



NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL
OFFICE OF INVESTIGATIONS

CLOSEOUT MEMORANDUM

Case Number: A12060042

Page 1 of 1

NSF OIG received an allegation that a post-doctoral fellow¹ who conducted NSF-funded research² falsified material in a manuscript submitted to a journal.³ The fellow admitted that he falsified data by manipulating images. The university's investigation determined the fellow intentionally committed falsification, but found that the image manipulations did not affect the conclusions of the pending manuscript. The university issued a research misconduct finding and terminated the fellow's employment. The journal⁴ rescinded its acceptance of the manuscript for publication. A different journal⁵ subsequently published a revised version of the manuscript⁶ with unaltered images and data.

We concurred with the university's findings. We concluded that the fellow intentionally falsified data to obtain desired images for a manuscript, and that this constituted a significant departure from accepted practices. NSF concurred with the recommendations in our Report of Investigation (ROI), and made a finding of research misconduct and debarred the fellow for a period of one year. In addition, NSF prohibited the fellow from participating as a peer reviewer, advisor, or consultant for a three year period. For an additional three years post-debarment, the fellow is required to submit certifications and assurances for all proposals or documents submitted to NSF, as well as certifications of adherence to a data management plan. NSF also required that he complete a course in the responsible conduct of research.

This memo, the attached ROI, and the letters from the Office of the Deputy Director on the notice of research misconduct determination and the final notice of debarment constitute the case closeout. Accordingly, this case is closed.

1

2

3 Manuscript entitled

4

5

6 Manuscript entitled

The article acknowledged support from NSF award

National Science Foundation Office of Inspector General



Report of Investigation Case Number A12060042

August 7, 2013

**This Report of Investigation is provided to you
FOR OFFICIAL USE ONLY.**

It contains protected personal information, the unauthorized disclosure of which may result in personal criminal liability under the Privacy Act, 5 U.S.C. § 552a. This report may be further disclosed within NSF *only* to individuals who *must* have knowledge of its contents to facilitate NSF's assessment and resolution of this matter. This report may be disclosed outside NSF only under the Freedom of Information and Privacy Acts, 5 U.S.C. §§ 552 & 552a. Please take appropriate precautions handling this report of investigation.

Executive Summary

Allegation: A research associate who conducted NSF-funded research at a university intentionally falsified data in a submitted publication.

University

Investigation: The Investigation Committee concluded, based on the preponderance of the evidence, that the Subject intentionally committed falsification, which constituted a significant departure from accepted practices of the research community. The Subject was terminated and prohibited from being employed or readmitted to the University for a period of seven years.

OIG

Assessment: OIG concurred with the University's conclusion.

- **The Act:** The Subject falsified data.
- **Intent:** The Subject acted intentionally.
- **Standard of Proof:** A preponderance of evidence supports a finding of research misconduct.
- **Significant Departure:** The Subject's actions represent a significant departure from accepted practices.
- **Pattern:** No pattern found.

OIG Recommends:

- Make a finding of research misconduct.
- Send a letter of reprimand.
- Require certification of responsible conduct of research training within 1 year of NSF's finding.
- Debar the Subject from receiving federal funds or participating in any federally-funded project for a period of 1 year.

Additionally for a period of 3 years immediately following the debarment period:

- Bar the Subject from participating as a peer reviewer, advisor, or consultant for NSF.
- Require certifications and assurances.
- Require submission of a detailed data management plan with annual certifications of adherence.

University's Inquiry

The University¹ conducted an Inquiry into an allegation that a research associate (Subject)² who conducted NSF funded research³ falsified material in a submitted manuscript (Article 1).⁴ The Subject was listed as a project participant (post-doctoral fellow) in the Annual and Final reports⁵ of the awarded NSF proposal. The allegation came from the journal's Publication Committee (Journal)⁶ which initially approved the manuscript for publication. During the processing of the accepted Article 1 for publication, the Journal determined that two of the figures (Figure 2 and Figure 5A) appeared to show signs of image editing. The Journal requested the principal investigator (PI),⁷ who is the corresponding author of the submitted manuscript, provide explanations and copies of the original data for the two figures.⁸

Specifically, the Journal highlighted⁹ the questionable RT-PCR (reverse transcription-polymerase chain reaction) generated band of DNA in lane 5 of Figure 5A, pointing out that lane 5 "has hard edges suggesting splicing/editing. Sample in Lane 5 has similar features to sample in Lane 6." For Figure 2, the Journal noted¹⁰ that in the immunofluorescence image of cultured cells¹¹ treated with two growth factors¹² for 3 days, an "[a]rea has been selectively edited to obscure originally captured data. Would like to see the original capture to confirm composition." Article 1 was listed as an accepted publication in the 2011-2012 Annual Report of the NSF award.¹³

