



**UNIVERSITY
OF OSLO**

Research Ethics Committee

Statement regarding possible violations of recognized standards of research ethics

Case 2022 – 40488

The Research Ethics Committee at UiO (REC) notes: Notified appealed to the National Commission for the Investigation of Research Misconduct (Granskingsutvalget – GRU). They concluded that there were no violations of recognized standards of research ethics. Consequently, there was no scientific misconduct, no systemic errors, and no scientific works were recommended for correction or retraction. GRU provided an institutional recommendation regarding the relationship between HR and research ethics. Their case number is 2023/105.

Notifier: Dr. [Notifier]

Notified: Dr. [Notified]

Copy:

Rector Svein Stølen

Dean Hanne L. Harbo, The Faculty of Medicine

Dean Solveig Kristensen, The Faculty of Mathematics and Natural Sciences

Date: May 4th, 2023

Place: Oslo, Norway

Our ref.: 2022/[40488] [*previously referenced 2022/40448 by mistake*]

This statement and the findings are unanimous.

Signatures:

.....
Bjørn T. Ramberg, chair

.....
Marit Halvorsen

.....
Ole Herman Ambur

.....
Kristin Heggen

.....
Marie Eikemo

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0. Introduction

In a notice submitted on September 20, 2022 (Attachment 1), Dr. [Notifier] alleges unfair treatment of authorship in a manuscript entitled *[title of Article]*. Specifically:

1. Exclusion from the manuscript revision process and that she was later replaced as the first author without previous discussion or notification.
2. Denial of access to data needed to contribute to revisions and that she was therefore not given a fair position to defend the original authorship position.

The notification names Dr. [Notified], group leader at [the research group], University of Oslo (UiO) and corresponding author of the manuscript, and Dr. [Notifier] (hereafter Notifier) as the parties involved in the case.

Dr. [Notified] (hereafter Notified) in a written statement (Attachment 4) read and submitted at a meeting with REC on November 4, 2022, denies any research-ethical impropriety in connection with the revision process, the resubmissions, or the changes in co-authorship pertaining to this manuscript. Notified maintains that the case ought to have been dismissed by REC on the grounds that all co-authors, including Notifier, approved the resubmission to *ACS [journal]* of the revised manuscript version with the changed order of co-authors.

According to its mandate, REC shall process and in writing comment on notifications of cases concerning possible violations of recognized norms of research ethics involving persons who have or have had an association with UiO. In the present case, it is evident that the notification indicates possible research ethical violations, and that Notified, as an employee of UiO, may be involved.

In taking on the case, REC has considered whether any member of the committee has conflicting interests relevant to the case, or whether there are other factors that may undermine the neutrality of the committee. No circumstances indicate that members of REC are incompetent to treat the case.

1. Overview of the case and the focus of investigation, summary of relevant norms and of REC's findings

1.1 Chronological overview of events

Notifier publicly defended her PhD in December 2021 with the manuscript *[title of Article]* as part of the dissertation with Notifier as first author of a total of six co-authors in an international collaboration. Notifier's original contributions and independence in research was assessed by the PhD adjudication committee which placed particular emphasis on this manuscript and one other paper since Notifier was first author on these. Notified was Notifier's main PhD supervisor and listed as senior and corresponding author on this manuscript in the PhD thesis. The manuscript was prior to the defense deposited on a repository open for manuscripts that have not yet undergone peer-review (the preprint server *[Y]*) before its submission to *Nature Communications*. Notifier's employment with UiO/ [the research group] ended when the PhD defense was successfully completed. Notifier applied for a postdoc position in Notified's group and was invited for an interview. However, the interview was cancelled, and never rescheduled. Upon rejection from *Nature Communications*, the

manuscript was revised, and the theoretical [scientific phenomenon] part of the paper was further developed and subject to elaborated expansion by second author [A], and submitted to *Proceedings of the National Academy of Sciences (PNAS)* with Notifier remaining first author and [A] as second author, as in earlier versions. Upon rejection from *PNAS* the manuscript was submitted to *ACS [journal]* without major changes or any changes in the author order. *ACS [journal]* responded with a hybrid form of rejection in that it came with an invitation to revise the manuscript based on the reviewer's comments. Notifier did not take part in this revision process. The revised manuscript was shared by Notifier with all co-authors in August 2022, with changed author order, in that [A] and [B] were now listed as joint first authors with Notifier as third author. Notifier approved the submission of the revised manuscript, though also expressed concerns about the process of revision and the authorship change. The manuscript was submitted on August [X], 2022. On September 20, 2022, Notifier submitted a notification of possible violations of research ethical norms.

1.2 The aims of the assessment

The primary purpose of RECs assessment is to determine whether breaches of generally accepted research ethical standards have occurred in this case, and, if they have, to determine their nature and seriousness. Specifically, REC must, by its mandate, assess whether any such breaches constitute scientific misconduct. This assessment is made with respect to the definition of scientific misconduct contained in *The Research Ethics Act* section 8, subsection 2, which states:

Scientific misconduct is defined as falsification, fabrication, plagiarism and other serious breaches of recognised standards of research ethics that have been committed wilfully or through gross negligence when planning, carrying out or reporting research.

The assessment therefore has two main parts. First, REC has considered evidence pertaining to the authorship change under dispute, in order to assess the propriety of this change. This issue has two aspects:

- 1) Whether the process of manuscript revision and author order change were carried out in accordance with recognized standards of research ethics, and
- 2) Whether the scientific changes qualify the change in author order

Then, secondly, REC must consider whether any such breaches are sufficiently serious to qualify as scientific misconduct.

In order to fully illuminate the case, including the fact of Notifier's explicit consent to the revised author order in the submission of August 2022, REC has found it necessary to consider the process of scientific collaboration leading up the initial submission of the manuscript. In particular, REC has sought to understand the specific roles, responsibilities and scientific contributions of the parties in this collaboration, based on the record of communication pertaining to these. Thus, in this case, possible breaches of recognized standards of research ethics may be determined in two main respects: first, with respect to research ethical norms governing crediting of authorship and co-authorship, and secondly, with respect to research ethical standards of conduct, collegiality and responsibility applicable to scientific collaboration, in particular those involving inequalities of power, authority, and professional standing and opportunity.

