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## Guidelines for examination of research misconduct and other deviations from good research practice at Luleå University of Technology

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## 1. Introduction

Luleå University of Technology, as an entity responsible for research, has the overall responsibility for ensuring that the research at the university is conducted in accordance with good research practice. The researcher is responsible for complying with good research practice in their research.

### 1.1 Legal starting points

#### 1.1.1 Research misconduct

The researcher is responsible for compliance with good research practice in their research.<sup>1</sup> This means that it is the researcher who is responsible for compliance with good research practice during *the entire research process*.<sup>2</sup>

According to § 5 LAO, it is clear that the entity responsible for research, in this case Luleå university of Technology, has the overall responsibility for ensuring that the research is conducted in accordance with good research practice. The Higher Education Act requires that higher education institutions (henceforth HEIs) uphold academic credibility and good research practice.<sup>3</sup> The aim of the provision is to emphasize the obligation of the HEIs to prevent research misconduct.

If it may be suspected that *research misconduct* has occurred within an entity responsible for research, the entity must submit the case documents for trial to the *National Board for Assessment of Research Misconduct* (NPOF).<sup>4</sup>

By research misconduct is meant a *serious deviation* from good research practice in the form of fabrication, falsification or plagiarism committed by intent or by gross negligence when planning, conducting, or reporting research.<sup>5</sup>

The forms of research misconduct that NPOF should try are *fabrication, falsification, and plagiarism*. The concepts are not defined in the law, but in the legislative history it is

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<sup>1</sup> Section 1 of the Act (2019:504) on responsibility for good research practice and the examination of research misconduct (LAO)

<sup>2</sup> Legislative history 2018/19:58, new order to promote good practice and deal with dishonesty in research, p. 102

<sup>3</sup> Chapter 3, Section 3 a, first paragraph of the Higher Education Act (1992:1434)

<sup>4</sup> 6-7 sections LAO

<sup>5</sup> 1 § LAO

referred to that they are described in research ethical codexes and guidelines such as the *European Code of Conduct for Research Integrity (ALLEA)*.<sup>6</sup> They are also presented in the publication *Good research practice*, published by the *Swedish Research Council*.

*Fabrication*, according to the legislative history, is often described as results that are made up and recorded as if they were true. *Falsification* means manipulation of research material, equipment, or processes or that data or results are changed, omitted or withheld without justification. Finally, the description of *plagiarism* is that a researcher uses the texts, ideas or work of others without giving due credit to the original source.<sup>7</sup>

According to § 2 LAO, it is required that the serious deviation from good research practice was committed with intent or through gross negligence for it to be a matter of research misconduct. The researcher's responsibility to comply with good research practice in their research is regulated in § 4 LAO as above. How far-reaching such responsibility could or should be, must be tested and assessed in each individual case.<sup>8</sup>

According to the legislative history, *intent* means that the researcher must have understood what they have done, while negligence means that the researcher should have understood this in any case. *Gross negligence* requires that the conduct appears to be particularly serious or reprehensible. As a rule, *oversights, carelessness or misunderstandings* should not be considered gross negligence according to the legislative history.<sup>9</sup>

The deviations that may constitute research misconduct must, as mentioned above, have been committed during the *planning, conducting or reporting* of research. The wording means, according to the legislative history, that the concept of misconduct refers to deviations during the *entire research process*.<sup>10</sup> Reporting refers to both publication and other forms of publishing.<sup>11</sup>

### 1.1.2 Other suspected deviations from good research practice

A HEI must examine other suspected deviations from good research practice than those that must be examined specifically by Npof.<sup>12</sup> This means that the university must investigate other such suspected deviations from good research practice regardless of whether the

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<sup>6</sup> The European Code of conduct for Research's Integrity. Revised edition. Berlin: All European Academies (ALLEA); 2018, chap. 3.1.

<sup>7</sup> Legislative history 2018/19:58, pp. 45, 100

<sup>8</sup> See Npof's decision no. 3.2-21/0035

<sup>9</sup> Legislative history 2018/19:58, pp. 50-51, 100

<sup>10</sup> Legislative history 2018/19:58, p. 100

<sup>11</sup> Legislative history 2018/19:58, p. 49

<sup>12</sup> Chapter 1 Section 17 (1993:100) Higher Education Ordinance (HF)

matter has been handed over to the HEI by Npof or whether the suspicion arose in the university's operations.

Furthermore, a HEI must establish guidelines for its examination of suspected deviations from good research practice.<sup>13</sup>

If deviations from good research practice are suspected, the following guidelines must be applied at Luleå University of Technology. The guidelines concern suspicions of research misconduct as well as other deviations from good research practice.

