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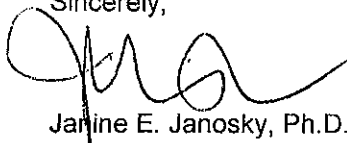
7 August 2008

Aliza I. Sacknovitz, Ph.D.
Investigative Scientist
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230

Dear Dr. Sacknovitz:

This letter serves as notification of release of the final report from the committee investigating an allegation that has been levied against Dr. Azita Manouchehri and Dr. Douglas Lapp regarding research activities for the NSF Award #0455797 "Concept: Connecting Content and Pedagogical Education of Pre-service Teachers". The final report, including all appendices, as well as other supporting and process documents are attached and has also been submitted to Provost/Executive Vice President of Central Michigan University, Dr. Julia Wallace. All of the policies and procedures from the Research Integrity Policy for the Office of Research and Sponsored Programs at Central Michigan University have been upheld. If I may provide any additional information or explanation, I would appreciate the opportunity to do so.

Sincerely,



Janine E. Janosky, Ph.D.
Vice Provost for Research

CC: Dr. Julia Wallace

Final Report of the Investigative Committee

7 August 2008

FINAL REPORT of INVESTIGATION COMMITTEE

7 August 2008

Section O: Preamble/Introduction

On November 13, 2007, Dr. Aliza I. Sacknovitz, Investigative Scientist and Attorney Montgomery K. Fisher from the Office of the Inspector General at the NSF, brought to Dr. Janosky's attention (Vice Provost for Research and Sponsored Programs at Central Michigan University) concerns of potential research misconduct in the National Science Foundation (NSF) funded proposal for the project entitled "CONCEPT: Connecting Concept and Pedagogical Education of Pre-service Teachers" (CONCEPT). The proposal identifies Dr. Douglas Lapp as the Principal Investigator, and Drs. Azita Manouchehri, Ken Smith, Dennis St. John, and Charles Vonder Embse as Co-Principal Investigators, and Drs. Carl Lee and Lisa DeMeyer as Senior Personnel, [Appendix #6]. At this time Dr. Janosky was provided with an annotated copy of the original grant proposal together with source material from which it was suspected that the proposal contained plagiarized sections. [Appendix #5]. Subsequently, Central Michigan University (CMU or university) conducted an inquiry into the allegations of research misconduct (plagiarism) in accordance with provisions in the Office of Research and Sponsored Programs *Policy on Research Integrity* dated 26 June 1995 [Appendix #0]. Following completion of the inquiry on December 18, 2007, a report was submitted by Dr. Janine E. Janosky to Dr. E. Gary Shapiro, Interim Executive Vice President/Provost. [Appendix #2]. The Inquiry concluded that

- "Based upon the document provided by NSF, the annotated grant submission, it appeared that the evidence was sufficient to warrant a conclusion of the likelihood of plagiarism within these sections [the sections annotated by the NSF] of the grant submission.
- "...there is sufficient evidence that an investigation be warranted. Based upon the roles in the grant submission and the subsequent presented materials, at this inquiry stage, it appears that the allegations should be levied against both Dr. Douglas Lapp and Dr. Azita Manouchehri".

In addition to Dr. Shapiro, the following individuals were informed of the outcome of the inquiry phase: Dr. Lapp, Professor of Mathematics Education at CMU and Principal Investigator on the CONCEPT project (letter dated January 2, 2008) [Appendix #8], Dr. Manouchehri, Professor of Mathematics Education at The Ohio State University and Co-Principal Investigator on the CONCEPT project, (letter dated December 21, 2007) [Appendix #8], Dr. En-Bing Lee, Chair of the Department of Mathematics at CMU (letter dated January 2, 2007 [sic] [Appendix #8], and Dr. Aliza Sacknovitz, Investigative Scientist at the NSF (letter dated December 21, 2007) [Appendix #8].

