CLOSEOUT FOR M93030017

This case was brought to the attention of OIG on February 19, 1993, by Ms. [redacted] an Assistant Vice President at the University [redacted] The Assistant Vice President informed OIG that the institution had completed an inquiry into allegations against the subject, Dr. [redacted] of misrepresenting information about the publication status of manuscripts in proposals and other documents. The subject is a faculty member in the Department of Chemistry at the institution. The Assistant Vice President said that the inquiry had found substance to the allegations and the institution was proceeding with an investigation.

After reviewing the institution's investigation report, OIG concluded that further information was required and initiated its own investigation. OIG's investigation report and NSF's Deputy Director's [redacted] letter reflecting her decision constitute the closeout for this case.

cc: Staff Scientist, Deputy AIG-Oversight, AIG-Oversight, IG

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

OFFICE OF THE
DEPUTY DIRECTOR

[redacted]

CERTIFIED MAIL -- RETURN RECEIPT REQUESTED

[redacted]
Assistant Professor
Department [redacted]

Re: Notice of Misconduct Determination

Dear Professor [redacted]

The National Science Foundation's Office of Inspector General (OIG) issued an Investigation Report on April 10, 1995 in which it found that you submitted two proposals to the National Science Foundation (NSF) which misrepresented the status of your research manuscripts. You stated they were submitted for publication, when they actually had not yet been submitted or had been rejected for publication. These false statements were made in NSF [redacted] entitled "[redacted] and in an NSF Career Advancement Award Proposal, [redacted] entitled [redacted]"

Misconduct and Proposed Action

Under NSF's misconduct in science and engineering regulations, "misconduct" is defined to include fabrication, falsification, plagiarism, or other serious deviations from accepted practices in proposing, carrying out or reporting results from activities funded by NSF . . ." 45 CFR §689.1(a). Your submission of false statements to NSF about the status of your manuscripts constitutes falsification and is a serious deviation from accepted practices. We, therefore, conclude that you committed misconduct in science.

In your response to the draft OIG Investigation Report, you admit that your anticipatory reporting of papers was improper and careless. While you acknowledge that your anticipation of manuscript submission could appear to have been deliberate, you deny that you intended to deceive or misrepresent the status of your publications.

The administrative record indicates to the contrary. In your proposal to NSF, you cited one manuscript as "submitted" after it was rejected by a journal. Almost two years elapsed before you resubmitted the manuscript for publication to a different journal.

You cited a second manuscript as "submitted" for over a year before its submission, and a third manuscript as "submitted" months prior to its submission. You also misrepresented the publication status of your manuscripts in proposals to the Department of Energy, a private Foundation, and two funding entities within the University of [redacted]. The misrepresentations also appeared in a University of [redacted] Department brochure, a final report on an award from a state research fund, and in other documents submitted to the University of [redacted]. This pattern of misrepresentation to a number of sources demonstrates a deliberate and conscious effort to create a false impression of the status of your manuscripts.

In further defense of your actions, you claim that your incorrect citations had no bearing on the review of your NSF proposals because they did not misrepresent the success of your research approach. The administrative record, however, establishes that your false statements about your publication track record were considered by the reviewers of your MRI proposal.

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 §689.2(a). Group I actions include issuing a letter of reprimand; conditioning awards on prior approval of particular activities from NSF; and requiring certification on the accuracy of reports or assurances of compliance with particular requirements. 45 CFR §689.2(a)(1). Group II actions include restrictions on designated activities or expenditures and special reviews of requests for funding. 45 CFR §689.2(a)(2). Group III actions include suspension or termination of awards; debarment or suspension from participation in NSF programs, and prohibitions on participation as NSF reviewers, advisors, or consultants. 45 CFR §689.2(a)(3).

In deciding what response is appropriate, NSF considered the seriousness of the misconduct; whether it was deliberate or careless; whether it was an isolated event or part of a pattern; and whether the misconduct affects only certain funding requests or has implications for any application for funding involving the subject of the misconduct finding. See 45 CFR §689.2(b).

As stated above, the record demonstrates that you engaged in a pattern of misrepresenting the status of your publications. I, therefore, will require that if you are a principal investigator or co-principal investigator on any proposal submitted to NSF prior to July 20, 1998, you must submit to the Assistant Inspector General for Oversight, Office of Inspector General, National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, a copy of each such proposal, together with your separate written certification indicating that to the best of your knowledge, your proposal does not contain anything that violates NSF's Misconduct in Science and Engineering regulations. In addition, you must submit a written assurance from your department chairperson indicating that, to the best of his or her knowledge, the proposal

does not contain any false representations about the status of any manuscripts authored by 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 §689.9(a). Any appeal should be addressed to the Director of the National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230. For your information we are attaching a coy of the applicable regulations and of OIG's investigative report. If you have any questions about the foregoing, please call Lawrence Rudolph, General Counsel, at (703) 306-1060.

Sincerely,

Anne C. Petersen

Anne C. Petersen
Deputy Director

Attachments (2)
Misconduct in Science Regulations
Investigative Report

CONFIDENTIAL

NSF OIG INVESTIGATION REPORT

OIG Case Number M93030017

REPORT OF INVESTIGATION INTO AN ALLEGATION OF MISCONDUCT IN SCIENCE

SUMMARY

The Office of Inspector General (OIG) has concluded that Dr. [redacted] (the subject) of the University of [redacted] (the institution) misrepresented the status of manuscripts for three scientific papers in seven proposals to various funding entities including two submitted to NSF, one of which received funding for three years and is currently active. The misrepresentations that appeared in two proposals submitted to NSF also appeared in one proposal submitted to another federal agency, one to a private foundation, and three proposals to two funding entities within his own institution. They also appeared in a [redacted] department brochure, a final report on an award from a state research fund, and in materials submitted to his institution for his annual review. OIG concluded that the subject exhibited a pattern of misrepresentation. These conclusions are based on investigations performed by the institution and OIG. OIG recommends that NSF find that the subject committed misconduct in science and take the following actions as a final disposition in this case. NSF should send the subject a letter of reprimand from the NSF Deputy Director. NSF should inform the subject that NSF has made a finding of misconduct in science and that when proposals are submitted by the subject or on his behalf to NSF, he is required to submit certifications to OIG that, to the best of his knowledge, they contain nothing that violates NSF's Misconduct in Science and Engineering regulation. Further, he is required to ensure that his department chairperson submits an assurance to OIG that, to the best of that person's knowledge, the subject's proposal does not contain any false representations about the status of manuscripts. NSF should inform the subject that the certification and assurance actions are in effect until five years have elapsed from the final disposition of this case.

BACKGROUND

Dr. [redacted] (the subject) is a recently tenured professor in the department of [redacted] at the University of [redacted] the institution), [redacted] In early 1993, the institution informed us that it had concluded that there was sufficient substance to the allegations that the subject misrepresented the status of research manuscripts as submitted or in press when they were not, to proceed with an investigation and provided us with its inquiry report (reference 1). The institution told us that one of the documents containing the misrepresentations was an NSF Minority Research Initiation award (the MRI award)[1]. This NSF award is currently in its last year of funding.

