EU-CONEXUS Research and Innovation Code of Conduct regarding Research Integrity

GUIDELINES FOR SAFEGUARDING GOOD RESEARCH PRACTICES

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CONTENTS

EU-CONEXUS Statement on Research Integrity

The importance of research and the advantages it brings are totally reliant on its integrity. The EU-CONEXUS holds the belief that research should be free and open to everyone, regardless of political, economic, and other affiliations and that it is an individual right of every researcher. At the same time, research is a social good which promotes human knowledge, innovation, and the educational process and therefore it can contribute to improving health, the quality of life, and well-being of everyone. Even though there are various ways of conducting research in different countries and disciplines, certain principles and professional responsibilities are fundamental to the integrity of research wherever it is conducted.

EU-CONEXUS adopts the four principles of the "European Code of Conduct for Research Integrity" and find resonance with the responsibilities articulated in "The Singapore Statement on Research Integrity", forming a cohesive framework for Good Research Practices.

PRINCIPLES

HONESTY

in developing,undertaking, reviewing, reporting, and communicating research in a transparent, fair, full, and unbiased way

ACCOUNTABILITY

for the research from idea to publication, for its management and organisation, for training, supervision, and mentoring, and for its wider societal impacts

RESPECT

for colleagues, research participants, society, ecosystems, cultural heritage, and the environment

RELIABILITY

in ensuring the quality of research, reflected in the design, the methodology, the analysis, and the use of resources

RESPONSIBILITIES

1. **Integrity:** Researchers should take responsibility for the trustworthiness of their research.

2. **Adherence to Regulations:** Researchers should be aware of and adhere to regulations and policies related to research.

3. **Research Methods:** Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence, and report findings and interpretations fully and objectively.

4. **Research Records:** Researchers should keep clear, accurate records of all research in ways that will allow verification and replication of their work by others.

5. **Research Findings:** Researchers should share data and findings openly and promptly as soon as they have had an opportunity to establish priority and ownership claims.

RESPONSIBILITIES

6. **Authorship:** Researchers should take responsibility for their contributions to all publications, funding applications, reports, and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria.

7. **Publication Acknowledgement:** Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors, etc., but do not meet the authorship criteria.

8. **Peer Review:** Researchers should provide fair, prompt, and strict evaluations and respect confidentiality when reviewing others' work.

9. **Conflict of Interest:** Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications, and public communications as well as in all review activities.

10. **Public Communication:** Researchers should limit professional comments to their recognized expertise when engaged in public discussions about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.

11. **Reporting Irresponsible Research Practices:** Researchers should report to the appropriate authorities any suspected research misconduct, including fabrication, falsification, or plagiarism and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improper listing of authors, failing to report conflicting data, or the use of misleading analytical methods.

12. **Responding to Irresponsible Research Practices:** Research institutions as well as journals, professional organisations, and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behaviour in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record.

13. **Research Environments:** Research institutions should create and sustain environments that encourage integrity through education, clear policies, and reasonable standards for advancement while fostering work environments that support research integrity.

14. **Societal Considerations:** Researchers and research institutions should recognise that they have an ethical obligation to weigh societal benefits against risks inherent in their work.

"The EU-CONEXUS Research Integrity Committee"

The Research Integrity Committee (RIC) is composed of one representative from the research community of each partner University of EU-CONEXUS. Its role is to monitor and promote Research Integrity and Ethics, provide internationally vetted ethical principles, give guidelines regarding Good Research Practices, disseminate Research Integrity Policy and organize training courses. It has purely an advisory role to the EU CONEXUS community.

The EU-CONEXUS RIC believes and supports the free and unimpeded research activity, regardless of political, economic, or other affiliations, and the fact that research is an individual right of every researcher. At the same time, it is a social good which promotes human knowledge, innovation, the educational process and potentially contributes to improving the health, the quality of life, and the well-being of society as a whole.

This document reflects the EU-CONEXUS policy on Code of Conduct Research Integrity that may mirror the EU-CONEXUS alliance Partners Policy as a base. The basic documents that were used to build the EU-CONEXUS CCRI is the "European code of conduct for research integrity" (2017) and its revised edition (2023). For additional information the reader should consult the Deliverable No D1.5 of the RFS project, entitled: EU-CONEXUS Research and Innovation code of the RFS project,of conduct regarding Research Integrity that is available here.

Research Integrity Principles

RESEARCH INTEGRITY

Research integrity can be broadly defined as the commitment of all research performing and financing parties to the ethical principles and high professional standards essential for the responsible conducting of research. The above definition summarises the following definitions of Research Integrity that are used by numerous Universities and Research Organisations:

Research Integrity:

"means conducting research in such a way that allows others to have confidence and trust in the methods and the findings of the research. It relates both to the scientific integrity of conducted research and to the professional integrity of researchers" (University of Edinburgh, 2021).