The PI only became aware of the potential misconduct when it was raised by the Journal. The PI initially provided the Journal a response¹⁴ and the requested original data for Figure 5A stating:

"... it is also clearly evident that my postdoc pasted a copy of the band in lane 6 on top of the lighter band in lane 5. I'm dumbfounded as to why he did this since the original image was perfectly fine. It also doesn't matter whether the band is light or dark only that it is present. I distinctly remember discussing the original image and that we both felt it

¹ [REDACTED]

² [REDACTED]

³ Tab 1: [REDACTED]

⁴ [REDACTED]

Article 1 entitled [REDACTED]

[REDACTED]

⁵ Tab 2: [REDACTED]

⁶ [REDACTED]

⁷ [REDACTED]

⁸ [REDACTED]

⁸ Tab 3: Letters of communication between [REDACTED] (Note: throughout this report, page numbers noted in the Tabs are the page numbers generated from Adobe .pdf).

⁹ Tab 3, pg 3.

¹⁰ Tab 3, pg 6.

¹¹ Primary culture of [REDACTED] cells.

¹² [REDACTED]

¹³ Tab 2, pg 16. The 2011-2012 Annual Report was submitted on [REDACTED]

¹⁴ Tab 4: Email from the PI to the [REDACTED]

would look better when printed if the bands were darker. I also asked him to try increasing the contrast or simply to run a new gel. Apparently, he found a shortcut.”

The PI then sent an additional response¹⁵ to the Journal which included the requested original data for Figure 2, and the revised, annotated Figures 2 and 5. The PI stated:

“My postdoc has returned from [] and I have finally spoken with him. As you can see, he covered some cellular debris [in Figure 2] that was left over from the isolation procedure. As with the other image, he did this for esthetic reasons and not to misrepresent the data in any way. In fact, the presence or absence of the debris [in Figure 2] has absolutely no impact on the data.

He explained that this change to the image was not meant to misrepresent data, but rather to improve the legibility of the figure. He recognizes doing so was inappropriate, takes full responsibility for his actions and is willing to speak to you if you desire. However, I understand that this is ultimately my burden to bear. I want to add that he has been reprimanded and given a termination date.”

In a letter¹⁶ to the PI, the Journal decided to rescind their acceptance of Article 1 as they determined “that Figures 2 and 5A have been inappropriately prepared.” Another manuscript (Article 2)¹⁷ submitted by the PI and Subject was accepted for publication as the Journal deemed “there were no ethical concerns.”

The PI contacted the Department Chair¹⁸ and the Vice President for Research (VPR)¹⁹ about the data falsification. In accordance with the University’s research misconduct policies,²⁰ the University conducted an Inquiry into the alleged research misconduct committed by the Subject.

The Inquiry Committee reviewed the allegation letter from the Journal, the original data provided by the PI, the Subject’s written statements, and also interviewed witnesses. The Inquiry Report²¹ contained a summary of the PI’s interview in which he stated the Subject verbally admitted that he had falsified data in the submitted Article 1 and offered to provide a letter of admission. The Subject gave the letter of admission²² to the PI to review, but the letter

¹⁵ Tab 5: Email from the PI to the [REDACTED]

¹⁶ Tab 3, pgs 10-11.

¹⁷ Tab 6: Article 2 entitled [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

¹⁸ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

¹⁹ [REDACTED]
[REDACTED]

²⁰ Tab 7: [REDACTED] Research Misconduct Policy.

²¹ Tab 8: Inquiry Report of Research Misconduct Case [REDACTED] with Exhibits.

²² Tab 9: Draft letter from [REDACTED]
[REDACTED]

was never sent to the Journal as the PI was advised²³ not to do so by the VPR. In the draft letter, the Subject admitted masking "a blob of extraneous material" in Figure 2 and for Figure 5A and that "the original band in the lane 5 was superimposed with the copy of the band from lane 6." The Subject admitted he was merely trying to make the figures look better for the Article 1 publication and did not intend "to misrepresent the original data" and "never tried to fraudulently represent the data." Furthermore, the Subject emphasized that "[the PI was] not aware of any of these alterations and I urge the committee to excuse [the PI] of any consequences from the decision"²⁴ of the Journal.

Based on the admission, the Subject was excused from the PI's lab, the Department withdrew the I-129 application to extend the Subject's H-1B status, and the Subject's employment was terminated.²⁵ Under University policy the termination of employment did not, however, terminate the requirement for an inquiry.²⁶

Simultaneously, the University formally notified²⁷ the Subject about the allegation of data falsification and the convened Inquiry Committee. The Inquiry Committee asked²⁸ the Subject if he manipulated the images for Figures 2 and 5A in the submitted Article 1 as indicated in the Journal's letter²⁹ and if he wrote the draft letter³⁰ to the Journal of his own free will. In his email response,³¹ the Subject affirmed that he manipulated the gel image. The Subject stated:

"In the gel image there was a band, however, it was faint and during [a] previous PCR there was [a] thick band. So the PCR was [a] little finicky and when I saved the gel image the band was faint. By then I already repeated the experiment three times and [the PI] was pushing for results. So I manipulated the image for just showing [the PI]. My thinking was to come back later and repeat the experiment. But I was juggling so many tasks that I completely forgot about the manipulated image until the Journal pointed [it out]."