1.3 The normative basis of the assessment

REC's determinations are made with respect to *The Research Ethics Act* and recognized standards of research ethics as summarized in *The University of Oslo Standard for Research Integrity* (Attachment 6.1). This standard also explicitly endorses other guidelines, statements, and codes of conduct of relevance to this case, in particular:

- *Guidelines for Research Ethics in Science and Technology* ("NENT guidelines"), The Norwegian National Research Ethics Committees (Attachment 6.9)
- *The Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals* ("Vancouver Recommendations") of the International Committee of Medical Journal Editors (ICMJE), 2022 (Attachment 6.5)
- *Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations* (World Conference on Research Integrity, 2013) (Attachment 6.3)
- *The European Code of Conduct for Research Integrity* (All European Academies, ALLEA, 2017) (Attachment 6.4)
- *Singapore Statement on Research Integrity* (2nd World Conference on Research Integrity, 2010) (Attachment 6.2)

The committee has also relied on the Guidelines and other resources of the *Committee on Publication Ethics* (COPE) (Attachments 6.7 and 6.8), a widely recognized international authority specifically on the ethical norms of scientific publication. In addition, the committee has reviewed the guidelines of the scientific journals receiving the submissions, in particular, *ACS [journal] Author Guidelines* (Attachment 6.6).

REC's assessment is largely based on

- *NENT guidelines* no 5
- The preamble of *Singapore Statement on Research Integrity*
- *Montreal Statement* sections 2, 5, 12, 14 and 18
- *ALLEA Principles Respect*, sections 2.4, 2.6 and 3.2 (about further violations, alternative 1)
- "Vancouver Recommendations" *ICMJE*, section 2 "Who is an author"

1.4. Overview of the material representing the factual basis of the case

In order to illuminate the facts of the case as fully as possible, REC has received written and oral information about the case from both parties and also drawn on a variety of written sources, mainly provided by Notifier and Notified. A detailed list of communications is provided in the table of contents of attachments to this statement. Among these, key sources are the following:

- Separate meetings with each party (Minutes and responses, Attachments 3 and 5)
- Manuscript versions (Attachment 7)
- E-mail correspondence between the parties as supplied by Notifier and Notified (Attachment 2 and 4)
- Statements and responses to minutes as supplied by Notifier and Notified (Attachment 2 and 4)

- Co-author's Statement (Attachment 5.2.2) from co-author and Notified's chosen support person (Attachment 3.1)
- Notified's and Notifier's responses to REC's questions (Attachment 5.2.1 and 3)
- The PhD adjudication committee's report on Notifier's dissertation (Attachment 9.2)

1.5 Summary of REC's findings

- Notifier was excluded from the co-author collective, in spite of her expressed commitment to participate.
- Notifier was denied access to data during the revision process, in spite of her request for access.
- The terms of continued collaboration set for Notifier by Notified were unreasonable in light of recognized standards of role-defined rights and obligations in scientific collaborations, particularly in view of the disparities of power and authority.
- Notifier's approval of the manuscript submission was a response to a dilemma imposed on her by Notified's actions as project group leader, and so not an expression of real choice.
- The deliberate exclusion of Notifier by Notified from the revision process and the position of first author is clearly a breach of norms of scientific authorship (*ICMJE*) as well as of recognized standards for scientific collaboration. Notified is clearly responsible for these violations. Taken together and in context these violations are serious enough to constitute scientific misconduct, as defined by § 8, sect 3 of *The Research Ethics Act* (LAW-2017-04-28-23).
- An editorial correction of the author order is advised, reinstating the original order, along with minor corrections in author contribution statements and corresponding author assignment.
- System error is indicated. It appears there were insufficient checks or controls on the governance and practices internal to the research group in which this case arose. This suggests a failure of institutional integration. Moreover, the case indicates that the cross-faculty organization of the unit has blurred personnel responsibility, and may have increased the vulnerability of junior researchers.

2. Description of the roles and relations of Notifier and Notified through the scientific collaboration under consideration

In order to assess the research-ethical soundness of the contested authorship change in August 2022 as well as the sequence of events leading up it, it is necessary to make as explicit as possible the role-defined relations between Notified and Notifier.

Notifier:

- PhD Fellow in Notified's research group, with Notified as main supervisor, until submitting the PhD thesis in Sept. 2021 followed by public PhD defense on Dec [date], 2021
- Applicant for postdoctoral fellowship in Notified's group January 2022
- First author on manuscript versions (1 - 4)
- Third author on manuscript versions (5) and (6)
- Roles warranting acknowledgment of contribution in (1 - 4) and (5):
 - carried out the microscopy experiments

- analysed (the)¹ experimental data
- designed the experiments regarding mechanical stability
- contributed to writing of the (original)² manuscript

Notified:

- Main PhD-supervisor and closest administrative leader with personnel responsibility for Notifier until completion of Notifier's PhD in Dec. 2021
- Head of Research Group (group leader) [the research group] /UiO
- Principal Investigator of the relevant research project and recipient of [the project grant/funding]
- Corresponding author on all six versions of the manuscript considered here
- Roles warranting acknowledgment of contribution in (1 - 6):
 - suggested the investigation of the [scientific phenomenon]
 - designed the experiments
 - performed data analyses and evaluation
 - supervised the project
 - performed the experiments regarding DNA encapsulation together with [Notifier].²
 - contributed to writing of the (original)² manuscript
 - addressed the revisions²
- Responsible for establishing and coordinating the collaboration with international partners at [university 1] and [university 2]
- One of three reviewers of Notifier's application for a postdoctoral fellowship in Notified's research group

From the above, it is evident that, relative to each other, Notified holds a senior professional position and Notifier a junior professional position throughout their collaboration. This implies that there is a clear asymmetry of power and authority between the two parties. As is explicitly noted in the *UiO Standard for Research Integrity*, research leaders and supervisors must be especially attentive to such asymmetries and recognize their role as guide and role model for younger researchers (*UiO Standard*, 3.8). Research recruits in a vulnerable position may find it difficult to speak up for their rights and legitimate interests, and this in turn places a distinctive responsibility on senior researchers, supervisors and group leaders for fostering trust, respect and integrity in the collaboration.

3. Manuscript timeline and versions

Based on the material provided, REC has set up a timeline of the manuscript events (Attachment 8).

The disputed manuscript entitled [*title of Article*] exists in at least six full versions and as a summarizing conference abstract ([reference]).