"is a broad concept covering a number of principles and sets of practice in the conduct of research. These principles and practices are intended to ensure that researchers are ethically responsible and methodologically rigorous in the context of creating scholarly inquiry and the creation of knowledge. Research integrity is distinguished from simple error through the intentionality of the researcher to knowingly violate the norms and standards of good scholarly inquiry. Research integrity violations are not honest mistakes" (Encyclopedia of Quality of Life and Well-Being Research, 2014).

"all of the rules and values that must govern research in order to ensure its honesty and scientific rigor" (INSERM).

"deals with "best practices" or rules of professional practice of researchers and stems from an OECD report of 2007" (Wikipedia).

Research is widely viewed as an essential element of contemporary society and the primary source of innovation across all academic disciplines. However, to be useful, research must be trustworthy. The international community expects research to be planned, conducted, and reported truthfully and reliably. The primary responsibility for ensuring this lies with individual researchers and institutions. However, the entire research community, which also encompasses journals, funders, and regulators, has responsibilities to fulfil in order to maintain high standards of research integrity. Good research practices are based on the fundamental principles of research integrity and, in accordance with the European Code of Conduct for Research Integrity, they are reliability, honesty, respect and accountability.

GOOD RESEARCH PRACTICES

In the European Code of Conduct for Research Integrity (2023), good research practices are described in the following contexts:

Research Environment

Training, Supervision and Mentoring

Research Procedures

Safeguards

Data Practices and Management

Collaborative Working

Publication, Dissemination and Authorship

Reviewing and Assessment

Each context is described below in detail and followed by the Guidelines on Good Research Practices (hereinafter: Guidelines) prepared by the Research Integrity Committee (hereinafter: RIC) for EU-CONEXUS European University. The Guidelines are based on the principles of the European Code of Conduct and are intended to assist the EU-CONEXUS academic community in assessing the compliance with research ethics by ensuring the conformity with the principles of academic integrity.

Principles

— Research institutions and organisations promote awareness and resource incentives to ensure a culture of research integrity.
— Research institutions and organisations create an environment of mutual respect and promote values such as equity, diversity, and inclusion.
— Research institutions and organisations create an environment free from undue pressures on researchers that allows them to work independently and according to the principles of good research practice.
— Research institutions and organisations demonstrate leadership in clear policies and procedures on good research practice and the transparent and proper handling of suspected research misconduct and violations of research integrity.
— Research institutions and organisations actively support researchers who receive threats and protect bona fide whistleblowers, taking into account that early career and short-term employed researchers may be particularly vulnerable.
— Research institutions and organisations support appropriate infrastructure for the generation, management, and protection of data and research materials in all their forms that are necessary for reproducibility, traceability, and accountability.

Guidelines

— It is recommended that EU-CONEXUS institutions to be provided with Institutional Ethics Committee (hereinafter: the Committee). The competence of the members of the Committee must cover the main scientific disciplines of a certain institution and studies as well as typical ethical issues related to the field of science. The main function of the Committee is to assess the compliance of the planned research with the research ethics before the start of the research. However, the Committee may also provide for supervisory and advisory functions. The activities of the Committee must be based on ethical principles (e.g., objectivity, accountability, and transparency). Information on a member of the Committee must be provided on the website of the research and study institution.

It is underlined that any Research misconduct issue will be examined by the partner University dedicated Committee.

— The Committee should provide general information and/or guidelines on good research practice in terms and conditions of grants and contracts. Each of the calls is to provide information about how research integrity is dealt with during the assessment procedure, including what is expected of peer reviewers and evaluation committee members.

— The Committee should provide a clause on research integrity in application forms; in some cases, researchers may be required to sign a formal agreement.

— Guidelines emphasise the personal responsibility of each researcher in terms of awareness of ethical standards of their professional behaviour in science as well as respect for the fundamental human rights, dignity, and values.

— Researcher needs to be tolerant to the existing differences and needs to eliminate every observable sign of discrimination in his environment.

— Researchers should strive to achieve a high level of competence in their work.

— Researchers should encourage ethical behaviour of their students, associates, and colleagues.

— Researchers should plan, conduct, and reporting on their own research in accordance with the known standards of scientific competence and research ethics. The falsification of scientific data or any type of plagiarism is not allowed.

— Researcher(s) should encourage and promote ethical behaviour within their research teams, supervision or collaboration

— EU-CONEXUS RIC maintains a culture of research integrity and ethics, promotes mutual respect and values such as equity, diversity, and inclusion, provides guidance about responsible research practices and research integrity, supports the management and protection of data and their reproducibility, traceability and accountability, creates opportunities for community-building activities, ensures an open and safe environment and fosters collaboration across disciplines, sectors and countries.