[1] The MRI award [redacted] is entitled, "[redacted]." The subject submitted this proposal as the sole PI.

Consistent with NSF's position that "awardee institutions bear primary responsibility for prevention and detection of misconduct" (45 C.F.R. §689.3 (a)), we deferred our inquiry and any possible investigation until the efforts at the institution were concluded.

In August 1993 the institution provided us with a copy of its investigation report. We reviewed the report and concluded that it was neither accurate nor complete and asked the institution to provide additional documents and explanations. In November 1993, the institution forwarded a revised investigation report to us (the revised report[2], at Tab A).

The investigating committee reviewed submissions by the subject to NSF and the Department of Energy (the other federal agency), the [redacted] (the private foundation), the institution's [redacted] (institution's research fund), the [redacted] (the state's research fund), curricula vitae and other supporting documents the subject submitted for his annual performance reviews and for a brochure describing his department's faculty and their research. It also interviewed the subject and his department chairman. The committee concluded that the subject's extensive misrepresentations of the status of three manuscripts in these documents as submitted for publication or as in press, when in actuality they had not been, constituted misconduct in science.

We reviewed the materials submitted by the institution and concluded that both the final investigation report and its revision were incomplete, and we therefore opened our own investigation.

INSTITUTION'S INVESTIGATION

In April 1993, the institution convened a 3-member investigating committee with expertise in geosciences, biochemistry and cell biology, and biology. One member was on the faculty at another institution. The investigating committee members had experience submitting proposals to, and receiving support from, NSF.

In reviewing the subject's past proposals the committee uncovered misrepresentations about the status of three of the PI's manuscripts (herein referred to as manuscripts 1, 2, and 3; see Appendix 2 for a description of each manuscript) in four proposals variously submitted to NSF (the MRI award), another federal agency, a private foundation, and the institution's research fund. It also found these same misrepresentations in a final report for a state research

---

[2] The revised report contained a voluminous set of appendices. Much of the material in the appendices is not directly relevant to the case; i.e., full proposals are reproduced rather than just the relevant pages. Similarly, a copious amount of material was received in response to our further requests for clarification. Only the directly relevant materials have been attached to this report.

fund award and in materials the subject had submitted as part of the annual performance review at the institution and for a departmental brochure. In the departmental brochure, the subject falsely claimed that two of the manuscripts were in press when they had not even been submitted to a journal for review. In other documents, the subject falsely stated that the cited manuscripts had been submitted to a particular scientific journal when they had not been submitted to any journal.

In a May 1993 interview (reference 6) with the investigating committee the subject said that he had made an "honest technical error" and that there was "no attempt at misrepresentation". He said that the long lead times (6-9 months) in proposal review "impacted his approach" and he cited manuscripts as submitted when they were not because he had anticipated their immediate submission. He said he was unaware that he could update information in a proposal—such as informing the program officer that a manuscript listed as "in preparation" had been submitted to a journal—after the proposal had been submitted to the agency. He acknowledged that when manuscript 1 was rejected with a suggestion by the editor that it be resubmitted as a full paper, it was not accompanied by a commitment from the journal that the paper would ever be published. He said that he had accurately cited his manuscripts as "in preparation" in his October 1992 CV submitted to the personnel committee because his CV was for immediate review. The subject made statements similar to those above in May and June 1993 memos (references 5 and 9 respectively) concerning the committee's efforts and in his interview with the inquiry committee (reference 2). In a second May 1993 memo (reference 8) he said he could provide the committee with the data in the manuscripts in question to demonstrate that "it ha[d] not changed" to show that the misrepresentations "in no way misrepresented the work already accomplished or change[d] the data reported" (reference 9).

The committee's interview with the subject's department chairman (reference 7) confirmed information the chairman had told the inquiry committee (reference 3). In the inquiry he said that he understood "submitted" to mean "in the mailbox." In a written commentary he said "submitted" meant:

> the manuscript had been mailed to the editor or the journal. . . . [T]his definition is very clear for >90% of the time, but the proper percentage is probably more like 99.X% of the time. I don't believe there is any ambiguity at the beginning of the review process, the manuscript was either mailed or it was not."

He reiterated his "in the mailbox" definition for the investigating committee. He said that there might be "some slippage" of a PI's knowledge about the status of a multiple-author paper when the PI was not the submitting author; however,

> "that shouldn't exceed about 1 month; the specific case referenced was a slippage of 4 months which was not a reasonable period."

For a full explanation of this slippage see the discussion of manuscript 3 in Appendix 2.

The chairman also said that identifying the long lead time associated with proposal review, as a reason for falsely stating the status of a manuscript,

> "was both inappropriate and inaccurate. . . . this 6-9 month lag [between proposal submission and review] argument was preposterous and unreasonable and that [the chairman] had never used this approach nor did he know of anyone who did."

He told the inquiry committee that 6 other chemistry faculty members also thought "submitted" meant "in the mailbox."

After receiving testimony from both the subject and his chairman and reviewing four proposals and other documents submitted by the subject, the investigating committee's June 1993 final report stated:

> "Prior to 1991, there was no evidence of erroneous citing of references or publications.
>
> "Beginning with the department review in 1991, manuscripts are cited as submitted or in press that were not actually submitted or in press at the time. . . .
>
> "Subsequently in [four] proposals, papers . . . are listed as submitted that had not been sent to a journal or had been rejected by a journal. The most egregious of these erroneous citations is in the NSF [MRI] proposal where the manuscripts are listed as submitted in the section entitled "Results from NSF Planning Grant." Since this section directly cites publications that have arisen from previous NSF funding, the indication that these papers have been submitted could in fact be considered as an important factor in the review of the [MRI award] proposal."[3]

The committee found that manuscript 1 had not been resubmitted and "appear[ed] to remain in limbo" and that manuscript 2 was found, as late as October 1992, to exist only as a "partial first draft." It was submitted in February 1993, well after the submission of both the proposal resulting in the MRI award and the CVs to the institution's personnel committee containing false citations. The committee concluded that the subject was "under significant pressure from the chemistry department to increase his research productivity and his research support . . . and [this] may have contributed to [the subject's] choices to cite falsely these papers as submitted or in press."

---

[3] The NSF Planning Grant [redacted] resulted from a proposal submitted as a Minority Research Initiation Planning Grant. The proposal was entitled, "[redacted]" The subject was the sole PI.

As explained in the November 1993 revised report, the pressure from the department

> built over a number of years, as reflected in the Department reviews . . . and increased over the period preceding the incidents in question. . .
>
> . . . .
>
> Based on the evidence, it is straight-forward to establish that papers were falsely cited . . . the papers were cited as "submitted" (grant proposals) or "in press" (Departmental brochure), when in fact they had not been submitted. It is clear that [the subject] was under increasing pressure from his Department to perform . . . and therefore the motivation would be strong for the appearance of completion where none actually existed. However, premeditated *intent* to deceive is difficult to establish and is emphatically denied by [the subject], both in written documents and in his interview. The Committee determined that the allegations of erroneous citation were entirely substantiated by evidence, but whether [the subject] cited these papers with the intent to deceive was less easily discerned from the physical evidence. The Committee considered carefully the circumstances in which [the subject] was operating, including the pressure from the Department. . . . However, [the subject] did not cite his publications erroneously in providing information for his Departmental reviews[4]. . . . Given the explanation that he believed that the papers would be submitted/in press before the relevant use of the documents in which the papers were erroneously cited, the Committee concluded that [the subject] should be given the benefit of the doubt with regard to the intent to deceive. [Emphasis in original.]