The full manuscript versions are:

¹ Omitted in (5) and (6)

² Only in (6)

1. Submissions to *Nature Communications* ([date]) and [Y] ([date]) (doi: [number]) (Attachment 7.1).
2. Notifier's PhD thesis (ISSN [number]) ([date]) as paper III, categorized as submitted manuscript (Attachment 9.1). Listed as part of the thesis and assessed by the adjudication committee, but not publicly available as a part of the thesis materials during REC's case proceedings.
3. A submission to *Proceedings to the National Academy of Sciences (PNAS)* ([date]) (Attachment 7.2).
4. A submission to *ACS [journal]* ([date]) (Attachment 7.2).

In these four versions, the author order was [Notifier], [A], [B], [C], [D] and [Notified].

5. A revised version of 4. Resubmitted to *ACS [journal]* following peer-review ([date]) (Attachment 7.3).
6. Published version ([date]) (Attachment 10).

In these two versions, the author order was [A], [B], [Notifier], [C], [D] and [Notified]. Manuscript version (6) was published during REC's case proceedings.

REC's assessment of the differences and similarities between manuscript versions (4), (5), and (6) of the manuscripts is attached (Attachment 7.5).

4. Allegations and responses

In the notification (Attachment 1), as well as in her meeting with REC October 25, 2022, (Attachment 3), and in a written response to the minutes of the meeting between REC and Notified (Attachment 5.3) Notifier claims that she was improperly excluded from the revision process leading to manuscript version (5), reassigned authorship position without discussion, and denied the opportunity to defend her position as leading author. Notifier holds Notified responsible for these events. Documentation (Attachment 2.0 - 2.18) is provided in support of the claim.

Notified's response is expressed in the submission to REC dated 2022-02-10 (Attachment 2), as well as in a written response to the notification (Attachment 4), along with comments provided in the attachment containing e-mail correspondence between Notifier and Notified (Attachment 4.1). Supporting documents are provided by two collaborators of Notified, affiliated with institutions in other countries; co-author, Professor [D] (Attachment 5.2.2), as well as by Professor [E] ("supervisor and manager of co-authors") in "Joint Statement," jointly signed by [D] and [E] (embedded in Attachment 5.2).

Notified holds the position that the case should have been dismissed by REC, based on the written approval from Notifier (e-mail August 5, 2022, Attachment 8) of the submission of the revised manuscript (5) to *ACS [journal]* (Attachment 4). Moreover, the author order of manuscript version (5) is "fairly assigned, based on contribution" in so far as Notifier "did not contribute to the revision" of this manuscript (Attachment 4). However, though Notifier did not contribute to the revision of manuscript version (4), it is nevertheless false, according to Notified, that Notifier was *excluded* from the revision process.

[Notifier] was aware of the rejection, she was supposed to organize the work, take major steps to work on the revision. During the entire evolution of this manuscript, from first submission

to [Y], Nature Communications to PNAS, and most recently to ACS [journal], [Notifier] went to great lengths to avoid honest contributions. From August 2021 till the time of the revision, May 2022, she presented at last 15 documented, partly elaborate excuses at the validity level: “the dog ate my homework”.

(Attachment 4)

Notified does not challenge the claim that Notifier did not participate in the work carried out on the manuscript between May 12, 2022, and August 2, 2022. Notified denies, however, that this is a matter of exclusion, but is rather a result of Notifier’s on-going demonstration of “questionable work ethics”, as someone who “continuously delays work and makes herself unavailable for the delivery of the work” (Attachment 4.1). With regard to Notifier’s claim that she received “no answers from my coauthors or corresponding author [Notified] regarding any of my concerns” (Attachment 4), Notified comments:

It is not clear what concerns [Notifier] refers to. If [Notifier] meant by this sentence any input from her coauthors on her substandard rebuttal, it is nobody’s obligation to waste their time giving [Notifier], who is expected to act and behave as an independent postdoctoral researcher with a professional attitude, major corrections and instructions on an extremely poorly and sloppily composed document, while the revision was pending real professional input. A comparison of this document with the actual revision composed by the other authors reveals the abysmally bad work that [Notifier] had submitted. I am not [Notifier’s] postdoctoral advisor, it is neither my, nor anybody else’s responsibility to explain to her why her response was not a workable draft, or on how to prepare a professional response which has a chance to be accepted by the editorial office. I, as the corresponding author, have the obligation toward my co-authors, the university, and the scientific community, to ensure that only reasonable material, and not sub-standard drivel, is submitted as scientific manuscript. I also owe it to myself.

(Attachment 4)

According to Notified, “The authorship order was decided based on contributions at the time of the submission of the revised manuscript” (Attachment 4), and based on the distinctive contributions of the co-authors:

The in-silico experiments were performed solely by current first author [A]. [A]’s contribution supersedes the contribution of other authors. [A]’s contribution gives this manuscript its actual scientific value, as stated by experts in the field. QUOTE from revision by Nature Communications: “The main novelty in this work is the model - the authors should use it to make predictions for when these [...] do not form as validation (Attachment 4)

Notified’s senior collaborators fully support the claims that the author order in manuscript version (5) is proper, both in substance and with respect to the process of change, and that the case brought against Notified is baseless (Co-Author’s Statement, Attachment 5.2.2 and Joint Statement Attachment 5.2). According to [D], “The author order was determined collectively by the author group based on merit at every stage of the manuscript submission and revision” (Attachment 5.2.2).

In their joint statement, [D] and [E] elaborate the point:

We note that [Notifier] is still unaware that the bulk of her collection of microscopy images is menial, and at best advanced routine work. The outstanding work of [co-author [A]] and [co-author [B]], and to a lesser extent of [co-author [C]], who designed a genuinely new way of data processing for the revision, is way beyond the capabilities [Notifier] has displayed. The ethics committee failed to gather these documented facts.

There is nothing unfair in giving the people the credit they deserve, but it is despicable to claim more than one has achieved and deserves, at the expense of hard-working, intellectually capable others.

(Attachment 5.2)

As in the submissions from Notified, the argument put forward is that the process of change was fair, transparent, and non-excluding, and that the lack of contribution to the revision process which justifies the demotion of Notifier from author position 1 to 3 is a result of Notifier's own choices and lack of competence and understanding.

5. Assessment of the Research Ethics Committee

5.1. General considerations

A central question to be considered in this case is whether or not the process of revision that led to manuscript version (5) improperly excluded Notifier and thus failed to comply with recognized research ethical norms (cf. 1.3 above). Notifier alleges that this exclusion caused her to lose first authorship of the article – leaving her unable “to defend” that position. If Notifier's lack of participation in the revision process leading to manuscript version (5) is a result of improper exclusion, then this undermines the ethical propriety of the revised author order in manuscript version (5), whether or not that order reasonably reflects the scientific contributions of the co-authors of manuscript version (5). However, it remains important also to address this second issue, that is, whether in fact the new co-authorship order of the manuscript version (5) properly reflects the relative contributions of the co-authors. Hence, both procedural aspects of the revision of authorship order 5.2 and the question of its scientific justification 5.3 are addressed below.