Principles

— Research institutions and organisations ensure that researchers receive rigorous training in research design, methodology, analysis, dissemination, and communication.

— Research institutions and organisations develop appropriate and adequate training in ethics and research integrity to ensure that all concerned are made aware of the relevant codes and regulations and develop the necessary skills to apply these to their research.

— Senior researchers, research leaders, and supervisors mentor their team members, lead by example, and offer specific guidance and training to properly develop and structure their research activities.

— Researchers across the entire career path, from junior to the most senior level, undertake training in ethics and research integrity.

Guidelines

— For EU-CONEXUS, the effective education[1] of all researchers from junior to senior level in research integrity is a central component for long-term globally successful research.

1. Training aimed at developing the intellectual, moral, and affective capacity of people in accordance with the culture and the norms of coexistence of the society to which they belong. At the same time, it is the transmission of knowledge to a person so that he or she acquires certain training.

Education is the process of facilitating learning or the acquisition of knowledge as well as skills, values, beliefs, and habits. The educational process occurs through research, debate, storytelling, discussion, teaching, example, and training in general. Education is not only a process of acquiring knowledge, it is also present in all our actions, feelings, and attitudes. Education is generally carried out under the direction of authority figures, but students can also educate themselves in a process called self-taught learning. The set of people who have an active role in education are called the Educational Community. Any experience that has a formative effect on the way one thinks, feels, or acts can be considered educational.

— The key for the fruitful implementation of principles and practices of research integrity in research institutions and organisations and for the development of the awareness of research integrity among individual researchers in research institutions and organisations is based on a positive and continuous approach to and confrontation with research integrity issues.

— The establishment of relevant education programmes for all researchers across the career path contributes to the embedding of the principles and practices or sustainable research integrity into the culture of research. Education programmes are based on the elements of training, supervision, and mentoring and comply with the requirements for each career level.

— The researchers are introduced to the relevant codes and regulations. This includes among others the areas of research design, ethics, methodology, analysis, and data management as well as the management of copyright and intellectual property.

— A comprehensive and transparent design of educational offers increase the acceptance, active awareness, and an open dialogue in the context of research integrity issues.

— Supervisors and mentors play a key role in living research integrity. Because of their proximity to early career researchers, they have a special responsibility and act as role models. Supervisors and mentors must also be trained accordingly.

— The EU-CONEXUS RIC promotes education and training to ensure that all concerned are made aware of the relevant codes and regulations, especially PhD students and young post-doctoral researchers.

Principles

— Researchers take into account the state-of-the-art in developing research ideas.

— Researchers design, carry out, analyse, and document research in a careful and well-considered manner.

— Research protocols take account of, and are sensitive to, relevant differences among research participants, such as age, gender, sex, culture, religion, worldview, ethnicity, geographical location, and social class.

— Researchers make proper and conscientious use of research funds.

— Researchers share their results in an open, honest, transparent, and accurate manner, and respect confidentiality of data or findings when legitimately required to do so.

Researchers report their results and methods, including the use of external services or AI and automated tools, in a way that is compatible with the accepted norms of the discipline and facilitates verification or replication, where applicable.

Guidelines

— EU-CONEXUS recognise the freedom of researchers to choose approaches to solving particular research problems. However, the Committee has the right and the obligation to ensure that the research is conducted in accordance with some general (e.g., legal, financial, or ethical) precepts.

— With supporting and controlling mechanisms, the Committee should increase the responsibility of the researchers for being familiar with the national, discipline-specific, or institutional regulations governing research integrity rules and guidelines, regulations of intellectual property rights, and the relevant requirements of the institutions.

— Regardless of discipline, researchers must adopt and promote in others high standards of professional conduct. Professional conduct in research implies not only the acceptance of, but also the commitment to research integrity principles in each researcher´s own actions as well as in their responses to the actions of other researchers.

— The EU-CONEXUS RIC clearly defines that the responsibility for ensuring that students or other inexperienced researchers understand good research practice lies with all members of the research community, but particularly with Principal Investigators of institutes.

— In case any aspect of researcher's work is delegated, researcher is to ensure that the person to whom it is delegated has the competence to carry it out.

Principles

— Researchers, research institutions, and organisations comply with relevant codes, guidelines, and regulations.

— Researchers handle research participants and subjects (be they human, animal, cultural, biological, environmental, or physical) and related data with respect and care, and in accordance with legal provisions and ethical principles.

— Researchers have due regard for the health, safety, and welfare of the community, of collaborators, and others connected with their research.

— Researchers recognise and weigh potential harms and risks relating to their research and its applications and mitigate possible negative impacts.