The committee reduced the severity of its recommended sanctions because it concluded it could not establish a culpable level of intent. It said:

> It was not possible for the Committee to establish the intent to deceive, although the pressure under which [the subject] was operating almost certainly contributed to his activities. The inability to establish intent indicates that sanctions should be based entirely upon the violation and should be appropriate to the violation.

The committee decided that "misconduct as defined in University policy did occur in the false citation of papers as 'submitted' or 'in press' that were not actually submitted." Under the institution's policy on handling allegations of misconduct in science "the Committee's findings are binding upon the institution subject to appeal by the respondent."

---

[4] As discussed below, we learned that this was incorrect and that there were other instances of false citation not discovered by the Committee.

It recommended that the subject "be sent a letter of censure," that it "become part of his permanent file and should be transmitted to NSF and other appropriate agencies," and finally that the subject's internal and external submissions listing publications "should be monitored for a period of 3 years to ensure no further inaccurate citations of his work."

INSTITUTION'S ACTIONS

Shortly after receiving a copy of the final investigation report, the subject sent the vice president for academic affairs a memo (reference 9) protesting the committee's "findings, motivations, and conclusions since they [we]re centrally based on a misconception as to the relevance of 'increasing pressure from the Department to perform'." He said his misrepresentations were honest errors and that the NSF Planning Grant was for a small sum of money and "anyone reviewing the proposal [resulting in the MRI award]" would know the work was not done on the NSF Planning Grant and thus his misrepresentations "could not have influenced their decision."

He requested the vice president's "reconsideration of this issue" and concluded:

> While I do not believe I have deliberately misrepresented any of my work, I recognize that my carelessness appears to have been deliberate. I acknowledge that I should have asked more questions rather than making the assumptions I did [about the dates the manuscripts would be submitted for publication]. I regret these errors, and will make every effort I can to be more careful and conscientious in my citations. I have already learned this lesson and do not warrant a letter of censure in my permanent file. If you decide to reprimand me and place a letter of admonishment, I believe this would be a more appropriate form of action. This could be coupled with an agreement that I will not submit any proposal that is not countersigned by my chair and the [Office of Sponsored Programs] director. In addition, I will agree to attend a workshop or seminar on research proposals. . . . However, I do not believe my actions warrant any censure or harsh punishment.

The vice president did not find the subject's arguments persuasive and, in a June 1993 letter (at Tab B), concluded that the subject had committed misconduct in science and that he warranted a letter of censure. He said:

> I am struck by one important fact. That is, there is no dispute as to whether certain alleged acts actually occurred. Both committees have concluded that in research proposals which you submitted to funding agencies you listed one or more publications as having been submitted for publication when in truth they were not. [Emphasis in original.]
>
> . . . .

> . . . I . . . have concluded that the Investigation Committee chose their words correctly as "censure" is a judgment involving condemnation, an official reprimand, or stern condemnation, whereas, "admonishment" indicates duty or obligation, expresses warning or disapproval in a gentle, earnest or solicitous manner.

The vice president stated that this "letter of censure" would become part of the subject's permanent file. He informed the subject that:

> all written materials such as research proposals, manuscripts submitted to research journals, reports to granting agencies or other published materials to be used within or without the [university] must be reviewed by the Chairman of the Department of [redacted] for the three year period commencing with the date of this letter to assure that all papers which are listed as submitted or in press are accurately cited.

The subject did not appeal this decision. It currently stands and a letter was placed in his personnel file.[5]

OIG'S REVIEW OF THE INSTITUTION'S INVESTIGATION REPORT

NSF's Misconduct in Science and Engineering regulation states that "after receiving a report from an external investigation by an awardee institution . . . OIG will assess the accuracy and completeness of the report and whether the investigating entity followed usual and reasonable procedures. It will either recommend adoption of the findings in whole or in part or . . . initiate a new investigation" (45 C.F.R. §689.8(a)).

We found that the institution's investigation report was incomplete. In response to our request for additional information and documentation, the institution submitted a revised report which was accompanied by an extensive set of appendices. We found that the revised report was also missing important information and explanations. We also found that the committee had not

---

[5] We learned that the institution's June 1992 letter of censure was not immediately placed in the subject's "permanent file." Instead, the letter was retained in a separate file pending the institution's tenure decision on the subject. According to institution officials, the finding of misconduct and letter of censure were kept from the tenure committee so that the tenure decision would not be influenced by the finding. The subject told us that he was "awarded tenure this year--even with this cloud over my head" (reference 9), and in his response to our investigation report (Tab D) said that selected institutional officials who participated in the tenure review process were aware of the allegations. However, only after the subject was granted tenure was the letter of censure placed in his personnel file.

reviewed several funding submissions by the subject and that it had confused several of the subject's manuscripts.

We concluded that the materials submitted by the institution did not constitute a thorough, complete investigation into the allegations. We concluded that additional investigation by our office into these allegations was required and requested further information from the institution.

OIG'S INVESTIGATION

OUR REVIEW OF THE SUBJECT'S SUBMISSIONS

Our initial review of the NSF proposals reviewed by the investigating committee confirmed that the subject had falsely cited manuscripts as "submitted" that were not. This information prompted us to review all the proposals the subject had submitted to NSF to determine the extent of the misrepresentations in NSF proposals. We also reviewed the materials forwarded by the institution at our request including proposals submitted to the other federal agency, to the institution's research fund and its internal institute, to a state funded research entity, and to a private foundation; CVs and other materials submitted by the subject for his annual performance reviews; and the departmental brochure. We conducted this broad review to determine if these documents revealed a pattern of misrepresentation. We uncovered a total of 40 misrepresentations about the declared status of three of the subject's manuscripts in documents submitted to NSF, to other funding entities, and to the institution's personnel review committee. We will discuss the findings of the investigation into the misrepresentations in the NSF proposals and the findings with regard to the pattern of misrepresentation together.

The Manuscripts the Subject Misrepresented

Appendix 1 contains a list of the three manuscripts that are the focus of this investigation and a current list of the subject's published papers. Manuscripts 1 and 2 describe research in the subject's laboratory at the institution. Manuscript 3 describes part of the subject's postdoctoral research. Manuscript 3 appeared in print prior to the inquiry into these allegations while manuscripts 1 and 2 were substantially revised and modified during the review process at the journal and appeared in print after the subject had been sanctioned by the institution.

Appendix 2 contains a detailed description of the three manuscripts, which identifies the presence of false citations to the manuscripts in the bibliography, CV, or prior support statement in a funding application. Citations to these manuscripts found in the subject's annual review submission (containing a CV, Publications List, and Merit Review Form) to the institution are listed.