Following CMU's Research Integrity Policy, a committee was formed to undertake an investigation into the allegations of plagiarism. The membership of the committee was finalized in early February 2008 and consisted of Dr. Kirsty Fleming, Interim Executive Director of the Kentucky Center for Mathematics at Northern Kentucky University, and Ms. Barbara Taylor, Central Michigan University. Dr. Fleming served as the chair of the committee. Administrative coordination was provided by Dr. Janine Janosky, Vice Provost of Research and Sponsored Programs at Central Michigan University. The committee had its initial meeting on February 7, 2008 and undertook a series of interviews, meetings, and document analysis until May 23, 2008. The following is a summary of the investigation process and the conclusion of the committee. Details of the work of the committee may be found in Appendix #7.

Allegation

Whether research misconduct (plagiarism) occurred in the development of the CONCEPT proposal submitted by CMU to the NSF on September 10, 2004?

Section 1: Did the act meet the definition?

CMU's Office of Research and Sponsored Programs *Policy on Research Integrity* dated 26 June 1995 [Appendix #0] defines *research misconduct*, in part, at Section I.B. as follows:

2. *Improper assignment of authorship, such as excluding other contributors or claiming the work of another person as one's own, presenting substantially the same materials as an original article in more than one publication, including individuals as authors who have not made a definite*

contribution to the work published, and submitting multi-authored publications without the concurrence of all authors.

3. *Claiming another person's research as one's own, including plagiarism, appropriation of ideas as expressed in grant proposals or articles received for peer review, or in student papers, and violation of intellectual property laws.*

The National Science Foundation regulations, *45 CFR Part 689*, define *research misconduct*, in part, as follows:

(a) *Research misconduct means . . . plagiarism . . .*

(3) *Plagiarism means the appropriation of another person's ideas, processes, results or words without giving appropriate credit. [Appendix #2]*

The committee was provided with:

- The annotated copy of the CONCEPT proposal that had been provided to Dr. Janosky by the NSF [Appendix #5]. The NSF had indicated that plagiarism may have occurred from 3 distinct sources. An archived version of the UTeach web site housed at the University of Texas Austin (material A), a paper written by Conrad Van Voorst (SUNY College at Brockport) that appeared in the March 2004 edition of IUMPST: The Journal (material B), and an archived version of the Mathstar web site housed at New Mexico State University (material C).

While undertaking the investigation, the committee reviewed many other documents with two of these documents directly related to the successfully funded CONCEPT proposal.

They were:

- On May 24, 2004, CMU submitted a preliminary proposal to the NSF entitled "CONCEPT: Connecting Concept and Pedagogical Education of Pre-service Teachers" (CONCEPT), NSF Proposal Number 0439325. Based on information

received in July 2004 from NSF reviewers, the preliminary proposal underwent revision between July 30, 2004 and September 10, 2004, and the final (revised) proposal was submitted to the NSF on September 10 [Appendix #6]. The pre-proposal [Appendix #4] contained the A Material and the C Material.

- On December 6, 2002, CMU submitted a proposal entitled “Problem-Technology and Research Oriented Mathematics Instruction in Secondary Education” (PROMISE) under NSF’s 02-095 solicitation. The proposal listed Dr. Lapp as the Principal Investigator, Drs. Azita Manouchehri, Ken Smith, Dennis St. John, and Charles Vonder Embse as co-Principal Investigators, and Dr. Lisa DeMeyer as Senior Personnel. The 2002 proposal contained the C Material. [Appendix #3].

A Material: The committee reviewed the copy of a web page from which it was indicated the A Material was allegedly plagiarized in the CONCEPT proposal, and compared it with language in the CONCEPT proposal. The committee observed that the copy of the web page does not identify the author of the text, and consequently conducted Internet searches in an attempt to make such identification. These attempts were unsuccessful. The committee also contacted a person who had been with the UTeach project since its inception. That person indicated that the material on the web page had been worked on by a group of persons, and identified who he believed had been the primary author (who is currently unavailable). He also named another person who he believed had been directly involved in writing the section of the web page that is in question. He did not identify Dr. Manouchehri or Dr. Lapp as one of those persons.