The Subject also affirmed that he wrote the draft letter to the Journal upon a request from the PI. This was inconsistent with the PI's testimony where the PI stated the Subject offered a letter of admission. The Subject explained that the PI's request was to review the letter for grammatical editing, but the PI later refused to comment on it upon advice from University administration. In contrast to the Subject's composed draft letter for the Journal, the Subject's email response did not include an explanation for the Figure 2 image manipulation in Article 1.

The Inquiry Committee concluded there was no evidence that the PI was aware of the Subject's actions before being notified by the Journal and that the PI did not create "a culture of undue pressure [in the lab] to produce publishable data."³² Based on the preponderance of the

²³ Tab 8, pg 2.

²⁴ Tab 9, pg 1.

²⁵ Tab 10: [REDACTED]

²⁶ Tab 7, pg 21.

²⁷ Tab 11: [REDACTED]

²⁸ Tab 8, pgs 137-138.

²⁹ Tab 3, pg 1.

³⁰ Tab 9.

³¹ Tab 8, pgs 3 and 137.

³² Tab 8, pg 2.

evidence, the Inquiry Committee concluded there was sufficient evidence of research misconduct (data falsification) from the actions of the Subject to warrant an investigation. The Committee opined “[t]he falsified data [in Article 1] did not alter the conclusions of the study but appeared to be primarily cosmetic.”³³

Subject’s Response to Inquiry

The Inquiry Report was provided to the Subject in an email³⁴ for review and comments. The Subject responded by email concluding:

“I deeply regret what I have done and the inconvenience caused to [the PI] and [the University]. It was never my plan to deceive the research community or the journal, but a lapse in my judgement and laziness on my part. I want to assure that I will not do any future research except for teaching purpose.”³⁵

University’s Investigation

The University informed NSF OIG about the research misconduct allegations and their initiation of an investigation.^{36,37} We referred the matter to the University pending their investigation.³⁸ Although the University initiated their investigation upon a charge from the Provost,³⁹ the Interim VPR⁴⁰ contacted NSF OIG as the Inquiry Report concluded that:

“since [the Subject] has admitted the misconduct and since he is no longer employed by the University nor resident in the United States further investigation may not be warranted. [The VPR] should discuss whether or not to proceed with further investigation with the National Science Foundation.”⁴¹

We advised that it was imperative that an investigation be completed in order to fully assess the extent of the research misconduct, including an evaluation of the Subject’s other research records, data and publications.⁴²

Based on an additional interview of the PI and review of the original data sets, the Investigation Committee (IC) reaffirmed that the Subject “did commit research misconduct

³³ Tab 8, pg 4.

³⁴ Tab 8, pg 139.

³⁵ Tab 8, pg 139.

³⁶ Tab 12: [REDACTED]

³⁷ Tab 13: Letter from Interim VPR to NSF OIG [REDACTED]

³⁸ Tab 14: Referral Letter to University [REDACTED]

³⁹ [REDACTED]

⁴⁰ [REDACTED]

⁴¹ Tab 8, pg 4.

⁴² The Subject’s other potential research data in the PI’s lab was listed in Tab 14, pg 3.

through falsification of data”⁴³ in Article 1 and that “[t]hese falsifications of data were clearly intentional and performed knowingly.”⁴⁴

Overall, the IC determined that the Subject’s research misconduct in Article 1 “was an isolated event, and found no evidence of similar falsification of data in any other papers on which the [Subject] is a coauthor, or in grants submitted to the NSF.”⁴⁵ The Subject was asked⁴⁶ by the IC about the manipulation of Figures 2 and 5A in Article 1 and his involvement in the PI’s lab in the preparation of other figures or the generation of data for submitted manuscripts, publications and NSF grant proposals. However despite two attempts by the IC, the Subject failed to respond.⁴⁷ Alternatively, the IC asked the PI about the Subject’s contributions in manuscripts and NSF grant proposals.⁴⁸ The PI indicated that the Subject did not contribute to the NSF grant proposals and made minor technical contributions for the submitted manuscripts but did not generate the figures.⁴⁹