— Researchers overseeing projects that cross professional boundaries, such as citizen science or participatory research, take responsibility for ensuring research integrity standards, oversight, training, and safeguards.

Guidelines

— EU-CONEXUS institutions and researchers should perform risk analysis with reasonable frequency to determine possible research- related threats to people`s health, environment, data, and cyber security. They should specify safeguarding activities to anticipate and prevent these threats.

— Researchers should follow the Laboratory Safety Manual in the EU-CONEXUS website.

— The EU-CONEXUS RIC supports the implementation of research integrity policies and processes in a harmonised manner across the research performing organisations.

— The EU-CONEXUS RIC monitors international developments and policies in the area of research integrity and periodically reviews the integrity policy.

— The EU-CONEXUS RIC communicates the importance of research integrity to research community and to the general public;

— The EU-CONEXUS RIC shares experiences on the number and type of the instances of research misconduct that have been dealt with through formal mechanisms within the institutions;

— Researchers should apply the **3Rs principles of Replacement, Reduction, Refinement**, which were first described by William Russell & Rex Burch in 1959. Specifically, researchers should ensure that any new procedures or improvements in techniques that avoid or replace animal use, reduce the number of animals needed for research, testing, or diagnosis, or reduce the suffering arising from scientific procedures or husbandry and care are communicated to other researchers and to veterinary and animal care staff, as appropriate.

— When doing research with animals as subjects as few experimental animals as possible are to be used in research.

— Animals must be treated humanely in research.

— Researchers and research institutions who use animals for scientific purposes are responsible for their keeping in the laboratory or other institution spaces. Each animal should be taken care of properly, according to their regular living conditions.

— Researchers and research institutions must take all possible measures to eliminate unpleasant living conditions, infections, diseases, and pain.

— Experimental procedures that cause pain, stress, or deprivation in animals of any kind are to be used only when there are no other ways and methods to arrive at scientific knowledge that is of exceptional value.

— While doing research with animals as subjects, researchers should be competent in terms of being familiar with the characteristics of certain species. It should be borne in mind that some animal species suffer less than others, and therefore, whenever possible, researchers must choose members of the species that are more resistant to pain and unpleasant treatment.

— The competence of researcher is essential considering that an appropriate experimental design can be the starting point for ensuring less suffering for the animals.

— Researchers need to give ethical consideration to work involving ecosystems, including the potential impacts of scientific observation, collection of organisms and/or experimental manipulation of ecosystems.

Principles

— Researchers, research institutions, and organisations ensure appropriate stewardship, curation, and preservation of all data,metadata, protocols, code, software, and other research materials for a reasonable and clearly stated period.

— Researchers, research institutions, and organisations ensure that access to data is as open as possible, as closed as necessary, and where appropriate in line with the FAIR Principles (Findable, Accessible, Interoperable and Reusable) for data management.

— Researchers, research institutions, and organisations are transparent about how to access and gain permission to use data, metadata, protocols, code, software, and other research materials.

— Researchers inform research participants about how their data will be used, reused, accessed, stored, and deleted, in compliance with GDPR.

— Researchers, research institutions, and organisations acknowledge data, metadata, protocols, code, software, and other research materials as legitimate and citable products of research.

— Researchers, research institutions, and organisations ensure that any contracts or agreements relating to research results include equitable and fair provisions for the management of their use, ownership, and protection under intellectual property rights.

Guidelines

— EU-CONEXUS should maintain a policy on the retention of data that includes information on the ownership of data; secure and safe disposal of data, incl. after the retention period; responsibility for and access to data; accessibility and ownership when researchers leave the institution, open access, etc.

— As early as in the planning phase of each research project, researchers should compile a Data Management Plan (DMP), i.e. a written description of which data are expected to be acquired or generated during the research project; how those data, incl. sensitive data, will be managed, described, analysed, stored, and protected, incl. data backup; how the IT costs of data management will be covered; what mechanisms will be used at the end of the project to share and preserve the data, etc.

— The Committee should require a DMP with every funding application. The assessment criteria should include the principle that applications with an open data statement are preferred (if appropriate).

— Researchers and research institutions should preform research according to scientific and ethical values. Each measurement procedure, evaluation, and diagnostics as well as every scientific report must be based on valid procedures and techniques.

— An acceptable data-gathering procedure is the one that provides necessary and sufficient data for interpretation and is consistent with the purpose for which it is used.

— Researchers must be familiar with the measurement characteristics of the procedures and techniques used. They are obliged to take appropriate measures to prevent misuse and misinterpretation of measurement results.