The conclusion is that, in both respects, the change in author order appears to be incompatible with recognized research ethical norms. This raises the question of the significance and status of the explicit agreement of Notifier to the submission of manuscript version (5). On the face of it this agreement is at odds with the claims in the notification, since it suggests that Notifier – at least at that point in time – regarded the authorship change as fair and appropriate. We consider this question in 5.4. below, in the light of Notifier's claim that this consent was given under circumstances unduly restricting her choices. REC finds Notifier's account on this matter credible. Finally, in 5.5, the specific research ethical infringements committed in this case are identified.

In sum, there are two central questions to be answered in this assessment:

- 1) Whether the process of manuscript revision and author order change were carried out in accordance with recognized standards of research ethics, and
- 2) Whether the scientific changes qualify the change in author order

The relevant facts will then be assessed in light of the research ethics principles and norms detailed in 1 above.

5.2 The process of manuscript revision

Both the formal and the subjectively understood roles of Notified and Notifier are relevant to an assessment of the interaction between Notified and Notifier that led to manuscript version (5). Formal roles are listed above, while the assigned, agreed and informal roles, emerging from the communication between the parties, are discussed below. In sum, Notified's apparent understanding of her roles and responsibilities in the collaboration, as this emerges in the material supplied to REC (Attachments 3.1, 4, 5.0-5.2.2), is inconsistent with good scientific leadership practice (cf. e.g. *ALLEA* chapter 2). REC further finds that the communication from Notified to Notifier (Attachment 8) is suited to have caused confusion and uncertainty in Notifier's understanding of her own roles and responsibilities pertaining to the collaboration (cf. Attachment 8).

The issue of Notifier's role in future attempts to publish the manuscript was raised soon after the public Ph.D. defense. This was placed in question by Notified on January 6, 2022:

2022-01-06 Mail from Dr. [Notified] to Dr. [Notifier]: Hi [Notifier], I am writing about the [manuscript]. I have not heard from you on this for long time. A first author is expected to lead the project from A to Z, until it is published. I understand that you left [the research group] and you currently may have other priorities. In this circumstances, do you still want to continue working on this project as a first author? If you do, I need your full dedication. At this point it wouldn't be fair to ask other authors to do the work when you remain as the first author so I am openly asking you if you want to continue as leading author or to step down. Please let me know asap of your decision as I need to proceed with this manuscript, Best, [Notified]

(Attachment 8)

However, the role here assigned to the first author, "leading the project A to Z", clearly overlaps and collides with Notified's own roles, as listed in Chapter 2 above. Moreover, emphasizing her own need to proceed with the manuscript, Notified in effect asserts a claim to the manuscript and steering rights to further publication efforts.

It may be that Notifier has understood the assignment as first author to entail requesting advice and contributions, factual or supervisory, from Notified, who as project leader remains in a senior position. If so, this understanding was immediately corrected by Notified, as indicated in the correspondence below:

2022-01-06 Mail from [Notifier] to Dr. [Notified]: Hi [Notified], We discussed the paper back in December after my defense, that we will proceed with an appeal. We discussed that you were working on the letter and you'd share it with me before sending it to other co-authors for approval. I didn't push this so far as there was Christmas break. I definitely want to continue as the first author. I am back from vacation tomorrow and I can draft the appeal letter over the weekend. Do you have any example I could use to have an idea? I haven't seen one so far, just to have an idea what it should include. Best, [Notifier]

2022-01-06 Mail from Dr. [Notified] to Dr. [Notifier]: [Notifier], this idea that I draft things for you, I am 'working on the letter' of the paper you are the first of author of, and that you take over and refine it, is absurd. It is the other way around. You are the one who should put time and effort into this and draft a satisfactory response and I advise you or complement you on parts that need improvement. Have you at least looked at the comments at any point, think about how to address them and answer the questions? If so, where is this response? I am always here and happy to help but expecting that I do your job and hand it to you, is not ok and does not help at all with your development as an independent researcher. It has been so long that nothing has been done about this. I am not sure an appeal still makes sense and worth it for Nature Communications. In any case, we need to address some of the reasonable concerns by the reviewers. One of them is whether the theoretical model is valid for other surfaces. For this we need to calculate Hamaker constant and hand it to [A] so that he can plug it into the model. Can you by Saturday calculate this for surfaces we experimentally know? SiO₂, glass? Best, [Notified]

(Attachment 8)

As Notified here makes decisions and details how to proceed with the project and manuscript she appears to be taking a *de facto* leadership role in the project, while at the same time relinquishing supervisory and mentoring roles. It now becomes unclear what remains of the leading role explicitly assigned to Notifier, and assumed by Notifier still to be hers. Notifier's attempts to collaborate and discuss with her co-authors were blocked by the managerial role of Notified (see below). Notified's definition and assignment to Notifier of the leading role appears to be nominal and inconsistent, rather than substantive and clear. This double standard remains unresolved up until May, 11 2022, just prior to complete exclusion of Notifier (Attachment 8).

It is established and agreed that Notifier was not involved in the work carried out on the manuscript between May 12, 2022 and August 2, 2022. The question is whether this lack of involvement was due to exclusion of Notifier by Notified. In order to get an informed view of the work involved in preparing the second submission/appeal, REC set the timeline of the manuscript (Attachment 8). REC requested Notified to share all correspondence between herself and any co-author(s) in the period from May 5, 2022, to August 13, 2022 (e-mails, e-meeting dates, minutes, drafts, illustrations/ videos) pertaining to the manuscript." This request was not met as stated in her response (Attachment 5.2.1). However, the correspondence from Notified to all co-authors of August 13, 2022 sheds some light on the sequence of events and the scientific work involved in the revision of manuscript version (4) to version (5): "[*This was the hardest revision ever given that locating and refining the data, and the image analyses had to be done from scratch*]". This suggests that Notified during revision located microscopy images/videos made by Notifier. These were data, images and videos, from experiments that Notifier had performed (some together with Notified) and which Notified shared with international co-authors to perform extended analyses (roundness and growth) during revision as these are acknowledged in manuscript versions (5) and (6). REC notes that these data were not shared with Notifier.