Regarding Figure 5A in Article 1, the IC determined that the Subject “cut and pasted a band from lane 6 from the same gel over the weak band [in lane 5].”⁵⁰ Regarding the image of cultured cells in Figure 2 in Article 1, the IC determined that the Subject “intentionally covered up an area on the image that [contained] debris [] with a blank area digitally cut and pasted from a different region of the [field]” as the Subject “intended to increase the aesthetics of the image.”⁵¹ The IC concluded that “Figure 2 and Figure 5A of the submitted paper [Article 1] were altered to enhance the images but were not altered in a manner that changed the analysis of the data, the primary information from the research or the conclusions in the publication.”⁵² However, “based on a preponderance of evidence, [the] falsification of data constituted a significant departure from accepted practices at [the University].”⁵³

The IC concluded that the “actions of data falsification by the [Subject] did not have a significant impact on the research record, research subjects, other researchers, institutions or the public welfare” as “[o]ther scientists in [the PI’s] lab were not impacted by the withdrawal of [Article 1]” and “[t]he manuscript originally submitted to the [Journal] was resubmitted to a different journal with the correct, original unaltered figures, and has now been accepted for publication.”^{54,55}

⁴³ Tab 15: Investigation Report [REDACTED] with Exhibits, pg 1.

⁴⁴ Tab 15, pg 4.

⁴⁵ Tab 15, pg 1.

⁴⁶ Tab 15, pgs 550-551.

⁴⁷ Tab 15, pgs 4 and 553-554.

⁴⁸ Tab 15, pgs 671-672.

⁴⁹ Tab 15, pgs 675-676.

⁵⁰ Tab 15, pg 3.

⁵¹ Tab 15, pg 5.

⁵² Tab 15, pg 1.

⁵³ Tab 15, pg 5.

⁵⁴ Tab 15, pg 6.

⁵⁵ Tab 16: Article 3 entitled [REDACTED]
[REDACTED]
[REDACTED]

University Adjudication

The Deciding Official⁵⁶ determined that the Subject “may not be employed or readmitted to [the University] for a period of seven years”⁵⁷ based on the preponderance of the evidence that the Subject committed research misconduct. The Interim VPR informed the Subject, the PI and the Journal about the final decision and the research misconduct finding.^{58,59,60}

OIG’s Assessment

The University provided OIG with its reports and exhibit materials and OIG invited⁶¹ the Subject to provide comments on the University’s Investigation Report. The Subject did not reply despite two messages to the Subject.⁶²

In a departure from their policies,⁶³ the University did not provide the Subject with the draft investigation report for comments as the University was not able to succeed in obtaining responses from the Subject during the course of the investigation. However, we assessed the University’s policies and their actions and concluded that the University followed reasonable procedures. After evaluating the Investigation Report, we deemed it to be satisfactory and we adopted the findings in lieu of conducting our own investigation.

A finding of research misconduct by NSF requires that (1) there be a significant departure from accepted practices of the relevant research community, (2) the research misconduct be committed intentionally, or knowingly, or recklessly, and (3) the allegation be proven by a preponderance of the evidence.⁶⁴

The Acts

Based on the evidence provided, we concur with the University IC’s assessment that the Subject:

1. Falsified Figure 2 of Article 1 by omitting cellular debris in an image of cultured cells.
2. Falsified Figure 5A of Article 1 by pasting a copy of the band in lane 6 on top of the lighter band in lane 5 in a digital image of an agarose gel of RT-PCR DNA products.

The IC found, by a preponderance of the evidence, that the Subject falsified data, which constituted a significant departure from accepted practices. The Subject falsified data in figures that were included in a manuscript submitted to a journal and initially approved for publication.

⁵⁶ See footnote #39.

⁵⁷ Tab 17: Letter from Provost to Interim VPR [REDACTED]

⁵⁸ Tab 18: Letter from Interim VPR to Subject [REDACTED]

⁵⁹ Tab 19: Letter from Interim VPR to PI [REDACTED]

⁶⁰ Tab 20: Letter from Interim VPR to Journal [REDACTED]

⁶¹ Tab 21: OIG Letter to Subject [REDACTED]

⁶² Tab 22: Second OIG message to Subject [REDACTED]

⁶³ Tab 7, pg 19.

⁶⁴ 45 C.F.R. § 689.2(c).

Intent

The IC found the Subject intentionally falsified data and we concur with the IC's assessment. The Subject acknowledged he intentionally falsified data provided to the PI and the Journal. His actions and admissions indicate he decided to falsify the data as he did not obtain the desired results due to technical or methodological difficulties and wanted to produce the expected images for the PI and for the figures in the submitted manuscript Article 1.