Deviations from good research practice within the university's operations must be noticed and handled in an appropriate manner taking into account the nature and degree of seriousness of the deviation. A HEI must ensure that employees can receive advice and support in matters of good research practice and deviations from such practice. The system for handling research misconduct must be clear and legally secure and provide protection and support to all involved.<sup>14</sup>

The purpose of these guidelines is to ensure that suspicions of deviations from good research practice are handled in accordance with current rules and guidelines.

## 2. Research Ethic Committee

At Luleå University of Technology there is a research ethics committee.<sup>15</sup> The research ethics committee must investigate suspected deviations from good research practice at the university. The research ethics committee consists of the vice-chancellor as chairman, a member with a legal background who must be or has been a regular judge, the research ethics councils, the deans from the faculty of humanities and social sciences and the faculty of science and technology. The students have the right to be represented by a member from the PhD student association. A university lawyer must be appointed as reporting clerk in every case that is brought up in the research ethics committee.

## 3. Good research practice

The Act on responsibility for good research practice and the examination of research misconduct (LAO) contains provisions on the responsibility of researchers and the research

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<sup>13</sup> Chapter 1 § 17 HF

<sup>14</sup> Legislative history 2018/19:58, p. 13

<sup>15</sup> The Research Ethics Committee was established in decision no. LTU-5370-201

entity to ensure that research is carried out in accordance with good research practice.<sup>16</sup> Research here refers to scientific research, but not artistic research.<sup>17</sup>

There is no definition of good research practice in the statute. Complying with good research ethics includes, among other things, not acting dishonestly and not breaking laws and recognized research ethical standards.<sup>18</sup> What is considered good research practice can also be different within different research fields. Examples of rules and guidelines are the Swedish Research Council's report *Good research practice* (2017) and the website *Codex – rules and guidelines for research*.<sup>19</sup>

Furthermore, in some cases permission may be needed from the Swedish Ethical Review Authority, which conducts ethical reviews of research on humans, but also of research on biological material and sensitive personal data.<sup>20</sup>

### 3.1 Definition research misconduct

The definition of research misconduct is limited so that it only covers serious deviations from good research practice in the form of fabrication, falsification or plagiarism. Other forms of serious deviations from good research practice are not covered by the definition. The term research refers partly to scientific research and partly to development work on a scientific basis. In this context, the concept of development work on a scientific basis refers only to activities that border on scientific research.<sup>21</sup>

Research misconduct is thus serious deviations from good research practice in the form of fabrication, falsification or plagiarism committed with *intent* or through *gross negligence* when planning, conducting or reporting research.<sup>22</sup> The terms are not defined in the law, but in the legislative history it is referred to that they are described in research ethics codes and guidelines such as the *European Code of Conduct for Research Integrity (ALLEA)*.<sup>23</sup> They are also described in the *Swedish Research Council's* publication *Good research practice*.

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<sup>16</sup> Section 1 LAO

<sup>17</sup> Legislative history 2018/19:58, p. 40

<sup>18</sup> Legislative history 2018/19:58, p. 99

<sup>19</sup> Codex.vr.se

<sup>20</sup> §§ 3-4 Act (2003:460) on ethical review of research involving humans

<sup>21</sup> Legislative history 2018/19:58, p. 99

<sup>22</sup> 2 § 2 LAO

<sup>23</sup> The European Code of Research Integrity. Revised edition. Berlin: All European Academies (ALLEA); 2018, chap. 3.1.

### 3.1.1 Fabrication

According to the legislative history, fabrication is often described as making up results and documenting them as if they were real.<sup>24</sup> New data or results are made up that did not originate from studies nor exist in studies referred to.

### 3.1.2 Falsification

Falsification refers to the manipulation of research materials, equipment, or processes or that data or results are changed, omitted, or withheld without justification.<sup>25</sup> This can be done, for example, by changing or selecting data that supports the researcher's hypothesis or by withholding data that contradicts the researcher's hypothesis.

### 3.1.3 Plagiarism

The description of plagiarism is that a researcher uses the texts, ideas or work of others without giving due credit to the original source.<sup>26</sup>

## 3.2 Other deviations

Other deviations from good research practice refer to such deviations from good research practice that do not count as research misconduct (section 3.1) but which significantly harm or risk harming the integrity of the research or the researchers and which are committed intentionally or through gross negligence when planning, conducting, or reporting research, or artistic research and development work.