Under the definition of “plagiarism” specified in the university’s Policy on Research Integrity and the National Science Foundation regulations, 45 CFR Part 689, the committee found by a preponderance of the evidence that the CONCEPT proposal contains plagiarized text, i.e., the A Material.

B Material: The committee reviewed the copy of an article, CAPSTONE MATHEMATICS COURSE FOR TEACHERS, Conrad Van Voorst, *IUMPST: The Journal, Vol 4 (Curriculum), March 2004* [www.k-12prep.math.ttu.edu] from which it was indicated that the B Material was allegedly plagiarized in the CONCEPT proposal. The

committee compared the B Material with language in the CONCEPT proposal. In so doing, the committee found that a significant amount of the B Material was included in the CONCEPT proposal without proper attribution.

Thus, under the definition of "plagiarism" specified in the university's Policy on Research Integrity and the National Science Foundation regulations, 45 CFR Part 689, the committee found by a preponderance of the evidence that the CONCEPT proposal contains plagiarized text, i.e., the B Material.

C Material: The committee reviewed the copy of a web page from which it was indicated the C Material was allegedly plagiarized in the CONCEPT proposal, and compared it with language in the CONCEPT proposal. The committee reviewed the web page and noted it was posted August 2003 while the C Material appeared in the CMU proposal submitted to the NSF in December 2002. In addition, the web page does not identify the author of the text on the page. Thus, it was not apparent that the C Material had been plagiarized. The committee then attempted to identify the original source of the C Material. The committee's investigation suggested that the C Material may have originated from a NSF project entitled "Development of Courses and Recruitment Models for Attracting and Preparing Middle Grades Mathematics Teachers" that was undertaken at the University of Missouri-Columbia between 2001 and 2004 (proposal number 0101822). The NSF provided the investigative committee with a copy of proposal number 0101822. A review of this proposal did, indeed, reveal that the C Material was present.

Thus, under the definition of "plagiarism" specified in the university's Policy on Research Integrity and the National Science Foundation regulations, 45 CFR Part 689, the committee found by a preponderance of the evidence that the CONCEPT proposal contains plagiarized text, i.e., the C Material.

COMMITTEE DETERMINATION -- Did the act meet the definition?

The committee determined that the CONCEPT proposal includes materials that were not created by the project team and that were not properly attributed to the original author(s). Based on this determination the committee concluded that research misconduct, as defined by the CMU policy, had taken place, and that plagiarism, as defined by the NSF, had occurred. The committee noted that the occurrence of plagiarism, as defined by the NSF, does not necessarily meet the NSF's definition of research misconduct and that the level of intent needed to be considered to determine whether or not the act would be deemed as research misconduct by the NSF.

Section 2: Level of Intent

The NSF explains the levels of intent in the SEMIANNUAL REPORT TO THE CONGRESS, number 9, April 1, 1993-September 30, 1993, Office of Inspector General, National Science Foundation, page 36 as follows:

Negligent (or careless) which is defined to be "A person acts negligently if, according to community standards, that person should have acted differently because a reasonable person in the same circumstances would have acted differently"

Reckless (or grossly negligent) which is defined to be "A person acts recklessly if, according to community standards, that person acts in a way that is a serious deviation from the way a reasonable person would have acted in the same circumstances.

Knowing to purposeful (or deliberate or willful) which requires " . . . proof that the subject knew what he did . . ."

The NSF considers that research misconduct occurred only if the level of intent is judged to be at least reckless.

The committee attempted to ascertain who had introduced the plagiarized text into the CONCEPT proposal but was unable to do so. Two main activities were undertaken in order to make this determination: interviews and obtaining and reviewing relevant documentation.

- Interviews were undertaken with each of the project personnel (the PI, the co-PIs and the Senior Personnel) and, at the suggestion of Dr. Lapp, Ms. Linda Smoke (Department of Mathematics at CMU) was also interviewed. Additionally information was requested from Dr. James Angelos, Dr. Sidney Graham, and Dr. Tom Miles, each of whom served as Chair of the Department of Mathematics at CMU during the period the proposals were developed and being submitted or during the time at which project personnel underwent personnel decisions that included being given credit for the work undertaken in securing the CONCEPT funding.
- In addition to the materials mentioned earlier in the Report, the committee requested that each of the project personnel interviewed provide all documents (hard copy and electronic) that would assist the committee in determining who had inserted the plagiarized material into the proposals or that would support the testimony provided by the interviewee. A complete listing of the materials provided is given in Appendix #10.