Standard of Proof

Based on his own admission and documented evidence, the IC found by a preponderance of the evidence that the Subject intentionally falsified data. We concur with the IC and conclude that the Subject intentionally falsified data, thereby committing an act of research misconduct.⁶⁵

OIG's Recommended Disposition

When deciding what appropriate action to take upon a finding of misconduct, NSF must consider: (1) How serious the misconduct was; (2) The degree to which the misconduct was knowing, intentional, or reckless; (3) Whether it was an isolated event or part of a pattern; (4) Whether it had a significant impact on the research record, research subjects, other researchers, institutions or the public welfare; and (5) Other relevant circumstances.⁶⁶

Seriousness

The Subject's actions are a violation of the standards of research ethics. The Subject's intentionally falsified data were included in a submitted manuscript. The Subject's actions adversely affected his immediate research community by potentially harming the PI's reputation with the Journal when the integrity of data in the manuscript was questioned. The Journal followed their Publication Ethics Policies^{67,68} in the assessment of figure manipulation when suspecting fabricated/falsified data in a submitted or published manuscript. Although the manuscript was initially approved for publication, the Journal ultimately decided to rescind its approval based upon the PI's response and analyses of the original data provided by the PI.

Article 1 was resubmitted to a different journal⁶⁹ with the correct, original unaltered Figures 2 and 5A and was subsequently published (Article 3).⁷⁰ Article 3 was listed as a product in the Final Report of the PI's NSF award.⁷¹ Figure 2 (top panel) in Article 3 displayed an image of cultured cells⁷² treated with two growth factors⁷³ for a period of 3 days and labeled for a

⁶⁵ 45 C.F.R. part 689.

⁶⁶ 45 C.F.R. § 689.3(b).

⁶⁷ Tab 23: [REDACTED]

⁶⁸ Tab 24: Journal's Publication Ethics Policies, pg 3.

⁶⁹ [REDACTED]

⁷⁰ Tab 16.

⁷¹ Tab 2, pgs 21 and 23-24.

⁷² Primary culture of [REDACTED] cells.

⁷³ [REDACTED]

specific protein⁷⁴ and cellular organelle.⁷⁵ The positive staining of cellular debris was noted as artifactual and highlighted accordingly in the figure legend. The inclusion of the cellular debris in the Figure 2 image panel of Article 3 had no bearing on the interpretation of the Figure 2 results. The exclusion of the labeled cellular debris via intentional image manipulation and data falsification by the Subject in Article 1 did not alter the conclusions regarding how specific growth factors regulate the differentiation of proliferating cultured cells.

Figure 5A in Article 3 displayed RT-PCR amplified DNA separated by electrophoresis on an agarose gel. The DNA products for a specific processed gene transcript⁷⁶ were obtained from various tissue or cell culture⁷⁷ preparations in which the latter were treated with either growth factors⁷⁸ or left untreated for a period of 3 days. Less intense bands of the unspliced and spliced gene transcripts were present in lane 5 (sample was from cultured cells treated with one growth factor) as compared to the more intense band of the unspliced gene transcript in lane 6 (sample was from cultured cells treated with both growth factors). These results drew the conclusion in Article 3 that the second growth factor inhibited the other growth factor's ability to process the gene transcript. For Figure 5A in Article 1, the Subject's data falsification included the substitution of the less intense band of the spliced gene transcript in lane 5 with the more intense band of the unspliced gene transcript in lane 6 which could have altered the conclusions regarding the action on growth factors on gene transcript splicing. Nevertheless, the PI and the IC concluded that for the studies in Figure 5A, the mere presence of the band in lane 5 mattered, not its intensity in relation to the band in lane 6.

Degree of Intent

We found no evidence to mitigate our conclusion that the Subject intentionally falsified data. His actions and admission indicate he falsified his data because he did not obtain the desired images for the manuscript. The Subject maintained that the data falsifications did not alter the conclusions of the research studies but were to improve the aesthetics of the images.

The professional society⁷⁹ which produces the journal⁸⁰ that reviewed Article 1 maintains a set of ethical policies⁸¹ for authors, including a provision under which altering data (adding or removing features) to match the author's conclusions is considered fraud.⁸²

The Subject intentionally deceived the Journal and the reviewers who reviewed Article 1 by not providing an accurate account of the results obtained. Although these actions did not adversely affect the research conclusions, the Journal rescinded their acceptance of the manuscript for publication. The Subject's actions were an intentional violation of the research

⁷⁴ [REDACTED]

⁷⁵ [REDACTED]

⁷⁶ [REDACTED]

⁷⁷ See footnote #72.

⁷⁸ See footnote #73.

⁷⁹ [REDACTED]

⁸⁰ [REDACTED]

⁸¹ Tab 24.

⁸² Tab 24, pgs 2-3.

community principles and values. As a post-doctoral fellow, he violated basic expectations of academic behavior when conducting research. Universities expect their research community (faculty, students and staff) will adhere to the scholarly expectations of accuracy, validity and integrity in research. The Subject's actions indicate a failure in carrying out the expected responsibilities in sustaining professional honesty and integrity. Only after the Journal questioned the data and images and contacted the PI for an explanation did the Subject admit to the data falsification.