Notified writes in her statement:

Neither I nor my co-authors have a record of a request to access to data.

(Attachment 4)

However, correspondence from Notifier to Notified on 2022-05-11 suggests otherwise.

For the figures, I unfortunately don't have access to data or software. I could stop by tomorrow and get it, if it's not an option, I unfortunately won't be able to extract any more data and work with it. In that case, this part has to be handled by someone else. However, I would be happy to come and do the work.

(Attachment 8)

A reasonable way to understand Notifier's correspondence above is as a request for access to data. It is not the action of someone who "makes herself unavailable for the delivery of the work" as claimed by Notified (Attachment 4). Notifier had publicly defended the PhD thesis with the data from these experiments for her PhD, presented them in a published conference abstract, deposited version (1) of the manuscript describing them and submitted to *Nature Communications*, *PNAS* and *ACS [journal]* which are top rated scientific journals, all in the capacity of first author. The decision not to share these data with Notifier at this point or earlier was done despite Notifier's communicated commitment to lead the process, maintain first authorship and specifically to undertake this task herself given access to the laboratory/ [the research group's] facilities (see entire correspondence from Notifier to Notified on May 11-12, 2022 (Attachment 8)).

Notified's diminishment of own roles in the project, limiting them to those of the corresponding author (in her address to REC, Attachments 3.1 and 4), brings to light the discrepancy between Notified's factual project-managerial roles and those explicitly acknowledged. It is clear that the *de facto* project leader is Notified. Yet, Notified brings to the attention of REC that she is unwilling to accept that principles and norms of research integrity are responsibilities she is obliged by in the following:

It escaped [Notifier] that it is not the corresponding authors duty to respond to [Notifier]'s emails, engage in communication with her, accept her demands, explain her anything, or take sole responsibility for publication-related decisions other than such connected to the editorial office. Communication other than the above cited, emanating from the corresponding author, is a matter of professional courtesy and responsibility, not obligation.

(Attachment 3.1)

However, professional courtesy and responsibility is an obligation, a binding norm particularly important in managing international collaborations (cf. *Singapore Statement* and *Montreal Statement*). REC does not find that any proper or formal negotiation of roles and responsibilities were initiated by Notified even as Notifier requested this, when her role changed upon completion of the PhD and the termination of her engagement with [the research group] (cf. Attachment 8). However, the suggestion to Notifier that she step down from a leading role (and first authorship) was repeatedly extended by Notified from January, 2022 up until May 11, 2022. As Notified sees it, Notifier's own behavior is to blame for her loss of first-author position:

She should simply have done the work of a leading author timely from the moment the rejection was received if she wanted to remain in this position. Dr. [Notifier] did not take initiative, she did not organize the work, she instead expected others to do it for her.

(Attachment 4)

Notifier in effect excluded herself from the revision process by having gone “to great length to avoid honest contributions” (Attachment 4). However, this unilateral assignment of all blame in the matter on Notifier is simply not compatible with Notifier’s documented repeated attempts to discuss with Notified, to reach the co-author collective, and to be involved in the collaboration (Attachment 8). Rather, the Notified’s failure to respond to Notifier’s e-mails in May and June 2022, whilst Notifier’s repeatedly requested involvement (Attachment 8), indicates effective exclusion of Notifier by Notified.

REC notes that the provision of a jointly signed agreement on intent to publish (cf. www.apa.org/science/leadership/students/authorship-agreement.pdf), specifying deadlines for individual tasks, might have supported Notified’s allegations of Notifier’s failure to meet agreed-upon goals. However, no such agreement has been produced. Moreover, the extremely tight deadlines set by Notified for Notifier in their communication (Attachment 8) seem entirely unmotivated, in light of the 180 day deadline set by *ACS [journal]* for manuscript revision. A written agreement on intent to publish could also have served the purpose of creating a joint understanding of expectations and been subject to revisions and revisits to explicitly negotiate authorship roles as the project changed.

The record of communication suggests that Notifier attempted to connect with the other co-authors for input and participation in the process of revision. However, Notified’s e-mail of May 11, 2022, to Notifier, states:

Co-authors are very welcome to share their ideas! though I urge you work with it before hearing from them; this is mainly the leading author's job.

(Attachment 8)

This directive from the project leader seems ill-suited to foster constructive communication between junior partners in the collaboration at this critical juncture. And as communication with Notifier halted, the collaboration spent time unnecessarily to locate and refine Notifier’s data. These were tasks to which Notifier committed her contribution in the correspondence from her to Notified and the author collective. However, no answer was forthcoming.

In sum, with respect to the question of exclusion, the record of communication suggests a progressive exclusion of Notifier from the project, going back at least to January 2022, not long after Notifier’s completion of the PhD fellowship. This process is evident in the way a reasonable request for access to data was ignored, culminating in the lack of response to Notified’s e-mails of May 14 and June 6, 2022 (Attachment 8). This process of exclusion was one in which Notified clearly played the controlling part.

As to the question of propriety of author order change, the decision to change the order of authors from manuscript version (4) to version (5) was not a collective decision, at least in the respect that Notifier was not involved in a factual assessment of contributions, despite her request to address this question and to be involved in any discussions about authorship. Notifier reacted to this change, when it was communicated, with what may be described as a respectful challenge (Attachment 8, cited below). This, however, did not receive an adequate response from Notified. As a result of the process of exclusion described above, it seems that the issue of first authorship was revisited and decided within a select part of the collaboration, without any input being sought from Notifier. Notified simply informed all co-authors on May 5, 2022:

The authorship order will be re-assessed after looking at the overall contributions to the final version.

(Attachment 8)

This unilateral announcement that individual roles and responsibilities are set in play, without discussion with the collective as a whole, is incompatible with good practice. This decision to make a retrospective assessment was apparently made by Notified, either alone or with a select part of the co-author collective. Such a decision is problematic also in that the authorship assessment at no stage appears to have been formalized or made explicit, by means of a formal scorecard or similar assessment (Attachment 6.8) to quantify and negotiate contributions and author order. In response to this information, Notifier requested clarification on May 9, 2022:

What is the plan for the authorship re-assessment? I am confused about what is the reason for that as the manuscript did not change since its submission to PNAS. Please let me know if what is the consensus about the next step and what needs to be done further. As a first author I want to keep working on this manuscript and want to contribute further.