— Researchers and research institutions should follow specific policies and procedures that can address legitimate concerns such as data protection, privacy, and Intellectual Property Rights, and ensure compliance with national and international regulations such as the General Data Protection Regulation (GDPR) of the European Union.

— Researchers and research institutions must properly and in accordance with the professional regulations store documentation on their own professional or scientific work. Only in such a case it is possible to achieve an insight into the results of work, to replicate the findings of specific research, and to perform scientific verification of the results presented. Researchers and research institutions are responsible for organising and storing documentation according to the rules of the profession. It is recommended that the data be stored for at least 5 years, and that longer storage periods be required in con agreements, funded research projects, and professional assignments.

— When interpreting measurement results, researchers must take into account all the characteristics of the procedure or technique used as well as the characteristics of the measurement subject. In that case, the possibility of misinterpretation of the achieved results is reduced to minimum. Researchers should be especially careful about the restraints in interpretation. Integrity and safety of measurement procedures are crucial. Research institutions are obliged to ensure proper research resources for their scientific staff.

— Research institutions and researchers are responsible for the nature of the collected data as well as their possible use, misuse, and protection. When a data-gathering procedure concerns live subjects (animals or human participants), the informed consent of the regulating institutions/persons involved must be obtained for each data collection, based on respect for fundamental ethical principles.

Principles

— All partners in research collaborations take responsibility for the integrity of the research and its results.

— All partners in research collaborations formally agree at the outset, and monitor and adapt as necessary, the goals of the research and the process for communicating their research as transparently and openly as possible.

— All partners in research collaborations formally agree at the outset, and monitor and adapt as necessary, the expectations and standards concerning research integrity, the laws and regulations that will apply, protection of the intellectual property of collaborators, and procedures for handling conflicts and possible cases of misconduct.

— All partners in research collaborations are consulted and formally agree on submissions for publication of research results and other forms of dissemination or exploitation of the results.

Guidelines

— National law and the relevant legislation concerning the research integrity, Intellectual Property protection, and dealing with research misconduct may differ considerably in different countries. Therefore, The EU-CONEXUS RIC should ensure that all formal agreements for international research collaboration include a section on expectations concerning research integrity and an agreement on the process to be used if an allegation of research misconduct were made against someone working on the research project.

— The EU-CONEXUS RIC should share information at national and international levels regarding cases of research misconduct which are under investigation, or regarding proven cases, whether or not sanctions have been imposed.

— The Committees of the EU-CONEXUS institutions should ensure that the mechanisms set out in their research integrity policies for investigating allegations of misconduct include a means of investigating the allegation even if a person leaves the institution, e.g., moves from one institution to another (either within the same or another country), and that both institutions will be involved in pursuing these allegations.

— When considering applications for research positions, EU-CONEXUS institutions should require applicants to state that they have not had an allegation of research misconduct against them upheld (within a previous specified period), and that they are not subject to an ongoing investigation.

Principles

— Authors formally agree on the sequence of authorship, acknowledging that authorship itself is based on: (1) a significant contribution to the design of the research, relevant data collection, its analysis, and/ or interpretation; (2) drafting and/or critical reviewing the publication; (3) approval of the final publication; and (4) agreeing to be responsible for the content of the publication, unless specified otherwise in the publication.

— Authors include an 'Author Contribution Statement' in the final publication, where possible, to describe each author's responsibilities and contributions.

— Authors acknowledge important work and contributions of those who do not meet the criteria for authorship, including collaborators, assistants, and funders who have enabled the research.

— Authors disclose any financial and non-financial conflicts of interest as well as sources of support for the research or the publication.

— Authors and publishers promptly issue corrections or retract publications, if necessary, the retraction processes are clear and the reasons stated, and authors are given credit for issuing corrections post-publication.

— Authors, research institutions, publishers, funders, and the research community acknowledge that negative results can be as relevant as positive findings for publication and dissemination.

— Authors are accurate and honest in their communication to colleagues, policymakers, and society at large.

— Authors are transparent in their communication, outreach, and public engagement about assumptions and values influencing their research as well as the robustness of the evidence, including remaining uncertainties and knowledge gaps.

— Authors adhere to the same criteria as those detailed above whether they publish in a subscription journal, an open access journal, or in any other publication form, including preprint servers.

Guidelines

— Publication and dissemination will be central to the mission of EU-CONEXUS.

— Authorship in a publication is the collective decision of all authors. For the clarification of authorship, Vancouver Recommendations could be adopted. According to them, four criteria must be fulfilled for someone to qualify as a co-author of a paper:

  – The person in question must have made a substantial contribution to the conception or design of the work or to the acquisition, analysis, or interpretation of the data for the work.

  – She / he must have been involved in drafting the work or revising it critically for important intellectual content.

  – She / he must have approved the version of the manuscript to be published.