Pattern of Behavior

While the Subject was non-responsive to the IC's queries, the PI did not identify any other manipulations in the Subject's contributions. We therefore do not find a pattern of falsification.

Impact on the Research Record

The falsified data that was included in Article 1 did not have an impact in the literature as the manuscript was not ultimately accepted for publication. The manuscript (Article 3) was resubmitted to a different journal with the corrected, original unaltered Figures 2 and 5A and was subsequently published. Article 3 has been cited⁸³ twice, each by publications⁸⁴ from the PI's lab.

Other Concerns

The IC determined that the Subject received training in the responsible conduct of research (RCR). He attended and completed two RCR training sessions at the University, first as a graduate student, then as a post-doctoral fellow.⁸⁵ Basic RCR training explains that the honest representation of data is a basic tenet of all those who conduct scientific research.

Subject's Response to Draft Report

We provided the Subject with a copy of the draft investigation report with attachments for comment.⁸⁶ Comments or a rebuttal were expected to be received within 30 days. We also sent a reminder message⁸⁷ but the Subject did not respond. Thus, our original determinations and recommendations as stated above remain unchanged.

⁸³ [REDACTED]

⁸⁴ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

⁸⁵ The Subject's biographical sketch which included his education timeline is located in Tab 15, pg 748. [REDACTED]
[REDACTED]
[REDACTED]

⁸⁶ Tab 25: Letter to Subject with Draft Report of Investigation.

⁸⁷ Tab 26: Reminder Message to Subject.

Recommendations

Based on the evidence, OIG recommends NSF take the following actions:

- Send the Subject a letter of reprimand notifying him that NSF has made a finding of research misconduct.⁸⁸
- Require the Subject to certify to the Assistant Inspector General for Investigations (AIGI) his completion of a responsible conduct of research training program and provide documentation of the program's content within 1 year of NSF's finding.⁸⁹ The instruction should be in an interactive format (e.g., an instructor-led course) and specifically include data fabrication and falsification.
- Debar the Subject for one year.⁹⁰

For a period of three years immediately following the debarment period:

- Bar the Subject from participating as a peer reviewer, advisor, or consultant for NSF.⁹¹
- Require for each document (proposal, report, etc.) to which the Subject contributes for submission to NSF (directly or through an institution),
 - the Subject submit a contemporaneous certification to the AIGI that the document does not contain plagiarism, falsification, or fabrication.⁹²
 - the Subject submit a contemporaneous assurance from a responsible official of his employer to the AIGI that the document does not contain plagiarism, falsification, or fabrication.⁹³
- Require the Subject to submit to the AIGI for each NSF proposal a detailed data management plan including requirements for notebooks and data archiving to be adhered to during the course of any resulting award, and to provide annual certifications that this plan is being implemented.⁹⁴

⁸⁸ A Group I action 45 C.F.R. 689.3(a)(1)(i).

⁸⁹ This action is similar to Group I actions 45 C.F.R. 689.3(a)(1).

⁹⁰ A Group III action 45 C.F.R. 689.3(a)(3)(iii).

⁹¹ A Group III action 45 C.F.R. 689.3(a)(3)(ii).

⁹² This action is similar to 45 C.F.R. 689.3(a)(1)(iii).

⁹³ A Group I action 45 C.F.R. 689.3(a)(1)(iii).

⁹⁴ This action is similar to a Group II action 45 C.F.R. 689.3(a)(2)(ii).

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230



OFFICE OF THE
DEPUTY DIRECTOR

CERTIFIED MAIL --RETURN RECEIPT REQUESTED

Re: Notice of Debarment

Dear [REDACTED]:

On January 13, 2014, the National Science Foundation (NSF) issued you a Notice of Proposed Debarment ("Notice") in which NSF proposed to debar you from directly or indirectly obtaining the benefits of Federal grants for a period of one year. As reflected in the Notice, NSF proposed to debar you because you falsified data while performing NSF-funded research. In that Notice, NSF provided you with thirty days to respond to the proposed debarment.

The period for submitting a response to NSF has elapsed, and NSF has not received a response from you. Accordingly, you are debarred until [REDACTED] 2015.

Debarment precludes you from receiving Federal financial and non-financial assistance and benefits under non-procurement Federal programs and activities unless an agency head or authorized designee makes a determination to grant an exception in accordance with 2 CFR 180.135. Non-procurement transactions include grants, cooperative agreements, scholarships, fellowships, contracts of assistance, loans, loan guarantees, subsidies, insurance, payments for specified use, and donation agreements.