For manuscript 1, we found a total of 16 false citations in the documents reviewed. Thirteen of these were in funding applications or final reports, two were in materials submitted to the institution's personnel committee, and one was in the departmental brochure. Of the 13

false statements, 5 were found in the two NSF proposals. The subject submitted this manuscript to a journal over a year and a half after the first false citation to it appeared in a submission by the subject.

For manuscript 2, a total of 15 false citations were found in the documents reviewed. Twelve of these were in funding submissions or final reports, two were in materials submitted to the institution's personnel committee, and one was in the departmental brochure. Of the 12 funding-related false statements, 5 were found in the NSF proposals. The manuscript was submitted to a journal about a year after the first false citation to it appeared in a submission by the subject.

For manuscript 3 we found a total of 9 false citations in the documents reviewed. Seven of these were in funding submissions and two were in the materials submitted to the institution's personnel committee. Of the 7 funding-related false citations, 3 of them appeared in the two proposals to NSF. This manuscript was first submitted to a scientific journal four months after it was first cited as submitted to a journal. Unlike the first two manuscripts, the subject's thesis advisor, not the subject, was responsible for the submission of this document to the journal. Although it is possible that the subject might, for brief periods of time, not have been fully apprised of its status, he acknowledged that three of the four proposals containing misrepresentations were submitted <u>after</u> he had learned that the manuscript had not been submitted (reference 4). He corrected the citations in those three proposals to reflect accurately the changes in authorship and title, but failed to accurately state the status of the manuscript, i.e. to be submitted.

All told, between October 1991 and December 1992 the subject submitted documents containing 40 false citations to manuscripts as submitted when they were not, and, in fact, two of these manuscripts existed only as partial drafts. Of the 40 false citations, we found 13 in submissions to NSF. A chronological review of the various documents in which these manuscripts are mentioned revealed that following the first submission of a document containing a false citation, new authors were added to two of the manuscripts (2 and 3), a title was significantly changed (3), and the name of the journal to which the manuscript was submitted changed (1 and 2) in later false citations. These changes reflect real modifications to the draft manuscripts, but the manuscripts remained unsubmitted.

Appendix 3 contains a tabular cross-reference of the three manuscripts to the subject's funding applications and final reports and to the departmental brochure, as well as to his submissions to the institution's personnel committee.

Misrepresentations in the Proposals

We reviewed a total of 13 proposal submissions by the subject, including five NSF proposals, for false citations to the subject's manuscripts. Appendix 4 is a chronological list of these proposals, and provides the date each was submitted, whether it was declined or supported, and, for the funded proposals, the duration and funded amount of the award. The table

identifies those proposals, or the supporting documentation accompanying them and the final reports, that contain one or more citations that falsely describe the manuscripts as submitted to journals. Of the 13 proposals, 8, including two NSF proposals and one to another federal agency, contained misrepresentations. Six of the eight, including one NSF proposal (the MRI award) were funded. One of the funded proposals contained misrepresentations in the final report not the body of the proposal.[6] Of the unfunded proposals, one was withdrawn because it was duplicative of the NSF MRI proposal which had been funded, and one (the other NSF proposal) was declined.

The total current and out-years support for the 5 funded proposals containing misrepresentations totalled $274,613,[7] [redacted] of which was the MRI award from NSF.[8]

In the two NSF proposals, the misrepresentations appear variously in the bibliography for the proposed work, in the CV, and in the statement of work accomplished with prior NSF support[9]. The proposal to the other federal agency contained misrepresentations in the submitted CV and the bibliography.

CVs accompanying the April 1992 submissions to both the institution's research fund and an internal organization at the institution contained misrepresentations about manuscripts 1-3. The CV in the November 1992 submission to the institution's internal institute contained a misrepresentation about manuscript 1. In this CV, the subject had corrected the citation for manuscript 2.

The November 1992 final report for the subject's 1989 state research fund grant contains a table entitled "publication activities associated with th[is] project." The table is broken into columns headed "planned," "in progress," "submitted," "accepted," or "published" and PIs are asked to indicate the status of relevant manuscripts. The subject falsely indicated that manuscripts 1 and 2 were "submitted" in this table.

---

[6] As explained below, the subject began falsifying his citations in October 1991, approximately 27 months after this proposal was submitted.

[7] The total sum excludes the value of the [redacted] award where we found misrepresentations in the final report.

[8] The NSF MRI award is a 3-year, continuing grant. This award is currently in its third year and expires on [redacted] 1995. Its current year's funding is [redacted]. The first and second years' funding totaled [redacted]

[9] The prior support statements accompanying both NSF proposals that contain misrepresentations about the status of the manuscripts identify a closed NSF Planning Grant as support for some of the work reported in these manuscripts. The NSF Planning Grant was a 6-month award that provided [redacted] in support.

Thus, our review of the proposals showed that the subject misrepresented the status of his manuscripts in three separately created sets of documents: CVs (those submitted with the NSF proposals, the other federal agency proposal, and the April 1992 proposals to the institution's research fund and its internal institute were identical); bibliographies (those present in one NSF proposal and the other federal agency proposal were identical); and prior support statements (those submitted with the two NSF proposals were very similar).

Our review of the citations in the subject's funding submissions revealed that the subject was familiar with a variety of terms used to describe the exact status of a manuscript, from its drafting to its submission to a journal and its final publication. As early as 1983 the subject was a co-author on papers where terms such as "to be published," "submitted," "in press," and "unpublished" were used to describe the status of reference material. In June 1991 the subject's final report for a 1988 private foundation award correctly cited manuscript 1 as "in preparation." Terms such as "in press," "in preparation," "unpublished," "to be submitted," and "to be published" are used to describe references found in the subject's paper resulting from manuscript 3 (which was submitted in February 1992 and therefore contemporaneous with the proposals submitted containing the false citations). The CVs with the false citations consistently contain at least one manuscript listed as "in preparation." These examples show that the subject had used, and had been associated with publications which had used, a variety of terms to describe the evolution of a manuscript from the rough draft to its submitted and published forms. We concluded that the subject's citation practices with regard to the three manuscripts described in this investigation report are a change from his previous practice.

Misrepresentations in the Departmental Brochure

In the departmental brochure, first drafted in June and finalized in December 1992, the three manuscripts are listed as "in press." At the time the brochure was finalized, two of the manuscripts had yet to be submitted to a journal and only one had been published. This brochure was intended to be widely distributed to potential graduate students and visitors to the department, and for other public relations efforts.

The Subject's Submissions for Mandatory Annual Review

In each of the six years before the mandatory tenure decision and as part of the review process, the tenure-track faculty at this institution are required to submit a Curriculum Vitae, a Publications List, and a completed Merit Review Form. Our review of the materials covered the five years prior to the investigation and included both the citations to manuscripts in the subject's submitted materials and the written comments by the personnel committee. The details of the false citations in the subject's materials submitted for his annual review and the personnel committee's comments are found in Appendices 5 and 6 respectively.