  – She / he must agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. In addition to being accountable for the parts of the work she / he has done, an author should be able to identify which co-authors are responsible for specific other parts of the work

— For describing the roles and responsibilities of each co-author, CRediT (Contributor Roles Taxonomy) is recommended as a tool that can be used to represent the roles typically played by contributors to scientific scholarly output.

— Authors acknowledge important work and intellectual contributions of others in case they do not meet the criteria for authorship.

— The Committee should specify policies and practices what Intellectual Property Rights belong to researchers and/or, wherever applicable, to their employers or other parties, including external commercial or industrial organisations, as possibly provided for under specific (e.g. collaboration) agreements.

— Intellectual Property Rights defined in each institution and in specific agreements (wherever applicable) should be taken into consideration prior to publishing.

— EU-CONEXUS institutions should acknowledge co-authorship when evaluating staff/grant applicants as evidence of a constructive approach to the conducting of research. They should therefore develop strategies, practices, and procedures to provide researchers, including early-stage ones, with the necessary framework conditions so that they can enjoy the right to be recognised and listed and/or quoted, in accordance with their actual contributions, as co-authors of papers, patents, etc., or to publish their own research results independently from their supervisor(s).

— Researchers (especially senior researchers) should ensure, in compliance with their contractual arrangements, that the results of their research are disseminated and exploited, e.g., communicated, transferred into other research settings or, if appropriate, commercialised.

Principles

— Researchers take seriously their commitment and responsibility to the research community through refereeing, reviewing, and assessment, and this work is recognised and rewarded by researchers, research institutions, and organisations.

— Researchers, research institutions, and organisations review and assess submissions for publication, funding, appointment, promotion, or reward in a transparent and justifiable manner, and disclose the use of AI and automated tools.

— Reviewers and editors declare any actual or perceived conflicts of interest and, when necessary, withdraw from involvement in discussion and decisions on publication, funding, appointment, promotion, or reward.

— Reviewers maintain confidentiality unless there is prior approval for disclosure.

— Reviewers and editors respect the rights of authors and applicants, and seek permission to make use of the ideas, data, or interpretations presented.

— Researchers, research institutions, and organisations adopt assessment practices that are based on principles of quality, knowledge advancement, and impact that go beyond quantitative indicators and take into account diversity, inclusiveness, openness, and collaboration where relevant.

Guidelines

— EU-CONEXUS should maintain a policy of the reviewer selection process by choosing reviewers whose expertise most closely matches the manuscript's/application´s topic and preferably excluding reviewers from the same institution as that of the author(s).

— In order to disclose any potential conflict of interest, EU-CONEXUS should ask reviewers to decline the assignment if they believe there is a potential conflict of interest, feel unqualified to do the review, or cannot do the review on time.

— EU-CONEXUS should develop procedures of withdrawing unsuitable reviewers and/or reviews.

— EU-CONEXUS should formalise written instructions on the purpose as well as the expectations for the scope, content, and quality of the review and make them available to reviewers.

— EU-CONEXUS should make it explicit to researchers/applicants and reviewers in which review system (including the stages of review and evaluation criteria, if applicable) the review process is/shall be performed, and guarantee the anonymity of the review process parties in accordance with the used system.

— EU-CONEXUS should allow researchers to suggest preferred reviewers and reviewers they would prefer to be excluded.

Principles

Recently, researchers have been taking advantage of AI software applications and collecting and analysing large amounts of data using AI algorithms. This provides them with an opportunity to access open and closed data sets that permit access with statements of consent of the owner/user (e.g., when a person joins an insecure internet network or visits a website of any type). We have to be aware of the risks associated with this kind of data collection and AI post-processing, as the researcher may have an unfair advantage over other researchers, who do not have access to the same AI methods and use conventional research data collection and analysis.

Researchers and research institutions of EU-CONEXUS need to be aware of and comply with Article 5 of Regulation (EU) 2016/679 (General Data Protection Regulation), which sets out seven key principles related to the processing of personal data:

Lawfulness, fairness and transparency: Identify a legal basis, use data in reasonable and ethical ways, and provide people with comprehensive information.

Purpose limitation: Only collect personal data for a specified, explicit, and legitimate purpose, and don't process it for incompatible further purposes.

Data minimization: Only collect as much data as you need for a specific purpose.

Accuracy: Keep personal data accurate, complete, and up to date.

Storage limitation: Don't keep personal data for longer than necessary.

Integrity and confidentiality: Take appropriate measures to keep data secure.

Accountability: Ensure you can demonstrate how you and your data processors comply with the data protection principles.

Violations of Research Integrity

Failing to follow good research practices violates professional responsibilities. It damages the research processes, degrades relationships among researchers, undermines trust in and the credibility of research, wastes resources, and may expose research subjects, users, society, or the environment to unnecessary harm.

