# DECISION

21 February 2022

**The Danish Committee on Research Misconduct**

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CVR no. 3404 2012

Case no. 2020-13

Ref. no.
20/24388

By email of 3 June 2020, *(the Complainant)* (hereinafter the Complainant), submitted a complaint to *(the Committee)* (hereinafter the Committee) concerning *(the Defendant)* (hereinafter the Defendant) alleging that the Defendant has committed research misconduct.

The Committee decided in its meeting on 18 June 2020 to take up the case for processing pursuant to Section 12(1) of act no. 383 of 26 April 2017 on research misconduct etc. (hereinafter the Act), see below for the case background details.

The Complainant alleges that the Defendant has committed fabrication and plagiarism in the products

*(product 1)* (hereinafter Product 1)

*(product 2)* (hereinafter Product 2)

*(product 3)* (hereinafter Product 3)

*(product 4)* (hereinafter Product 4)

*(product 5)* (hereinafter Product 5)

by using undisclosed construction of data or substitution with fictitious data and wrongfully appropriating images (image editing) and text without proper attribution to

*(source 1)* (hereinafter Source 1)

*(source 2)* (hereinafter Source 2)

*(source 3)* (hereinafter Source 3)

*(source 4)* (hereinafter Source 4)

*(source 5)* (hereinafter Source 5)

*(source 6)* (hereinafter Source 6)

*(source 7)* (hereinafter Source 7)

*(source 8)* (hereinafter Source 8)

*(source 9)* (hereinafter Source 9)

*(source 10* (hereinafter Source 10)

The Defendant has submitted and defended Product 5 as part of his PhD programme from 2010 to 2013 at *(the Research Institution)* (hereinafter the Research Institution).



The Defendant contends that *(text omitted)* has not committed research misconduct.

The Committee obtained expert assistance from *(the Expert)* (hereinafter the Expert), cf. Section 7 of the Act.

The Committee further procured text comparison analyses of the Defendant's Product 2, 3 and 5 using the program Ithenticate.

**The Committee's findings**

The Committee processed the case in its meetings on 7 October 2021 and 9 December 2021, and has subsequently decided, based on written information, that the Defendant has not committed research misconduct.

The decision was made unanimously by High Court Judge, Professor Jens Hartig Danielsen, LLD, (Chair); Professor Hanne Andersen, PhD; Professor Janne Rothmar Herrmann, PhD; Professor Anne-Mette Hvas, PhD; Professor Klemens Kappel, PhD; Director of Research Ole Kirk, PhD; Professor Michael Robdrup Rasmussen, PhD; Head of Programme Anders Smith, PhD; and Professor Helle Prætorius Øhrwald, PhD.

The Committee's grounds for the decision are set out below.

**The complaint of research misconduct**

In support of his complaint, the Complainant argues that the Defendant is unable to replicate *(text omitted)* results. Following the Defendant's PhD defence, the Complainant repeatedly requested that the Defendant produce *(text omitted)* source code, but the Complainant never received it. It is the Complainant's impression that the Defendant is not the author of *(text omitted)* that were uploaded in the research group's network folder. The Complainant further states that the Defendant prior to *(text omitted)* employment *(the Research Institution)* published papers, of which many appear to be mainly or completely *plagiarised* from other papers. The Complainant further argues that the Defendant has a plagiarising style in the

presentation of *(text omitted)* results and *(text omitted)* extensive reuse of test images and video sequences from other researchers. Finally, the Complainant argues that the Defendant during *(text omitted)* employment as a PhD student at the Research Institution has authored a remarkable number of papers. Since many of these papers as mentioned show signs of plagiarism, it is highly likely that a significant part of the results presented by the Defendant are either copied from other researchers or fabricated.

The Defendant has replied that it is in accordance with practice in the academic field that the performance of new algorithms is compared to benchmarking algorithms and standard data. The Defendant further argues that all his PhD publications have been peer reviewed in one way or another. Finally, concerning the specific image that the Expert statement of 15 September 2021 finds is identical to the source image, the Defendant states that the wrong image may have been inserted in this product by mistake.



**Case background**

On 23 May 2017, the Complainant filed a complaint with the Research Institution concerning the Defendant alleging that the Complainant had committed research misconduct.

By decision of 10 October 2017, the Research Institution, in adherence to the rules applicable at the time, cf. the act on research advice, consolidated act no. 365 of 10 April 2014 and executive order no. 306 of 20 April 2009 on the Danish Committees on Scientific Dishonesty, after an assessment of the particulars of the case, including an expert statement, found that the matters referred to by the Complainant could not be characterised as research misconduct or questionable research practices.