(Attachment 8)

There was no response to this, which seems incompatible with general norms of research collaboration and co-authorship. It is, moreover, clearly not in conformity with ACS [*journal*]'s own standards. All ACS journals, including ACS [*journal*], follow advice from *The Committee on Publication Ethics* (COPE). COPE promote integrity in research and its publication, by providing practical advice and tools (<https://bit.ly/2ZgRKiD>) on how to assess and score authorship contributions in their discussion document on authorship (cf. Attachment 6.7).

Notifier's requests to Notified to be involved and to gain an understanding of the announced authorship reassessment are timely, and appear respectful. Considering her progressively weakened position through a mounting exclusion, Notifier appears here to show both courage and scientific integrity. Notified's pattern of communication regarding authorship assignment does not adhere to COPE's (or similar) advice, in so far as it appears to have been blind to the effects of inherent imbalances of power; failed to respond to invitations from Notifier to have conversations about authorship contributions; failed to negotiate authorship when roles were at risk of changing; failed to make (and revisit) written agreements when roles were changed; never applied formalized joint assessment of authorship with all co-authors (Attachment 6.8).

Notified, with support from Prof. [D], invokes Notifier's opportunities to challenge the final order of authors before submission of manuscript version (5). This argument is unconvincing, as it ignores the highly asymmetrical distribution of power in this case, and simply disregards Notifier's previous respectful and timely challenge before the completion of manuscript version (5).

5.3 Scientific propriety of the author order change

Notifier's place in the order of authors changed during revision from first (and recognized lead) to third. The previous second ([A]) and ([B]) authors were made first authors with equal contributions. Manuscript version (5) was approved by Notifier in e-mail correspondence to Notified and all co-

authors (see 5.4 below). Only in the published version (6) the corresponding authorship is shared between ([D]) and Notifier who maintain the same places in the order of authors as in versions (1 – 5). In the fields of the relevant manuscript (natural sciences and medicine) the place in the authorship order signifies different merits, where first and last/corresponding are valued considerably higher than other positions with social, academic and financial implications.

Notifier claims that authorship order was proper in being based on contributions at the time of the submission of the revised manuscript (5), and Prof. [D] also claims the authorship order proper in being determined collectively by the author group, based on merit at every stage of the manuscript submission and revision. In order to assess these claims, REC has considered the changes made to manuscript version (4) to make version (5), the individual co-author contributions and scientific merit of all authors (Attachment 7.5). Specifically, REC has addressed those contributions credited Notifier and the two newly assigned first authors [A] and [B] to investigate the propriety of the first authorship replacement taking place during the revision of manuscript version (4) leading to version (5).

As stated in Attachment 7.5, REC does not find the scientific changes made to manuscript version (4) to make manuscript version (5) to qualify the change in author order from that of (4).

5.4 The significance of Notifier's approval of submission of manuscript version (5)

Notwithstanding the problematic nature of the change in authorship order discussed above, REC recognizes that an authorship collective has wide discretion when determining the author order.

REC's point of departure, therefore, is that there is a strong presumption for accepting the determination of author order when this is an expression of a consensus of the authorship collective. However, a valid consensus presupposes that the agreement of each party is voluntary and given under fair conditions. It is established in this case that Notifier explicitly approved of the submission of manuscript version (5), with the revised author order. Notifier claims, however, that this endorsement should not be given decisive weight, in so far as it was given in fear of losing the authorship altogether, and based on the premise that being third author is a lesser harm than losing authorship altogether (Attachment 3). A critical question, then, is whether it is plausible that Notifier agreed to the reassigned authorship position in fear of losing her authorship of the manuscript altogether.

Notifier, supported in this by Prof. [D] and Prof. [E] (cf. chapter 4 above), denies that there was any such pressure exerted on Notifier. Notifier comments as follows:

An approval constitutes a contract between the authors, [Notifier] and the journal. [Notifier] agreed to the authorship order by consent in writing. At the time she approved the manuscript she was not in any dependency of any of the other authors or their institutions.

(Attachment 4)

It is inconsistent and contradictory to claim enormous pressure and at the same time have admittedly no communication with anyone who could have projected pressure on [Notifier].

(Attachment 3.1).

Notifier has submitted a sequence of e-mail correspondence in support of the claim that

[Notifier] had continuously exploited the good will of her co-authors and especially me as her supervising co-author. This is plain and simple abusive behavior by [Notifier]. As a matter of fact, it is an abusive habit. Coauthors, particularly me, had to continuously cope with the delays [Notifier] caused.

(Attachment 4.1)

The core claims are that:

1. Notifier was at the time of granting approval in no relation of dependency on any co-author.
2. Notifier cannot logically claim to have been placed under pressure by co-authors at a time when there was no communication with co-authors.
3. The communication record shows that it is Notifier who has abused the good will of the co-author collective during the process of submission, revision, and resubmission of the disputed manuscript until May 12, 2022.

REC observes as follows:

Regarding 1, there would seem to be a very clear relation of dependence of an unaffiliated post-PhD defense researcher in pursuit of a career on the PhD supervisor. That relation of substantive dependence does not end with termination of institutional affiliation. On the contrary, the academic and personal recommendation of the PhD supervisor will in the normal case be of great significance for the career prospects of a fresh PhD.

Regarding 2, it seems that in this situation, after the submission to the co-author collective a proposal for revisions, that precisely the on-going lack of communication from co-authors in general and the research group leader in particular, would be a significant factor in exacerbating the stress that Notifier reports, creating uncertainty about the attitudes of the author collective toward Notifier's contributions and the terms of her participation.

Regarding 3, a striking feature of the e-mail exchanges provided and commented on by Notified is the submissive and placating tone of the e-mails from Notifier to Notified. Whether or not delays were culpably caused by Notifier, this record of communication attests to a notably harsh tone in the exercise of scientific leadership.

In a well-functioning research environment characterized by respect and mutual trust between collaborators, changes in author order of the sort being considered and undertaken in connection with the revision process leading to manuscript version (5) would have been shared along the way with all parties, as a topic for discussion. In particular, such deliberations would have involved those co-authors negatively affected by proposed changes. Indisputable documentation of such inclusive deliberation is something that scientific journals typically require when co-authorship order is changed during revision. The communication process documented in this case stands in clear contrast to this responsible practice. Notifier heard nothing from any of her colleagues during the period of manuscript revision concluding with authorship change. The fundamentals of a well-functioning research environment – trust and respect – were absent.