Research Misconduct and other Unacceptable Practices

Research misconduct is traditionally defined as fabrication, falsification, or plagiarism (the so-called FFP categorisation) in proposing, performing, or reviewing research or in reporting research results:

— Fabrication is making up results and recording them as if they were real.

— Falsification is manipulating research materials, equipment, images, or processes, or changing, omitting, or suppressing data or results without justification.

— Plagiarism is using other people's work and ideas without giving proper credit to the original source, thus violating the rights of the original author(s) to their intellectual outputs.

These three forms of violation are considered particularly serious, since they distort the research record.

There are further violations of good research practice that distort the research record or damage the integrity of the research process or of researchers. In addition to violations of the good research practices set out in this European Code of Conduct, examples of other unacceptable practices include, but are not confined to:

— Allowing funders, sponsors, or others to jeopardise independence and impartiality in the research process or unbiased reporting of the results.

— Misusing seniority to encourage violations of research integrity or to advance one's own career.

— Delaying or inappropriately hampering the work of other researchers.

— Misusing statistics, for example to inappropriately suggest statistical significance.

— Hiding the use of AI or automated tools in the creation of content or drafting of publications.

— Withholding research data or results without justification.

— Chopping up research results with the specific aim of increasing the number of research publications ('salami publications').

— Citing selectively or inaccurately.

— Expanding unnecessarily the bibliography of a study to please editors, reviewers, or colleagues, or to manipulate bibliographic data.

— Manipulating authorship or denigrating the role of other researchers in publications.

— Re-publishing substantive parts of one's own earlier publications, including translations, without duly acknowledging or citing the original ('self-plagiarism').

— Establishing, supporting, or deliberately using journals, publishers, events, or services that undermine the quality of research ('predatory' journals or conferences and paper mills).

— Participating in cartels of reviewers and authors colluding to review each other's publications.

— Misrepresenting research achievements, data, involvement, or interests.

— Accusing a researcher of misconduct or other violations in a malicious way.

— Ignoring putative violations of research integrity by others or covering up inappropriate responses to misconduct or other violations by institutions.

— Deviation or divergence from approved research protocols, consent process or study addenda.

In their most serious forms, unacceptable practices are sanctionable, but at the very least every effort must be made to prevent and discourage them through training, supervision, and mentoring and through the development of a positive and supportive research environment.

The Organisation of Economic Co-operation and Development (OECD) types of misconduct are adopted in the present document as illustrated in Table 2.

Table 2

Description of types of misconduct by scientists and scholars according to OECD.

Core "Research Misconduct"	Research practice misconduct
— Fabrication of data — Falsification of data — Plagiarism **FFP normally includes:** — Selectively excluding data from analysis — Misinterpreting data to obtain desired results (including inappropriate use of statistical methods) — Doctoring images in publications — Producing false data or results under pressure from a sponsor	— Using inappropriate (e.g., harmful or dangerous) research methods — Poor research design — Experimental, analytical, computational errors — Violation of human subject protocols — Abuse of laboratory animals — Violation of ethical authorisation — Inappropriate management of research involving plants or ecosystems

Data-related misconduct	Publication-related misconduct
— Not preserving primary data — Inadequate, poor or bad data management — Withholding data from the scientific community — NB: The above applies to physical research materials, including biological specimens as well	— Claiming undeserved authorship — Denying authorship to contributors — Artificially proliferating publications ("salami-slicing") — Failure to correct the publication record
Personal misconduct in the research setting	**Financial and other misconduct**
— Inappropriate personal behaviour, harassment — Inadequate mentoring, counselling of students — Insensitivity to social or cultural norms	— Peer review abuse, e.g., non-disclosure of conflict of interest, unfairly holding up a rival's publication — Misrepresenting credentials or publication record — Misuse of research funds for unauthorised purchases or for personal gain — Making an unsubstantiated or malicious misconduct allegation

Source: OECD 2007. Best Practices for Ensuring Scientific Integrity and Preventing Misconduct.

