CEITEC

Central European Institute of Technology

BRNO | CZECH REPUBLIC

# Code of Scientific Conduct and Research Integrity

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# 1. INTRODUCTION

CEITEC (Central European Institute of Technology) is focused on the establishment of a European centre of excellence in the area of life sciences, advanced materials and technologies. Scientific research is the core of our activities, as is the pursuit of knowledge through the activities of education, training, experimental design and publication. These tasks can only be performed at their optimal level in an environment where a commonality is understood and scientific norms are upheld. Within this document, The CEITEC Code of Scientific Conduct and Research Integrity (the "Code" hereinafter), outlines institutional policies to shape a supportive and responsible research environment.

## 1.1. Purpose

In 2012, the CEITEC Code of Ethics was established. The present Code will serve as a replacement of the original CEITEC Code of Ethics. This CEITEC Code shall be a reference for the partners within the CEITEC consortium, with respect to all employees of CEITEC where matters of scientific conduct and research integrity are concerned. The purpose of this document is to set internal rules and state the principles to ensure a fruitful research environment inside CEITEC.

The CEITEC Code is based on **The European Code of Conduct for Research Integrity**[1], which will be referenced throughout this document and has been endorsed by the European University Association, and members of universities and academies in more than 40 countries from the Council of Europe region. As stated in other CEITEC documents, certain standards are emphasized. Specifically, they are:

- **General principles**
- **Good research practices**
- **Violations of research integrity**

[1] The European Code of Conduct for Research Integrity is a set of general principles and requirements which specifies the principles, practices, and violations in research, intended for researchers, as well as employers and/or funders of researchers, released by All European Academies in 2017. Available at: http://www.allea.org/wp-content/uploads/2017/03/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017-1.pdf

# 2. GENERAL PRINCIPLES

Common values are an important underpinning to ensure that good research practices are re-enforced. Research, as our core activity, involves direct and indirect collaboration both within our institution and with the external scientific communities. This requires us to support principles of best practice within the scientific community at large, and to transcend national, cultural, and political barriers. At the centre of these activities are the freedom to pursue scientific research activities, in a responsible and fair manner. Thus the activities of researchers, their employees, funders and trainees, are to perform research in a manner that not only respects the integrity of data, experimental design, publication, and intellectual property, but also the individual rights of all persons pursuing research activities. Moreover, it is the responsibility of all members of the CEITEC scientific community to promote the principles and practices consistent with this Code. The general principles were adapted from the Technical University of Eindhoven Code of Scientific Conduct.[2]

## 2.1. Trustworthiness

Scientific researchers, academic staff and students base their views on scientific evidence.

- Fabrication, falsification, and plagiarism are unacceptable practices. The selective omission of research results must be documented and justified.
- In the presentation of experimental results, it should be represented within its full context and not overstated.
- In communication with the public, scientific results should be presented accurately and in its complexity, to avoid false expectations and over-simplifications.
- Personal opinions or speculations must be presented as such, and should not be presented as facts.

## 2.2. Honesty

Scientific researchers, academic staff and students must uphold the standards of quality in their field.

- Intellectual property and publication rights must be respected.
- Research results are developed, reviewed and published in a transparent and unbiased manner.

[2] The TU/e Code of Scientific Conduct
https://assets.tue.nl/fileadmin/content/universiteit/Over_de_universiteit/integriteit/TUe_Code_of_Scientific_Conduct_21-1-2015.pdf

- Authorship and inventorship shall be assigned only with genuine intellectual contribution.
- In the case of research-related activities, the expertise of staff members shall be considered before accepting/distributing tasks, to overcome favouritism.
- Review assessment of other's scientific research shall be based solely on scientific grounds.
- In educational or mentorship capacities, these activities shall be performed at the highest level of current knowledge.

## 2.3. Openness

Open, unbiased, and respectful communication and behaviour is essential to a healthy scientific community.

- Intellectual contributions and scientific discourse are necessary for a healthy academic climate. Insights and critics are welcome from all, irrespective of academic rank.
- Respect for all colleagues without discrimination based on gender, age, ethnicity, national origin, religious beliefs, sexual orientation, or academic rank.
- As an academic community we defend freedom in thought, research, expression, and the exchange of views and information.
- As an academic community we allow and encourage others to develop or take their own intellectual stance in research, design and education.
- As an academic community we reject all forms of abuse of position and other forms of harassment and degrading treatment, including sexual coercion, which is outside of the professional framework.
- Professional recommendation letters written by CEITEC members shall be made available to the persons being recommended, prior to the letter's distribution.
- Publication of research results shall be presented such that its results may be replicable.
- After publication, research data, design process, and results should be made accessible to colleagues for re-use.