Examples of other deviations from good research practice can include:

- to manipulate authorship, for example by unjustifiably claiming authorship, unjustifiably excluding someone from co-authorship or making other deviations from publication ethics,
- to make scientific or research ethics review more difficult, for example by withholding background material or by not reliably preserving data from studies,
- to induce or seek to influence someone to actions that fall under deviation from good research practice,

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<sup>24</sup> Legislative history 2018/19:58, pp. 45, 100

<sup>25</sup> Legislative history 2018/19:58, pp. 45, 100

<sup>26</sup> Legislative history 2018/19:58, pp. 45, 100

- to retaliate against a person who has reported or submitted information or suspicions of deviations from good research practice,
- to report suspicions with the sole purpose to discredit someone else,
- to use research material in violation to contracts or agreements,
- to use information given in confidence without authorization,
- destroying samples or otherwise spoiling another researcher's ongoing work, to establish or support so-called predatory journals.<sup>27</sup>

### 3.3 About necessary permits

With regard to the lack of required permits, such as ethics review permits, and other deviations from principles aimed at protecting research subjects must be handled in accordance with the applicable legislation for the respective permit. Such deviations from good research practice should not be included in the definition of research misconduct.<sup>28</sup>

Some of the acts or omissions that can be counted as deviations from good research practice may be regulated in another statute, they relate in whole or in part to acts that may fall under public prosecution or supervision by another authority.<sup>29</sup> This includes, for example, suspicion that the required ethical permission for research on animals or humans has not been obtained, that biobank registration has not taken place, that personal data has been processed in violation of current regulations, that research material has not been archived to the extent required by current regulations, or that permission to export sensitive technologies for certain countries have not been obtained. In such cases, the matter in this part should be handed over to the responsible supervisory authority for further investigation. If, after the supervisory authority's investigation, there remains a suspicion that deviations from good research practice have occurred, this may lead to further handling and investigation at the university.

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<sup>27</sup> Section 3.1 ALLEA

<sup>28</sup> Legislative history 2018/19:58, p. 48

<sup>29</sup> Cf. §§ 34 and 38 Act (2003:460) on ethical review of research involving humans



## 4. Handling of suspicion of deviations from good research practice

In case of suspicion of deviations from good research practice, the HEI must quickly assess whether the suspicion relates to research misconduct (fabrication, falsification, or plagiarism) or other deviations from good research practice. If the suspicion is that research misconduct has occurred in the HEI's operations, the HEI must submit the matter for review by Npof. If the suspicion concerns other deviations from good research practice, the HEI must investigate the suspicion.<sup>30</sup>

### 4.1 Initial handling at Luleå University of Technology

If suspicion of deviation from good research practice comes to the attention of the university, an initial investigation is carried out by the legal office. If necessary, the legal office can request expert support through the Education and research planning unit. The head of department is informed of the case as soon as possible.

If it appears from the initial investigation into the case that there is enough to determine that it is an obvious case of suspected research misconduct (fabrication, falsification, or plagiarism), the case can be immediately handed over to the research ethics committee for assessment. In other cases, further investigation may be carried out before the matter is handed over to the research ethics committee. Expert support must be obtained in the further investigation.

If the initial investigation into the case concludes that there is no reason to investigate the case further, the legal office must propose to the vice-chancellor to decide not to take measures due to information revealed in the investigation. Communication to parties before the vice-chancellor decides on the matter must take place in accordance with current regulations.<sup>31</sup> If necessary, the vice-chancellor can decide to refer the case back to the legal office for further investigation. The head of department is informed if the matter is not investigated further.

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<sup>30</sup> §§ 2-4 SUHF's proposal for recommendations of a code for the integrity of research, definitions of deviations from good research and handling procedures for suspicions of serious deviations from good practice.

<sup>31</sup> Section 25 of the Administrative Act (2017:900)

## 5. Handling of suspicion of research misconduct

If research misconduct is suspected, an initial (informal) review is initially carried out - see further section 4.1 Initial handling at Luleå University of Technology.

### 5.1 How cases are initiated at NPOF

Cases at Npof are initiated when the documents in a case are handed over by the entity responsible for research, when a report of research misconduct from an individual comes to Npof, or when Npof independently initiates a case that it has become aware of in some other way.<sup>32</sup>

If Npof assesses that a case does not concern research misconduct but may apply to other deviations from good research practice, Npof must notify the relevant research entity and at the same time hand over the documents in the case there.

A report can be made by anyone who has a suspicion and a report of suspected misconduct in research can always be made directly to Npof.<sup>33</sup> Whether a deviation from good research practice is to be considered serious must be decided in each individual case. However, the threshold for submitting to Npof must be low.<sup>34</sup>

### 5.2 Submissions to NPOF

If it can be suspected that research misconduct has occurred in the activities of a research entity, the research entity must hand over the documents in the case for examination to the state board for examination of misconduct in research.<sup>35</sup>

The reported person or persons must be informed of the suspicion and which disciplinary sanctions may be applicable in the event of a decision that misconduct in research has occurred.