The documentation provided by Notified, as well as the statements provided by Prof. [D] and Prof. [E], bear this out and in fact place the blame for this dysfunctional collaboration on Notifier. REC does not find this assignment of responsibility credible. The impact is exacerbated by the fact that they are levelled by senior colleagues and a research group leader towards a junior colleague – Notifier – in an insecure position, without academic affiliation. There is no evidence of any reflection

on the disparities of power, the role assignment, or the difficulties of the conditions under which Notifier was working. There is no evidence of the obligations of solidarity towards junior colleagues emphasized in *ALLEA* and in *Montreal Statement*.

REC finds that Notifier's fears of further exclusion and loss of authorship were not unreasonable. Her account of why and how she came to give her approval of the submission of manuscript version (5) under improper pressure, fearing that she might lose authorship altogether, is credible.

5.5 Research ethical infringements identified by REC

- *NENT guidelines* no 5
- The preamble of *Singapore Statement on Research Integrity*
- *Montreal Statement* sections 2, 5, 12, 14 and 18
- *ALLEA Principles Respect*, sections 2.4, 2.6 and 3.2 (about further violations, alternative 1)
- "Vancouver Recommendations" *ICMJE*, section 2 "Who is an author"

As shown above, this case centers on two questions:

- 1) Whether the process of manuscript revision and author order change were carried out in accordance with recognized standards of research ethics, and
- 2) Whether the scientific changes qualify the change in author order

REC has described the facts of the case as told by both parties (cf. the quoted statements and their original source indicated by reference to the attached documents) assessed the arguments made and will now apply the relevant body of research ethical standards identified in 1.3. to those facts and findings.

First, REC will consider the process surrounding the revision of text and changing of authorship order. The whole process is described in 5.3 above. The question is whether the process was consistent with *ALLEA* (Attachment 6.4) sect 1 Principles *Respect*, sect 2.6 Collaborative working; *Montreal statement* sect 2 Trust, sect. 5 Communication, sect. 12 Roles and Responsibilities and sect. 14 Conflict.

The *ALLEA* principles prescribe respect among colleagues. It seems clear that Notified did not show proper respect for Notifier by preventing her from participating in the revision process of the manuscript. How this prevention happened is given by the detailed account in 5.3. *ALLEA* sect. 2.6 prescribes that collaborative partners agree at the outset on the process for communicating their research as transparently and openly as possible and procedures for resolving conflicts, as well as demanding that all partners in research collaborations are properly informed and consulted about submissions for publication of the research results. REC cannot find that the process for communicating the research in question complied fully with this guideline, as there was no procedure for coping with conflicts and Notifier was not properly consulted about the final publication of manuscript version (6).

Montreal Statement sect. 2 demands that all collaborating partners behave in a way that is worthy of the others' trust. To obtain and maintain the trust of a collaborator, compliance with recognized

research ethical norms could be regarded as a minimum. To trust someone implies to place confidence in that person. REC finds that the events unfolding in the period from May 5, 2022, to August 13, 2022 and, indeed, in the months between January and May 2022 were not conducive to promoting Notifier's trust in Notified.

Montreal Statement sect. 5 spells out standards for communication between collaborating partners. Communication should be as frequent and as open as necessary to foster full, mutual understanding of the research. As Notifier was kept out of much of the communication between Notified and others in the author group, sect. 5 was not complied with.

Furthermore, *Montreal Statement* sect. 12 requires that collaborating partners have a mutual understanding of everybody's roles and responsibilities in the whole of the research process, and that when these change, those understandings should be renegotiated. REC did not find any mutual understanding of roles, responsibilities and research procedure where the change of author order is concerned. Indeed, Notifier's and Notified's statements indicate widely different perceptions of what transpired.

Finally, *Montreal Statement* sect. 14 stating that collaborating partners should seek prompt resolution of conflicts, disagreements and misunderstandings at the individual level is not complied with. REC found that Notifier did what could be expected of her to seek clarification and conflict resolution, while Notified's behaviour prevented any agreement being reached.

Secondly, REC will consider whether the scientific changes qualify the change in authorship order that resulted in moving Notifier from first to third. The propriety of the change is discussed in 5.2 above. The question is whether that move is consistent with *NENT Guidelines for research ethics in science and technology* (Attachment 6.9) No 5, Researchers must respect the contributions of other researchers and observe standards of authorship and cooperation; *ALLEA* sect 2.6 and 3.2; "Vancouver Recommendations" sect 2., Who is an Author and *Montreal Statement* sect. 18. Authorship and Acknowledgement.

There is no doubt that Notifier gave a substantial contribution to the manuscript. Her contribution was not in any substantive way lessened from manuscript version (4) to manuscript version (5), cf. 5.3 above. The issue for determination is therefore whether the decision to change authorship order was collectively decided and thus fulfilled the standards set in the guidelines mentioned above.

REC has found that the change in authorship order was done without Notifier's valid consent. Her written accept of the change was given under circumstances unduly restricting her choices, cf. discussion in 5.2 and 5.4 above. The decision appears to have been made by Notified, and therefore does not comply with the "Vancouver Recommendations" sect. 2. nor with *ALLEA* sect 2.6 and *Montreal Statement* sect 18. All sets of guidelines request agreement between collaborating partners about authorship and acknowledgment of joint research products, as well as full and proper recognition of all partners. The same principle is spelt out in *ALLEA* sect 2.6, cf. above. Consequently, the changing of the author order is a transgression of the norm spelt out in *NENT Guidelines* 5 since standards of authorship and cooperation are disregarded.

Finally, REC will point to the preamble of the *Singapore Statement on Research Integrity*, first to Principles, the point on Professional courtesy and fairness in working with others and Good stewardship of research on behalf of others; and secondly, Responsibilities 2., Adherence to Regulations: Researchers should be aware of and adhere to regulations and policies related to

research. In light of the above-mentioned transgressions, these basic principles are not met by Notified.

The conclusion is that Notified has not complied with any of the norms listed above.

REC will now consider the seriousness of these breaches, in order to determine whether Notified has violated one or more research ethical norms so severely that it must be labelled scientific misconduct.

6. REC's Conclusions

6.1. Scientific Misconduct

It has been established that Notified in this case has acted in breach of norms of authorship by excluding Notifier from the process of revision, and by excluding Notifier from any deliberation about authorship changes prior to the submission of manuscript version (5). It has been established, furthermore, that the change in authorship order is not qualified by the science reported in manuscript versions following manuscript version (4). The question to be considered now is whether any breaches here described (cf. 5.4 above) constitute scientific misconduct. This assessment must be made with respect to the definition of scientific misconduct contained in *The Research Ethics Act* section 8, subsection 2, which states:

Scientific misconduct is defined as falsification, fabrication, plagiarism and other serious breaches of recognised standards of research ethics that have been committed wilfully or through gross negligence when planning, carrying out or reporting research.

