



NATIONAL SCIENCE FOUNDATION
OFFICE OF INSPECTOR GENERAL
OFFICE OF INVESTIGATIONS

CLOSEOUT MEMORANDUM

Case Number: A-04050037

Page 1 of 1

We received an academic misconduct investigation report from the University¹ that found the subject,² a graduate student supported in part with NSF funds,³ fabricated data presented in draft chapters of her thesis⁴ submitted to her faculty thesis advisor.⁵ The University reprimanded the subject and took the following actions: placed a letter of reprimand in the subject's permanent academic file, noted the finding of academic misconduct on the subject's official University transcript; notified her future employer about the finding of academic misconduct; and notified NSF about the misconduct. The University determined that because the subject 1) accepted the responsibility for the fabrication, 2) worked for months to correct the fabricated data, and 3) completed the thesis with limited changes, she was permitted to complete the Ph. D. We concurred with the University's investigation. We recommended NSF send a letter of reprimand. NSF's adjudicator sent the subject a letter of reprimand.

This case is closed and no further action will be taken.

¹ [REDACTED]

² [REDACTED] is presently [REDACTED].

³ NSF awards [REDACTED].

⁴ The alleged fabricated data appear [REDACTED].

[REDACTED]

⁵ [REDACTED], the University.

Summary

The Office of Inspector General (OIG) has concluded the subject, a graduate student supported in part with NSF funds, fabricated data presented in draft chapters of her thesis submitted to her thesis advisor. As a result of its investigation, the subject's University found the subject committed academic misconduct. The University reprimanded the subject and took the following actions: placed a letter of reprimand in the subject's permanent academic file, noted the finding of academic misconduct on the subject's official University transcript; notified her future employer about the finding of academic misconduct; and notified NSF about the misconduct. Because we believe the subject's actions are sufficient to warrant a finding of misconduct, we recommend the National Science Foundation (NSF) send a letter of reprimand to the subject informing her she has been found to have committed research misconduct.

University's Investigation

The University¹ provided us with a Report (Tab 1) of its investigation into the allegation of fabrication of data against the subject,² a graduate student. The subject allegedly fabricated mass spectroscopy data for spectra of synthesized compounds in the second draft of chapter 5 of her thesis and mass spectroscopy data for one compound in draft chapter 3 of her thesis (Tab 2)³ that she submitted to her thesis advisor⁴ for comment. The Report explained the University's investigation followed its "Academic Misconduct" policy (Tab 1, Attachments A and B). According to the Report, the subject received support for the thesis work from two separate NSF awards.⁵

The University assigned an investigator⁶ to review the matter. The University's investigator examined the alleged fabrication of data in two draft chapters of the subject's thesis that involved "several spectra of synthesized compounds."⁷ The investigator interviewed the thesis advisor, who provided him with copies of the drafts of the relevant chapters of the subject's thesis and two hand-written pages describing the alleged fabrication. (Tab 2, Sections 1, 2, 3, 4, and 5) The advisor stated that he "became concerned about possible spectral data fabrication during the review of the second draft of Chapter 5 [of the subject's thesis]."⁸ His concerns centered around the fact that the "synthetic route did not provide the expected results."⁹ The thesis advisor confirmed that the subject had initially lied to him about the truthfulness of the data by indicating that she could not locate the Analytical Facility report which contained the spectral data (Tab 1,

1 [REDACTED]

2 [REDACTED]

3 The alleged fabricated data appear in [REDACTED]

4 [REDACTED]

5 NSF awards [REDACTED] and [REDACTED].

6 [REDACTED], was assigned to be the investigator and the Report writer.

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

Attachment 3, page 2, and emails from the subject to the thesis advisor, dated 8 January and 10 January 2004, Tab 2, Section 7). When the thesis advisor then directly confronted the subject about this matter, the subject provided the thesis advisor with a handwritten admission that she was ashamed of herself and her behavior (Tab 2, Section 7). The thesis advisor subsequently checked the department's Analytical Facility where the subject performed analyses for her thesis and learned the samples in question were never analyzed at the Facility.

The investigator interviewed the subject. However, no interview notes or transcripts were made of the interview (Tab 3). During the interview, the subject again admitted to fabricating the mass spectral data. The Report concludes that the combination of the subject's admission of fabrication of these data and of the lack of records at the Analytical Facility at the University that the samples in question were analyzed, proved the subject fabricated the data in question.

The Report states that the thesis advisor thought by excluding the fabricated data from the final thesis draft the subject had enough valid data remaining in the thesis to receive a Ph.D. According to the Report, the fraudulent data were "identified and expunged"¹⁰ and none of the fraudulent data were published or used in any inappropriate manner involving NSF. As a result, the investigator recommended that the subject be permitted to complete her Ph.D.

Because the subject did not contest the findings, the University accepted the Report's conclusions and imposed the following sanctions: 1) the subject received a letter of reprimand, 2) the subject's record at the University "noted this academic misconduct," 3) NSF was notified of the finding, and 4) the subject's new employer was notified of the decision of academic misconduct.

OIG's Investigation

We wrote to the subject requesting her perspective on the allegation of fabrication (Tab 4). The subject explained (Tab 5) that she had been under pressure and had made the serious mistake of reporting some "mass spectroscopic data of the intermediates along a synthetic pathway in the experimental sections of a rough draft of [her] thesis that [she] had not yet measure[d]."¹¹ She explained that her advisor had been unable to secure funds for her and, because all of the teaching assistant positions had been filled, she was told she needed to finish earlier than originally planned. As a result, she felt pressured to complete her work quickly. She also noted that a tense relationship developed during this time between her and her thesis advisor. She admitted making a mistake by not originally taking responsibility for her errors, but noted that she admitted her mistake after being confronted by her advisor. She did not contest the findings of the graduate school and its sanctions because she "wanted to begin to make up for the mistake that was made."¹² She pointed out that no false data remained in the thesis submitted to the committee and, subsequently, to the graduate school. Finally, she confirmed that she completed her thesis on 5 August 2004.