The university must provide the information and documents about the research that the committee request and give Npof access to computers and other equipment that has been used in the research.<sup>36</sup>

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<sup>32</sup> Section 7 LAO

<sup>33</sup> Section 7 p. 2 LAO

<sup>34</sup> § 6 LAO and legislative history 2018/19:58, p. 102

<sup>35</sup> §§ 6-7 LAO

<sup>36</sup> Section 12 LAO

### 5.3 After receiving the decision from NPOF

Decisions from Npof must be forwarded to the vice-chancellor for decisions on action in consultation with the research ethics committee.

If Npof decides that there has been research misconduct, or that it appears from Npof's decision that there has been a serious deviation from good research practice, the university must:

- As soon as possible after the decision, inform the relevant bodies concerned. Those who must be informed are, for example, relevant research funders, authorities, academic journals, and other stakeholders. They must be informed of the decision and receive information that Npof's decision may be appealed to the general administrative court.<sup>37</sup> This task can be handed over by the vice-chancellor to the head of department and must be reported back.
- Take other appropriate measures in connection with the decision, after it has become legally binding. It is up to the vice-chancellor to determine whether there are grounds to consider disciplinary action. Decisions on measures must be made in consultation with the research ethics committee.
- Within six months after the decision has become legally binding, report to the committee what measures the university has taken or intends to take in response to the decision,<sup>38</sup> for example because Npof has determined in the decision that there are deficiencies in the research environment.<sup>39</sup>

The obligation to report back includes decisions when Npof has decided that there has been research misconduct or if it appears from Npof's decision that there has been a serious deviation from good research practice in the form of fabrication, falsification, or plagiarism without intent or gross negligence having been established.<sup>40</sup>

If NPOF judges that a case does not concern research misconduct but may apply to other deviations from good research practice and thus hands the case over to the university, this must be handled in accordance with sections 4 and 6.

In cases that the vice-chancellor hands over to the head of department for action, the vice-chancellor's decision must state when reporting back to the vice-chancellor is to take place. This is so that the university can report back to Npof as above.

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<sup>37</sup> Section 14 LAO

<sup>38</sup> Section 13 LAO

<sup>39</sup> § 13 LAO and legislative history 2018/19:58, p. 106

<sup>40</sup> Legislative history 2018/19:58, p. 92

If it appears from NPOF's decision that suspicion of deviation from good research practice no longer exists, the decision must be made known to the extent necessary to protect the scientific reputation of the alleged researchers.

## 6. Handling suspicion of other deviations from good research practice

A HEI must examine other suspected deviations from good research practice than those that must be examined specifically by Npof.<sup>41</sup>

### 6.1 Decisions

Decisions in cases about other suspected deviations from good research practice than those to be examined specifically according to the LAO, i.e. by Npof, is taken by the research ethics committee.

#### 6.1.1 The decision of the Research Ethics Committee

The research ethics committee can make the following decisions;

- to *submit* the case to Npof,
- that there is *no* other deviation from good research practice,
- to hand over to the vice-chancellor to decide on the dismissal of the case,
- that *it is* a question of other deviation from good research practice, and that
- submit to the vice-chancellor to decide on *possible measures*.

For the sake of clarity, it is noted that the research ethics committee makes decisions on *the research ethics issue*.

If the research ethics committee makes the assessment that there is *research misconduct*, the matter is handed over to *Npof* for examination.

In the case of *other deviations* from good research practice, the research ethics committee can make the assessment that *it is* or *is not* a question of another deviation from good

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<sup>41</sup> Chapter 1 § 17 HF

research practice, and the *vice-chancellor* decides on dismissing the case or possible measures.

#### 6.1.2 The vice-chancellor's decision

The vice-chancellor decides on dismissal of cases (in whole or in part). Decisions must be made in consultation with the research ethics committee.

The vice-chancellor decides on action in consultation with the research ethics committee. The vice-chancellor can also decide that reporting back to the vice-chancellor must take place within a certain period of time in order to follow up on the measures, as the entity responsible for the research has the overall responsibility for the research being carried out in accordance with good research practice.

#### 6.1.3 Decision on disciplinary measures

Decisions on disciplinary measures against employees and students at Luleå University of Technology are made by the university's staff disciplinary board and disciplinary board at the university, as well as in some cases by the government disciplinary board for higher officials.<sup>42</sup>

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<sup>42</sup> Section 34 of the Act (1994:260) on public employment, LOA