Materials that the subject submitted for his first (1988), second (1989), and third (1990) years' reviews did not contain any misrepresentations. Terms such as "in preparation," and "first draft prepared" are used. In the fourth (1991), and fifth (1992) years' materials, false

citations to manuscripts as "submitted" appeared variously in the CV and Publications List. The sixth year CV submitted with his November 1993 tenure package (almost one year after the initiation of the misconduct investigation) correctly cites manuscripts 3 as published, manuscript 2 as "in press" and manuscript 1 as "recommended for publication by referee" (reference 23).

The comments in these five annual reviews (1988-1992) reveal a progressively increasing pressure on the subject both to publish papers based on his work at the institution and to submit proposals to federal agencies. The committee linked the subject's ability to dramatically increase the number of his publications and federal research awards and any positive recommendation the committee might make for tenure in his sixth year.

In the third and fourth year reviews, the committee gave the subject specific numerical targets for publications and research grants he was to achieve. In the third year review the committee said it expected "a minimum of [8-10] manuscripts in press or in print by the time [he was] evaluated for tenure" (in two years). It strongly encouraged the subject to obtain federal support for his research, specifically identifying NSF as an agency to which he should send a proposal.

At the end of the fourth year review cycle (October 1991) the subject had, in actuality, not submitted any manuscripts for publication, but falsely claimed one (3) as "submitted" on the CV and Publications List he provided the committee. The committee "was extremely disappointed that [he] did not follow the recommendations communicated to [him] after the third year review. It "note[d] the recent manuscript that [the subject] submitted . . . but feels that [his] publication record over the last three and a half years is well below expectation. [The subject] must realize time is running short. A major effort is needed in obtaining research support and getting significant publications in print." He was instructed to "submit a[n] NSF proposal plus one or more other proposals before the end of this calendar year" (two months later) and was told to make "very substantial improvements in [his] publication record and funding efforts by next September."

In the year following this review the subject submitted six proposals which, in total, contained 29 false statements about the status of three manuscripts. He received funding for four of the six proposals. He also submitted a draft of the departmental brochure which contained two false statements about the status of the manuscripts.

In the declined NSF proposal (reference 14) the subject clearly conveyed the pressure he was under:

> . . . this is the point at which my career would benefit most from such an award since I am up for internal review in Fall '92. This is to determine the potential for tenure and the research progress up to that point will weigh heavily in that decision. The [NSF award] would provide the opportunity to establish a more

broadly based and vigorous research program which would have a positive impact on this review.

In a note referring to his concurrently submitted MRI award proposal he said:

> A positive review for both the proposal herein and the MRI proposal would greatly benefit the research program at a critical stage. However, if a choice must be made between one of these awards, assuming a positive review for both, the MRI will be preferred. [Emphasis in the original.]

For his fifth year review, the subject submitted two CVs to the personnel committee. In the first CV (submitted in September 1992) the subject falsely claimed manuscripts 1 and 2 as "submitted." He changed that to "in preparation" in a revised CV submitted one month later—shortly before the institution received the allegation of misconduct.

In its fifth year review the committee "commended" the subject for obtaining the NSF and private foundation support. It said that he had "made reasonable progress towards establishing a working research group at the [institution] in terms of building [his] laboratory and in obtaining funding. It continued its "principal concern . . . [wa]s [his] research productivity. . . . To date, however, no papers based on work done at [this institution] have been published or accepted for publication. . . . The committee in the strongest possible terms, encourages you to get papers that are 'in preparation' submitted to appropriate journals in the next few months."

In his sixth year, the subject was reviewed for tenure and, on the basis of that review, the dean informed the subject in a December 13, 1993, memo that he was recommending a terminal contract. The dean cited the subject's low publication rate, the timing of his manuscript submissions (five in the year preceding the mandatory decision), and the mixed outside reviews as factors in his decision. The subject appealed the decision and was granted tenure. In his January 1994 recommendation letter, the dean said,

> My concerns are those expressed by several of the reviewers regarding his productivity and a demonstrated ability to broaden the sphere of his research. For example, the material sent out for external review contained two papers in press and three papers submitted for publications . . . . I have never seen a tenure case where the individual under review did not have one paper in print on work done at the tenuring institution at the mandatory review time. The question then is whether his recent research productivity (five papers published in one year) will be sustained over the long term or does it represent a "spike" in research activity driven by the pressure of the tenure decision.

We agree with the institution's investigating committee's conclusion that "it is clear that [the subject] was under increasing pressure from his Department to perform."

When we compared the various CVs the subject had submitted to the personnel committee, we found that only one (the September 1992 CV) was identical to that found in the two NSF proposals. The remainder were different. We found that the Publications Lists submitted with the subject's fourth and fifth years' reviews were prepared separately from the CVs and contained misrepresentations. The fourth year's list falsely claimed that manuscript 3 had been submitted, and the fifth year's list falsely claimed manuscripts 1 and 2 as submitted. Unlike the amended CV submitted for the fifth year review, that year's Publication List was not corrected.

NSF'S EXPECTATIONS ABOUT ACCURACY IN PROPOSALS

The GRESE states that the National Science Board (NSB) established four criteria for the review of proposals "in order to provide for the fair and equitable selection of the most meritorious research projects for support." One of these criteria is "Research Performance Competence." The Grants for Research and Education in Science and Engineering (GRESE, 90-77), in force when the subject's proposal was submitted, describes this as

> relat[ing] to the capabilities of the investigator(s), the technical soundness of the proposed approach . . . .
>
> Criterion (1), performance competence, is essential to the evaluation of the quality of every proposal. It covers the investigator's record of past research accomplishments, including, where significant, communications of findings and sharing of data and other research products.

The GRESE (90-77) states that:

> NSF expects strict adherence to the rules of proper scholarship and attribution, which are at the heart of the organization of research, the communication of its results, and the competitive merit review system on the basis of which NSF makes awards. The responsibility for proper attribution and citation rests with the authors of a research proposal, all parts of which should **be prepared with equal care for this concern.** Failure to adhere to such standards can result in disqualification of the proposal. [Emphasis added.]

This expectation was formalized in the subsequent GRESE (92-89) as a certification signed by the PI stating that:

> the statements herein (excluding scientific hypotheses and scientific opinions) are true and complete . . . .

The certification carries the warning:

> I understand that the willful provision of false information or concealing a material fact in this proposal or any other communication submitted to NSF is a criminal offense (U.S. Code, Title 18, Section 1001).

The Misrepresentations in the MRI Award Proposal

The subject cited manuscripts 1 and 2 as "submitted" in the prior support statement entitled "Results from NSF Planning Grant . . . ." that accompanied both NSF proposals. The manuscripts are referred to as "publications acknowledging this award." Neither manuscript was submitted before the two NSF proposals were forwarded to NSF. The GRESE states that the PI is required to list publications resulting from an award and should provide a summary of the completed work, and the GRESE informs the PI that "reviewers will be asked to comment on he quality of the prior work described in this section of the proposal." The misrepresentations in the prior support statements and those in the CVs accompanying these proposals projected a more successful image of the subject's research program to NSF reviewers and program officers than was justified. In 1990 the subject received an early indication that publications were an important part of the evaluation process. One of the three criteria for evaluation of the subject's 1990 NSF proposal was the "nominee's potential for continued professional growth as a research scientist or engineer." One reviewer commented, "excellent potential but pub[lication]s could be stronger."