The Proposal in General

Conclusion: The evidence reviewed during the investigation indicates that Dr. Manouchehri and Dr. Lapp wrote the CONCEPT proposal submitted to the NSF in September 2004. The evidence also indicates that other project personnel took no substantive role in writing the CONCEPT proposal.

In reaching its conclusion, the committee has considered the following evidence in an effort to determine who introduced the Material A, B, and C into the CONCEPT proposal:

- The committee attempted to obtain draft versions of the proposal. Very few copies were made available to the committee with several of the versions received being undated hard copies and with the electronic copies being only those immediately preceding the submission of the proposal in September 2004.

Observation: One apparent inconsistency noted by the committee arose from the materials that were provided to the committee. Dr. Lapp provided several e-mail

messages dating from the proposal development process that occurred in late 2002 and that resulted in an unfunded submission to the NSF. These e-mail messages that were sent to him by Dr. Manouchehri had attached versions of the draft proposal. These drafts ranged from a fairly rough draft sent on November 5, 2002 to a much more refined draft sent on December 3, 2002. For the 2004 submission the committee did not receive analogous information. This suggests that either the method by which Dr. Lapp and Dr. Manouchehri shared information changed from 2002 to 2004, or that if it did not the 2004 information no longer exists, or that such information exists but was not made available to the committee.

- In May 2005, Dr. Lapp communicated to his Dean that he was PI in name only on the proposal, that he and Dr. Manouchehri were equal partners, but she was the driving force and more than a "Co-PI," and she did the large part of the writing to get the proposal in final form. [Appendix #9]. Dr. Lapp also stated in his interview with the investigation committee that Dr. Manouchehri was the primary writer of the proposal.
- Dr. Manouchehri has also made statements about her involvement in writing the proposal. For example, on September 10, 2004 she communicated to the Interim Provost that she wrote the grant, and that she had invested four years of her life to a matter that took two years to write the grant and make it happen, another two years to help it live, and that her commitment to the project had not been of a pedestrian nature. [Appendix #9]. On September 17, 2007, Dr. Manouchehri reiterated her statement to the Interim Provost that she wrote the grant, and also noted that without the resources she brought when writing the grant the project would not even exist. [Appendix #9]. In December 2007, Dr. Manouchehri communicated to Dr. Janosky that CONCEPT, in its 2004 version, was conceived following her trip to a grant proposal writing workshop supported by NSF in DC, and that she produced the first draft. [Appendix #9]. During her interview, Dr. Manouchehri explained that her earlier written statement that she had written the grant was based on her extensive contributions and her creation of the initial draft proposal.

Observation: The statement that the CONCEPT project was conceived as a consequence of a workshop held in the spring of 2004 appears to be inconsistent with the fact that an earlier similar proposal (the December 2002) was submitted to the NSF.

- The project personnel interviewed (other than Dr. Lapp and Dr. Manouchehri) were unable to provide detailed information about who wrote the various sections of the proposal. Among these project personnel the level of involvement in writing the proposal appears to have ranged from simply providing the 2-page biographical sketches to discussing ideas with Dr. Manouchehri or Dr. Lapp to receiving drafts of the proposal. Dr. Manouchehri indicated that Dr. St. John may have been involved in developing the proposal but the evidence provided by other witnesses suggests that this was not the case.
- The project personnel also provided testimony about the level of involvement of Dr. Lapp and Dr. Manouchehri in writing the proposal. Two of those witnesses perceived that the proposal had been written by Dr. Manouchehri based on Dr. Lapp's ideas; one perceived the proposal development process was a genuine collaboration between Dr. Manouchehri and Dr. Lapp; and one indicated that Dr. Manouchehri had stated that she had written the proposal. In addition, a person not related to the grant project told the investigation committee that Dr. Manouchehri told her that she had written the majority of the proposal.
- In April 2008, Dr. Manouchehri provided written information including, amongst other things, two draft proposals, and acknowledged she typed them but was not the sole author, she could not affirmatively state which portions she alone drafted because the entire project was a collaborative effort by all individuals involved, and some items may not be properly cited. Dr. Manouchehri informed the committee that different people wrote different parts of the proposal during the summer of 2004, she was not involved in the proposal writing from the end of July 2004 to the submission date, she was not substantially involved during the "run for the tape", and that it was clear she was not involved in the later iterations of the proposal. As evidence of this she cited that many of her earlier contributions had been amended to lessen the significance of her contributions,

