, he or she should strive to teach without being affected by his or her involvement with these groups. If possible, the lecturer will clearly state his or her involvement, so that students can place the knowledge that is offered in a context.

2.3. Verifiability

Principle

Presented information is verifiable. Whenever research results are publicized, it is made clear what the data and the conclusions are based on, where they were derived from and how they can be verified.

Best Practice

1. Research must be replicable in order to verify its accuracy. The choice of research question, the research set-up, the choice of method and the reference to sources studied is accurately documented.
2. The quality of data collection, data input, data storage and data processing is guarded closely. All steps taken must be properly reported and their execution must be properly monitored (lab journals, progress reports, documentation of arrangements and decisions, etc.).
3. Raw research data are stored for at least five years. These data are made available to other scientific practitioners at request.
4. Raw research data are archived in such a way that they can be consulted at a minimum expense of time and effort.
5. The source of all educational material, including oral information transfer, is stated.

Wageningen UR attaches a great deal of value to the accessibility and intelligibility of its scientific and technological research for a broader public that extends beyond its scientific colleagues. Researchers are expected to be willing to present the design and results of their research to the public in a comprehensible way.

2.4. Impartiality

Principle

In his scientific activities, the scientific practitioner heeds no other interest than the scientific interest. In this respect, he is always prepared to account for his actions.

Best Practice

1. Scientific practitioners give others room to take their own intellectual stance. This applies particularly in case of a hierarchical relation, like the relation between a teacher and a student or a tutor and a PhD student.
2. The choice of methods and criteria is guided solely by the goal of truth-finding, and not by external goals such as commercial success or political influence.
3. A reviewer consults his conscience as to whether he can offer an impartial assessment of a manuscript, for instance when it concerns a competing research group.
4. In assessing the performance of others (peer review in education, research and manuscripts), a scientific practitioner heeds arguments of scientific substance. He refrains from assessing a manuscript if he is in any way involved in the education or research concerned.
5. A scientific practitioner only defends a certain scientific viewpoint if that viewpoint is based on sufficient scientific grounds. Competing viewpoints must be mentioned and explained.
6. Exclusively assigning one's own study books in education is avoided, in any case at undergraduate level.
7. In its annual report, every university reports on its registration of sideline activities by its staff. Every university registers the sideline activities relevant to scientific practice. Preferably, this register is made publicly accessible.
8. Every scientific practitioner allied with a university provides the institution with an up-to-date overview of his sideline activities for registration purposes.

2.5. Independence

Principle

Scientific practitioners operate in a context of academic liberty and independence. Insofar as restrictions of that liberty are inevitable, these are clearly stated.

Best Practice

1. Whenever a scientific practitioner is commissioned to provide instruction or conduct research, he is allowed - once the parameters have been defined - to execute the assignment without interference by the commissioning party. The research question is of interest to science, aside from the commissioning party's particular concern. The method employed is scientifically valid. The commissioning party has no influence on the research results.
2. Commissioned assignments demonstrably contribute to scientific teaching or research.

Within Wageningen UR, this applies to Wageningen University. For the DLO institutes, this is not an absolute precondition

3. There is no unclarity as to the identity of the commissioning party of a certain scientific activity, the relation between the commissioning party and the executing party, the existence of consultancy relations or other connections, etc.
4. The publication of scientific research results is guaranteed. Arrangements with an external financier always stipulate that the scientific practitioner is at liberty to publish the results within a specified, reasonable period.

Wageningen UR believes that limitations to the public nature of research results are only acceptable if clauses are also included which remove these limitations under special circumstances. For example, the following clause could be included.

- (1) There is a statutory obligation to publish the results.
- (2) In cases where not publishing the results leads to a demonstrable hazard for people and their surroundings.
- (3) Or if a researcher (or institution) can counteract misuse of data only by means of publication.

To support the independence of the practitioner of science who makes use of public funding and/ or is working as part of a PhD project or in an educational context, the description of the research project/ contract cannot contain any provisions that forbid the publication of the results for an indefinite period or that entail a general publication ban.

Student internships at private or commercial institutions fall under the prevailing confidentiality rules of that company. As required for quality evaluations, the internship reports will remain confidentially available to members of the Study Programme Committee and, if desired, the visitation/ review committee.
Thesis projects fall under the responsibility of the University. In principle, the results of thesis projects are therefore accessible to the public, in consultation with the thesis supervisor concerned.

5. External financiers of executed projects are identified by name. For research this means that their names are stated in the publication; for education this means that they are referred to in the course announcement and teaching material.

Any limiting conditions imposed on contract research at Wageningen UR are declared null and void if the contractual owner of the results misuses these results. The practitioner of science can never escape from his or her scientific responsibility.

Chapter 3 **Commentary on the principles set forth in the Code**

1 Scrupulousness: *1: having moral integrity: acting in strict regard for what is considered right or proper*
2: punctiliously exact: <working with scrupulous care>
(main entry: scrupulous)

The actions of a scientific practitioner are scrupulous if they are performed with the dedication and the precision that the proper exercise of the profession requires. Although the scientific practitioner's concern in regard to this principle shall be primarily aimed at promoting the aims for which the profession is intended, the principle of scrupulousness also means not inflicting unnecessary or disproportional damage to the interests of third parties.