In addition, you are prohibited from receiving Federal contracts or approved subcontracts under the Federal Acquisition Regulations at 48 CFR subpart 9.4 for the period of this debarment. 2 CFR 180.925. During the debarment period, you may not have supervisory responsibility, primary management, substantive control over, or critical influence on, a grant, contract, or cooperative agreement with any agency of the Executive Branch of the Federal Government.

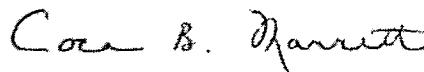
Please note that, in the Notice, NSF also took the following actions against you, which continue to remain in effect:

- For three years from the end of your debarment period, you are required to submit certifications that any proposals or reports you submit to NSF do not contain plagiarized,

- falsified, or fabricated material;
- For three years from the end of your debarment period, you are required to submit assurances by a responsible official of your employer that any proposals or reports you submit to NSF do not contain plagiarized, falsified, or fabricated material;
 - You are prohibited from serving as an NSF reviewer, advisor, or consultant through January 1, 2017;
-
- You are required to complete a comprehensive responsible conduct of research training course by January 1, 2015 and provide documentation of the program's content. The instruction should be in an interactive format (e.g., instructor led course, workshop, etc) and should include a discussion of data fabrication; and
 - For three years from the end of your debarment period, you are required to submit a detailed data management plan with any proposal submitted to NSF for funding. The plan must include requirements for notebooks and data archiving to be adhered to during the course of any resulting award. You must also provide annual certifications that this plan is being implemented.

Should you have any questions about the foregoing, please contact [REDACTED], Deputy General Counsel, at (703) 292-8060.

Sincerely,



Cora B. Marrett
Deputy Director

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230



OFFICE OF THE
DEPUTY DIRECTOR

JAN 13 2014

VIA CERTIFIED MAIL --RETURN RECEIPT REQUESTED
AND ELECTRONIC MAIL

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Re: Notice of Proposed Debarment and Notice of Research Misconduct Determination

Dear [REDACTED]:

As a post-doctoral fellow at [REDACTED] ("University"), while performing NSF-funded research, you falsified data that was included in a manuscript submitted for publication to a professional journal. This research misconduct is documented in the attached investigative report prepared by NSF's Office of Inspector General ("OIG").

In light of your misconduct, this letter serves as formal notice that NSF is proposing to debar you from directly or indirectly obtaining the benefits of Federal grants for one year. During your period of debarment, you will be precluded from receiving Federal financial and non-financial assistance and benefits under non-procurement Federal programs and activities. In addition, you will be prohibited from receiving any Federal contracts or approved subcontracts under the Federal Acquisition Regulations ("FAR"). Lastly, during your debarment period, you will be barred from having supervisory responsibility, primary management, substantive control over, or critical influence on, a grant, contract, or cooperative agreement with any agency of the Executive Branch of the Federal Government.

In addition to proposing your debarment, I am prohibiting you from serving as an NSF reviewer, advisor, or consultant to NSF until January 1, 2017. Furthermore, for three years after the expiration of your debarment period, I am requiring that you submit certifications, and that a responsible official of your employer submit assurances, that any proposals or reports you submit to NSF do not contain plagiarized, falsified, or fabricated material. Moreover, by January 1, 2015, you must certify the completion a comprehensive responsible conduct of research training course, and provide documentation of the program's content. Lastly, for three years after the expiration of your debarment period, you are required to submit a detailed data management plan in conjunction with each proposal submitted to NSF, including requirements for notebooks and data archiving.

Research Misconduct and Sanctions other than Debarment

Under NSF's regulations, "research misconduct" is defined as "fabrication, falsification, or plagiarism in proposing or performing research funded by NSF ..." 45 CFR § 689.1(a). NSF defines "falsification" as "manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record." 45 CFR § 689.1(a)(2).

A finding of research misconduct requires that:

- (1) There be a significant departure from accepted practices of the relevant research community; and
- (2) The research misconduct be committed intentionally, or knowingly, or recklessly; and
- (3) The allegation be proven by a preponderance of evidence.

45 CFR § 689.2(c).

Your admission of data falsification permits me to conclude that your actions meet the applicable definition of falsification, as set forth in NSF's regulations.

Pursuant to NSF's regulations, the Foundation must also determine whether to make a *finding* of research misconduct based on a preponderance of the evidence. 45 CFR § 689.2(c). After reviewing the Investigative Report and your admission of data falsification, NSF has determined that, based on a preponderance of the evidence, your falsification of data was committed intentionally and constituted a significant departure from accepted practices of the relevant research community. I am, therefore, issuing a finding of research misconduct against you.