that her work was not fully cited, and that she did not have any versions of the proposal from the period immediately preceding its submission.

Observation: There are apparent contradictions in the information provided by Dr. Manouchehri. The extent to which Dr. Manouchehri explained her involvement in writing the proposal may be read as contradicting her earlier written statements [Appendix #9, #9 and #9], information provided by Dr. Manouchehri during her interview with the committee (which is discussed below under sub-headings A Material, B Material, and C Material), as well as information provided by other project personnel during their interview. E-mail communications between Dr. Manouchehri and Dr. Lapp indicate that both of them were involved in revisions to the proposal from July 2004 through submission of the final proposal in September 2004. In particular, Dr. Manouchehri advised Dr. Lapp on July 30, 2004 that she did get a copy of the note and the reviewers' comments (from the NSF), and she had already started working on some revisions [Appendix #9]. And on August 23, 2004 she asked Dr. Lapp if he wanted to get together to look at the latest changes on the proposal [Appendix #9].

A Material

- Information provided by the NSF indicated that the original source of the A Material is a UTeach web page. When interviewed, Dr. Manouchehri stated that she could have written this text in the proposal. To be clear, Dr. Manouchehri was not admitting culpability but was simply indicating that the material was consistent with her expertise and background. However, Dr. Manouchehri indicated she could not confirm that she wrote the A Material, nor could she confirm that it was written by Dr. Lapp. In his interview, Dr. Lapp stated that he did not provide the A Material text, that Dr. Manouchehri wrote the section of the proposal containing the A Material, and that he edited it. Dr. Lapp provided information to the committee indicating that text identified by the NSF as A1 Material was an integrated model that was a focus of research in which he was involved in graduate school.

B Material

- Dr. Manouchehri conjectured that the B Material would have been contributed by project personnel with significant reputations in the relevant area such as Dr. Vonder Embse or Dr. Lapp for the material related to the use of technology. Dr. Manouchehri indicated in her interview that the learning objectives were most relevant to the first three courses and not the course for which she was responsible.
- Dr. Lapp informed the committee during his interview that the B3 Material was taken, in part, from ideas in his research while in graduate school, that he and Dr. Manouchehri discussed those ideas, and Dr. Manouchehri "...had a major impact on the way they were stated" in the proposal.
- Dr. Lapp also stated in his interview that Dr. Manouchehri wrote the B4, B5, and B6 Material, and he provided information that the ideas in the B5 and B6 Material were developed through discussion between Dr. Manouchehri and himself. Information provided by Dr. Manouchehri in her interview was that the B Material is consistent with something that she could have written in that the CBMS is one of the most frequently cited works and a work that she had previously used. She noted, however, she could not have written the B4 Material because CBMS is incorrectly given as CNMS and that any mathematics educator would know that there is no such thing as the CNMS. Dr. Manouchehri stated in her interview that she wrote paragraphs numbered 1, 2, and 3 that is included immediately before and after the B6 Material.

C Material

- Dr. Manouchehri stated in her interview she may or may not have been involved in writing the course descriptions in the C Material, and that course descriptions, other than the one for the capstone course, would most likely have been created by the project personnel who would ultimately be responsible for developing the associated course.

COMMITTEE DETERMINATION – What was the level of intent?