2 Reliability: *1: the quality or state of being reliable 2: the extent to which an experiment, test, or measuring procedure yields the same results on repeated trials*

A scientific practitioner acts reliably if he does not fail the justified expectations of others regarding the exercise of his profession. Reliability concerns both the conduct of the scientific practitioner and his written work. A very specific meaning of the term reliability is found in the statistical concept of reliability, which concerns the analysis of experimentally acquired data. Whenever relevant, publications make mention of this statistical uncertainty of research results. Within the context of this Code, the principle of reliability is understood in its broadest sense.

3 Verifiability: *capable of being verified [Verify: to establish the truth, accuracy or reality of]*

Conduct is verifiable if it is possible for others to assess whether it complies with relevant standards (for instance of quality or decency).

4 Impartiality: *not partial or biased: treating or affecting all equally*
(main entry: impartial)

A scientific practitioner is impartial if he does not let personal interest, preference, affection or prejudice affect his judgment and decisions.

5 Independence: *the quality or state of being independent [Independent: not subject to control by others; not requiring or relying on something else]*

When presenting insights as correct and relevant, a scientific practitioner is independent if he allows himself to be influenced by another person's judgement only to the degree that this judgement is deserving of scientific authority.

The definitions of the principles provided in cursive derive from Merriam Webster Online (www.m-w.com).

Chapter 4 Dilemmas

The authors of this Code of Conduct are well aware that this Code does not solve all problems. One can think or actually know of 'grey areas' and dilemmas to which the Code is not directly applicable. To encourage discussion of the Code and its limitations, a number of such cases are set out below.

1 Dilemmas regarding scrupulousness

- A. A well-known scientist has a reputation for his intuitive approach. This approach tends to result in a number of 'loose ends' which he leaves to his subordinates to tie up. Without their contribution ('the dirty work'), his ideas would not progress beyond the status of interesting observations. Nevertheless, the scientific community wholly credits this group production to the well-known figure, who clearly relishes the recognition. Is this acceptable?
- B. May you relinquish restraint in formulating moral and political viewpoints in the media, if your colleagues see no need for preserving nuance and casually express viewpoints which you perceive to be wrong?
- C. A certain researcher is a true perfectionist. Because he refuses to publish research results before they comply with standards that exceed those of his colleagues, the total output of his research group threatens to be lower than seems desirable for the upcoming visitation. May his colleagues expect him to lower his standards?

2 Dilemmas regarding reliability

- A. A teacher is held in high esteem by his students because of his enthusiasm and eloquence. However, carried away by his own passion he sometimes paints pictures that transgress the limits of current knowledge, without indicating this transgression. Is this acceptable?
- B. A researcher has collected a large amount of data and has published results on a socially relevant subject. On the basis of these results, he expresses critical views on this subject. Subsequent to receiving a commission in his area of competence from a third-party stakeholder (the government), he writes a report that is markedly more positive in tone. This shift is based on a slight modification in a number of presuppositions and statistical significance levels, which he attributes to an advance in insight and improved measuring methods. The report is assigned a key role in the government's decision making, but colleague researchers are outraged. Is the researcher reproachable?

3 Dilemmas regarding verifiability

- A. A researcher has performed commissioned research on the basis of an agreement that the results remain confidential for two years; in that period the client can use the results for his own (financial) gain. After two years, the researcher publishes the results in a renowned journal. An interested yet sceptical colleague wishes to access the raw data to verify whether the claims in the article are justified, but the researcher refuses to release the data on the basis of the commission contract. This states that the raw data should remain confidential for five years, after which the researcher may destroy the data. Is this acceptable?
- B. A teacher has written a study book intended for first year students. To increase its readability he has not used source references, offering instead a list of further reading recommendations per chapter. In writing the book, he nevertheless made extensive use of the work of colleagues from all over the world. Should he have made detailed mention of this?

4 Dilemmas regarding impartiality

- A. A scientist is asked for a reference to support a candidate for a substantial individual subsidy. He strongly suspects that other candidates have received inflated references. Should he nevertheless offer a thoroughly honest and impartial assessment?
- B. A teacher is involved in compiling a list of compulsory literature for a course. He proposes a book of his own, for which he receives royalties. If his book is listed, should he be required to transfer the ensuing income?
- C. Researchers have patented a certain discovery, and now wish to capitalize on this patent. This requires additional research, which they would like to perform at their own institute. Is this acceptable or should they establish an independent entity (e.g. an Ltd.)?

5 Dilemmas regarding independence

- A. How much influence may a client have on the research problem statement? Or on the intended approach and method? (When) is he entitled to steer the course of the research? Or of the research reporting?
- B. A particular research project that has been submitted to open tender is amenable to two different research methods. Method A is expensive but very reliable. Method B is much cheaper, yet much less reliable. A researcher is considering submitting a proposal, and judges Method A to be the most appropriate. May he nevertheless choose for Method B in his proposal, in an attempt to increase his chances of winning the commission?
- C. May you modify a research proposal in an NWO¹-Programme to suit the theoretical preferences of the heads of the programme, which can sometimes be deduced from the programme description?

¹ Nether lands Organisation for Scientific Research