It is to be noted that section 8, subsection 2 has both an objective and a subjective qualification: Is any transgression of relevant norms committed? *and*, if so, was the transgression committed wilfully or in gross negligence?

REC has come to the conclusion that the objective criterion of the law is met (cf. above), and breaches are well established. They are not instances of falsification, fabrication or plagiarism; rather, they concern the principles for allocation of credit through authorship, both in substance and in procedure. Moreover, they concern fundamentals of scientific collaboration; fairness, trust, openness, collegiality, and the duties of those with relatively more power and authority toward collaborating partners with relatively less.

The next question is whether the behaviours detailed here are instances of “serious breaches of recognised standards of research ethics” in the sense intended by the law. The draft bill of *The Research Ethics Act* (Prop. 158 L (2015-2016)) indicates that the intention of the lawmaker is to capture “actions that directly affect or indirectly might influence, the scientific result” (p. 33). In this case, we are dealing with breaches that are harmful to the outputs of science in precisely this respect. The changes in authorship order are found to be improper both in substance (not warranted by the adjustments of contributions made) and in process (excluding Notifier from all substantive communication regarding authorship revision). It is important here to note that authorship norms secure not only fairness between scientists, but also the transparency and tractability of the generation of scientific results. To the extent that these values are undermined by violations of authorship norms, such violations may undermine the results and outputs of scientific endeavours.

Moreover, the exclusion from authorship deliberation transpired in this case as an outcome of an ongoing process of interaction where norms essential to the responsible conduct of scientific collaboration have been breached. This context aggravates the seriousness of the specific breaches of authorship norms. Taken together and viewed as a whole, these violations support the conclusion that the objective conditions for scientific misconduct are satisfied.

However, a finding of scientific misconduct also depends on whether Notified indeed violated the norms wilfully or with gross negligence. It is REC's opinion that the acts committed have a systematic and consistent character, they are intended and deliberate, and they form a pattern sustained over time.

There is, however, no evidence to suggest that Notified acted with the intention of violating the relevant norms of research ethics. On the contrary, the evidence suggests that [Notified] took herself to be acting in accordance with good practice. However, such a failure to appreciate the unethical nature of the conduct here described is in itself culpable. It is a duty of any practicing scientist to be familiar with fundamental norms of research ethics of the kind that are at stake in this case, and to understand their implications for the practical conduct of science. The lack of knowledge of the research ethical standards does not exempt one from liability. The evident failure of an accomplished and experienced scientist to be familiar with generally recognized norms of this sort, or to grasp their implications for practice, indicates gross negligence.

In sum, REC finds that the acts of exclusion and of authorship change objectively constitute serious violations of generally recognized norms of research ethics. These violations are probably not as such intentional, but they are, however, instances of gross negligence. Hence REC finds that taken together and in context, the violations here identified constitute scientific misconduct, as defined by § 8, sect 3 of *The Research Ethics Act* (LAW-2017-04-28-23).

6.2 Recommendation of reparation

REC advises that an editorial correction of the author order is made, reinstating the original order, along with minor corrections in author contribution statements and designation of corresponding authorships.

Our recommendation is that Dean of the Faculty of Medicine, UiO, is advised to provide the Editor of *ACS [journal]* with documentation from the institutional REC review of the case, indicating that the publication of a correction to the author/contributor list is justified, and in compliance with the *COPE's* Retraction Guidelines [<https://publicationethics.org/files/retraction-guidelines-cope.pdf>].

The appropriate order of authors and contributions should be:

[Notifier]*, [A]*, [B], [C], [D] and [Notified]

*Corresponding authors

Author contributions should be:

[Notifier] carried out the microscopy experiments, analyzed experimental data, and designed the experiments regarding mechanical stability. [A] developed the [model] together with [D] and

performed the extended growth analyses together with [C]. [B] performed the extended roundness analyses. [B] and [C] fabricated and characterized the solid surfaces for the experiments. [D] proposed and established the [model]. [Notified] suggested the investigation of the [scientific phenomena], designed the experiments, performed data analyses and evaluation, and supervised the project. All authors contributed to the writing of the manuscript.

REC advises that it be left to editorial discretion to consider removing reference 87 and reference thereto under Notes. Similarly, it should be left to editorial discretion to decide whether to include the following text under Notes:

The order of authors and author contributions have been corrected to the status they had in the original submission whilst new corresponding authors are assigned after research ethical review by University of Oslo.

6. 3. System error

This case has highlighted system error pertaining to the organization and operation of [the research group] and thus UiO. Assigning personnel responsibility to group leaders as well as supervision duty and project manager role in relation to externally funded research, can create potentially dysfunctional dependency relations for junior researchers. This concentration of roles of authority can contribute to the isolation of PhD candidates from the rest of the institution, leaving them more vulnerable and with limited recourse to aid and support in cases where academic leadership is poorly exercised, or where group relations deteriorate.

The case also raises a question about the role externally funded research group leaders should take in the recruitment of PhD candidate(s) and postdoctoral fellow(s) to their projects. Given the concentration of power and authority that this construction allows, there is good reason to ensure that group leaders are at arm's length from the recruitment process.

It appears that there have been insufficient checks or controls on the governance and practices internal to the research group in which this case arose. This suggests a failure of institutional integration, related to the organization of the Research Centre and its embedding in the university. Specifically, the case indicates that the cross-faculty organization of the unit in question has led to a blurring of personnel responsibility and may have increased the vulnerability of junior researchers. This may well have been exacerbated by the fact that research group leaders at the Centre are all limited-term employees. Temporary employees are under great pressure to perform, and problematic competition may arise between group leaders and PhD candidates regarding the distribution and crediting co-authorships, in so far as this is of critical importance to both parties for further career development.

7. Right of appeal

In cases where REC finds that scientific misconduct has occurred, the statement issued by the committee may be appealed to the National Commission for the Investigation of Research Misconduct, cf. *The Research Ethics Act* §7. This provision refers to Chapter VI of the *Act relating to procedure in cases concerning the public administration* (1967), which in Section 29 declares the time limit for lodging an appeal to be three weeks from the date the notification of the decision has

reached the party concerned. The appeal should be directed to the National Commission for the Investigation of Research Misconduct.

8. Attachments

[Removed]