We examined the reviewers' comments on the MRI award proposal to determine if an evaluation of the subject's publication record had entered into their considerations when recommending this proposal for an award. The following comments were found:

> **Reviewer 1:** "Good results have come out of the [institution's] laboratory . . . His past research performance has been very good."
>
> **Reviewer 3:** "The PI has demonstrated in his previous work the feasibility of such studies."
>
> **Reviewer 4:** "The results from prior NSF support are excellent . . .. In addition, two papers on this work have been submitted for publication."
>
> **Reviewer 6:** "[The subject] has been at the [institution] for over four years without yet publishing any results (2 papers submitted) from work done at the [institution] . . . The results of the previous award (NSF Planning Grant . . .) are reasonable, providing they are accepted for publication. . . . I would not be so worried about the time lag to get meaningful results, if it were evident that there were other research areas or projects being developed. This does not appear to be the case. . . . Optimistically, his program may be coming around as evidenced by the submission of the two manuscripts. If this

[is the] case, I would enthusiastically support this proposal, but because of this question mark, I can only give this request a very good rating."

Thus, four of the six reviewers of this proposal evaluated and commented on the subject's prior research activity and his publication record. Two of these reviewers explicitly commented on the manuscripts that had been falsely cited as submitted. The sixth reviewer's concern about the subject's low level of productivity directly influenced the rating the reviewer provided. The program officer noted this concern and, in part, justified his recommendation for an award despite this reviewer's concerns by citing manuscripts 1 and 2:

> **Program Officer's Review Analysis:** "The work under the previous NSF funding (an MRI Planning Grant) is termed excellent by some referees, since it led to the first-ever measurement of [redacted] [manuscripts 1 and 2] . . .. Reviewer 6 contends that the PI has not shown the ability to lead a research group because of his low publication record . . . I feel the concerns raised are not major . . . And Reviewer 6's concerns about the PI's low productivity may be too harsh considering the considerable effort involved for a young new physical chemist in setting up a laboratory. None of the reviewers commented unfavorably on this reported level of productivity. If anything, they say that his past performance is good, and that he has shown the ability to carry out the proposed research. [The subject] had listed two papers in preparation [manuscripts 1 and 2] resulting from the previous NSF MRI Planning Grant.

In our view, it is doubtful that the reviewers would have rated the proposal as highly if the subject had truthfully cited the status of his manuscripts in his proposal and prior support statement.

OIG'S REVIEW OF THE SUBJECT'S DEFENSE DURING THE INSTITUTION'S INQUIRY AND INVESTIGATION

During the course of the institution's inquiry and investigation the subject was questioned several times about the misrepresentations. He variously provided 10 explanations of his actions. Because the subject had not seen the institution's revised investigation report, as part of our investigation we forwarded the document to the subject for comment. His August 1994 response (Tab C) to us reiterated some of these reasons. Each is listed below in bold, followed by our analysis and includes a reference to the source documents. Tab C and references 2-9 contain the source documents where these statements are found. The key sentence(s) in these document(s) is(are) highlighted. We found none of these explanations adequate. Many were irrelevant to an evaluation of the allegations.

1 **The source of the allegation was a disgruntled graduate student of his. Because the student was unhappy, the subject felt the allegations should be questioned (reference 2 and 4).** The reason a complainant reports an allegation may put the allegation in context

but it, on its own, is not a reason to dismiss an allegation. We are unaware of the identity of the anonymous complainant, and the identity is irrelevant to our assessment of the evidence.

2 **The misrepresentations in the subject's proposals and CVs submitted to the personnel committee were merely honest errors of a technical nature because he anticipated submission of the manuscripts (references 2, 4-6, 8).** The publication information requested on proposals should reflect the current status of the PI's publication record. Anticipatory writing of this kind, whether in the body of the proposal, or the CV, is misleading and unacceptable. Some of the misrepresentations about these manuscripts extended over a period of a year and a half. It is unbelievable that the subject could have, for these lengthy periods of time, honestly believed that manuscripts were about to be submitted particularly when some were only partial first drafts.

3 **The subject did not intend to deceive anyone. His errors were merely "administratively careless" (Tab C and references 2,4,6,8,9).** The subject cited manuscript 1 as submitted after it was declined and returned by the journal. He resubmitted it for publication to a different journal almost two years after the first submission. He cited manuscript 2 as submitted for over a year before its submission. Manuscript 3 was cited as submitted for two months before its submission. In total, the subject made 40 misrepresentations in several independently created documents (CVs, bibliographies, prior support statements, Publication Lists, a final report, and a brochure) variously found in proposals to the federal and state government, two institutional funds, annual reviews, a departmental brochure. In our view, such a broad pattern of misrepresentation to so many sources, over a period of a year and a half, can hardly be described as "administratively careless." We believe this pattern reflects a conscious—and successful—effort by the subject to misrepresent the status of these manuscripts in order to deceive readers into believing the subject was more productive than he was really was. Reviewers of the funded proposal were clearly concerned about the status of the subject's publications and their concern was mitigated by the false reporting of these manuscripts as submitted when they were not.

The subject's long-term misrepresentations can only be interpreted as intentional deceptions designed to create the impression that he was more productive than he actually was.

4 **Prior to the investigation the subject had not made a sharp distinction between the terms "to be submitted" and "submitted" (references 2, 6)** Manuscript 3 was the first of the three manuscripts submitted to a journal. The subject used the terms "in press," "unpublished," and "to be submitted," in its bibliography. Publications co-authored by the subject dating back as far as 1983 use these, and other terms, to indicate the precise status of manuscripts in the path from conception to publication. Further, in one proposal where misrepresentations were found, the subject used the terms "in press" and

"in preparation." Such a history using the precise meaning of these terms is inconsistent with the subject's claim. His assertion is not credible.

5 **The important issue was that the data had not changed from that reported in the manuscripts (Tab C and references 2,4-6,8,9).** The accuracy of data is not an issue in this case. The issue is strictly whether the subject misrepresented the status of his manuscripts by falsely citing them as submitted when they were not.

6 **It is a common practice in the chemistry community to cite manuscripts as submitted when they are not (references 2,4).** Knowingly making false representations to federal funding agencies in lieu of communications updating the contents of a proposal is not a common practice within the chemistry community or any other component of the broader scientific community. Indeed, the chemistry department chairman stated that this was not a common practice and told the inquiry committee that six other department faculty did not view it as a common practice. It is a common practice for principal investigators on NSF proposals to communicate changes in their proposed work, breakthroughs, or provide information on new publications to program officers. This information, if provided in a timely fashion can become part of the review process.