By emails of 11 October 2017 and 30 November 2017 to the Committee, the Complainant inquired i.a. whether he could appeal the Research Institution's decision to the Committee. The Committee found that pursuant to section 27(4) it did not have authority to process the Complainant's appeal of the Research Institution's decision. On this basis, the Complainant approached the Folketing Ombudsman, who on 26 February 2019 asked the Ministry of Science to make a statement on the interpretation of Section 27(4) in the present context. After the Ministry's approach, the Committee specified by letter of 16 December 2019 i.a. that the Committee still found that pursuant to section 27(4), the Committee did not have authority to further examine the Complainant's appeal of the Resarch Institution's decision. The Committee further specified that on the existing basis, it could not dismiss having the authority to process a complaint from the Complainant on the same matters that the Complainant originally reported to the Research Institution. On 2 June 2020, the Ministry of Research noted the Committee's letter and on that basis the Ministry found no reason to pronounce on the interpretation of Section 27(4) in relation to the specific case.

**Legal basis**

This case has been processed under act no. 383 of 26 April 2017 on research misconduct, etc.

The scope of application of the Act appears from Section 2:

> *(1) This Act applies to the following cases:*
> *1) Cases concerning research performed with Danish public funding in full or in part.*
> *2) Cases concerning research performed at a public Danish research institution*
> *(2) This Act further applies to cases of research misconduct in privately funded research that does not fall under (1), if the private company, or similar, that has performed the research, consents to the processing of the case.*



The Committee's authority is described in section 4(1) of the Act:

> *The Danish Committee on Research Misconduct shall process cases concerning research misconduct in scientific products.*

The definition of a scientific product appears from section 3(1)(vi) of the Act:

> *A product generated by means of scientific methods applied in research, including applications for research funding.*

The following appears from the explanatory notes to section 3(1)(vi) of the Act, cf. bill no. L 117 of 25 January 2017 (hereinafter the Notes), concerning the assessment of what constitutes a scientific product:

> *The proposed definition is based on DSCD's practices in this area, where a scientific product is characterised by its having been produced in the course of research employing scientific methods, in contrast to, e.g., popular science publications that do not adhere to scientific approaches to the same extent. The assessment of whether a product meets the definition of scientific product rests on an assessment of the scientific character of the product's contents, with scientific articles, PhD theses and the like being paradigmatic examples of products that fit this definition. One part of the assessment of whether a given product meets the definition of a scientific product for the purpose of the act is thus whether the product has been submitted for, or is intended for submission for, peer review.*

Research misconduct is defined in section 3(1)(i) of the Act:

> *Fabrication, falsification and plagiarism committed wilfully or with gross negligence when planning, performing or reporting on research.*

It appears from the Notes on section 3(1)(i) of the Act concerning the criterion of intent that:

> *According to the act, the assessment of intent with regards to research misconduct must be conducted in accordance with the general meaning of*

*the concepts intent and gross negligence in Danish law without thereby making the assessment stricter.*

Under section 3(1)(ii) of the Act, fabrication is defined as:

*Undisclosed construction of data or substitution with fictitious data.*

It appears from the Notes to the Act's section 3(1)(ii) on fabrication that:

*The definition of fabrication is expected to include instances where a researcher uses constructed or fictitious data in research without disclosing that fact, which in turn may mean that the research is not based on the evidence submitted. Data is used here in a broad sense, i.e. including primary material, measurements, records, and results. The definition of fabrication is proposed without further qualification in terms of the undisclosed construction of data or substitution with fictitious data than what follows from the proposed triviality limit in section 3(2)(i).*



Under section 3(1)(iv) of the Act, plagiarism is defined as:

*Appropriation of other people's ideas, processes, results, texts or specific concepts without proper attribution.*

It appears from the Notes to section 3(1)(iv) of the Act concerning plagiarism:

*The definition of plagiarism is expected with this act to include instances of misappropriation of research, including copying without appropriate attribution to the actual author or improper claims of contribution to the research concerned. It is expected that, in the assessment of possible plagiarism, an important parameter will be whether there has been misrepresentation of a given researcher's contribution to the scientific product. Accordingly, the concept of misconduct will be restricted to the appropriation of other people's ideas, processes, results, texts, or specific concepts without providing due credit. By contrast, self-plagiarism in the form of e.g. the reuse of own previously used passages and the like, will only be processed as instances of questionable research practice. Moreover, it is expected that disputes of authorship generally will be dealt with as instances of questionable research practice rather than research misconduct in the form of plagiarism.*