## 2.4. Professional freedom

Scientific researchers, academic staff and students shall operate in a context of academic freedom and independence. This independence should guard against commercial, political, and personal interests, were needed, which could undermine the professional freedom of others.

- Scientific design and research approach should be chosen principally to achieve scientific goals.
- External sponsors of scientific research shall allow for timely publication of research results, and shall not impede the academic progress of students.
- Potential conflicts of interest which would test a researcher's and administration member's independence shall be disclosed.
- Avoid situations where the researcher's scientific objectivity would be compromised.

## 2.5. Professional responsibility

Scientific researchers, academic staff and students are accountable for their research and related activities from idea to publication.

- Researchers, staff and students maintain a high standard of adherence to principles of integrity and ethical standards in their work, fully respecting the Code. Evading and covering unethical behavior, even if such conduct or action is justified under the name of obedience and loyalty, undermines the integrity of science research.
- Training, supervision and mentorship should be treated with the highest degree of professionalism.
- In cases of possible harm or risks to other persons, scientific data, or consequences of scientific results are to be reported.
- In the research and its design, the code of ethics with respect to human and animal subjects are involved must be upheld.

# 3. GOOD RESEARCH PRACTICES

The practices of good research principles should provide an operational framework for scientific researchers, academic staff, and students. The goal is to encourage a scientifically enriching environment to maximize our efforts in the pursuit of scientific knowledge. Much of the below material is taken and based on **The European Code of Conduct for Research Integrity**[1], where applicable.

## 3.1. Research Environment

- Awareness and the active promotion of a culture of research integrity must be ensured.
- Leadership must demonstrate and provide clear policies and procedures on good research practice, and violations must be handled efficiently and with due process.
- Data must be managed, stored and protected properly, and made available for reproducibility, traceability, and accountability.
- Merit-based promotion and hiring practices of researchers and administration must be supported.

## 3.2. Training, Supervision and Mentoring

- Researchers should receive rigorous training in research design, methodology, and analysis.
- Researchers must receive adequate training in ethics and research integrity in accordance with the Code.
- Senior Researchers, Group Leaders, and Supervisors shall mentor their team members on proper research design and publication activities, and foster a culture of research integrity.
- Senior Researchers, Group Leaders, and Supervisors hands over his knowledge, skills and experience to help develop team members in independent and critical thinking, and supports their professional growth and career development.

## 3.3. Research Procedures

- Researchers design, execute, analyse and document research in a careful and well-considered manner.
- Researchers publish results and interpret results in a transparent and accurate manner.
- Researchers report results in accordance with the standards of their field and with acceptable publishing practices.

## 3.4. Safeguards

- Researchers handle research subjects (eg. human, animal, cultural, biological, environmental, or physical) with respect and care, and in accordance with legal and ethical provisions.

- Researchers have due regard for the health, safety, and welfare of the community, of collaborators, and others connected with their research.
- Research design take into account, and is sensitive to differences in age, gender, culture, religion, ethnic origin and social class.
- Harms and risks related to the researcher's activities are identified and mitigated.

## 3.5. Data Practices and Management

- Researchers and organisations ensure proper curation of all data and research materials, for a reasonable period.
- Researchers and organisations ensure access to data is as open as possible, and closed as necessary.
- Researchers and organisations provide transparency about how to access or make use of their data and research materials.
- Researchers and organisations ensure that any contracts or agreements relating to research outputs include equitable and fair provision for the management of their use, ownership and/or their protection under intellectual property rights.

## 3.6. Collaborative Working

- All partners in research collaborations take responsibility for the integrity of the research.
- All partners agree at the start of their collaboration on expectations and standards concerning research integrity, on the protection of the intellectual property of collaborators, and on procedures for handling potential conflicts of interest or misconduct.
- All partners in research collaborations are properly informed and consulted about submissions for publications or patents.