7 **The manuscripts were falsely cited as submitted because of the long lead time in reviewing a proposal (references 4-6). The October 1992 CV submitted for his annual review properly lists the status of the manuscripts because he knew the departmental review would be immediate in contrast to the long lead time associated with proposal review (reference 6, Tab A).** The long lead time for proposal review is not an acceptable reason for making false representations. The GRESE clearly explains NSF's expectation that PIs will carefully adhere to the rules of scholarship, including attribution and citation, in all parts of a proposal submitted to NSF. PIs are expected to provide a truthful statement of their publication record and, because of the long lead times, are allowed to up-date that information during the review process.

Furthermore, the subject falsely cited the status of his manuscripts in materials even when he knew they did not have a long lead time associated with their review. Materials submitted for his 1991 and 1992 annual reviews (Publications Lists and CVs) did contain misrepresentations and the subject knew that they were for immediate review by the institution's personnel committee. In 1992 the subject resubmitted a CV that correctly stated the status of his manuscripts, but he has not explained why the first CV submitted in 1992 claimed that manuscripts 1 and 2 were submitted when he knew that neither had been and manuscript 2 existed only as a partial first draft. Indeed, manuscript 1 was not submitted for another year and manuscript 2 for another 5 months. The final report for the state grant contained misrepresentations and it also had no lead time associated with it.

8 **The status of the publications was not important to the reviewers; what was important was the data and "the success of the new approach not the actual experimental data" (Tab**

C and reference 2). In a related assertion the subject said that the [redacted] NSF Planning Grant was insufficient to carry out a research project, an obvious fact to anyone reviewing the MRI proposal, and therefore his misrepresentations could not have influenced NSF's decision to fund the proposal (Tab C and reference 9). The subject's statements are refuted by the remarks in the peer reviews he received on his MRI award (see above). Further, the parsing of the status of manuscripts in the table in the state funding agency's final report shows that the actual status of the documents containing data generated under a grant is important.

The subject knew from the review comments he had received for both his 1990 NSF proposal and his MRI award that reviewers assessed a PI's publication record and were concerned about his research results and publication history (see above).

With regard to the subject's comments that the Planning Grant funds were insufficient to carry out his project, multiple sources of funding frequently contribute support for a particular research project. Thus, it would not be "obvious" to reviewers that the Planning Grant had not partially supported the subject's project.

9 **It was inappropriate for the investigating committee to "build a case" on the increasing pressure applied by the personnel committee to publish papers and to submit proposals when such pressure is a "common and integral part of tenure track positions" (Tab C, reference 9).** It is part of the role of an institution and NSF when investigating and adjudicating allegations of misconduct to consider any evidence relevant to an individual's state of mind. The investigating committee concluded that the increasing pressure to publish preceded, and was correlated with, the subject's actions. We concur with that conclusion. Although the pressure to publish is present in all tenure-track positions, the subject apparently responded inappropriately by misrepresenting his publication record.

In contrast to the subject's efforts to downplay the influence of the negative comments and recommendations of the personnel committee on his attempts to secure outside funding the passage in his declined NSF Career Advancement proposal (quoted on page 12 above, reference 14) clearly conveys the pressure he perceived he was under and his understanding that receiving Federal funding would positively influence his upcoming personnel review.

10 **The misrepresentations in the other federal agency proposal should not be considered because the proposal was withdrawn from consideration before the allegations were received (Tab C, references 4, 9).** The subject withdrew the other federal agency proposal <u>because</u> his MRI award proposal, a duplicate submission, was funded. It is possible that, had it not been withdrawn, the proposal would have been recommended for support. The agency had already received three of the requested 6 reviews on this proposal. Information submitted on any proposal, whether it is subsequently funded or

not, is expected to be complete and accurate, and statements in them can be considered in misconduct in science inquiries or investigations.

OIG'S CONCLUSION REGARDING MISCONDUCT IN SCIENCE

NSF defines misconduct in relevant part as "(1) Fabrication, falsification, plagiarism, or other serious deviation from accepted practices in proposing, carrying out, or reporting results from activities funded by NSF . . . " (45 C.F.R. §689.1(a)(1)). For NSF to make a finding of misconduct in science, a preponderance of the evidence must show: 1) that the subject committed a bad act associated with NSF activities and 2) that the bad act was committed with a culpable state of mind (such as willful, knowing, or grossly negligent) (45 C.F.R. § 689.2(d)).

The Act

We conclude that a preponderance of the evidence supports the conclusion that the subject misrepresented the status of his manuscripts 13 times in two proposals submitted to NSF. These misrepresentations were made in one NSF proposal's bibliography, and in both NSF proposals' statements of prior support and accompanying CVs. Although the two proposals' CVs are identical and the statements of prior support are virtually identical, the subject did independently create the CVs, the statements of prior support, and the bibliography included in these proposals. The CVs, statements of prior support, and the bibliography each represent separate events where documents containing false statements were independently created.

It is clear from the information gathered by the institution's investigating committee that the subject's practice is not common in his community and is considered a serious breach of the community's expectation that scientists will accurately state the status of their manuscripts. Finally, the subject's practice is also in direct conflict with NSF's policy that the PI is responsible for assuring that a submitted proposal strictly adheres to the "rules of proper scholarship and attribution," and that "all parts are prepared with equal care for this concern."

State of Mind

We believe the evidence shows that the subject responded to pressure for increased productivity from his personnel review committee by falsifying the status of three manuscripts in a number of documents. We found that the third (1990) and fourth (1991) year review committees were concerned about the subject's failure to publish anything from his research at the institution. The third year review committee told the subject that he needed to publish 8-10 papers on research performed at the institution within the next 2 years. The fourth year review committee noted its "extreme disappoint[ment]" with the subject's lack of measurable progress with regard to publications and grants. It said it was "imperative" that he submit 2-3 federal grant proposals (among them, the committee specified, must be one to NSF) within two months and he had to show a "dramatic increase in research productivity over the next few months" to "receive a . . . review next year that is sufficiently positive for [his] continuation at [the institution]." The subject was clearly being warned that his employment would be terminated

if he did not secure research funding and publish papers from research conducted at the institution.

Two months after his fourth year review, the subject began submitting proposals to funding entities (among them, two to NSF and one to another federal agency) that exaggerated his publication record. The evidence shows that, prior to 1991, the subject was fully able to use a variety of terms to describe the status of a manuscript. The subject changed his practice of correctly noting the status of his manuscripts after receiving his fourth year review to a new practice that gave a falsely positive impression to proposal reviewers, agency program officers, and institutional officials about the status of his manuscripts. This false information positively influenced both agency and institution decisions: he received funding for 5 of the 7 proposals that contained misrepresentations. There was a significant improvement in the comments in his fifth year (1992) review when compared to that from the fourth year (1991). While he had been told his performance was insufficient to recommend his "continuation" in 1991, in 1992, the personnel committee "commended" him on his success in securing research funding and urged him to publish his research results. He was recommend for, and ultimately received tenure.

The subject provided a variety of explanations for his misrepresentations, none of which was found to have merit. For example, the subject said he had made the misrepresentations because of the long lead times associated with proposal evaluation; however, he made misrepresentations in several documents whose review was not associated with long lead times.