According to section 3(2)(iii) of the Act, research misconduct does not include:

*matters relating to the research quality of a scientific product.*

Section 17 of the Act states that:

*In the event that the Danish Committee on Research Misconduct assesses that a case may involve issues concerning questionable research practices not considered by the Committee to constitute research misconduct, the*

*Committee may refer such issues to the relevant research institution for further consideration.*

**The Committee's assessment of the case**

The Defendant's products and the Committee's authority

The Notes of the Act state that the core area for the concept of a scientific product are scientific articles, PhD theses, etc, and that one part of the assessment of whether a given product meets the definition of a scientific product for the purpose of the Act is thus whether the product in question has been submitted for, or is intended for submission for, peer review.



The Committee reasons that Product 2-5 is generated by means of scientific methods applied in research. Product 2-4 are scientific papers published in journals with peer review. Products 5 is a PhD thesis submitted by the Defendant for assessment and subsequently defended at the Research Institution. Consequently, and after a content assessment of the scientific character of the Products, the Committee finds that the relevant products are scientific products under section 3(1)(vi) of the Act. Pursuant to section 4(1) of the Act, the Committee thus has authority to process the case on these Products.

Based on the particulars of the case, the Committee reasons that Product 1 does not concern any research conducted with public funding, in full or in part, by the Danish state, nor any research conducted at a public Danish research institution. The Committee also reasons that the Product does not concern privately funded research. Thus, the complaint regarding Product 1 is not covered by the Committee's authority, cf. Section 4 of the Act, cf. Section 2.

Presentation of the complaint

It follows from the Committee's practice that the definitions of research misconduct and plagiarism, both under the earlier rules of the Danish Committees on Scientific Dishonesty as well as the rules of the new Danish Committee on Research Misconduct, require an actual unlawful appropriation of specific results etc., that are attributable to another author without appropriate attribution of authorship in the latter publication. It is thus necessary to be able to show that a unique research idea or text has been copied and used without proper attribution, in contrast to situations where researchers publish papers on the same subject through the use of general methods in the field, see the Committee's decision on case no. 2017-01.

General notes on plagiarism

The Committee notes that reasonable suspicion of plagiarism generally refers to instances when a text passage of a certain length is lifted from a different text, typically written by a different author, without appropriate attribution, i.e. without clear indication and source reference. Readers should be in no doubt about which text passages originate with the author and which are quoted or paraphrased. If a

verbatim reproduction has a clear source reference and is clearly indicated (e.g. in italics or quotation marks), it is not plagiarism.

Correct paraphrasing requires an author to process other authors' thoughts and ideas, expressing them in his/her own words and sentence structure, and providing source references to the work(s) in which these thoughts and ideas are described. If words and sentences have been altered only slightly, or some words exchanged with synonyms, without proper attribution (source reference), then it is considered plagiarism.

General knowledge may be described without referencing a source and does not constitute plagiarism. General knowledge can be defined as knowledge that can reasonably be assumed to be possessed by everyone in a particular group or a regional, institutional or academic community, e.g. facts about geography, history, physics, language, literature, etc. Verbatim or near-verbatim reproduction of another author's text describing background knowledge must also credit the author.



See in this context the Committee's decision on case no. 2018-15 in its entirety.

Common phrases without scientific content informing of practical and formal issues concerning a Product – e.g., in connection with a PhD thesis that consist of several previously published products with co-authors – can be used without source reference and does not constitute plagiarism, see the Committees decision on case 2020-05.

The individual instances

The Complainant namely refers to 9 instances that he alleges show that the Defendant has committed fabrication and plagiarism.

Instance no. 1

Regarding Product 2 and Source 3, the Complainant argues i.a.:

> *(text omitted) 68 words.*

Instance no. 2

Regarding Product 3 and Source 4, the Complainant argues i.a.:

> *(text omitted) 231 words.*

Instance no. 3

Regarding Product 3 and Source 4, the Complainant argues i.a.:

> *(text omitted) 171 words.*
> …
> *(text omitted) 39 words.*

*(text omitted) 75 words.*

Instance no. 4

Regarding Product 5, pp. […-…]and Sources 5 and 6, the Complainant argues i.a.:

*(text omitted) 14 words* [Source 5].