## 3.7. Publication and Dissemination

- All authors are fully responsible for the content of a publication, unless otherwise specified.
- All authors agree on the sequence of authorship, acknowledging that authorship itself is based on a significant contribution to the design, execution, or interpretation of the research. All those who have made such a significant contribution must be listed as co-authors.
- Authors must ensure that their contribution (or main parts of their contribution) is intellectually original, and avoid the re-packaging of results with the objective of inflating numbers of publications, or so called "salami slicing".
- Authors ensure that their work is made available to colleagues in a timely, open, transparent, and accurate manner. Authors are honest in their communication to the general public and in traditional and social media.
- Authors acknowledge important work and intellectual contributions of others, and cite related work correctly.
- All authors disclose any conflicts of interest, and financial or other types of support for the research or for the publication of its results.

- Any fraudulent or knowingly inaccurate statements constitute unethical behavior and are unacceptable. Authors issue corrections or retract work if necessary.
- Authors consider negative results to be as valid as positive findings.
- Researchers adhere to the same criteria as those detailed above whether they publish in a subscription journal, an open access journal or in any other alternative publication form.

## 3.8. Reviewing, Evaluating, and Editing

- Researchers review and evaluate submissions for publication, funding, appointment, promotion or reward in an objective, transparent and justifiable manner.
- Reviewers or editors with a conflict of interest withdraw from involvement in decision on publication, funding, appointment, promotion or reward.
- Reviewers and editors maintain confidentiality unless there is a prior approval for disclosure.
- Reviewers and editors respect the rights of authors, and must not use unpublished materials, disclosed in submitted contribution for his/her own research, without prior written consent of the author(s).
- Reviewers and editors must ensure a fair review process based on an evaluation of the intellectual content of the study, without regard to authors' origin, gender or beliefs.

## 3.9. Disclosure of Conflict of Interest

Conflicts of interest arise where private interests (such as financial benefit, career opportunities, personal relations, etc.) could potentially affect professional judgment, causing bias in research, hiring practices, and institutional operations. However, a conflict of interest, in itself, is not a bad thing. In fact, it often comes as a result of successful partnerships, networking and hours of hard work, all of which done the highest standards of integrity.[3]

- Scientific and institutional integrity concerns arise where private interests are not disclosed. If an undisclosed conflict is discovered, or not managed properly, the integrity of the involved researcher or staff member is compromised.
- Reviewers of grant funding, in particular, may not review a grant which they are the principle investigator or collaborator, both functionally stated or as a undisclosed/indirect beneficiary of the grant. This constitutes as a conflict of interest and is not an acceptable ethical practice.

[3]KU Leuven Research Integrity, referenced 27.11.2017
https://www.kuleuven.be/english/research/integrity/practices/conflictofinterest

# 4. VIOLATIONS OF RESEARCH INTEGRITY

## 4.1. Research Misconduct and other Unacceptable Practices

Research misconduct is traditionally defined as fabrication, falsification or plagiarism 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 or processes or changing, omitting or suppressing data or results without justification.
- **Plagiarism** is using other people's work and ideas, in original form or in translation, without giving proper credit to the original source, thus violates 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.**

Further examples of unacceptable practices include, but are not confined to:

- Manipulating authorship or denigration of other researchers in publications.
- Guest, ghost, or gift authorship – including authors on publications which do not meet the minimal criteria of authorship.
- Re-publishing substantive parts of one's own publication, including translations, without duly acknowledging or citing the original ('self-plagiarism').
- Citing selectively to enhance one's own findings.
- Withholding research results.
- Allowing funders/sponsors to jeopardise independence in the research process.
- Interfering with others pursuit to acquire grant funding.
- Interfering with others pursuit to publish their research.
- Expanding unnecessarily the bibliography of a study.
- Accusing a researcher of misconduct or other violations in a malicious way.
- Misrepresenting research achievements.
- Exaggerating the importance and practical applicability of findings.
- Delaying or inappropriately hampering the work of other researchers.
- Misusing seniority to encourage violation of research integrity.
- Ignoring putative violation of research integrity by others or covering up inappropriate responses to misconduct or other violations.
- Practices of favouritism in judgment for hiring, promotion, grant funding, publishing based on non-merit-based practices, including *quid pro quo* practices.
- Establishing or supporting journals that undermine the quality control of research ("predatory journals'). Supporting journals which charge fees without providing editorial service, including little to no peer-review.

- Citation inflationary schemes, through *quid pro quo* practices which create “citation circles”, where investigators have citation preferences for those that cite their own work, leading to non-merit based citation favouritism.

## 4.2. Dealing with Violations and Allegations of Misconduct

The following principles will be incorporated into the investigation process.