Arguably both Dr. Lapp and Dr. Manouchehri are responsible. They each had some level of involvement in the development of the proposal. Had the committee been able to determine the person or persons who introduced the plagiarized material into the proposal the person (if there was one) who passively participated would have a level of intent of **negligent (careless)**, the person (or persons) who introduced the plagiarized material into the proposal would have a level of intent of **reckless**.

Community Standards: This was a finished product submitted for peer review.

Consequently, all material included in the proposal and not created by the proposal authors should have been fully cited.

Pattern

The committee considered whether or not Dr. Lapp's past record showed a pattern of plagiarism. Based on three past publications (one joint with Dr. Manouchehri), the committee did not identify a pattern of plagiarism on Dr. Lapp's part.

The committee considered whether or not Dr. Manouchehri's past record showed a pattern of plagiarism. Based on the materials reviewed, Dr. Manouchehri's work does appear to have a pattern of being "careless".

a) Based on four past publications (one joint with Dr. Lapp) in which Dr. Manouchehri was either the sole author or a co-author. In two of these publications, our review did not reveal anything questionable. In the remaining two articles, some text was found in which the author or authors were given credit; however, some phrases taken from the original source were not properly cited using quotation marks for direct text.

b) In the spring of 2001 Dr. Manouchehri submitted a President's Research Investment Fund proposal to CMU. A similar proposal was submitted to Middle Tennessee State University (MTSU) by Dr. Mary Enderson (a faculty member at

MTSU and a co-author of Dr. Manouchehri). The two proposals contain sections of identical language. In Dr. Enderson's proposal she acknowledges that the project is "...somewhat of a collaboration with Central Michigan University." No such acknowledgement is given in the CMU proposal submitted by Dr. Manouchehri.

c) Dr. Manouchehri was recently the subject of a research misconduct investigation at CMU. The issue at hand was whether or not Dr. Manouchehri had committed plagiarism when creating course materials for the CONCEPT project. The committee considering this allegation found that plagiarism had occurred and that the level of intent was negligent.

Section 3: Other

1) Dr. Lapp asked that the committee interview Ms. Linda Smoke, Dr. Dennis St. John, Dr. Charles Vonder Embse, and Dr. Lisa DeMeyer. *Each of these interviews was undertaken.*

2) Dr. Manouchehri asked that the committee:

a) Determine why Dr. Lapp met with Robert Kohrman (the then Dean of the College of Science and Technology at CMU) in late July/early August 2004 and who else attended the meeting. *The Dean's Office has no record of such a meeting taking place.*

b) Determine why the issue of who wrote the proposal was not discussed in July 2007 when the issue of a sub-contract was being settled. *The committee was unable to ascertain how this would assist in determining who inserted the plagiarized material into the proposal and thus did not pursue this request.*

c) Determine when Drs. Dennis St. John and Charles Vonder Embse became part of the proposal development and how they contributed. *This was addressed during the course of the interviews.*

3) During the course of her interview Dr. Manouchehri made a number of requests of the committee. *A number of the requests pertained to items beyond the scope of the committee's work. In addition, Dr. Manouchehri was understandably upset and angry, a consequence of this was that the interview was not particularly focused and as such the committee was not able to fully comprehend all of Dr. Manouchehri's requests and their relevance to the committee's work.*

Appendices

- 0) Research Integrity Policy
- 1) Code of Federal Regulations excerpt
- 2) Inquiry Report
- 3) 2002 CCLI Proposal, NSF Solicitation Number 02-095, NSF Proposal Number 0311497
- 4) May 2004 Preliminary Proposal, NSF Number 0439325
- 5) September 2004 Proposal, NSF Proposal Number 0455797, annotated by NSF
- 6) September 2004 Proposal, NSF Proposal Number 0455797
- 7) Timeline
- 8) Letters
- 9) E-mail messages
- 10) Inventory
- 11) Report of the Investigative Committee, as Submitted to Dr. Azita Manouchehri and Dr. Douglas Lapp, including a Written Response to the Report from Dr. Douglas Lapp (Dr. Azita Manouchehri chose not to respond), and the Subsequent Response from the Investigative Committee to the Written Response from Dr. Douglas Lapp