¹⁰ [REDACTED]

¹¹ [REDACTED]

¹² Ibid

OIG's assessment

NSF's Research Misconduct Regulation states that a finding of misconduct requires:

- (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 the evidence.¹³

THE ACT

The subject admitted entering false data into the draft of her thesis. The University's Report determined that the lack of appropriate records at the Analytical Facility showed that the mass spectral analyses were never completed. We conclude the preponderance of the evidence indicates the subject fabricated mass spectral data values. Fabricating of data strikes at the heart of scientific integrity. The mass spectral analyses, although not critical to the final science presented in her thesis, was a standard test used to confirm the compounds the subject was creating as a part of her research. As such, the subject significantly departed from the accepted standards when she entered the fabricated mass spectral values into her draft thesis.¹⁴

INTENT

We determined that the preponderance of the evidence shows that the subject acted knowingly when she fabricated these data. It would have been impossible for the subject not to know that she was entering false data values into her thesis, especially considering that the evidence indicates that the tests, which would have generated those data, were never performed.

Since the preponderance of evidence supports the conclusion that the subject acted knowingly when she fabricated these data we conclude the subject committed Research Misconduct.

Subject's Response

We wrote to the subject on 15 June 2005 providing a copy of the draft investigation report (Tab 6). The subject's 27 July 2005 response (Tab 7) reiterates her earlier response, accepting full responsibility for her actions.

OIG's Recommended Disposition

In deciding what actions are appropriate when making a finding of research misconduct, NSF must consider several factors. These factors include how serious the misconduct was; the degree of culpable intent; whether it was an isolated event or part of a pattern; its impact on the research

¹³ 45 CFR § 689.2(c).

¹⁴

record; and other relevant circumstances.¹⁵

As we noted above, we concluded the subject knowingly fabricated these data, which is a significant departure from the accepted practice in the subject's community. We believe the subject's action, fabricating data, requires that NSF make a finding of Research Misconduct. There is no apparent pattern of misconduct by the subject and there appears to be no impact on the research record since the subject corrected all the errors prior to the completion of her thesis. Mitigating factors include 1) the University's acknowledgment that the subject cooperated fully with its investigator after she admitted she had lied to her advisor, 2) the subject's clear remorse in her responses to the University's investigation and to OIG's request for an explanation, 3) the subject's concerted effort to redo all the laboratory work appropriately without compensation, and 4) the subject's cooperation with NSF OIG's investigation.

We believe the University's actions also serve to protect the government. Accordingly, we recommend the NSF send the subject a letter of reprimand informing her that she has committed Research Misconduct.¹⁶

¹⁵ 45 CFR § 689.3(b).

¹⁶ This is a Group I Action, §689.3(a)(1)(i).

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230



OFFICE OF THE
DEPUTY DIRECTOR

CERTIFIED MAIL -- RETURN RECEIPT REQUESTED

JAN 23 2006

[REDACTED]

Re: Notice of Misconduct in Science Determination

Dear [REDACTED]

On or about November 19, 2003, while working as a research assistant at the [REDACTED] ("University") supported in part by NSF funds, you submitted a draft of your doctoral thesis to your thesis advisor. As documented in the attached Investigative Report prepared by NSF's Office of Inspector General ("OIG"), your draft contained fabricated data.

Scientific Misconduct and Proposed Sanctions

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 "fabrication" as "making up data or results and recording or reporting them." 45 CFR § 689.1(a)(1). 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 draft contained fabricated spectra for synthetic compounds. You admitted that you had not yet measured such spectra, but submitted the fabricated data to meet a deadline established by your thesis advisor. Your conduct unquestionably constitutes fabrication. I therefore conclude that your actions meet the definition of "research misconduct" set forth in NSF's regulations.

Pursuant to NSF regulations, the Foundation must also determine whether to make a *finding* of misconduct based on a preponderance of the evidence. 45 CFR § 689.2(c). After reviewing the Investigative Report and the University Committee Report, NSF has determined that, based on a preponderance of the evidence, your fabrication was knowing 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; our determination that it was *knowing*; the determination that it was an isolated event and not part of a pattern; your willingness to accept responsibility for your actions; and the contrition that you demonstrated during the course of the investigative process. I have also considered other relevant circumstances. 45 CFR § 689.3 (b).

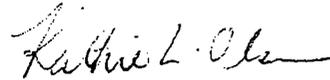
Although the fabrication of data is a serious matter, there are several mitigating factors to be considered. First, you took responsibility for your actions in this matter, and cooperated fully with the University's investigation and the follow-up conducted by the OIG. Second, the OIG expressly found that your actions were an isolated event and not part of a pattern. Third, there was no impact on the research record or the public welfare because the fabricated data were expunged from the thesis, and were not published. Fourth, you apologized to NSF, and indicated that you would never again engage in such academic dishonesty. Finally, I have taken into account the measures the University has already implemented. The sanctions imposed by the University are substantive and, in my view, are commensurate with the misconduct in which you engaged. Thus, I am not imposing any additional sanctions on you.

Procedures Governing Appeals

Under NSF's regulations, you have 30 days after receipt of this letter to submit an appeal of this decision, 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. For your information we are attaching a copy of the applicable regulations. If you have any questions about the foregoing, please call [REDACTED], Assistant General Counsel, at (703) 292-8060.

Sincerely,



Kathie L. Olsen
Deputy Director

Enclosures

- Investigative Report
- 45 C.F.R. 689