**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 ‘whistle-blowers’ during investigations and ensure that their career prospects are not endangered. The identities of ‘whistle-blowers’ must remain confidential.
- General procedures for dealing with violations of good research practice are publicly available and accessible to ensure their transparency and uniformity.

**Fairness**

- Investigations are carried out with due process and in fairness to all parties.
- Persons accused of research misconduct are given full details of the allegations and allowed a fair process for responding to allegation 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.
- Anyone accused of research misconduct is presumed innocent until proven otherwise.

**Committee**

- It is recommended that an institutional, impartial Ombudsman be appointed to handle the first reporting of misconduct.
- It is recommended that a committee be formed, which consists of members that are independent of CEITEC, who will adhere to the ethical standards as stated in the Code.
- A detailed procedure of handling misconduct must be established in writing and be made available, with an outline of the process given below (Fig. 1).
- The detailed procedure should be drafted by the organizing committee, with clear procedural rules and and consequential processes and rulings.

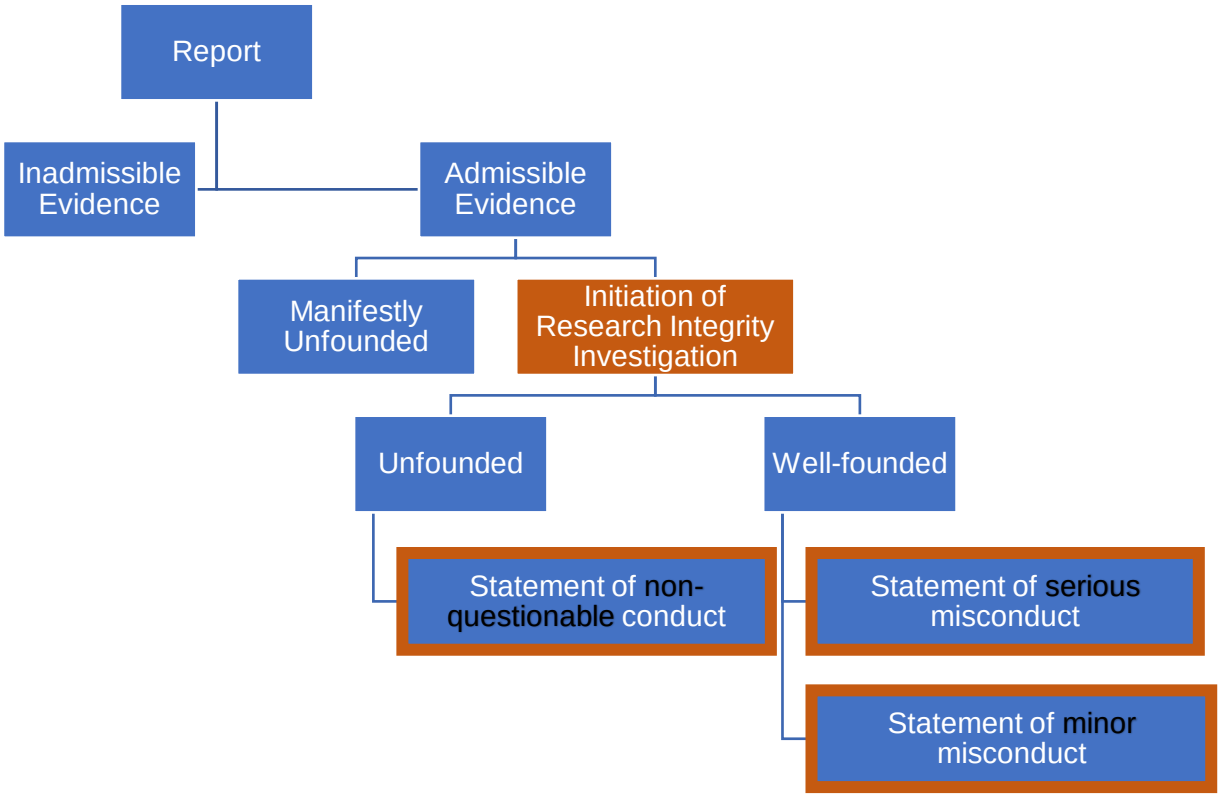


**Fig. 1. Procedure for handling misconduct.**[4]

[4] KU Leuven Research Integrity, referenced 27.11.2017 https://www.kuleuven.be/english/research/integrity/procedures/index

# 5. ANNEXES

ANNEX 1: The European Code of Conduct for Research Integrity

ANNEX 2: The TU/e Code of Scientific Conduct