NSF's regulations establish three categories of actions (Group I, II, and III) that can be taken in response to a finding of misconduct. 45 CFR § 689.3(a). Group I actions include issuing a letter of reprimand; conditioning awards on prior approval of particular activities from NSF; requiring that an institution or individual obtain special prior approval of particular activities from NSF; and requiring that an institutional representative certify as to the accuracy of reports or certifications of compliance with particular requirements. 45 CFR § 689.3(a)(1). Group II actions include award suspension or restrictions on designated activities or expenditures; requiring special reviews of requests for funding; and requiring correction to the research record. 45 CFR § 689.3(a)(2). Group III actions include suspension or termination of awards; prohibitions on participation as NSF reviewers, advisors or consultants; and debarment or suspension from participation in NSF programs. 45 CFR § 689.3(a)(3).

In determining the severity of the sanction to impose for research misconduct, I have considered the seriousness of the misconduct; my determination that it was committed intentionally; the fact that the misconduct had no impact on the research record; and the fact that the misconduct was

an isolated incident. I have also considered other relevant circumstances. *See* 45 CFR § 689.3(b).

Based on the foregoing, I am imposing the following actions on you:

- For three years from the end of your debarment period, you are required to submit certifications that any proposals or reports you submit to NSF do not contain plagiarized, falsified, or fabricated material.
- For three years from the end of your debarment period, you are required to submit assurances by a responsible official of your employer that any proposals or reports you submit to NSF do not contain plagiarized, falsified, or fabricated material.
- From the date of this letter through January 1, 2017, you are prohibited from serving as an NSF reviewer, advisor, or consultant.
- You are required to complete a comprehensive responsible conduct of research training course by January 1, 2015, and provide documentation of the program's content. The instruction should be in an interactive format (e.g., an instructor-led course, workshop, etc.) and should include a discussion of data falsification and fabrication.
- For three years from the end of your debarment period, you are required to submit a detailed data management plan with any proposal submitted to NSF for funding. The plan must include requirements for notebooks and data archiving to be adhered to during the course of any resulting award. You must also provide annual certifications that this plan is being implemented.

All certifications, assurances, training documentation, and data management plans should be submitted in writing to NSF's Office of Inspector General, Associate Inspector General for Investigations, 4201 Wilson Boulevard, Arlington, Virginia 22230.

Debarment

Regulatory Basis for Debarment

Pursuant to 2 CFR § 180.800, debarment may be imposed for:

- (b) Violation of the terms of a public agreement or transaction so serious as to affect the integrity of an agency program, such as –
 - (1) A willful failure to perform in accordance with the terms of one or more

public agreements or transactions;

...

- (3) A willful violation of a statutory or regulatory provision or requirement applicable to a public agreement or transaction; or
- (d) Any other cause of so serious or compelling a nature that it affects your present responsibility.

In any debarment action, the government must establish the cause for debarment by a preponderance of the evidence. 2 CFR § 180.850. In this case, you admitted that you intentionally falsified data while conducting NSF-funded research, and provided this data for publication in a professional journal. Thus, your action supports a cause for debarment under 2 CFR §§ 180.800(b) and (d).

Length of Debarment

Debarment must be for a period commensurate with the seriousness of the causes upon which an individual's debarment is based. 2 CFR § 180.865. Having considered the seriousness of your actions, as well as the relevant aggravating and mitigating factors set forth in 2 CFR § 180.860, we are proposing your debarment for one year.

Appeal Procedures for Finding of Research Misconduct and Procedures Governing Proposed Debarment

Appeal Procedures for Finding of Research Misconduct

Under NSF's regulations, you have 30 days after receipt of this letter to submit an appeal of this finding, in writing, to the Director of the Foundation. 45 CFR § 689.10(a). Any appeal should be addressed to the Director at the National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230. If we do not receive your appeal within the 30-day period, the decision on the finding of research misconduct will become final. For your information, we are attaching a copy of the applicable regulations.

Procedures Governing Proposed Debarment

The provisions of 2 CFR Sections 180.800 through 180.885 govern debarment procedures and decision-making. Under our regulations, you have 30 days after receipt of this notice to submit, in person or in writing, or through a representative, information and argument in opposition to this debarment. 2 CFR § 180.820. Comments submitted within the 30-day period will receive full consideration and may lead to a revision of the recommended disposition. If NSF does not

receive a response to this notice within the 30-day period, this debarment will become final. Any response should be addressed to Lawrence Rudolph, General Counsel, National Science Foundation, Office of the General Counsel, 4201 Wilson Boulevard, Room 1265, Arlington, Virginia 22230. For your information, we are attaching a copy of the Foundation's regulations on non-procurement debarment and FAR Subpart 9.4.

Should you have any questions about the foregoing, please contact [REDACTED], Deputy General Counsel, at (703) 292-8060.

Sincerely,

A handwritten signature in cursive script, appearing to read "Fae Korsmo".

Fae Korsmo
Senior Advisor

Enclosures:
Investigative Report
Nonprocurement Debarment Regulations
FAR Regulations
45 CFR Part 689