Dealing with Violations and Allegations of Misconduct

National or institutional guidelines differ as to how violations of good research practice or allegations of misconduct are handled in different countries. However, it always is in the interest of society and the research community that violations are handled in a consistent and transparent fashion. The following principles that need to be incorporated into any investigation process are set out in the European Code of Conduct.
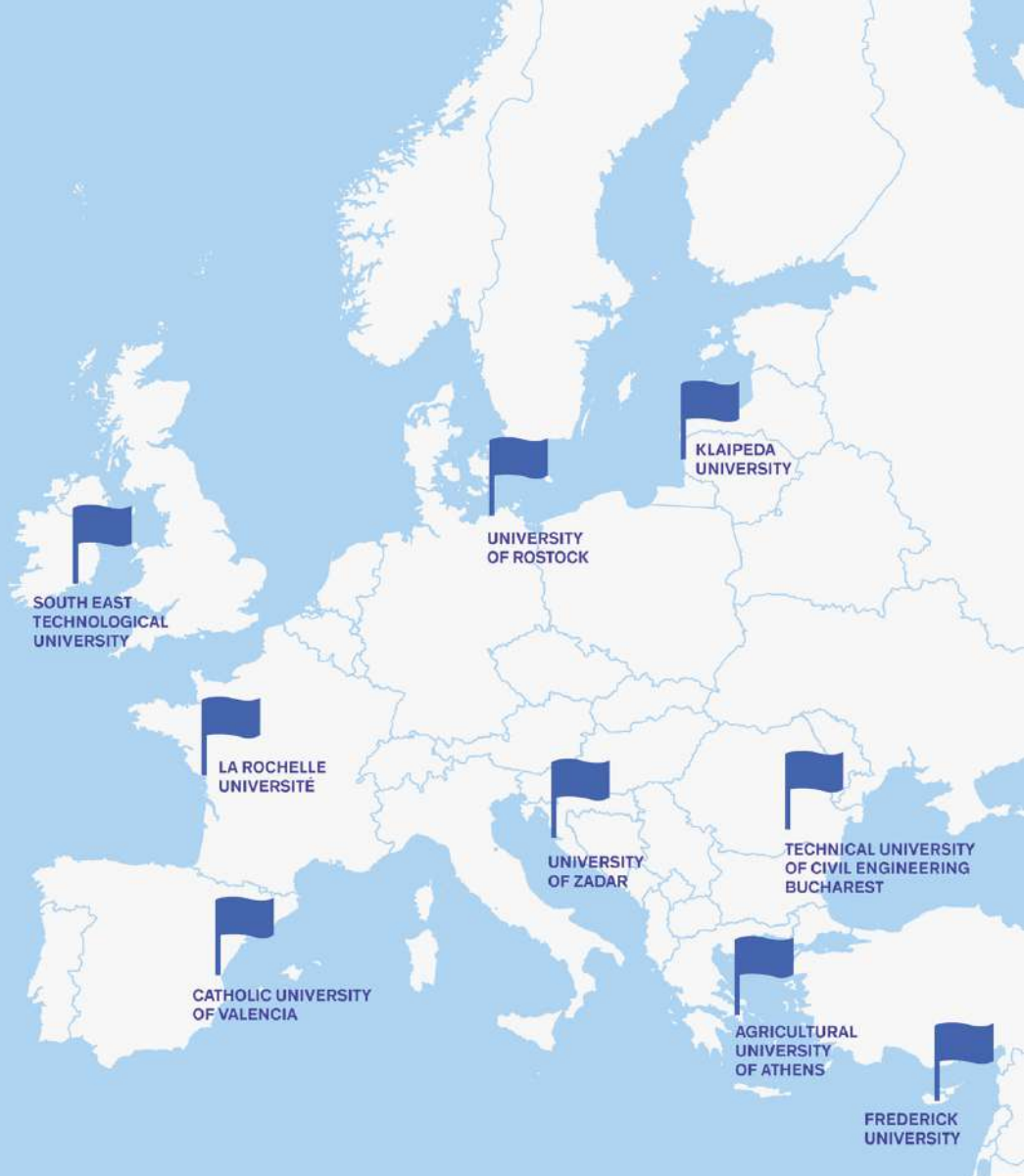
Integrity

— Investigations are fair, comprehensive, and conducted expediently, without compromising accuracy, objectivity, or thoroughness.

— The parties involved in the procedure declare any conflict of interest that may arise during the investigation.

— Measures are taken to ensure that investigations are carried through to a conclusion.

— Procedures are conducted confidentially in order to protect those involved in the investigation.

— Institutions protect the rights of 'whistleblowers' during investigations and ensure that their career prospects are not endangered.

— General procedures for dealing with violations of good research practice are publicly available and accessible to ensure their transparency and uniformity.

Fairness

— Anyone accused of research misconduct is presumed innocent until proven otherwise.

— Persons accused of research misconduct are given full details of the allegation(s) and allowed a fair process for responding to allegations and presenting evidence.

— Action is taken against persons for whom an allegation of misconduct is upheld, which is proportionate to the severity of the violation.

— Appropriate restorative action is taken when researchers are exonerated of an allegation of misconduct.

— Investigations are conducted confidentiallyin order to protect those involved.

— Investigations into research misconduct consider the role of both individuals and institutions contributing to the breach of good research practice

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