√ *Fig. […](text omitted) 23 words.*
√ *Fig[…](text omitted) 13 words* [Source 5].
√ *(text omitted) 35 words.*

*(text omitted) 97 words.* ***This indicates plagiarism****.*



Instance no. 5

Regarding Product 5, p.[…], Figure […] and Source 4, the Complainant argues i.a.:

*(text omitted) 44 words.* This indicates plagiarism.

*(text omitted) 21 words.* ***This indicates fabrication****. Note that (text omitted) method is not included among the benchmark methods, although (text omitted) paper and website is included in the list of references (website is ref. 54).*

Instance no. 6

Regarding Product 5, p.[…], Figure […] and Source 7, the Complainant argues i.a.:

*(text omitted) 27 words.* ***This indicates plagiarism and fabrication.***

Instance no. 7

Regarding Product 5, p.[…]*, Section […]* and Source 8, the Complainant argues i.a.:

*(text omitted) 89 words.* ***This indicates plagiarism.***

Instance no. 8

Regarding Product 5, p.[…]*, Section […]*and Source 6, the Complainant argues i.a.:

*(text omitted) 64 words.* ***This indicates plagiarism****.*

Instance no. 9

Regarding Product 4, Product 5, pp. […-…] and Source 9, the Complainant argues i.a.:

*(text omitted) 128 words.* ***This indicates plagiarism.***

Expert statement

It appears from the Expert's statement of 15 September 2021 i.a. that:

> *1.Are the (text omitted)used in* [*Product* 5] *and* [Source 10] *generally available to scientists in the field?*
>
> ***Yes**, these are simulation experiments on (text omitted). It is possible to r(text omitted) by using the reference implementation of (text omitted) under the desired (text omitted) setting.*
>
> *[…]*
>
> *2. Is the similarity in the results presented in* [Product 5] *and* [Source 10] *possible given the algorithms described?*
>
> ***Yes**, the methods share a number of similar elementary procedures and some degree of similarity in the result can be expected.*
>
> *3. Are the results presented in* [Source 10] *identical to the results presented as original in* [Product 5]*?*
>
> *I could **not** identify exactly identical results.*
>
> *4. Same questions for* [Product 3] *results vs* [Source 2] *and* [Source 3] *results.*
>
> *I could **not** identify exactly identical results.*
>
> *5. Is it correct that the result (text omitted) <figure […]j> in <draft manuscript of* [Product 3]*>) of the claimed processing in <draft manuscript of* [Product 3]*> is (text omitted)identical to the result obtained by(text omitted)?*
>
> *Yes. (txt omitted)in Fig. […] of* [Product 3] *is actually a crop of (text omitted)on(text omitted).*
>
> *This was verified by (text omitted)* [Product 3]*, (text omitted), and identifying a subregion within the (text omitted) which is (text omitted) 31 words*
>
> *In the same way, it can be verified that four more Fig. […,…,…,…] coincide with those from(text omitted).*
>
> *This type of analysis has given a negative outcome when applied (text omitted)* [Source 10] *vs* [Product 5]*, as well as* [Product 3] *vs* [Source 2] *and* [Source 3]*.*
>
> *Please note that an (text omitted) can be still retrieved at (text omitted)*

*In particular, (text omitted) in question can (text omitted)*
*(text omitted)*
*I wish also to note that (text omitted) is cited as ref. [54] in* [Product 3].
*However, (text omitted) is not mentioned as a method within* [Product 3]*,*
*(text omitted)appears to be used only as the source for(text omitted). I was unable to find any (text omitted)*
*(text omitted).*

*6. Is this result possible, given the processing described?*

*The short answer is no, it is not possible. I provide some elaboration here below.*

*As described in* [Product 3]*, the algorithm proposed therein features fundamental differences to (text omitted). First of all,* [Product 3] *does not perform any type of (text omitted), but is a (text omitted). Furthermore,* [Product 3] *claims to apply additional filtering to (text omitted), something that is not done by (text omitted). In* [Product 5]*, there are various comparisons with (text omitted) and the author emphasizes that the results are different and the method are different.*



*In summary, the two methods take advantage of different data (text omitted), which are not used by the method proposed in* [Product 3] *and perform radically different processing (text omitted)*

*Based on the above premises, it is extremely unlikely that these two algorithms would give exactly the same result.*

*Furthermore, by separate analysis of (text omitted) of the result, one cannot distinguish any noticeable feature that could be related to (text omitted). (text omitted) appear to be just upsampled like it is done by) text omitted). This was verified by comparing the (text omitted) of the proposed result with the (text omitted)".*

*It can therefore be concluded that the processing that produced the result in Fig […] does not conform to the description offered in* [Product 3]*, but can conform instead with (text omitted).*

The Committee's overall assessment

Firstly the Committee notes that research misconduct, including fabrication, falsification and plagiarism, does not include matters relating to the research quality of a scientific product, cf. Section 3(2)(iii) of the Act.