We found that these false citations were not, as the subject asserted, simple, careless mistakes. The misrepresentations appeared in materials submitted for a variety of purposes including: securing federal, state, or institutional research funding, receiving annual reviews, reporting the results of research support, and describing his research in a brochure. Within these documents the misrepresentations appeared variously in CVs, prior support statements, bibliographies, and publication lists. Each type of document was independently created by the subject and instead of correcting the initial errors during each document's creation, he continued to misrepresent the status but corrected the citation for real changes in authorship and title. The evidence shows that the subject knew the manuscripts he cited as submitted were not yet so submitted and he chose to falsely cite them as such. In our view, his behavior is consistent with a conscious—and successful—attempt to deceive both program officers and institutional officials by creating a falsely positive impression of his professional success to positively influence federal agency program managers, proposal reviewers, and institutional officials.

Therefore, we conclude that a preponderance of the evidence supports the finding that the subject willfully misrepresented the status of three manuscripts in two submissions to NSF. The subject's misrepresentations were motivated by the pressure his institution placed on him to secure federal research support. We conclude that the subject's actions were a serious deviation from accepted practice, hence misconduct in science.

OIG'S RECOMMENDED DISPOSITION

Under § 689.2(b) of NSF's misconduct in science and engineering regulation, when deciding what actions are appropriate when misconduct is found, NSF officials should consider the seriousness of the misconduct, the intent with which the subject acted, any evidence of a pattern, and finally, its relevance to other funding requests or awards involving the institution or the individual.

We have concluded that the subject willfully misrepresented the status of his manuscripts in proposals submitted to NSF, and that this behavior was a serious deviation from the practices of both the chemistry community and the broader scientific community, and that it violated NSF's express expectation that proposals are prepared accurately and with the highest level of scholarship.

When considering the broader question of a pattern of misrepresentation, we found that misrepresentations about the status of three manuscripts were found in seven proposal submissions to five different entities (two to NSF, one to another federal agency, one to the institution's research fund, and two to an internal institute at the institution), in one final report, in one departmental brochure, and in various materials for two annual reviews.

The subject received $274,613 based on the five proposals that contained these misrepresentations which were funded. Of this sum, [redacted] represented the NSF MRI award. Additional false citations appeared in the final report for, or prior support statements concerning, two awards that total $132,000. One of these awards was the [redacted] NSF Planning Grant.

These representations occurred over a period of 13 months and are contained in independently created documents such as bibliographies, prior support statements, lists of publications, CVs, a final report, and the departmental brochure. During the creation of each of these documents the subject afforded himself the opportunity to correct the citation for real changes in authorship and title but persisted in falsely citing the status of the manuscripts. Cumulatively the subject made 40 misrepresentations about the status of these manuscripts, 13 of which appear in two separate submissions to NSF.

We concluded that the subject exhibited a general pattern of repeatedly misrepresenting the status of manuscript drafts as having been submitted for publication. The evidence for a pattern is strengthened because it cannot be shown that these repeated misrepresentations were the result of a single set of errors duplicated exactly in subsequent documents.

The subject's misrepresentation practice is counter to the expectations of high scholarship and truth by NSF and the scientific community. We believe the evidence supports a finding that the subject exhibited a broad pattern of willfully misrepresenting the status of his manuscripts to enhance the possibility of receiving funding and to elicit positive institutional reviews for tenure.

We believe that NSF should take action to protect the government's interest in funding the most meritorious research. None of the evidence in this case impugns the subject's research ability nor does it cast doubt upon NSF reviewers' ability to assess accurately the subject's research skills when they evaluated the subject's MRI proposal. Therefore, we do not believe that the subject's current MRI award should be terminated. However, we do recommend that NSF's Deputy Director take the following three actions:

(1) NSF should send a letter of reprimand to the subject stating that it has concluded that he committed a serious deviation from accepted practice and thus misconduct in science by misrepresenting the status of his manuscripts in NSF proposals.[10]

(2) NSF should require that, for five years from the date of the final disposition of this case, when the subject is a principal investigator or co-principal investigator on a proposal submitted to NSF for funding, the subject will ensure that his department Chairperson has signed an assurance stating that, on the basis of the Chairperson's reading of the proposal and to the best of the Chairperson's knowledge, the proposal does not contain any misrepresentations.[11]

(3) NSF should require that, for five years from the final disposition of this case, when the subject is a principal investigator or a co-principal investigator on a proposal submitted to NSF for funding, he will certify in writing that he has recently reviewed NSF's Misconduct in Science Regulation (45 C.F.R. §689), that the grant application is free of any misconduct, and that the grant application has been reviewed as described above.[12]

(4) The Deputy Director should require that the PI send the Chairperson's assurance and the PI's certification to the Assistant Inspector General for Oversight in NSF's Office of Inspector General, for retention in that office's confidential file on this matter.

SUBJECT'S RESPONSE TO THE DRAFT INVESTIGATION REPORT

We forwarded the draft investigation report to the subject for comment and received a response from him on April 4, 1995. OIG reviewed the subject's response (Tab D) and concluded that it did not contain any additional information that altered our conclusions about

---

[10] This is a Group I action, see § 689.2(a)(1)(i).

[11] This is a Group II action (see § 689.2(a)(2)(ii)).

[12] This is a Group II action (see § 689.2(a)(2)(ii)).

this case. He did provide some background information about his tenure review process and the CVs he submitted to the personnel committee which was incorporated into our report.

The subject attempted to explain why on numerous occasions he corrected the authorship and title of manuscripts without correcting their status. He said, "It is not clear to me what there is to gain by updating authorship or title but not submission date. . . . [T]his supports the statement that the errors were associated with miscalculations of the submission dates." However, the subject corrected the authorship of manuscript 2 over a year before it was submitted to a journal. Ten months after he first cited it as submitted and 8 months after the first citation in which he changed the authorship, the manuscript existed only as, what the institution's investigating committee described as, a "partial first draft" (see discussion on page 4). The institution's investigation committee stated that the subject claimed that he planned to submit manuscript 1 in November 1992 (one year after it had been rejected and 11 months after the first false citation appeared), but stated that "this paper appears to remain in limbo in May 1993." The paper was submitted in August 1993. We do not believe the subject reasonably anticipated, as he claimed, "immediate submission" of these manuscripts when he provided false statements about their status. We do not find the subject's position that he made "miscalculat[ions]" about when he would submit the manuscripts credible. We believe that the subject's anticipatory writings were knowing misrepresentations and misconduct in science.

The subject states that he "has learned [his] lesson," but continues to insist that his errors were "miscalculat[ions]," an argument we concluded was neither credible nor supported by the facts of the case. He states that he "understand[s] that such practices are improper but do[es] not feel that additional punishment beyond that already administered by [his] institution is necessary." We believe that the actions we are recommending are appropriate to protect NSF's interests. A reprimand including a finding of misconduct in science is an appropriate mechanism for NSF to employ in order to state that it does not condone behavior of this kind and that such behavior is considered a serious deviation from accepted practice within the scientific community. Our other recommendations are designed to protect NSF by ensuring extra scrutiny of the subject's proposals before they are submitted to NSF. In this way, NSF peer reviewers should be able to rely safely on the contents of his proposals so that they can be fairly compared to other proposals in a funding competition.