Instance no. 1:

It is the Committee's assessment that a comparison between *(text omitted)*in Product 2 and Source 3 provides insufficient basis for concluding that the Defendant in Instance no. 1 has appropriated other people's ideas, etc. without proper attribution, cf. section 3(1)(iv) of the Act.

Instance no. 2:

In its assessment of the case, the Committee notes that there is similarity between *(text omitted)* (figure […]) on page […] of the draft of Product 3 and *(text omitted)*. The Committee reasons that these similarities are not possible with the methods described in the draft version of Product 3 and the source respectively. As regards *(text omitted)* (figure […]) on page […] in the published version of Product 3 (a PDF), the similarity between *(text omitted)* can neither be confirmed nor dismissed.

The test sequences concerning figure […] on page […] in the draft version of Product 3 originates from figure […] on page […] in Product 5. Figure […] in the draft version of Product 3 is not identical to figure […] in Product 5. In view of the fact that *(text omitted)* are highly similar, it is possible that the wrong *(text omitted)* may have been copied to the draft version of Product 3 by mistake.



In its assessment of whether the Defendant intentionally or with gross negligence plagiarised in Product 3, the Committee emphasises that it is impossible to determine how the error in the draft version of Product 3 has occurred, and that it is also impossible to confirm or dismiss the similarity in the final version of Product 3.

It is therefore the Committee's assessment that there is insufficient basis in instance no. 2 for concluding that the Defendant has appropriated other people's ideas, etc. without proper attribution, cf. section 3(1)(iv) of the Act.

Instance no. 3:

Based on the particulars of the case, including the Expert's statement, the Committee generally reasons that *(text omitted)* and *(text omitted)*used in Product 5 are *(text omitted)*and *(text omitted)*used in the field to test researchers' algorithms.

Therefore, based on an assessment of the other particulars of the case, the Committee finds that there is insufficient basis in instance no. 3 for concluding that the Defendant has used undisclosed construction of data or substitution with fictitious data, cf. Section 3(1)(ii) of the Act. Similarly, the Committee finds that there is insufficient basis for concluding that the Defendant has appropriated other people's ideas, etc. without proper attribution, cf. section 3(1)(iv) of the Act.

Instances no. 4-9:

In its assessment of the plagiarism alleged by the Complainant in the Defendant's Product 5, instances 4-9, the Committee emphasises that based on the particulars of the case, including the Expert's statement, a complete similarity between *(text omitted)* in Product 5 and *(text omitted)* from the sources cannot be identified. The Committee thus reasons that the Defendant's algorithm, as presented in Product 5, does not produce the same result as the sources' algorithm in instances 4-9. It appears from the Expert's statement, point 2, that *(text omitted)* based on the same accepted methods in the field, can be expected to have some similarity, but that the Defendant's algorithms are not identical to the algorithms that the Complainant claims have been plagiarised, see also the Expert's statement, points 3 and 4.

After a specific assessment of the identical text pointed out by the Complainant in Product 4 and Source 9, Product 5 and Source 5 and 6, Product 5 and Source 8, and Product 5 and Source 9, including the text similarity analysis of Product 5, the Committee finds that the identical text is of minor significance in the reporting on the research, cf. Section 3(2)(i) of the Act. In its assessment, the Committee has emphasised the extent and significance of the identical text in each context.

Further, based on an assessment of the particulars of the case, the Committee finds that there is insufficient basis in instances 5-6 for concluding that the Defendant has used undisclosed construction of data or substitution with fictitious data, cf. Section 3(1)(ii) of the Act.

The Committee's overall finding is therefore that instances 1-9 do not constitute research misconduct, cf. section 16(1) of the Act.



Based on an overall assessment of the particulars of the case, the Committee finds no basis for forwarding the case to the Research Institution pursuant to Section 17 of the Act.

**Appeals procedure**

This decision is final and cannot be brought before another administrative authority, cf. section 18 of the Act.

The case processing time was prolonged beyond 12 months, as the Committee, as stated above, obtained text comparison analyses and expert assistance, cf. Section 15(2) of the Act. Furthermore, the Defendant requested a further time extension for his response to a consultation letter.

Jens Hartig Danielsen
Chair of the Danish Committee on Research Misconduct

*A copy of the decision has been sent to (the Research Institution)*